

VOLUME 2 OF 2

SOLUTIONS DESIGNED TO HELP YOU WORK BETTER



CUTTING TOOLS

HELPING METALWORKERS ACHIEVE GREATNESS

WALTER was created thanks to one man's will to help. Walter Somers, a mechanical engineer from Germany, arrived in Canada in 1939 at the onset of World War II. After observing the limited tooling and training available to Canadian workers, he recognized an opportunity to contribute to greater industrial success.

In 1952, WALTER Surface Technologies was founded—driven by a determination to improve productivity. The WALTER team visited end users one by one, helping them work better. This unique, customer-centric approach delivered significant, measurable improvements in metalworkers' output and set WALTER apart from the rest.

At WALTER, we believe that everyone has the potential to build, fabricate, construct, finish, and erect great projects. We provide the means to achieve greatness through three pillars: productivity, safety and customer experience. With safe tools, high-performance consumables, and expert recommendations, workers are empowered to do their best work.

We help our customers achieve greatness by asking ourselves every day: How can we help them work better? It's the only question that matters, and the reason we exist.

At WALTER, we help our customers Achieve Greatness™.



DISCOVER WALTER METALWORKING & SAFETY SOLUTIONS

The WALTER Metalworking & Safety Solutions Catalog delivers an expanded solutions portfolio designed to help metalworkers work better, safer, and more efficiently—from weld preparation to final finishing, and from respiratory protection to ergonomics.

Built for real industrial environments, this catalog brings together high-performance metalworking and safety solutions, backed by WALTER's field expertise and customer-first approach.



Download our
Metalworking & Safety
Solutions Catalog

DISCOVER WALTER SOLUTIONS

- Welding
- cutting
- Grinding
- Finishing
- Brushing
- Power tools
- MRO Chemicals
- High-performance Degreasing solutions
- Respiratory
- Head & Face Protection
- Ergonomics
- Eye Protection
- Air Sampling
- Ventilation
- Confined Space Equipment



STAR PRODUCTS



PAGE 60

NITRO DRILLS

Heavy-duty HSS drills with Black & Gold surface treatment

Manufactured from a premium-grade of M2 high-speed steel, these drills are designed for use in stainless steel and other hard-metal drilling.



PAGE 90

550ASP JOBBER DRILLS

Heavy Duty Cobalt

CHICAGO-LATROBE drills with 135° split points designed to optimize performance in hand drilling applications. Abrasion-resistant, with bronze or TiN finishes for durability, ideal for stainless steel, alloy steel, and titanium under tough conditions.



PAGE 220

190F S&D DRILLS

Reduced shank with flats

CHICAGO-LATROBE Silver & Deming drills with 1/2" reduced shanks, 118° split points, and 6" overall length for rigidity and accuracy. Made from premium high-speed steel with black oxide finish, ideal for portable and machine drilling.

PAGE 423

1011 SPIRAL POINT TAPS

Straight flute with square shank configuration

CLEVELAND Spiral Point Taps in HSS with Bright, TiN and TiCN finishes ensure precise plug chamfer threading for through holes in steel, stainless steel, cast iron, and aluminum.



PAGE 145

2075-TN JOBBER DRILLS

Up to 7x diameter drilling without pecking

CLEVELAND Q-Cobalt™ with M42 HSS and 8% Cobalt is a TiN-coated wide land parabolic flute drill, optimized for deep-hole drilling in tough metals. The TiN coating improves wear resistance, reduces friction, and extends tool life in high-volume or high-speed production environments. With a 135° split point for accurate and self-centering starts and efficient chip evacuation. Ideal when durability and cutting speed are priorities.

PAGE 150

SST+ Drills

SST+ drill bits with a 135° split point are engineered to optimize performance in stainless steel and hard-to-machine alloys. They reduce heat buildup, improve chip control, and extend tool life.



PAGE 381

HTGP HAND TAPS

Optimized for precise tapping speeds

CHICAGO-LATROBE general-purpose straight flute hand taps for through or blind holes. In HSS with a Bright, Black Oxide, TiN or TiCN finish, and available in taper, plug, and bottoming styles.



STAR PRODUCTS



PAGE 526

CEM-V-4R CARBIDE END MILLS

4-flute variable index with corner radius

CLEVELAND variable index solid carbide end mills offer a 38° degree helix to promote a free cutting and vibration resistant cut. Tools are available in Bright, AP/MAX and T-MAX coatings for additional speed and longer life. Multiple radius profiles are also stocked standard within the portfolio.



PAGE 435

PRO-861 SP TAPS

Universal machine tap

CLEVELAND Spiral Point TiAlN-coated straight flute progress tap with HSS-E is perfect for thru holes in steel and cast iron.

PAGE 649

CARBIDE BURRS

Fast material removal and longest life

High-performance carbide burrs are made with the highest grade of tungsten carbide and are manufactured with the highest degree of accuracy for perfect concentricity and balance.



PAGE 674

TCT HOLE CUTTERS

Ultra-hard teeth

Tungsten Carbide Tipped (TCT) Hole Cutters are a cost-effective alternative to bi-metal hole saws. Designed for drilling large-diameter holes in both ferrous and non-ferrous materials. Excellent performance and portability makes them ideal for a wide range of trade professionals.



PAGE 680

ICECUT MINI™

MAGNETIC DRILL

Low-profile magnetic drilling unit for confined spaces. Measuring in at only 7 inches tall, the ICECUT MINI™ is the ultimate compact, low-profile magnetic drilling unit for making holes in tight spaces from H-beams to truck frames, and other applications where space may be limited.



PAGE 703

NITRO® SAFETY FIRST REAMERS

Protects against the danger of a falling reamer

Ideal for use with air impact tools, two NE040 magnets are placed in the hex nut to reduce the risk of the reamer falling out of the socket while in use.



Automation has become essential in improving productivity and maintaining consistent quality across metalworking operations. WALTER's automation solutions streamline labor-intensive tasks like grinding, deburring, drilling, and more, allowing for faster production cycles while reducing the need for manual intervention.



*Book Your Automation
Consultation today*



Why Choose WALTER?

- **Expert Guidance:** Our team provides comprehensive support for evaluating and optimizing your material removal tasks, whether you're automating existing processes or considering new solutions.
- **Complete Solutions:** WALTER offers a full range of high-performance abrasive and tooling solutions to increase productivity in automated processes. Now with the addition of PUSHCORP, you can combine WALTER solutions with force control devices, spindles and other end of arm solutions to further maximize performance.
- **Customized Testing:** In our demo lab, we demonstrate what's possible for your parts, building a proof of concept to help achieve the desired finish, consistency, or validation of what you could actually achieve robotically.

Reducing Uncertainty Around Automated Processes

At WALTER, we are dedicated to helping you find the right automation solution for your operations. Our three new automation demo labs — one located in Montreal and two in Dallas — showcase what's possible on your actual parts, using the right abrasives, tooling, and material removal solutions, paired with robotic equipment tailored to your project's needs. By testing directly on your components, we design a tailored process that includes selecting the right abrasives, setting optimal operating parameters, and configuring equipment to maximize performance.

DISCOVER AUTOMATED SOLUTIONS FOR YOUR OPERATIONS!

TALK TO OUR TEAM TODAY AND SEE HOW YOU CAN WORK BETTER WITH WALTER
AUTOMATION SOLUTIONS

DRILL RECYCLING PROGRAMS

Specializing in processing high-speed steel and carbide scrap

WHY WE RECYCLE?

Good for the environment

Keeps metal out of landfills

Reduces need for extracting raw materials from the earth

Conserves energy

Reduces pollution

WHAT WE RECYCLE?

- Cutting tools: drill bits, taps, end mills, dies, & inserts, etc.
- All HSS, cobalt, powdered metal, and carbide.
- Examples include M2, M4, M7, M35, M42, M50, and T15 tool steels



HOW IT WORKS?

1	2	3	4	5	6
START	COLLECT	SHIP	PROCESS	PAYMENT	RESTART
Contact GreenTech directly or your local Walter Metalworking Specialist with end user address and contact info.	GreenTech will supply 5-gallon pails. (5 pail minimum)	Once full, GreenTech will provide shipping instructions. FREE shipping - NO processing fees.	The material is sorted and weighed.	GreenTech will issue a cheque based on market price directly to the customer.	GreenTech will resupply pails or a drum.

**Not available in BC, AB, SK, MB, NS, NB, PEI*



PARTNERSHIP IN PRODUCTIVITY PROGRAMS



360-degree approach to improve productivity

The WALTER Shop program is specially designed to help maximize efficiency across all sectors of your metalworking business. This program takes a 360-degree approach and provides process improvements that align with your current business environment and identified measures of success. Through shop walkthroughs and process evaluation, our team will provide actionable recommendations with ROI assessments, in addition to performance a productivity calculation.

CHEMICAL AUDITS AND PROCESS OPTIMIZATION

Increased productivity and safety through professional audits

WALTER technicians analyze your contaminants and cleaning processes and recommend ways to improve efficiency and productivity. We provide a detailed cost analysis report to help you make informed decisions, consolidate product requirements and optimize inventory. Our trained professionals make suggestions, demonstrate products, and let you see for yourself how well WALTER products work. Chemical audits help consolidate product requirements and optimize inventory.



SAFETY SEMINARS AND INDUSTRY TRAINING

Because health and safety are top priority

As an addition to WALTER's value-added services, we offer FREE Safety Seminars to encourage a safer work environment. Whether it is the Abrasives Safety Seminar or the Chemical Safety Seminar that you are interested in, WALTER works with you to customize the perfect training for your team. We provide hands-on training at our fully-equipped campus so your team can innovate and operate safely. While training, you will work with our professional Product Management Team.



PRODUCT DEMONSTRATION

Our team is trained to listen and provide innovative solutions that answer your specific needs. With our mobile product demonstration trucks, WALTER's team can easily go to your facility and help make the fabricating and finishing process more efficient, reducing both abrasive spend and overall production costs.



THE BUCKET PROGRAM

Evaluation of cost savings potential and improved worker safety

WALTER will assist in optimizing your workflow and cost savings by analyzing your abrasive and tooling usages and work processes through our Bucket Program. Based on our analysis, we will be able to make recommendations on how you can improve efficiency, reduce abrasive costs, improve productivity and encourage safer working habits, maximizing every dollar spent on consumables.



PRODUCTIVITY REPORTS

Working to positively impact your business

Accompanying every Bucket Program analysis, a detailed productivity report comparing WALTER products versus competitive products in terms of yearly usage, removal, labour time and cost, product life and product cost. The goal of the productivity report is to provide you with all the facts in hand, so that you can optimize your productivity and make adjustments that will positively impact your business.



TRADESCHOOL PROGRAM

Helping instructors and providing future welders with the right tools

Turn a portion of your spending as well as your students' purchases into scholarships with our reward program. Our instructors provide customizable and interactive on-site training seminars to support welding instructors and their classrooms. WALTER also offers educational videos, mobile apps, posters, technical guides and more!



THE MONEY MAKER GUARANTEE

WALTER Money Maker Guarantee certifies that all WALTER products are designed, manufactured and sold with our total commitment to saving time, lasting longer and making money for you. Your total satisfaction is paramount to us, which is why we will reimburse you for your original purchase price*. That is our guarantee.



** WALTER will reimburse up to \$1000 via free products if you are not completely satisfied.*

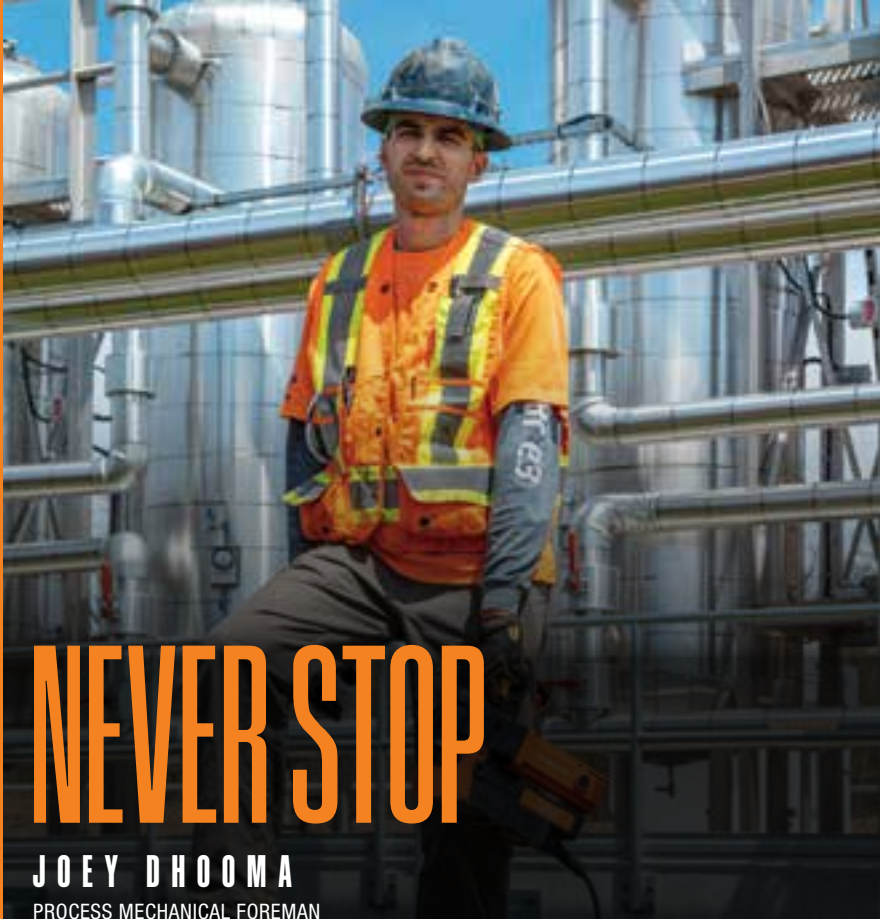
YOUTUBE VIDEOS

Access product trainings and spotlights, anywhere, anytime:



Visit the WALTER Network

www.youtube.com/user/TheWalterNetwork



NEVER STOP

JOEY DHOOMA
PROCESS MECHANICAL FOREMAN



//
The water never
stops flowing here.
We need to be precise
on everything we do
on-site.



As a Process Mechanical Foreman, Joey oversees a team that is implementing a series of major improvements to a large water treatment plant.

The job is not an easy one. He works in snow, rain, and even in blazing hot temperatures as the water tanks he sometimes works in feel like “an oven” in the summer. On top of that, from time to time he finds himself knee-deep in sewage water that is filled with harmful bacteria, which, as you probably guessed, emits an unpleasant smell. But none of that really bothers him. “I never was afraid to get dirty and I think I’m immune to the smell,” he says. “Whatever is thrown at us, we always manage to prevail and get through it.”

The problem-solving aspect of his work is what motivates him the most. Since the water that goes through the facility can never stop flowing completely, the sequencing of the project becomes a real challenge. “We have to get very creative and develop different methods of diverting the flow of water out of our way.” Another facet that he appreciates is the fact that he gets to witness the evolution of the project from its inception to its completion. He occasionally glances back and recognizes how impressive the facility’s enhancements have been thus far.

Joey is a perfectionist to the core. He likes it when things are done correctly the first time. A small inaccuracy can lead to catastrophic events. “We have to be on the mark,” he says. For someone who strives for perfection, working with the right tools is not optional. “Having the right tools means a lot because you will drill holes faster, cut metal quicker, put things together a lot better. If you don’t have the proper tools you will fall behind, you’ll be scrounging around site looking for the right stuff, you will waste time and money. It just wouldn’t work for us.”

We could say that, at the very least, he is very dedicated to his career. He’s the one who opens up the job site in the morning and the one that puts the padlock on the gates at night. Just like the thousands of gallons of water that rush through the pipes he installs and repairs every day, Joey never stops.

CUTTING TOOL SOLUTIONS

DRILLS

TAPS

DIES

THREAD MILLS

END MILLS

CARBIDE BURRS

ANNULAR CUTTERS

TCT HOLE CUTTERS

MAGNETIC DRILLS

REAMERS

COUNTERSINKS

COUNTERBORES

SAWS

TOOLBITS

CUTTING FLUIDS AND LUBRICANTS

Chicago-Latrobe

 **CLE-LINE**

 **CLEVELAND**

 **DRILLCO**

 **WALTER**

SAFETY FIRST

Tips on the Safest and Most Effective Use of Cutting Tools*



- ▷ Disconnect the power tool prior to changing cutting tools.
- ▷ Keep cutting tools sharp and clean to prevent injuries and for best performance.
- ▷ Inspect the cutting tool for any sign of damage. Do not use if damaged.
- ▷ Mounting: Use only approved mounting hardware for the cutting tools. The chuck must center the cutting tool securely and provide the required support.
- ▷ Use mounting straps or a permanent magnet design when using a magnetic drill vertically. This prevents it from falling during power interruptions.
- ▷ When possible, drilling guards should be used to protect the operator.
- ▷ Always wear eye protection. Wear head, hand, ear and dust inhalation protection as needed.
- ▷ Practice safe working methods: always secure the workpiece being drilled to prevent movement, hold the tool firmly, avoid cluttered and badly lit work areas.
- ▷ Ensure adequate protection of other workers in the vicinity.
- ▷ Do not use cutting tools over their rated capacity, follow manufacturer's instructions.
- ▷ Service power tools regularly and according to manufacturer's instructions to keep them in good working condition and maintain their performance. Do not use if damaged.

Safest and Most Effective Work Methods

Pro Tips: Maximize Drilling Efficiency

Select the proper feed rate.

It will impact the rate of material removal, power requirements, and surface finish.

$$\text{SFM} = \text{D} \times \text{RPM} \times .262$$

SFM = Surface Feet per Minute
D = Drill Diameter

Use the correct RPM speed

it has the greatest influence on performance.

$$\text{RPM} = \frac{\text{SFM} \times 3.82}{\text{D}}$$

Reduce friction, prevent tool wear and breakage

by using cutting lubricants. Increase up to 5 times the life of your tools with COOLCUT™ Cutting Lubricants

Remember this rule:

Small diameter bits =
High speed, low feed

Large diameter bits =
Low speed, high feed

Safety Seminar

* WALTER offers free in-plant safety seminars to promote the safe use of cutting tools. Reserve your safety seminar today by calling: **1-866-592-5837**. For more information, visit walter.com/safety

CUTTING TOOL SOLUTIONS

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ANNULAR CUTTERS ACCESSORIES - ADAPTERS	664	HIGH SPEED STEEL			
CARBIDE TIPPED	666	209SF, 213	723		
05D / 05F/ 05HSERIES	666	CARBIDE			
COATED HIGH SPEED STEEL	667	110C1, 110C3, 110C6	724		
05B/ 05F	667	COBALT			
HIGH SPEED STEEL	668	3001, 10003, 10001, 610	725		
05A/ 05E	668	3600E	729		
ANNULAR CUTTERS ACCESSORIES - PILOT PINS	669	3700E	729		
TECHNICAL INFORMATION	670	3800E	730		
08 TCT HOLE CUTTERS	673	3900E	730		
CARBIDE TIPPED HOLE CUTTERS	674	HEAVY-DUTY			
9500CT / 9600CT	674	4000E	732		
TECHNICAL INFORMATION	675	12 COUNTERBORES	733		
09 MAGNETIC DRILLS	677	183	734		
MAGNETIC DRILLS AT A GLANCE	678	655	735		
ICECUT FAMILY	679	884	735		
MAGNETIC DRILLS FAMILY - ICECUT™ SYSTEMS	688	879	736		
10 REAMERS	689	879P	735		
CONSTRUCTION - HEX SHANK	694	13 SAWS	739		
125SF, 4290N	694	1887	740		
125HX, 100HX	695	1886	741		
		1886, 1887	742		
		ACCESSORIES HOLE SAWS	743		
		RECIPROCATING BLADE	744		
		RSB-D, RSB-P	744		

A close-up photograph of a drill bit mounted in a machine. The drill bit is black and silver, with a double-flute design. It is positioned vertically, pointing downwards. The background is a dark, industrial setting with a diamond-plate metal surface. A large, white, bold number '01' is overlaid on the right side of the image. The number is positioned in the upper right quadrant, with the '0' and '1' stacked vertically. The '0' is slightly larger than the '1'. The number is set against a dark background, making it stand out. The overall image has a professional, industrial feel.

01

DRILLS

QUICK PAGES REFERENCES



CLE-LINE



WALTER

JOBBER

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black & Gold Flatted Shank	1878	28
3/8" Reduced Shank	1879	31
Black Oxide Flatted Shank	1801	32
3/8" Reduced Shank	1809	34
TiN Tipped	1500TT	35



COBALT		
135° Split Point		
Type	Series	Page Number
Bronze Oxide Round Shank	1802	37
Hex Shank	1804	39
3/8" Reduced Shank	1812	42
TiN Tipped	1501TT	40



GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Bright Round Shank	1898	43
Left Hand	1898L	54
Black Oxide Round Shank	1899	47
3/8" Reduced Shank	1900	53
TiN Tipped	1898T	51



PARABOLIC

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black & Gold Round Shank	1872	55
TiN Round Shank	1872TN	57



MECHANICS LENGTH

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black & Gold Flatted Shank	1875R	172
3/8" Reduced Shank	1876	173



COBALT		
135° Split Point		
Type	Series	Page Number
Bronze Oxide Left Hand	1880	173



HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black Oxide Round Shank	1896	177



S&D DRILLS

HEAVY DUTY

HIGH SPEED STEEL		
118° Split Point		
Type	Series	Page Number
Black Oxide 1/2" Reduced Shank	1892	212
Black & Gold 1/2" Reduced / Flatted Shank	1877	213



GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black Oxide 1/2" Reduced Shank	1813	214



EXTRA LENGTH

GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black Oxide 12" OAL	1806	250
18" OAL	1807	250



AIRCRAFT EXT.

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black Oxide		
6" OAL	1803	258
12" OAL	1805	259



TAPER SHANK

GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black Oxide	1894	275



HEX SHANK

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Bright		
1/4" Shank	1816	286
TiN		
1/4" Shank	1826	286



STEP

GENERAL PURPOSE

HIGH SPEED STEEL		
118° Split Point		
Type	Series	Page Number
Bright		
Round Shank	1874	306
Hex Shank	1874	306
TiN		
Round Shank	1874TN	306
Hex Shank	1874TN	306



DOUBLE ENDED

GENERAL PURPOSE

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black Oxide	1815	309



DRILL & C'SINK

GENERAL PURPOSE

HIGH SPEED STEEL		
60° Angle		
Type	Series	Page Number
Bright	1824	313



SCREW EXTRACTOR

GENERAL PURPOSE

TOOL STEEL		
135° Split Point		
Type	Series	Page Number
Bright	1829	320



MASONRY

MULTI-PURPOSE

CARBIDE TIPPED		
118° Point		
Type	Series	Page Number
Carbide Tipped	1838	333



GENERAL PURPOSE

VARIETY		
Type	Series	Page Number
Carbide Tipped	1818	333
Carbide Tipped Fast Spiral	1889	334
SDS Plus	1821	334
SDS Plus Rebar	1833	335
Glass & Tile	1822	336



QUICK PAGES REFERENCES



DRILLCO



WALTER

JOBBER

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black & Gold Round Shank	400N/480N/440N	58
Flatted Shank	410N/490N/450N	60
3/8" Reduced Shank	1035N	62
Black Oxide Round Shank	400A/480A/440A	63
TiN Tipped	450T	66



HIGH SPEED STEEL		
140° Split Point		
Type	Series	Page Number
Black & Gold Flatted Shank	400F	169



COBALT		
135° Split Point		
Type	Series	Page Number
Bronze Oxide Round Shank	500/580/540	68



GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black Round Shank	200A/280A/240A	71
Bright Round Shank	200B/280B/240B	73
Left Hand	200LH	78
Carbide Tipped	600A	79



MECHANICS LENGTH SCREW MACHINE

HEAVY DUTY

HIGH SPEED STEEL NITRO		
135° Split Point		
Type	Series	Page Number
Black & Gold Flatted Shank	350N	174
3/8" Reduced Shank	1045N	175



HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black & Gold	300N	179
Black Oxide	300A/380A/340A	180



COBALT		
135° Split Point		
Type	Series	Page Number
Bronze Oxide Round Shank	300C/380C	183
Left Hand	300LH	185



SILVER & DEMING (S&D)

HEAVY DUTY

HIGH SPEED STEEL NITRO		
118° Split Point		
Type	Series	Page Number
Black & Gold 1/2" Reduced / Flatted Shank	1000N	215



COBALT		
118° Split Point		
Type	Series	Page Number
Bronze Oxide 1/2" Reduced Shank	1000C	216



HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black & Bright 1/2" Reduced Shank	1000A	217
1/2" Reduced / Flatted Shank	1000F	219



TAPER LENGTH

GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black Oxide	900	235



EXTRA LENGTH

GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black Oxide		
8" OAL	1308	251
12" OAL	1312	252
12" OAL / 1/2" Reduced Shank	1312R	252
18" OAL	1318	253
18" OAL / 1/2" Reduced Shank	1318R	253
Bright		
12" OAL	T1290	253
18" OAL	T1813	254



AIRCRAFT LENGTH

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black Oxide		
6" OAL	1100/1180	260
12" OAL	1200/1280	262



HEAVY DUTY

COBALT		
135° Split Point		
Type	Series	Page Number
Bronze Oxide		
6" OAL	1100C/1180C	264
12" OAL	1200C/1280C	265



TAPER SHANK

GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black Oxide	1400	277



HEX SHANK

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black Oxide	HEXT4	287



CARBIDE

HIGH SPEED STEEL		
Various		
Type	Series	Page Number
Jobber / 118° Point	700	289
Jobber / 150° Point	730	291
Straight Flute / 140° Point	710	292
Screw Machine / 135° Split Point	720	294
Spade / 118° Point	750	296



STEP

HIGH SPEED STEEL		
118° Split Point		
Type	Series	Page Number
Flatted Shank	8900	307
1/2" Hex Spiral Flute	8950	307



DOUBLE ENDED

GENERAL PURPOSE

HIGH SPEED STEEL		
Type	Series	Page Number
Black Oxide	330	312



DRILL & C'SINK

GENERAL PURPOSE

CARBIDE		
Type	Series	Page Number
Bright	3500C	318



SCREW EXTRACTOR

GENERAL PURPOSE

TOOL STEEL		
Type	Series	Page Number
Bright	3500C	318



QUICK PAGES REFERENCES

MASONRY

HEAVY DUTY

HIGH SPEED STEEL / TOOL STEEL

Type	Series	Page Number
Nitro	1600N	327
General Purpose	1600A	327
SDS Plus	1700A	328
SDS Plus Booster	1720F	329
SDS MAX	1740F	329
Rebar Cutters	1760/1770/1780	330
SDS Tapcon	1750F	331
Tapcon	1800A/1800E	331
Hammer Accessories	1850F	332
Glass & Tile	1840	331



WOOD

HEAVY DUTY

HIGH SPEED STEEL

Type	Series	Page Number
Ship Auger	1900E	337
Paddle	1950E	337



PILOT PIN

GENERAL PURPOSE

HIGH SPEED STEEL

Type	Series	Page Number
Pilot Drill	400P	338



JOBBER

HEAVY DUTY

HIGH SPEED STEEL

135° Split Point

Type	Series	Page Number
Round Shank		
Black Oxide	150ASP	81
TiN	150ASP-TN	83
TiCN	150ASP-TC	85
TiAlN	150ASP-TA	86
Black Oxide - Tanged	250AN	88



COBALT

135° Split Point

Type	Series	Page Number
Bronze Oxide	550ASP	90
	550	93
Left Hand	550L	98
	550ASP-TN	98
TiN	550TN	95
TiAlN	550TA	96



GENERAL PURPOSE

HIGH SPEED STEEL

118° Split Point

Type	Series	Page Number
Black Oxide	150K	89



GENERAL PURPOSE

HIGH SPEED STEEL

118° Point

Type	Series	Page Number
Bright		
Round Shank	150D	99
Left Hand	150L	108
Fast Spiral	150B	110
Slow Spiral	150C	112
Black Oxide	150	102
TiN	150T	105



CARBIDE TIPPED

118° Point

Type	Series	Page Number
Bright	CTD	113



PARABOLIC

HIGH SPEED STEEL

135° Split Point

Type	Series	Page Number
Wideland		
Bright	150WLP	114
TiCN	150WLP-TC	115
Deep Hole		
Bright	150DH	116
TiN	150DH-TN	117



SCREW MACHINE

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black Oxide	159	186



COBALT		
135° Split Point		
Type	Series	Page Number
Bronze Oxide	559	189



COBALT		
135° Split Point		
Type	Series	Page Number
Bright Round Shank Left Hand	157 157L	192 194



SILVER & DEMING (S&D)

HEAVY DUTY

HIGH SPEED STEEL		
118° Split Point		
Type	Series	Page Number
1/2" Reduced Shank Black Oxide		
Flatted Shank	190F	220
Black & Bright	195F	222



COBALT		
118° Split Point		
Type	Series	Page Number
1/2" Reduced Shank Bronze Oxide	190C	223
TiN	190C-TN	224



GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
1/4" Reduced Shank Black Oxide	239	227
1/2" Reduced Shank Black Oxide	190	225
Black & Bright	195	226



TAPER LENGTH

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black Oxide - Tanged	255AN	236



COBALT		
135° Split Point		
Type	Series	Page Number
Bronze Oxide	520	237



GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black Oxide	120	238
Bright - Fast Spiral	150B	110



PARABOLIC

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Bright - Deep Hole	120DH	240
TiN - Deep Hole	120DH-TN	241



EXTRA LENGTH

GENERAL PURPOSE

HIGH SPEED STEEL		
118° K-Notch		
Type	Series	Page Number
Black Oxide	120X	255



AIRCRAFT LENGTH

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black Oxide - 6" OAL	906	266
Black Oxide - 12" OAL	912	267



TAPER SHANK

GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black Oxide	110 110S	280 281



QUICK PAGES REFERENCES

Chicago-Latrobe



WALTER

CARBIDE

HEAVY DUTY

CARBIDE		
140° 4-Facet Point		
Type	Series	Page Number
Bright - Straight Flute	769	297



DRILL & C'SINK

GENERAL PURPOSE

HIGH SPEED STEEL		
Plain / Bell		
Type	Series	Page Number
Bright - Plain	217	315
Bright - Bell	217B	315



SPOT & CENTERING

GENERAL PURPOSE

HIGH SPEED STEEL		
90° Point		
Type	Series	Page Number
Bright	90SPS	324
	90SPR	324



CARBIDE		
118° 4-Facet Point		
Type	Series	Page Number
Bright - Screw Machine	759	299



SCREW EXTRACTOR

GENERAL PURPOSE

TOOL STEEL		
Plain / Bell		
Type	Series	Page Number
Bright	800	322



GENERAL PURPOSE

CARBIDE		
118° Point		
Type	Series	Page Number
Bright - Spade	780	300



CLEVELAND



WALTER

JOBBER

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Bright - NAS	2222	119
Black Oxide	2011	121



GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black Oxide	2001	128
Bright		
Round Shank	2002	131
Fast Spiral	2012	137
Slow Spiral	2020	139
Carbide Tipped	2727	140



COBALT		
135° Split Point		
Type	Series	Page Number
Bronze Oxide - NAS	2213	123
Black Oxide - AMD	3780	126



PARABOLIC

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black Oxide - Deep Hole	2065	141
TiN - Deep Hole	2065TN	142



GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Bright - NAS	2228	122



COBALT		
135° Split Point		
Type	Series	Page Number
Bronze Oxide	2075	143
TiN	2075-TN	145
TiCN	2075-TC	146
TiAlN	2075-TA	147



SCREW MACHINE

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Bright - NAS	2330	196



COBALT		
135° Split Point		
Type	Series	Page Number
Bronze Oxide	2133	197
TiCN	2133-TC	199



GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Bright	2120	200



PARABOLIC

COBALT		
135° Split Point		
Type	Series	Page Number
Q-Cobalt™		
Bronze Oxide	2175	202
TiN	2175-TN	203
TiCN	2175-TC	204
TiAlN	2175-TA	206



TAPER LENGTH

HEAVY DUTY

COBALT		
135° Split Point		
Type	Series	Page Number
Bronze Oxide	2513	242



GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black Oxide	2510	243



CARBIDE TIPPED		
118° Point		
Type	Series	Page Number
Bright	2745	245



PARABOLIC

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Deep Hole		
Bright	2565	246
TiN	2565-TN	247



COBALT		
135° Split Point		
Type	Series	Page Number
Q-Cobalt™		
Bronze Oxide	2575	248
TiN	2575-TN	249



EXTRA LENGTH

GENERAL PURPOSE

HIGH SPEED STEEL		
118° K-Notch Point		
Type	Series	Page Number
Black Oxide	950E	257



AIRCRAFT LENGTH

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Bright		
6" OAL - NAS	3957-6	269
12" OAL - NAS	3957-12	270



COBALT		
135° Split Point		
Type	Series	Page Number
Bronze Oxide		
6" OAL - NAS	3722-6	271
12" OAL - NAS	3722-12	272



QUICK PAGES REFERENCES



CLEVELAND



WALTER

TAPER SHANK

GENERAL PURPOSE

HIGH SPEED STEEL

118° Point

Type	Series	Page Number
Black Oxide	2410	282
Undersized	2411	283
Oversized	2412	283



CARBIDE

GENERAL PURPOSE

CARBIDE

135° Split Point

Type	Series	Page Number
Jobber	1727	301
Straight Flute	1766	303
Screw Machine	1767	305
Spade	1765	305



DRILL & C'SINK

GENERAL PURPOSE

HIGH SPEED STEEL

Plain / Bell

Type	Series	Page Number
Plain	996	316
Bell	998	316



CARBIDE

Plain

Type	Series	Page Number
Plain	1798	317



SCREW EXTRACTOR

GENERAL PURPOSE

TOOL STEEL

Type	Series	Page Number
Bright	192	323



SPOT & CENTERING

GENERAL PURPOSE

HIGH SPEED STEEL

Type	Series	Page Number
Bright	995	325
	2635	325
	2645	325
AlTiN	1799	325



GENERAL PURPOSE

COBALT

Type	Series	Page Number
Bronze Oxide	2636	326
	2646	326



WALTER

JOBBER

HEAVY DUTY

COBALT

118° Split Point

Type	Series	Page Number
Bronze Oxide	01A SST	149



COBALT

135° Split Point

Type	Series	Page Number
Bronze Oxide	01A	150
	01B	150
	01D	150



PARABOLIC

HIGH SPEED STEEL

135° Split Point

Type	Series	Page Number
Black & Gold	T1HD+	152
	T2HD+	152
	T3HD+	152
	MM1HD+	152
	T1HD	154
	T2HD	154
	T3HD	154
	MM1HD	154
TiN	T1HDG	156
3/8" Reduced Shank	T8HD	156





MACHINE SCREW

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black & Gold	T4HD	207
Bronze Oxide	O1H/O1J SST+	208



DOUBLE ENDED

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black Oxide	TSM8	311



JOBBER

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black & Gold		
Round Shank	1604	161
Flatted Shank	1607	162
3/8" Reduced Shank	1605	162
Black	1602	159
Bronze Oxide	1603	163



SCREW MACHINE

GENERAL PURPOSE

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black - Round Shank	1621	210



TAPER SHANK

GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black Oxide	1682	284



S&D DRILLS

GENERAL PURPOSE

HIGH SPEED STEEL		
118° Split Point		
Type	Series	Page Number
Black & Gold - 1/2" Reduced Shank	T9FHD	229



GENERAL PURPOSE

HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Bright		
Round Shank	1601	159
Black Oxide		
Round Shank	1600	158



S&D DRILLS

GENERAL PURPOSE

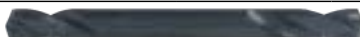
HIGH SPEED STEEL		
118° Point		
Type	Series	Page Number
Black		
1/2" Reduced Shank	1680	230



DOUBLE ENDED

GENERAL PURPOSE

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black Oxide	1683	310



HEX SHANK

HEAVY DUTY

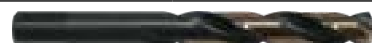
HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black & Gold 1/4" Hex Shank	HEXT4HD	288



MECHANICS LENGTH

GENERAL PURPOSE

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black & Gold Flatted Shank	1620	176



AIRCRAFT LENGTH

HEAVY DUTY

HIGH SPEED STEEL		
135° Split Point		
Type	Series	Page Number
Black		
6" OAL	1630	273
12" OAL	1631	274



HEAVY DUTY JOBBER LENGTH DRILLS

1878 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Flatted Shank / Black & Gold

Heavy duty maintenance jobber drills made from high-speed steel (HSS) with a 135° split point for quick, accurate starts and reduced walking. The black and gold finish improves durability and chip evacuation, while the flattened shank ensures a secure grip. Each drill is supplied with a hanger for easy storage and display in maintenance and shop environments.



Best Material Application



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



3 FLAT SHANK

Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
*1/16	.0625	7/8	1-7/8	C18000	12	C18000HT	12
*5/64	.0781	1	2	C18001	12	C18001HT	12
*3/32	.0938	1-1/4	2-1/4	C18002	12	C18002HT	12
*7/64	.1094	1-1/2	2-5/8	C18003	12	C18003HT	12
*1/8	.1250	1-5/8	2-3/4	C18004	12	C18004HT	12
*9/64	.1406	1-3/4	2-7/8	C18005	12	C18005HT	12
*5/32	.1562	2	3-1/8	C18006	12	C18006HT	12
*11/64	.1719	2-1/8	3-1/4	C18007	12	C18007HT	12
*3/16	.1875	2-5/16	3-1/2	C18008	12	C18008HT	12
13/64	.2031	2-7/16	3-5/8	C18009	12	C18009HT	12
7/32	.2188	2-1/2	3-3/4	C18010	12	C18010HT	12
15/64	.2344	2-5/8	3-7/8	C18011	12	C18011HT	12
1/4	.2500	2-3/4	4	C18012	12	C18012HT	12
17/64	.2656	2-7/8	4-1/8	C18013	12	C18013HT	12
9/32	.2812	2-15/16	4-1/4	C18014	12	C18014HT	12
19/64	.2969	3-1/16	4-3/8	C18015	6	C18015HT	6
5/16	.3125	3-3/16	4-1/2	C18016	6	C18016HT	6
21/64	.3281	3-5/16	4-5/8	C18017	6	C18017HT	6
11/32	.3438	3-7/16	4-3/4	C18018	6	C18018HT	6
23/64	.3594	3-1/2	4-7/8	C18019	6	C18019HT	6
3/8	.3750	3-5/8	5	C18020	6	C18020HT	6
25/64	.3906	3-3/4	5-1/8	C18021	6	C18021HT	6
13/32	.4062	3-7/8	5-1/4	C18022	6	C18022HT	6
27/64	.4219	3-15/16	5-3/8	C18023	6	C18023HT	6
7/16	.4375	4-1/16	5-1/2	C18024	6	C18024HT	6
29/64	.4531	4-3/16	5-5/8	C18025	6	C18025HT	6
15/32	.4688	4-5/16	5-3/4	C18026	6	C18026HT	6
31/64	.4844	4-3/8	5-7/8	C18027	6	C18027HT	6
1/2	.5000	4-1/2	6	C18028	6	C18028HT	6

*No flats **Not split point

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*60	.0400	11/16	1-5/8	**C18113	12
*59	.0410	11/16	1-5/8	**C18112	12
*58	.0420	11/16	1-5/8	**C18111	12
*57	.0430	3/4	1-3/4	**C18110	12
*56	.0465	3/4	1-3/4	**C18109	12
*55	.0520	7/8	1-7/8	**C18108	12
*54	.0550	7/8	1-7/8	*C18107	12
*53	.0595	7/8	1-7/8	*C18106	12
52	.0635	7/8	1-7/8	*C18105	12
51	.0670	1	2	*C18104	12
50	.0700	1	2	*C18103	12
49	.0730	1	2	*C18102	12
48	.0760	1	2	*C18101	12
47	.0785	1	2	*C18100	12
46	.0810	1-1/8	2-1/8	*C18099	12
45	.0820	1-1/8	2-1/8	*C18098	12
44	.0860	1-1/8	2-1/8	*C18097	12
43	.0890	1-1/4	2-1/4	*C18096	12
42	.0935	1-1/4	2-1/4	*C18095	12
41	.0960	1-3/8	2-3/8	*C18094	12
40	.0980	1-3/8	2-3/8	*C18093	12
39	.0995	1-3/8	2-3/8	*C18092	12
38	.1015	1-7/16	2-1/2	*C18091	12
37	.1040	1-7/16	2-1/2	*C18090	12
36	.1065	1-7/16	2-1/2	*C18089	12
35	.1100	1-1/2	2-5/8	*C18088	12
34	.1110	1-1/2	2-5/8	*C18087	12
33	.1130	1-1/2	2-5/8	*C18086	12
32	.1160	1-5/8	2-3/4	*C18085	12
31	.1200	1-5/8	2-3/4	*C18084	12
30	.1285	1-5/8	2-3/4	*C18083	12
29	.1360	1-3/4	2-7/8	*C18082	12

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HEAVY DUTY JOBBER LENGTH DRILLS

1878 SERIES continued



01

DRILLS

CLELINE
WALTER

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
28	.1405	1-3/4	2-7/8	*C18081	12
27	.1440	1-7/8	3	*C18080	12
26	.1470	1-7/8	3	*C18079	12
25	.1495	1-7/8	3	*C18078	12
24	.1520	2	3-1/8	*C18077	12
23	.1540	2	3-1/8	*C18076	12
22	.1570	2	3-1/8	*C18075	12
21	.1590	2-1/8	3-1/4	*C18074	12
20	.1610	2-1/8	3-1/4	*C18073	12
19	.1660	2-1/8	3-1/4	*C18072	12
18	.1695	2-1/8	3-1/4	*C18071	12
17	.1730	2-3/16	3-3/8	*C18070	12
16	.1770	2-3/16	3-3/8	*C18069	12
15	.1800	2-3/16	3-3/8	*C18068	12
14	.1820	2-3/16	3-3/8	*C18067	12
13	.1850	2-5/16	3-1/2	*C18066	12
12	.1890	2-5/16	3-1/2	C18065	12
11	.1910	2-5/16	3-1/2	C18064	12
10	.1935	2-7/16	3-5/8	C18063	12
9	.1960	2-7/16	3-5/8	C18062	12
8	.1990	2-7/16	3-5/8	C18061	12
7	.2010	2-7/16	3-5/8	C18060	12
6	.2040	2-1/2	3-3/4	C18059	12
5	.2055	2-1/2	3-3/4	C18058	12
4	.2090	2-1/2	3-3/4	C18057	12
3	.2130	2-1/2	3-3/4	C18056	12
2	.2210	2-5/8	3-7/8	C18055	12
1	.2280	2-5/8	3-7/8	C18054	12

Letter							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
A	.2340	2-5/8	3-7/8	C18029	12	—	—
B	.2380	2-3/4	4	C18030	12	—	—
C	.2420	2-3/4	4	C18031	12	—	—
D	.2460	2-3/4	4	C18032	12	—	—
E	.2500	2-3/4	4	C18012	12	C18012HT	12
F	.2570	2-7/8	4-1/8	C18033	12	—	—
G	.2610	2-7/8	4-1/8	C18034	12	—	—
H	.2660	2-7/8	4-1/8	C18035	12	—	—
I	.2720	2-7/8	4-1/8	C18036	12	—	—
J	.2770	2-7/8	4-1/8	C18037	12	—	—
K	.2810	2-15/16	4-1/4	C18038	12	—	—
L	.2900	2-15/16	4-1/4	C18039	12	—	—
M	.2950	3-1/16	4-3/8	C18040	6	—	—
N	.3020	3-1/16	4-3/8	C18041	6	—	—
O	.3160	3-3/16	4-1/2	C18042	6	—	—
P	.3230	3-5/16	4-5/8	C18043	6	—	—
Q	.3320	3-7/16	4-3/4	C18044	6	—	—
R	.3390	3-7/16	4-3/4	C18045	6	—	—
S	.3480	3-1/2	4-7/8	C18046	6	—	—
T	.3580	3-1/2	4-7/8	C18047	6	—	—
U	.3680	3-5/8	5	C18048	6	—	—
V	.3770	3-5/8	5	C18049	6	—	—

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
W	.3860	3-3/4	5-1/8	C18050	6
X	.3970	3-3/4	5-1/8	C18051	6
Y	.4040	3-7/8	5-1/4	C18052	6
Z	.4130	3-7/8	5-1/4	C18053	6

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.00	.0394	12	34	*C74001	12
*1.20	.0472	16	38	*C74025	12
*1.50	.0591	18	40	*C74002	12
1.60	.0630	20	43	*C74026	12
2.00	.0787	24	49	*C74003	12
2.30	.0906	27	53	*C74027	12
2.40	.0945	30	57	*C74028	12
2.50	.0984	30	57	*C74004	12
2.70	.1063	33	61	*C74029	12
2.80	.1102	33	61	*C74030	12
2.90	.1142	33	61	*C74031	12
3.00	.1181	33	61	*C74005	12
3.10	.1220	36	65	*C74032	12
3.20	.1260	36	65	*C74033	12
3.30	.1299	36	65	*C74034	12
3.50	.1378	39	70	*C74006	12
3.60	.1417	39	70	*C74035	12
3.70	.1457	39	70	*C74036	12
3.80	.1496	43	75	*C74037	12
4.00	.1575	43	75	*C74007	12
4.10	.1614	43	75	*C74038	12
4.20	.1654	43	75	*C74039	12
4.50	.1772	47	80	*C74008	12
4.60	.1811	47	80	*C74040	12
4.80	.1890	52	86	C74041	12
4.90	.1929	52	86	C74042	12
5.00	.1969	52	86	C74009	12
5.10	.2008	52	86	C74043	12
5.20	.2047	52	86	C74044	12
5.50	.2165	57	93	C74010	12
5.90	.2323	57	93	C74045	12
6.00	.2362	57	93	C74011	12
6.40	.2520	63	101	C74046	12
6.50	.2559	63	101	C74012	12
6.60	.2598	63	101	C74047	12
6.70	.2638	63	101	C74048	12
6.80	.2677	69	109	C74049	12
6.90	.2717	69	109	C74050	12
7.00	.2756	69	109	C74013	12
7.20	.2835	69	109	C74051	12
7.30	.2874	69	109	C74052	6
7.50	.2953	69	109	C74014	6
8.00	.3150	75	117	C74015	6
8.30	.3268	75	117	C74053	6

*Not split point **No flats

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HEAVY DUTY JOBBER LENGTH DRILLS

1878 SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
8.50	.3346	75	117	C74016	6
9.00	.3543	81	125	C74017	6
9.50	.3740	81	125	C74018	6
10.00	.3937	87	133	C74019	6
10.20	.4016	87	133	C74054	6
10.50	.4134	87	133	C74020	6
10.80	.4252	94	142	C74055	6
11.00	.4331	94	142	C74021	6
11.50	.4528	94	142	C74022	6
11.80	.4646	94	142	C74056	6
12.00	.4724	101	151	C74023	6
12.50	.4921	101	151	C74024	6
13.00	.5118	101	151	C74057	1



C18128



C18125

Corresponding Sets		
Number of Pieces	Description	Order Number
13	1/16"– 1/4" x 1/64"	C18123
15	1/16"– 1/2" x 1/32"	C18124
29	1/16"– 1/2" x 1/64"	C18125
29	BIT BARREL™ 1/16"– 1/2" x 1/64"	*C18128
11	Metric: 1mm to 6mm	C74058
25	Metric: 1mm to 13mm	C74059
115	1/16"-1/2", A-Z, #1-#60	C18129

Metal set unless noted otherwise. *Plastic Case

HEAVY DUTY JOBBER LENGTH DRILLS

1879 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / 3/8" Reduced Shank / Black & Gold

The CLE-LINE 1879 Heavy duty Drill with 3/8" reduced flatted shank and black and gold finish ensures efficient drilling in steel and cast iron with a 135° split point.

Best Material Application



STEEL



CAST IRON

Drill Specifications



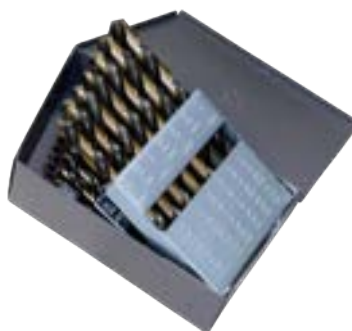
135° SPLIT POINT



REDUCED SHANK



Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
25/64	.3906	3-3/4	5-1/8	C18114	12	C18114HT	12
13/32	.4062	3-7/8	5-1/4	C18115	12	C18115HT	12
27/64	.4219	3-15/16	5-3/8	C18116	12	C18116HT	12
7/16	.4375	4-1/16	5-1/2	C18117	12	C18117HT	12
29/64	.4531	4-3/16	5-5/8	C18118	12	C18118HT	12
15/32	.4688	4-5/16	5-3/4	C18119	12	C18119HT	12
31/64	.4844	4-3/8	5-7/8	C18120	12	C18120HT	12
1/2	.5000	4-1/2	6	C18121	12	C18121HT	12



Corresponding Sets		
Number of Pieces	Description	Order Number
29	1/16" – 1/2" x 1/64"	C18122

Metal case

HEAVY DUTY JOBBER LENGTH DRILLS

1801 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Black Oxide

The 1801 Series is a HSS jobber drill built for reliable performance in general-purpose and maintenance drilling. The round shank fits securely in standard chucks, making it well-suited for drill presses and CNC machines. Its 135° split point ensures precise centering and minimizes walking, enabling faster and more accurate starts. A black oxide finish reduces friction, enhances wear resistance, and promotes efficient chip evacuation.

NOTE:

For Reduced Shank see Style #1809.

Best Material Application



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
3/64	.0469	3/4	1-3/4	C23214	12	—	—
*1/16	.0625	7/8	1-7/8	C23125	12	C23125HT	12
*5/64	.0781	1	2	C23126	12	C23126HT	12
*3/32	.0938	1-1/4	2-1/4	C23127	12	C23127HT	12
*7/64	.1094	1-1/2	2-5/8	C23128	12	C23128HT	12
*1/8	.1250	1-5/8	2-3/4	C23129	12	C23129HT	12
*9/64	.1406	1-3/4	2-7/8	C23130	12	C23130HT	12
*5/32	.1562	2	3-1/8	C23131	12	C23131HT	12
*11/64	.1719	2-1/8	3-1/4	C23132	12	C23132HT	12
*3/16	.1875	2-5/16	3-1/2	C23133	12	C23133HT	12
13/64	.2031	2-7/16	3-5/8	C23134	12	C23134HT	12
7/32	.2188	2-1/2	3-3/4	C23135	12	C23135HT	12
15/64	.2344	2-5/8	3-7/8	C23136	12	C23136HT	12
1/4	.2500	2-3/4	4	C23137	12	C23137HT	12
17/64	.2656	2-7/8	4-1/8	C23138	12	C23138HT	12
9/32	.2812	2-15/16	4-1/4	C23139	12	C23139HT	12
19/64	.2969	3-1/16	4-3/8	C23140	6	C23140HT	6
5/16	.3125	3-3/16	4-1/2	C23141	6	C23141HT	6
21/64	.3281	3-5/16	4-5/8	C23142	6	C23142HT	6
11/32	.3438	3-7/16	4-3/4	C23143	6	C23143HT	6
23/64	.3594	3-1/2	4-7/8	C23144	6	C23144HT	6
3/8	.3750	3-5/8	5	C23145	6	C23145HT	6
25/64	.3906	3-3/4	5-1/8	C23146	6	C23146HT	6
13/32	.4062	3-7/8	5-1/4	C23147	6	C23147HT	6
27/64	.4219	3-15/16	5-3/8	C23148	6	C23148HT	6
7/16	.4375	4-1/16	5-1/2	C23149	6	C23149HT	6
29/64	.4531	4-3/16	5-5/8	C23150	6	C23150HT	6
15/32	.4688	4-5/16	5-3/4	C23151	6	C23151HT	6
31/64	.4844	4-3/8	5-7/8	C23152	6	C23152HT	6
1/2	.5000	4-1/2	6	C23153	6	C23153HT	6
Wire							
*60	.0400	11/16	1-5/8	**C23154	12		
*59	.0410	11/16	1-5/8	**C23155	12		
*58	.0420	11/16	1-5/8	**C23156	12		
*57	.0430	3/4	1-3/4	**C23157	12		
*56	.0465	3/4	1-3/4	**C23158	12		

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*55	.0520	7/8	1-7/8	**C23159	12
*54	.0550	7/8	1-7/8	**C23160	12
*53	.0595	7/8	1-7/8	**C23161	12
52	.0635	7/8	1-7/8	**C23162	12
51	.0670	1	2	**C23163	12
50	.0700	1	2	**C23164	12
49	.0730	1	2	**C23165	12
48	.0760	1	2	**C23166	12
47	.0785	1	2	**C23167	12
46	.0810	1-1/8	2-1/8	**C23168	12
45	.0820	1-1/8	2-1/8	**C23169	12
44	.0860	1-1/8	2-1/8	**C23170	12
43	.0890	1-1/4	2-1/4	**C23171	12
42	.0935	1-1/4	2-1/4	**C23172	12
41	.0960	1-3/8	2-3/8	**C23173	12
40	.0980	1-3/8	2-3/8	**C23174	12
39	.0995	1-3/8	2-3/8	**C23175	12
38	.1015	1-7/16	2-1/2	**C23176	12
37	.1040	1-7/16	2-1/2	**C23177	12
36	.1065	1-7/16	2-1/2	**C23178	12
35	.1100	1-1/2	2-5/8	**C23179	12
34	.1110	1-1/2	2-5/8	**C23180	12
33	.1130	1-1/2	2-5/8	**C23181	12
32	.1160	1-5/8	2-3/4	**C23182	12
31	.1200	1-5/8	2-3/4	**C23183	12
30	.1285	1-5/8	2-3/4	**C23184	12
29	.1360	1-3/4	2-7/8	**C23185	12
28	.1405	1-3/4	2-7/8	**C23186	12
27	.1440	1-7/8	3	**C23187	12
26	.1470	1-7/8	3	**C23188	12
25	.1495	1-7/8	3	**C23189	12
24	.1520	2	3-1/8	**C23190	12
23	.1540	2	3-1/8	**C23191	12
22	.1570	2	3-1/8	**C23192	12
21	.1590	2-1/8	3-1/4	**C23193	12
20	.1610	2-1/8	3-1/4	**C23194	12

*Not split point **No flats

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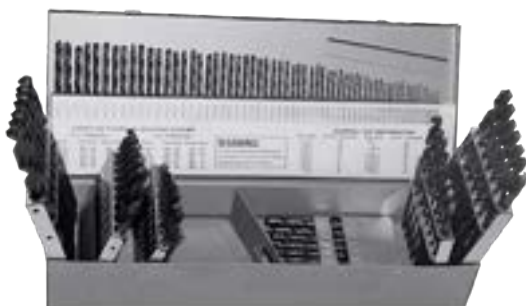
HEAVY DUTY JOBBER LENGTH DRILLS

1801 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
19	.1660	2-1/8	3-1/4	**C23195	12
18	.1695	2-1/8	3-1/4	**C23196	12
17	.1730	2-3/16	3-3/8	**C23197	12
16	.1770	2-3/16	3-3/8	**C23198	12
15	.1800	2-3/16	3-3/8	**C23199	12
14	.1820	2-3/16	3-3/8	**C23200	12
13	.1850	2-5/16	3-1/2	**C23201	12
12	.1890	2-5/16	3-1/2	C23202	12
11	.1910	2-5/16	3-1/2	C23203	12
10	.1935	2-7/16	3-5/8	C23204	12
9	.1960	2-7/16	3-5/8	C23205	12
8	.1990	2-7/16	3-5/8	C23206	12
7	.2010	2-7/16	3-5/8	C23207	12
6	.2040	2-1/2	3-3/4	C23208	12
5	.2055	2-1/2	3-3/4	C23209	12
4	.2090	2-1/2	3-3/4	C23210	12
3	.2130	2-1/2	3-3/4	C23211	12
2	.2210	2-5/8	3-7/8	C23212	12
1	.2280	2-5/8	3-7/8	C23213	12

Letter					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	2-5/8	3-7/8	C23100	12
B	.2380	2-3/4	4	C23101	12
C	.2420	2-3/4	4	C23102	12
D	.2460	2-3/4	4	C23103	12
E	.2500	2-3/4	4	C23137	12
F	.2570	2-7/8	4-1/8	C23104	12
G	.2610	2-7/8	4-1/8	C23105	12
H	.2660	2-7/8	4-1/8	C23106	12
I	.2720	2-7/8	4-1/8	C23107	12
J	.2770	2-7/8	4-1/8	C23108	12
K	.2810	2-15/16	4-1/4	C23109	12
L	.2900	2-15/16	4-1/4	C23110	12
M	.2950	3-1/16	4-3/8	C23111	6
N	.3020	3-1/16	4-3/8	C23112	6
O	.3160	3-3/16	4-1/2	C23113	6
P	.3230	3-5/16	4-5/8	C23114	6
Q	.3320	3-7/16	4-3/4	C23115	6
R	.3390	3-7/16	4-3/4	C23116	6
S	.3480	3-1/2	4-7/8	C23117	6
T	.3580	3-1/2	4-7/8	C23118	6
U	.3680	3-5/8	5	C23119	6
V	.3770	3-5/8	5	C23120	6
W	.3860	3-3/4	5-1/8	C23121	6
X	.3970	3-3/4	5-1/8	C23122	6
Y	.4040	3-7/8	5-1/4	C23123	6
Z	.4130	3-7/8	5-1/4	C23124	6



C21128

Corresponding Sets		
Number of Pieces	Description	Order Number
13	1/16" – 1/4" x 1/64"	C21157
15	1/16" – 1/2" x 1/32"	C21110
21	1/16" – 3/8" x 1/64"	C21115
29	1/16" – 1/2" x 1/64"	C21119
60	#1 – #60	C21124
115	1/16" – 1/2" x 1/64", A to Z, #1 – #60	C21128

Metal cases

HEAVY DUTY JOBBER LENGTH DRILLS

1809 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point or 118° Point / 3/8" Reduced Shank / Black Oxide

CLE-LINE 1809 Heavy duty Drill with 3/8" reduced flatted shank and black oxide finish guarantees efficient drilling in steel and cast iron with a 135° split point.

Best Material Application



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



REDUCED SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
27/64	.4219	3-15/16	5-3/8	C20633	6
7/16	.4375	4-1/16	5-1/2	C20634	6
29/64	.4531	4-3/16	5-5/8	C20635	6
15/32	.4688	4-5/16	5-3/4	C20636	6
31/64	.4844	4-3/8	5-7/8	C20637	6
1/2	.5000	4-1/2	6	C20638	6
*17/32	.5312	4-13/16	6-5/8	C20659	1
*9/16	.5625	4-13/16	6-5/8	C20660	1
*5/8	.6094	5-3/16	7-1/8	C20661	1
*11/16	.6875	5-5/8	7-5/8	C20662	1

*118° conventional point on size above 1/2" diameter

HEAVY DUTY JOBBER LENGTH DRILLS

1500TT SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / TiN Tip Coated

The 1500TT Series is an HSS jobber drill engineered for high-performance production environments where longevity and efficiency are critical. It features a TiN-coated 135° split point for enhanced hardness, reduced walking, and extended cutting performance. The gold TiN coating minimizes friction, increases wear resistance, and improves chip evacuation. Ideal for both CNC and manual operations.

Best Material Application



STEEL



CAST IRON



NON-FERROUS

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C97301	12
5/64	.0781	1	2	C97302	12
3/32	.0938	1-1/4	2-1/4	C97303	12
7/64	.1094	1-1/2	2-5/8	C97304	12
1/8	.1250	1-5/8	2-3/4	C97305	12
9/64	.1406	1-3/4	2-7/8	C97306	12
5/32	.1562	2	3-1/8	C97307	12
11/64	.1719	2-1/8	3-1/4	C97308	12
3/16	.1875	2-5/16	3-1/2	C97309	12
13/64	.2031	2-7/16	3-5/8	C97310	12
7/32	.2188	2-1/2	3-3/4	C97311	12
15/64	.2344	2-5/8	3-7/8	C97312	12
1/4	.2500	2-3/4	4	C97313	12
17/64	.2656	2-7/8	4-1/8	C97314	12
9/32	.2812	2-15/16	4-1/4	C97315	12
19/64	.2969	3-1/16	4-3/8	C97316	6
5/16	.3125	3-3/16	4-1/2	C97317	6
21/64	.3281	3-5/16	4-5/8	C97318	6
11/32	.3438	3-7/16	4-3/4	C97319	6
23/64	.3594	3-1/2	4-7/8	C97320	6
3/8	.3750	3-5/8	5	C97321	6
25/64	.3906	3-3/4	5-1/8	C97322	6
13/32	.4062	3-7/8	5-1/4	C97323	6
27/64	.4219	3-15/16	5-3/8	C97324	6
7/16	.4375	4-1/16	5-1/2	C97325	6
29/64	.4531	4-3/16	5-5/8	C97326	6
15/32	.4688	4-5/16	5-3/4	C97327	6
31/64	.4844	4-3/8	5-7/8	C97328	6
1/2	.5000	4-1/2	6	C97329	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
52	.0635	7/8	1-7/8	C97406	12
51	.0670	1	2	C97405	12
50	.0700	1	2	C97404	12
49	.0730	1	2	C97403	12
48	.0760	1	2	C97402	12
47	.0785	1	2	C97401	12
46	.0810	1-1/8	2-1/8	C97400	12
45	.0820	1-1/8	2-1/8	C97399	12
44	.0860	1-1/8	2-1/8	C97398	12
43	.0890	1-1/4	2-1/4	C97397	12
42	.0935	1-1/4	2-1/4	C97396	12
41	.0960	1-3/8	2-3/8	C97395	12
40	.0980	1-3/8	2-3/8	C97394	12
39	.0995	1-3/8	2-3/8	C97393	12
38	.1015	1-7/16	2-1/2	C97392	12
37	.1040	1-7/16	2-1/2	C97391	12
36	.1065	1-7/16	2-1/2	C97390	12
35	.1100	1-1/2	2-5/8	C97389	12
34	.1110	1-1/2	2-5/8	C97388	12
33	.1130	1-1/2	2-5/8	C97387	12
32	.1160	1-5/8	2-3/4	C97386	12
31	.1200	1-5/8	2-3/4	C97385	12
30	.1285	1-5/8	2-3/4	C97384	12
29	.1360	1-3/4	2-7/8	C97383	12
28	.1405	1-3/4	2-7/8	C97382	12
27	.1440	1-7/8	3	C97381	12
26	.1470	1-7/8	3	C97380	12
25	.1495	1-7/8	3	C97379	12
24	.1520	2	3-1/8	C97378	12
23	.1540	2	3-1/8	C97377	12
22	.1570	2	3-1/8	C97376	12
21	.1590	2-1/8	3-1/4	C97375	12

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HEAVY DUTY JOBBER LENGTH DRILLS

1500TT SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
20	.1610	2-1/8	3-1/4	C97374	12
19	.1660	2-1/8	3-1/4	C97373	12
18	.1695	2-1/8	3-1/4	C97372	12
17	.1730	2-3/16	3-3/8	C97371	12
16	.1770	2-3/16	3-3/8	C97370	12
15	.1800	2-3/16	3-3/8	C97369	12
14	.1820	2-3/16	3-3/8	C97368	12
13	.1850	2-5/16	3-1/2	C97367	12
12	.1890	2-5/16	3-1/2	C97366	12
11	.1910	2-5/16	3-1/2	C97365	12
10	.1935	2-7/16	3-5/8	C97364	12
9	.1960	2-7/16	3-5/8	C97363	12
8	.1990	2-7/16	3-5/8	C97362	12
7	.2010	2-7/16	3-5/8	C97361	12
6	.2040	2-1/2	3-3/4	C97360	12
5	.2055	2-1/2	3-3/4	C97359	12
4	.2090	2-1/2	3-3/4	C97358	12
3	.2130	2-1/2	3-3/4	C97357	12
2	.2210	2-5/8	3-7/8	C97356	12
1	.2280	2-5/8	3-7/8	C97355	12

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	2-5/8	3-7/8	C97330	6
B	.2380	2-3/4	4	C97331	6
C	.2420	2-3/4	4	C97332	6
D	.2460	2-3/4	4	C97333	6
E	.2500	2-3/4	4	C97313	6
F	.2570	2-7/8	4-1/8	C97334	6
G	.2610	2-7/8	4-1/8	C97335	6
H	.2660	2-7/8	4-1/8	C97336	6
I	.2720	2-7/8	4-1/8	C97337	6
J	.2770	2-7/8	4-1/8	C97338	6
K	.2810	2-15/16	4-1/4	C97339	6
L	.2900	2-15/16	4-1/4	C97340	6
M	.2950	3-1/16	4-3/8	C97341	6
N	.3020	3-1/16	4-3/8	C97342	6
O	.3160	3-3/16	4-1/2	C97343	6
P	.3230	3-5/16	4-5/8	C97344	6
Q	.3320	3-7/16	4-3/4	C97345	6
R	.3390	3-7/16	4-3/4	C97346	6
S	.3480	3-1/2	4-7/8	C97347	6
T	.3580	3-1/2	4-7/8	C97348	6
U	.3680	3-5/8	5	C97349	6
V	.3770	3-5/8	5	C97350	6
W	.3860	3-3/4	5-1/8	C97351	6
X	.3970	3-3/4	5-1/8	C97352	6
Y	.4040	3-7/8	5-1/4	C97353	6
Z	.4130	3-7/8	5-1/4	C97354	6



C97413

Corresponding Sets		
Number of Pieces	Description	Order Number
15	1/16-1/2 x 1/32	C97414
29	1/16-1/2 x 1/64	C97413

Metal cases

HEAVY DUTY JOBBER LENGTH DRILLS

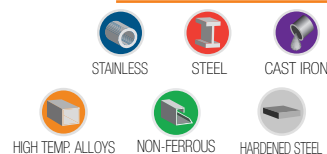
1802 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze Finish

Cobalt heavy duty jobber drills with a 135° point, regular helix, and round shank for maximum strength and reliability. The bronze finish enhances heat resistance and durability. Engineered to drill tough, high-tensile and work-hardening materials such as high-strength alloy steels, stainless steel, titanium, manganese steel, armor plate, and Inconel with consistent performance.

Best Material Application



Drill Specifications



Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
1/16	.0625	7/8	1-7/8	C23345	12	C23345HT	12
5/64	.0781	1	2	C23346	12	C23346HT	12
3/32	.0938	1-1/4	2-1/4	C23347	12	C23347HT	12
7/64	.1094	1-1/2	2-5/8	C23348	12	C23348HT	12
1/8	.1250	1-5/8	2-3/4	C23349	12	C23349HT	12
9/64	.1406	1-3/4	2-7/8	C23350	12	C23350HT	12
5/32	.1562	2	3-1/8	C23351	12	C23351HT	12
11/64	.1719	2-1/8	3-1/4	C23352	12	C23352HT	12
3/16	.1875	2-5/16	3-1/2	C23353	12	C23353HT	12
13/64	.2031	2-7/16	3-5/8	C23354	12	C23354HT	12
7/32	.2188	2-1/2	3-3/4	C23355	12	C23355HT	12
15/64	.2344	2-5/8	3-7/8	C23356	12	C23356HT	12
1/4	.2500	2-3/4	4	C23357	12	C23357HT	12
17/64	.2656	2-7/8	4-1/8	C23358	12	C23358HT	12
9/32	.2812	2-15/16	4-1/4	C23359	12	C23359HT	12
19/64	.2969	3-1/16	4-3/8	C23360	6	C23360HT	6
5/16	.3125	3-3/16	4-1/2	C23361	6	C23361HT	6
21/64	.3281	3-5/16	4-5/8	C23362	6	C23362HT	6
11/32	.3438	3-7/16	4-3/4	C23363	6	C23363HT	6
23/64	.3594	3-1/2	4-7/8	C23364	6	C23364HT	6
3/8	.3750	3-5/8	5	C23365	6	C23365HT	6
25/64	.3906	3-3/4	5-1/8	C23366	6	C23366HT	6
13/32	.4062	3-7/8	5-1/4	C23367	6	C23367HT	6
27/64	.4219	3-15/16	5-3/8	C23368	6	C23368HT	6
7/16	.4375	4-1/16	5-1/2	C23369	6	C23369HT	6
29/64	.4531	4-3/16	5-5/8	C23370	6	C23370HT	6
15/32	.4688	4-5/16	5-3/4	C23371	6	C23371HT	6
31/64	.4844	4-3/8	5-7/8	C23372	6	C23372HT	6
1/2	.5000	4-1/2	6	C23373	6	C23373HT	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*60	.0400	11/16	1-5/8	C23374	12
*59	.0410	11/16	1-5/8	C23375	12
*58	.0420	11/16	1-5/8	C23376	12
*57	.0430	3/4	1-3/4	C23377	12
*56	.0465	3/4	1-3/4	C23378	12
*55	.0520	7/8	1-7/8	C23379	12
*54	.0550	7/8	1-7/8	C23380	12
*53	.0595	7/8	1-7/8	C23381	12
52	.0635	7/8	1-7/8	C23382	12
51	.0670	1	2	C23383	12
50	.0700	1	2	C23384	12
49	.0730	1	2	C23385	12
48	.0760	1	2	C23386	12
47	.0785	1	2	C23387	12
46	.0810	1-1/8	2-1/8	C23388	12
45	.0820	1-1/8	2-1/8	C23389	12
44	.0860	1-1/8	2-1/8	C23390	12
43	.0890	1-1/4	2-1/4	C23391	12
42	.0935	1-1/4	2-1/4	C23392	12
41	.0960	1-3/8	2-3/8	C23393	12
40	.0980	1-3/8	2-3/8	C23394	12
39	.0995	1-3/8	2-3/8	C23395	12
38	.1015	1-7/16	2-1/2	C23396	12
37	.1040	1-7/16	2-1/2	C23397	12
36	.1065	1-7/16	2-1/2	C23398	12
35	.1100	1-1/2	2-5/8	C23399	12
34	.1110	1-1/2	2-5/8	C23400	12
33	.1130	1-1/2	2-5/8	C23401	12
32	.1160	1-5/8	2-3/4	C23402	12
31	.1200	1-5/8	2-3/4	C23403	12
30	.1285	1-5/8	2-3/4	C23404	12

*Not split point

continued on next page

HEAVY DUTY
JOBBER LENGTH DRILLS

1802 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
29	.1360	1-3/4	2-7/8	C23405	12
28	.1405	1-3/4	2-7/8	C23406	12
27	.1440	1-7/8	3	C23407	12
26	.1470	1-7/8	3	C23408	12
25	.1495	1-7/8	3	C23409	12
24	.1520	2	3-1/8	C23410	12
23	.1540	2	3-1/8	C23411	12
22	.1570	2	3-1/8	C23412	12
21	.1590	2-1/8	3-1/4	C23413	12
20	.1610	2-1/8	3-1/4	C23414	12
19	.1660	2-1/8	3-1/4	C23415	12
18	.1695	2-1/8	3-1/4	C23416	12
17	.1730	2-3/16	3-3/8	C23417	12
16	.1770	2-3/16	3-3/8	C23418	12
15	.1800	2-3/16	3-3/8	C23419	12
14	.1820	2-3/16	3-3/8	C23420	12
13	.1850	2-5/16	3-1/2	C23421	12
12	.1890	2-5/16	3-1/2	C23422	12
11	.1910	2-5/16	3-1/2	C23423	12
10	.1935	2-7/16	3-5/8	C23424	12
9	.1960	2-7/16	3-5/8	C23425	12
8	.1990	2-7/16	3-5/8	C23426	12
7	.2010	2-7/16	3-5/8	C23427	12
6	.2040	2-1/2	3-3/4	C23428	12
5	.2055	2-1/2	3-3/4	C23429	12
4	.2090	2-1/2	3-3/4	C23430	12
3	.2130	2-1/2	3-3/4	C23431	12
2	.2210	2-5/8	3-7/8	C23432	12
1	.2280	2-5/8	3-7/8	C23433	12

Letter							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number Hanger	Hanger Qty.
A	.2340	2-5/8	3-7/8	C23320	12	—	—
B	.2380	2-3/4	4	C23321	12	—	—
C	.2420	2-3/4	4	C23322	12	—	—
D	.2460	2-3/4	4	C23323	12	—	—
E	.2500	2-3/4	4	C23357	12	C23357HT	12
F	.2570	2-7/8	4-1/8	C23324	12	—	—
G	.2610	2-7/8	4-1/8	C23325	12	—	—
H	.2660	2-7/8	4-1/8	C23326	12	—	—
I	.2720	2-7/8	4-1/8	C23327	12	—	—
J	.2770	2-7/8	4-1/8	C23328	12	—	—
K	.2810	2-15/16	4-1/4	C23329	12	—	—
L	.2900	2-15/16	4-1/4	C23330	12	—	—
M	.2950	3-1/16	4-3/8	C24720	6	—	—
N	.3020	3-1/16	4-3/8	C24721	6	—	—
O	.3160	3-3/16	4-1/2	C24722	6	—	—
P	.3230	3-5/16	4-5/8	C24723	6	—	—
Q	.3320	3-7/16	4-3/4	C23335	6	—	—
R	.3390	3-7/16	4-3/4	C23336	6	—	—
S	.3480	3-1/2	4-7/8	C24724	6	—	—
T	.3580	3-1/2	4-7/8	C24725	6	—	—
U	.3680	3-5/8	5	C23339	6	—	—
V	.3770	3-5/8	5	C23340	6	—	—
W	.3860	3-3/4	5-1/8	C23341	6	—	—
X	.3970	3-3/4	5-1/8	C24726	6	—	—
Y	.4040	3-3/4	5-1/4	C24727	6	—	—
Z	.4130	3-7/8	5-1/4	C24728	6	—	—

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.00	.0394	12	34	C18900	12
*1.20	.0472	16	38	C18902	12
*1.50	.0591	18	40	C18905	12
1.60	.0630	20	43	C18906	12
2.00	.0787	24	49	C18910	12
2.40	.0945	30	57	C18914	12
2.50	.0984	30	57	C18915	12
2.80	.1102	33	61	C18918	12
3.00	.1181	33	61	C18920	12
3.10	.1220	36	65	C18921	12
3.20	.1260	36	65	C18922	12
3.30	.1299	36	65	C18923	12
3.50	.1378	39	70	C18925	12
3.60	.1417	39	70	C18926	12
3.70	.1457	39	70	C18927	12
3.90	.1535	43	75	C18929	12
4.00	.1575	43	75	C18930	12
4.10	.1614	43	75	C18931	12
4.20	.1654	43	75	C18932	12
4.50	.1772	47	80	C18935	12
4.60	.1811	47	80	C18936	12
4.80	.1890	52	86	C18938	12
4.90	.1929	52	86	C18939	12
5.00	.1969	52	86	C18940	12
5.10	.2008	52	86	C18941	12
5.20	.2047	52	86	C18942	12
5.50	.2165	57	93	C18945	12
6.00	.2362	57	93	C18950	12
6.50	.2559	63	101	C18955	12
6.80	.2677	69	109	C18958	12
7.00	.2756	69	109	C18960	12
7.50	.2953	69	109	C18965	6
8.00	.3150	75	117	C18970	6
8.50	.3346	75	117	C18975	6
9.00	.3543	81	125	C18980	6
9.50	.3740	81	125	C18985	6
10.00	.3937	87	133	C18990	6
10.20	.4016	87	133	C18991	6
10.50	.4134	87	133	C18992	6
11.00	.4331	94	142	C18993	6
11.50	.4528	94	142	C18995	6
12.00	.4724	101	151	C18996	6
12.50	.4921	101	151	C18998	6
13.00	.5118	101	151	C18999	1

*Not split point

Corresponding Sets		
Number of Pieces	Description	Order Number
13	1/16"– 1/4" x 1/64"	C21107
15	1/16"– 1/2" x 1/32"	C21112
26	A to Z	C77016
29	1/16"– 1/2" x 1/64"	C21121
60	#1 – #60	C21125
115	1/16"– 1/2" x 1/64", A to Z, #1 – #60	C21129



#C21112

Metal cases

HEAVY DUTY JOBBER LENGTH DRILLS

1804 SERIES

HEAVY DUTY COBALT

135° Split Point / Hex Shank / Bronze Finish

CLE-LINE 1804 Jobber Drill with hex shank and cobalt substrate delivers efficient drilling in steel, cast iron, and aluminum with 135° split point and bronze finish.

Best Material Application



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



HEX SHANK



Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
*1/16	.0625	—	1.875	C10600	12	C10600HT	12
*5/64	.0781	—	2.000	C10601	12	C10601HT	12
*3/32	.0938	—	2.250	C10602	12	C10602HT	12
*7/64	.1094	—	2.625	C10603	12	C10603HT	12
*1/8	.1250	—	2.750	C10604	12	C10604HT	12
*9/64	.1406	—	2.875	C10605	12	C10605HT	12
*5/32	.1562	—	3.125	C10606	12	C10606HT	12
*11/64	.1719	—	3.250	C10607	12	C10607HT	12
3/16	.1875	1.125	3.500	C10608	12	C10608HT	12
13/64	.2031	1.125	3.625	C10609	12	C10609HT	12
7/32	.2188	1.125	3.750	C10610	12	C10610HT	12
15/64	.2344	1.125	3.875	C10611	12	C10611HT	12
1/4	.2500	1.125	4.000	C10612	12	C10612HT	12
17/64	.2656	1.125	4.125	C10613	12	C10613HT	12
9/32	.2812	1.125	4.250	C10614	12	C10614HT	12
19/64	.2969	1.125	4.375	C10615	6	C10615HT	6

Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
5/16	.3125	1.125	4.500	C10616	6	C10616HT	6
21/64	.3281	1.125	4.625	C10617	6	C10617HT	6
11/32	.3438	1.125	4.750	C10618	6	C10618HT	6
23/64	.3594	1.125	4.875	C10619	6	C10619HT	6
3/8	.3750	1.125	5.000	C10620	6	C10620HT	6
25/64	.3906	1.125	5.125	C10621	6	C10621HT	6
13/32	.4062	1.125	5.250	C10622	6	C10622HT	6
27/64	.4219	1.125	5.375	C10623	6	C10623HT	6
7/16	.4375	1.125	5.500	C10624	6	C10624HT	6
29/64	.4531	1.125	5.625	C10625	6	C10625HT	6
15/32	.4688	1.125	5.750	C10626	6	C10626HT	6
31/64	.4844	1.125	5.875	C10627	6	C10627HT	6
1/2	.5000	1.125	6.000	C10628	6	C10628HT	6

*11/64" and smaller have a round shank with no flats
3/16" and larger have a shank with 6 flats



BIT BARREL

Corresponding Sets		
Number of Pieces	Description	Order Number
29	1/16" – 1/2" x 1/64"	C10629

Plastic case

HEAVY DUTY JOBBER LENGTH DRILLS

1501TT SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / TiN Tip Coated

The 1501TT Series is a cobalt jobber drill engineered for high-performance applications in heat-resistant and hard metals. The gold TiN-coated point increases surface hardness, reduces friction, and enhances wear resistance, extending tool life in high-stress conditions. It features a 135° split point to ensure fast, accurate starts while minimizing walking. Performs reliably in high-production environments where tool longevity and consistency are essential.

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C66001	12
5/64	.0781	1	2	C66002	12
3/32	.0938	1-1/4	2-1/4	C66003	12
7/64	.1094	1-1/2	2-5/8	C66004	12
1/8	.1250	1-5/8	2-3/4	C66005	12
9/64	.1406	1-3/4	2-7/8	C66006	12
5/32	.1562	2	3-1/8	C66007	12
11/64	.1719	2-1/8	3-1/4	C66008	12
3/16	.1875	2-5/16	3-1/2	C66009	12
13/64	.2031	2-7/16	3-5/8	C66010	12
7/32	.2188	2-1/2	3-3/4	C66011	12
15/64	.2344	2-5/8	3-7/8	C66012	12
1/4	.2500	2-3/4	4	C66013	12
17/64	.2656	2-7/8	4-1/8	C66014	12
9/32	.2812	2-15/16	4-1/4	C66015	12
19/64	.2969	3-1/16	4-3/8	C66016	6
5/16	.3125	3-3/16	4-1/2	C66017	6
21/64	.3281	3-5/16	4-5/8	C66018	6
11/32	.3438	3-7/16	4-3/4	C66019	6
23/64	.3594	3-1/2	4-7/8	C66020	6
3/8	.3750	3-5/8	5	C66021	6
25/64	.3906	3-3/4	5-1/8	C66022	6
13/32	.4062	3-7/8	5-1/4	C66023	6
27/64	.4219	3-15/16	5-3/8	C66024	6
7/16	.4375	4-1/16	5-1/2	C66025	6
29/64	.4531	4-3/16	5-5/8	C66026	6
15/32	.4688	4-5/16	5-3/4	C66027	6
31/64	.4844	4-3/8	5-7/8	C66028	6
1/2	.5000	4-1/2	6	C66029	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
52	.0635	7/8	1-7/8	C66106	12
51	.0670	1	2	C66105	12
50	.0700	1	2	C66104	12
49	.0730	1	2	C66103	12
48	.0760	1	2	C66102	12
47	.0785	1	2	C66101	12
46	.0810	1-1/8	2-1/8	C66100	12
45	.0820	1-1/8	2-1/8	C66099	12
44	.0860	1-1/8	2-1/8	C66098	12
43	.0890	1-1/4	2-1/4	C66097	12
42	.0935	1-1/4	2-1/4	C66096	12
41	.0960	1-3/8	2-3/8	C66095	12
40	.0980	1-3/8	2-3/8	C66094	12
39	.0995	1-3/8	2-3/8	C66093	12
38	.1015	1-7/16	2-1/2	C66092	12
37	.1040	1-7/16	2-1/2	C66091	12
36	.1065	1-7/16	2-1/2	C66090	12
35	.1100	1-1/2	2-5/8	C66089	12
34	.1110	1-1/2	2-5/8	C66088	12
33	.1130	1-1/2	2-5/8	C66087	12
32	.1160	1-5/8	2-3/4	C66086	12
31	.1200	1-5/8	2-3/4	C66085	12
30	.1285	1-5/8	2-3/4	C66084	12
29	.1360	1-3/4	2-7/8	C66083	12
28	.1405	1-3/4	2-7/8	C66082	12
27	.1440	1-7/8	3	C66081	12
26	.1470	1-7/8	3	C66080	12
25	.1495	1-7/8	3	C66079	12
24	.1520	2	3-1/8	C66078	12
23	.1540	2	3-1/8	C66077	12
22	.1570	2	3-1/8	C66076	12
21	.1590	2-1/8	3-1/4	C66075	12

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HEAVY DUTY JOBBER LENGTH DRILLS

1501TT SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
20	.1610	2-1/8	3-1/4	C66074	12
19	.1660	2-1/8	3-1/4	C66073	12
18	.1695	2-1/8	3-1/4	C66072	12
17	.1730	2-3/16	3-3/8	C66071	12
16	.1770	2-3/16	3-3/8	C66070	12
15	.1800	2-3/16	3-3/8	C66069	12
14	.1820	2-3/16	3-3/8	C66068	12
13	.1850	2-5/16	3-1/2	C66067	12
12	.1890	2-5/16	3-1/2	C66066	12
11	.1910	2-5/16	3-1/2	C66065	12
10	.1935	2-7/16	3-5/8	C66064	12
9	.1960	2-7/16	3-5/8	C66063	12
8	.1990	2-7/16	3-5/8	C66062	12
7	.2010	2-7/16	3-5/8	C66061	12
6	.2040	2-1/2	3-3/4	C66060	12
5	.2055	2-1/2	3-3/4	C66059	12
4	.2090	2-1/2	3-3/4	C66058	12
3	.2130	2-1/2	3-3/4	C66057	12
2	.2210	2-5/8	3-7/8	C66056	12
1	.2280	2-5/8	3-7/8	C66055	12

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	2-5/8	3-7/8	C66030	12
B	.2380	2-3/4	4	C66031	12
C	.2420	2-3/4	4	C66032	12
D	.2460	2-3/4	4	C66033	12
E	.2500	2-3/4	4	C66013	12
F	.2570	2-7/8	4-1/8	C66034	12
G	.2610	2-7/8	4-1/8	C66035	12
H	.2660	2-7/8	4-1/8	C66036	12
I	.2720	2-7/8	4-1/8	C66037	12
J	.2770	2-7/8	4-1/8	C66038	12
K	.2810	2-15/16	4-1/4	C66039	12
L	.2900	2-15/16	4-1/4	C66040	12
M	.2950	3-1/16	4-3/8	C66041	6
N	.3020	3-1/16	4-3/8	C66042	6
O	.3160	3-3/16	4-1/2	C66043	6
P	.3230	3-5/16	4-5/8	C66044	6
Q	.3320	3-7/16	4-3/4	C66045	6
R	.3390	3-7/16	4-3/4	C66046	6
S	.3480	3-1/2	4-7/8	C66047	6
T	.3580	3-1/2	4-7/8	C66048	6
U	.3680	3-5/8	5	C66049	6
V	.3770	3-5/8	5	C66050	6
W	.3860	3-3/4	5-1/8	C66051	6
X	.3970	3-3/4	5-1/8	C66052	6
Y	.4040	3-7/8	5-1/4	C66053	6
Z	.4130	3-7/8	5-1/4	C66054	6



C66113

Corresponding Sets		
Number of Pieces	Description	Order Number
15	1/16-1/2 x 1/32	C66114
29	1/16-1/2 x 1/64	C66113

Metal Cases

HEAVY DUTY JOBBER LENGTH DRILLS

1812 SERIES

COBALT

135° Split Point / 3/8" Reduced Shank / Bronze Finish

The Cle-Line® 1812 Series is a premium M42 cobalt jobber length drill engineered for superior performance in tough, high-tensile materials. Designed for durability, heat resistance, and extended tool life, this series excels in stainless steels and harder alloys where standard HSS drills fall short.

Manufactured from high-performance cobalt steel, the 1812 Series maintains cutting integrity at higher speeds and temperatures, making it ideal for demanding production and MRO environments.

- ▷ *Superior heat resistance and hardness retention for longer tool life in stainless steel materials.*
- ▷ *Self-centering design reduces walking and eliminates the need for center punching in most applications — improving hole accuracy and reducing setup time.*
- ▷ *Reduces friction and improves chip flow while withstanding elevated cutting temperatures.*



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
25/64	.3906	3-3/4	5-1/8	C20651	6
13/32	.4063	3-7/8	5-1/4	C20652	6
27/64	.4219	3-15/16	5-3/8	C20653	6
7/16	.4375	4-1/16	5-1/2	C20654	6
29/64	.4531	4-3/16	5-5/8	C20655	6
15/32	.4688	4-5/16	5-3/4	C20656	6
31/64	.4844	4-3/8	5-7/8	C20657	6
1/2	.5000	4-1/2	6	C20658	6

GENERAL PURPOSE JOBBER LENGTH DRILLS

01

DRILLS

1898 SERIES

HIGH SPEED STEEL

118° Point / Round Shank / Bright

The CLE-LINE 1898 Maintenance jobber drill is designed for general-purpose. It features a 118° standard point for smooth, controlled starts in mild steels, cast iron, and other non-hardened materials. The bright finish reduces friction and promotes clean chip evacuation during drilling.

NOTE: For Reduced Shank see Style #1900.

Best Material Application



STEEL



NON-FERROUS

Drill Specifications



118° POINT



ROUND SHANK



Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Order Number (Hanger)	Pack Qty.
1/16	.0625	7/8	1-7/8	C22995	C22995HT	12
5/64	.0781	1	2	C22996	C22996HT	12
3/32	.0938	1-1/4	2-1/4	C22997	C22997HT	12
7/64	.1094	1-1/2	2-5/8	C22998	C22998HT	12
1/8	.1250	1-5/8	2-3/4	C22999	C22999HT	12
9/64	.1406	1-3/4	2-7/8	C23000	C23000HT	12
5/32	.1562	2	3-1/8	C23001	C23001HT	12
11/64	.1719	2-1/8	3-1/4	C23002	C23002HT	12
3/16	.1875	2-5/16	3-1/2	C23003	C23003HT	12
13/64	.2031	2-7/16	3-5/8	C23004	C23004HT	12
7/32	.2188	2-1/2	3-3/4	C23005	C23005HT	12
15/64	.2344	2-5/8	3-7/8	C23006	C23006HT	12
1/4	.2500	2-3/4	4	C23007	C23007HT	12
17/64	.2656	2-7/8	4-1/8	C23008	C23008HT	12
9/32	.2812	2-15/16	4-1/4	C23009	C23009HT	12
19/64	.2969	3-1/16	4-3/8	C23010	C23010HT	6
5/16	.3125	3-3/16	4-1/2	C23011	C23011HT	6
21/64	.3281	3-5/16	4-5/8	C23012	C23012HT	6
11/32	.3438	3-7/16	4-3/4	C23013	C23013HT	6
23/64	.3594	3-1/2	4-7/8	C23014	C23014HT	6
3/8	.3750	3-5/8	5	C23015	C23015HT	6
25/64	.3906	3-3/4	5-1/8	C23016	C23016HT	6
13/32	.4062	3-7/8	5-1/4	C23017	C23017HT	6
27/64	.4219	3-15/16	5-3/8	C23018	C23018HT	6
7/16	.4375	4-1/16	5-1/2	C23019	C23019HT	6
29/64	.4531	4-3/16	5-5/8	C23020	C23020HT	6
15/32	.4688	4-5/16	5-3/4	C23021	C23021HT	6
31/64	.4844	4-3/8	5-7/8	C23022	C23022HT	6
1/2	.5000	4-1/2	6	C23023	C23023HT	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
60	.0400	11/16	1-5/8	C23024	12
59	.0410	11/16	1-5/8	C23025	12
58	.0420	11/16	1-5/8	C23026	12
57	.0430	3/4	1-3/4	C23027	12
56	.0465	3/4	1-3/4	C23028	12
55	.0520	7/8	1-7/8	C23029	12
54	.0550	7/8	1-7/8	C23030	12
53	.0595	7/8	1-7/8	C23031	12
52	.0635	7/8	1-7/8	C23032	12
51	.0670	1	2	C23033	12
50	.0700	1	2	C23034	12
49	.0730	1	2	C23035	12
48	.0760	1	2	C23036	12
47	.0785	1	2	C23037	12
46	.0810	1-1/8	2-1/8	C23038	12
45	.0820	1-1/8	2-1/8	C23039	12
44	.0860	1-1/8	2-1/8	C23040	12
43	.0890	1-1/4	2-1/4	C23041	12
42	.0935	1-1/4	2-1/4	C23042	12
41	.0960	1-3/8	2-3/8	C23043	12
40	.0980	1-3/8	2-3/8	C23044	12
39	.0995	1-3/8	2-3/8	C23045	12
38	.1015	1-7/16	2-1/2	C23046	12
37	.1040	1-7/16	2-1/2	C23047	12
36	.1065	1-7/16	2-1/2	C23048	12
35	.1100	1-1/2	2-5/8	C23049	12
34	.1110	1-1/2	2-5/8	C23050	12
33	.1130	1-1/2	2-5/8	C23051	12
32	.1160	1-5/8	2-3/4	C23052	12
31	.1200	1-5/8	2-3/4	C23053	12
30	.1285	1-5/8	2-3/4	C23054	12

CLE-LINE
WALTER

continued on next page

GENERAL PURPOSE JOBBER LENGTH DRILLS

1898 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
29	.1360	1-3/4	2-7/8	C23055	12
28	.1405	1-3/4	2-7/8	C23056	12
27	.1440	1-7/8	3	C23057	12
26	.1470	1-7/8	3	C23058	12
25	.1495	1-7/8	3	C23059	12
24	.1520	2	3-1/8	C23060	12
23	.1540	2	3-1/8	C23061	12
22	.1570	2	3-1/8	C23062	12
21	.1590	2-1/8	3-1/4	C23063	12
20	.1610	2-1/8	3-1/4	C23064	12
19	.1660	2-1/8	3-1/4	C23065	12
18	.1695	2-1/8	3-1/4	C23066	12
17	.1730	2-3/16	3-3/8	C23067	12
16	.1770	2-3/16	3-3/8	C23068	12
15	.1800	2-3/16	3-3/8	C23069	12
14	.1820	2-3/16	3-3/8	C23070	12
13	.1850	2-5/16	3-1/2	C23071	12
12	.1890	2-5/16	3-1/2	C23072	12
11	.1910	2-5/16	3-1/2	C23073	12
10	.1935	2-7/16	3-5/8	C23074	12
9	.1960	2-7/16	3-5/8	C23075	12
8	.1990	2-7/16	3-5/8	C23076	12
7	.2010	2-7/16	3-5/8	C23077	12
6	.2040	2-1/2	3-3/4	C23078	12
5	.2055	2-1/2	3-3/4	C23079	12
4	.2090	2-1/2	3-3/4	C23080	12
3	.2130	2-1/2	3-3/4	C23081	12
2	.2210	2-5/8	3-7/8	C23082	12
1	.2280	2-5/8	3-7/8	C23083	12
Letter					
A	.2340	2-5/8	3-7/8	C22970	12
B	.2380	2-3/4	4	C22971	12
C	.2420	2-3/4	4	C22972	12
D	.2460	2-3/4	4	C22973	12
*E	.2500	2-3/4	4	C23007	12
F	.2570	2-7/8	4-1/8	C22974	12
G	.2610	2-7/8	4-1/8	C22975	12
H	.2660	2-7/8	4-1/8	C22976	12
I	.2720	2-7/8	4-1/8	C22977	12
J	.2770	2-7/8	4-1/8	C22978	12
K	.2810	2-15/16	4-1/4	C22979	12
L	.2900	2-15/16	4-1/4	C22980	12
M	.2950	3-1/16	4-3/8	C22981	6
N	.3020	3-1/16	4-3/8	C22982	6
O	.3160	3-3/16	4-1/2	C22983	6
P	.3230	3-5/16	4-5/8	C22984	6
Q	.3320	3-7/16	4-3/4	C22985	6
R	.3390	3-7/16	4-3/4	C22986	6
S	.3480	3-1/2	4-7/8	C22987	6
T	.3580	3-1/2	4-7/8	C22988	6
U	.3680	3-5/8	5	C22989	6
V	.3770	3-5/8	5	C22990	6
W	.3860	3-3/4	5-1/8	C22991	6
X	.3970	3-3/4	5-1/8	C22992	6
Y	.4040	3-7/8	5-1/4	C22993	6
Z	.4130	3-7/8	5-1/4	C22994	6

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
0.40	.0157	5	20	C01802	12
0.45	.0177	5	20	C01807	12
0.50	.0197	6	22	C01810	12
0.60	.0236	7	24	C01815	12
0.70	.0276	9	28	C01820	12
0.80	.0315	10	30	C01826	12
0.85	.0335	10	30	C01829	12
0.90	.0354	11	32	C01831	12
0.95	.0374	11	32	C01834	12
1.00	.0394	12	34	C62793	12
1.05	.0413	12	34	C62794	12
1.10	.0433	14	36	C62795	12
1.15	.0453	14	36	C62796	12
1.20	.0472	16	38	C62797	12
1.25	.0492	16	38	C62798	12
1.30	.0512	16	38	C62799	12
1.35	.0531	18	40	C62800	12
1.40	.0551	18	40	C62801	12
1.45	.0571	18	40	C62802	12
1.50	.0591	18	40	C62803	12
1.55	.0610	20	43	C62804	12
1.60	.0630	20	43	C62805	12
1.65	.0650	20	43	C62806	12
1.70	.0669	20	43	C62807	12
1.75	.0689	22	46	C62808	12
1.80	.0709	22	46	C62809	12
1.85	.0728	22	46	C62810	12
1.90	.0748	22	46	C62811	12
1.95	.0768	24	49	C62812	12
2.00	.0787	24	49	C62813	12
2.05	.0807	24	49	C62814	12
2.10	.0827	24	49	C62815	12
2.15	.0846	27	53	C62816	12
2.20	.0866	27	53	C62817	12
2.25	.0886	27	53	C62818	12
2.30	.0906	27	53	C62819	12
2.35	.0925	27	53	C62820	12
2.40	.0945	30	57	C62821	12
2.45	.0965	30	57	C62822	12
2.50	.0984	30	57	C62823	12
2.60	.1024	30	57	C62824	12
2.70	.1063	33	61	C62825	12
2.80	.1102	33	61	C62826	12
2.90	.1142	33	61	C62827	12
3.00	.1181	33	61	C62828	12
3.10	.1220	36	65	C62829	12
3.20	.1260	36	65	C62830	12
3.25	.1280	36	65	C01912	12
3.30	.1299	36	65	C62831	12
3.40	.1339	39	70	C62832	12
3.50	.1378	39	70	C62833	12
3.60	.1417	39	70	C62834	12

*Wire E comes in Hanger. Part Number: C23007HT (12 pcs.)

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GENERAL PURPOSE JOBBER LENGTH DRILLS

01

DRILLS

CLE-Line
WALTER

1898 SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
3.70	.1457	39	70	C62835	12
3.75	.1476	39	70	C01924	12
3.80	.1496	43	75	C62836	12
3.90	.1535	43	75	C62837	12
4.00	.1575	43	75	C62838	12
4.10	.1614	43	75	C62839	12
4.20	.1654	43	75	C62840	12
4.25	.1673	43	75	C01938	12
4.30	.1693	47	80	C62841	12
4.40	.1732	47	80	C62842	12
4.50	.1772	47	80	C62843	12
4.60	.1811	47	80	C62844	12
4.70	.1850	47	80	C62845	12
4.80	.1890	52	86	C62846	12
4.90	.1929	52	86	C62847	12
5.00	.1969	52	86	C62848	12
5.10	.2008	52	86	C62849	12
5.20	.2047	52	86	C62850	12
5.30	.2087	52	86	C62851	12
5.40	.2126	57	93	C62852	12
5.50	.2165	57	93	C62853	12
5.60	.2205	57	93	C62854	12
5.70	.2244	57	93	C62855	12
5.80	.2283	57	93	C62856	12
5.90	.2323	57	93	C62857	12
6.00	.2362	57	93	C62858	12
6.10	.2402	63	101	C62859	12
6.20	.2441	63	101	C62860	12
6.30	.2480	63	101	C62861	12
6.40	.2520	63	101	C62862	12
6.50	.2559	63	101	C62863	12
6.60	.2598	63	101	C62864	12
6.70	.2638	63	101	C62865	12
6.80	.2677	69	109	C62866	12
6.90	.2717	69	109	C62867	12
7.00	.2756	69	109	C62868	12
7.10	.2795	69	109	C62869	12
7.20	.2835	69	109	C62870	12
7.30	.2874	69	109	C62871	12
7.40	.2913	69	109	C62872	6
7.50	.2953	69	109	C62873	6
7.60	.2992	75	117	C62874	6
7.70	.3031	75	117	C62875	6
7.80	.3071	75	117	C62876	6
7.90	.3110	75	117	C62877	6
8.00	.3150	75	117	C62878	6
8.10	.3189	75	117	C62879	6
8.20	.3228	75	117	C62880	6
8.30	.3268	75	117	C62881	6
8.40	.3307	75	117	C62882	6
8.50	.3346	75	117	C62883	6
8.60	.3386	81	125	C62884	6
8.70	.3425	81	125	C62885	6

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
8.80	.3465	81	125	C62886	6
8.90	.3504	81	125	C62887	6
9.00	.3543	81	125	C62888	6
9.10	.3583	81	125	C62889	6
9.20	.3622	81	125	C62890	6
9.30	.3661	81	125	C62891	6
9.40	.3701	81	125	C62892	6
9.50	.3740	81	125	C62893	6
9.60	.3780	87	133	C62894	6
9.70	.3819	87	133	C62895	6
9.80	.3858	87	133	C62896	6
9.90	.3898	87	133	C62897	6
10.00	.3937	87	133	C62898	6
10.20	.4016	87	133	C62899	6
10.50	.4134	87	133	C62900	6
10.70	.4212	94	142	C02070	6
10.80	.4252	94	142	C62901	6
11.00	.4331	94	142	C62902	6
11.10	.4370	94	142	C02073	6
11.20	.4409	94	142	C62903	6
11.50	.4528	94	142	C62904	6
11.80	.4646	94	142	C62905	6
12.00	.4724	101	151	C62906	6
12.20	.4803	101	151	C62907	6
12.50	.4921	101	151	C62908	6
12.80	.5039	101	151	C62909	1
13.00	.5118	101	151	C62910	1
13.20	.5197	101	161	C62911	1
13.50	.5315	108	160	C62912	1
13.80	.5433	108	160	C62913	1
14.00	.5512	108	160	C62914	1
14.25	.5610	114	169	C62915	1
14.50	.5709	114	169	C62916	1
14.75	.5807	114	169	C62917	1
15.00	.5906	114	169	C62918	1
15.50	.6102	120	178	C62920	1
15.75	.6201	120	178	C62921	1
16.00	.6299	120	178	C62922	1
16.25	.6398	125	184	C62923	1
16.50	.6496	125	184	C62924	1
16.75	.6594	125	184	C62925	1
17.00	.6693	125	184	C62926	1
17.50	.6890	130	191	C62928	1
18.00	.7086	130	191	C62929	1
19.00	.7480	135	198	C62931	1

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GENERAL PURPOSE JOBBER LENGTH DRILLS

1898 SERIES continued



Corresponding Sets		
Number of Pieces	Description	Order Number
18	36, 29, 25, 21, 7, F, 5/16, U, 27/64 Taps: (Style# 0402) 6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13	C21190
11	1/16" – 3/8" x 1/32"	C21100
13	1/16" – 1/4" x 1/64"	C21104
15	1/16" – 1/2" x 1/32"	C21108
21	1/16" – 3/8" x 1/64"	C21113
29	1/16" – 1/2" x 1/64"	C21117
60	#1 – #60	C21122
115	1/16" – 1/2" x 1/64", A to Z, #1 – #60	C21126
25	1mm – 13mm x 0.5mm	C18127

Metal cases

Corresponding Sets			
Number of Pieces	Jobber Drill Size	Plug Tap Spiral Point	Order Number
2	36	6-32	C22305
2	29	8-32	C22304
2	25	10-24	C22307
2	21	10-32	C22306
2	7	1/4-20	C22308
2	F	5/16-18	C22300
2	5/16"	3/8-16	C22303
2	U	7/16-14	C22302
2	27/64"	1/2-13	C22301

Tube cases



C21117



C22302



C21126

GENERAL PURPOSE JOBBER LENGTH DRILLS

01

DRILLS

1899 SERIES

HIGH SPEED STEEL

118° Point / Round Shank / Black Oxide

General-application jobber drills made from high-speed steel (HSS) with a 118° point, regular helix, and round shank for dependable everyday drilling. The black oxide finish improves wear resistance and chip flow.

Best Material Application



STEEL



CAST IRON

Drill Specifications



118° POINT



ROUND SHANK



Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Order Number (Hanger)	Pack Qty.
1/32	.0312	1/2	1-3/8	C22643	—	12
3/64	.0469	3/4	1-3/4	C22644	—	12
1/16	.0625	7/8	1-7/8	C22653	C22653HT	12
5/64	.0781	1	2	C22659	C22659HT	12
3/32	.0938	1-1/4	2-1/4	C22666	C22666HT	12
7/64	.1094	1-1/2	2-5/8	C22673	C22673HT	12
1/8	.1250	1-5/8	2-3/4	C22679	C22679HT	12
9/64	.1406	1-3/4	2-7/8	C22683	C22683HT	12
5/32	.1562	2	3-1/8	C22689	C22689HT	12
11/64	.1719	2-1/8	3-1/4	C22695	C22695HT	12
3/16	.1875	2-5/16	3-1/2	C22701	C22701HT	12
13/64	.2031	2-7/16	3-5/8	C22708	C22708HT	12
7/32	.2188	2-1/2	3-3/4	C22713	C22713HT	12
15/64	.2344	2-5/8	3-7/8	C22717	C22717HT	12
1/4	.2500	2-3/4	4	C22721	C22721HT	12
17/64	.2656	2-7/8	4-1/8	C22724	C22724HT	12
9/32	.2812	2-15/16	4-1/4	C22729	C22729HT	12
19/64	.2969	3-1/16	4-3/8	C22732	C22732HT	6
5/16	.3125	3-3/16	4-1/2	C22734	C22734HT	6
21/64	.3281	3-5/16	4-5/8	C22737	C22737HT	6
11/32	.3438	3-7/16	4-3/4	C22740	C22740HT	6
23/64	.3594	3-1/2	4-7/8	C22743	C22743HT	6
3/8	.3750	3-5/8	5	C22745	C22745HT	6
25/64	.3906	3-3/4	5-1/8	C22505	C22505HT	6
13/32	.4062	3-7/8	5-1/4	C22506	C22506HT	6
27/64	.4219	3-15/16	5-3/8	C22507	C22507HT	6
7/16	.4375	4-1/16	5-1/2	C22751	C22751HT	6
29/64	.4531	4-3/16	5-5/8	C22508	C22508HT	6
15/32	.4688	4-5/16	5-3/4	C22753	C22753HT	6
31/64	.4844	4-3/8	5-7/8	C22755	C22755HT	6
1/2	.5000	4-1/2	6	C22757	C22757HT	6

Wire						
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Order Number (Hanger)	Pack Qty.
60	.0400	11/16	1-5/8	C22645	C22645HT	12
59	.0410	11/16	1-5/8	C22646	C22646HT	12
58	.0420	11/16	1-5/8	C22647	C22647HT	12
57	.0430	3/4	1-3/4	C22648	C22648HT	12
56	.0465	3/4	1-3/4	C22649	C22649HT	12
55	.0520	7/8	1-7/8	C22650	C22650HT	12
54	.0550	7/8	1-7/8	C22651	C22651HT	12
53	.0595	7/8	1-7/8	C22652	C22652HT	12
52	.0635	7/8	1-7/8	C22654	C22654HT	12
51	.0670	1	2	C22655	C22655HT	12
50	.0700	1	2	C22656	C22656HT	12
49	.0730	1	2	C22657	C22657HT	12
48	.0760	1	2	C22658	C22658HT	12
47	.0785	1	2	C22660	C22660HT	12
46	.0810	1-1/8	2-1/8	C22661	C22661HT	12
45	.0820	1-1/8	2-1/8	C22662	C22662HT	12
44	.0860	1-1/8	2-1/8	C22663	C22663HT	12
43	.0890	1-1/4	2-1/4	C22664	C22664HT	12
42	.0935	1-1/4	2-1/4	C22665	C22665HT	12
41	.0960	1-3/8	2-3/8	C22667	C22667HT	12
40	.0980	1-3/8	2-3/8	C22668	C22668HT	12
39	.0995	1-3/8	2-3/8	C22669	C22669HT	12
38	.1015	1-7/16	2-1/2	C22670	C22670HT	12
37	.1040	1-7/16	2-1/2	C22671	C22671HT	12
36	.1065	1-7/16	2-1/2	C22672	C22672HT	12
35	.1100	1-1/2	2-5/8	C22674	C22674HT	12
34	.1110	1-1/2	2-5/8	C22675	C22675HT	12
33	.1130	1-1/2	2-5/8	C22676	C22676HT	12
32	.1160	1-5/8	2-3/4	C22677	C22677HT	12
31	.1200	1-5/8	2-3/4	C22678	C22678HT	12

CLE-LINE
WALTER

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GENERAL PURPOSE JOBBER LENGTH DRILLS

1899 SERIES continued



Wire						
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Order Number (Hanger)	Pack Qty.
30	.1285	1-5/8	2-3/4	C22680	C22680HT	12
29	.1360	1-3/4	2-7/8	C22681	C22681HT	12
28	.1405	1-3/4	2-7/8	C22682	C22682HT	12
27	.1440	1-7/8	3	C22684	C22684HT	12
26	.1470	1-7/8	3	C22685	C22685HT	12
25	.1495	1-7/8	3	C22686	C22686HT	12
24	.1520	2	3-1/8	C22687	C22687HT	12
23	.1540	2	3-1/8	C22688	C22688HT	12
22	.1570	2	3-1/8	C22690	C22690HT	12
21	.1590	2-1/8	3-1/4	C22691	C22691HT	12
20	.1610	2-1/8	3-1/4	C22692	C22692HT	12
19	.1660	2-1/8	3-1/4	C22693	C22693HT	12
18	.1695	2-1/8	3-1/4	C22694	C22694HT	12
17	.1730	2-3/16	3-3/8	C22696	C22696HT	12
16	.1770	2-3/16	3-3/8	C22697	C22697HT	12
15	.1800	2-3/16	3-3/8	C22698	C22698HT	12
14	.1820	2-3/16	3-3/8	C22699	C22699HT	12
13	.1850	2-5/16	3-1/2	C22700	C22700HT	12
12	.1890	2-5/16	3-1/2	C22702	C22702HT	12
11	.1910	2-5/16	3-1/2	C22703	C22703HT	12
10	.1935	2-7/16	3-5/8	C22704	C22704HT	12
9	.1960	2-7/16	3-5/8	C22705	C22705HT	12
8	.1990	2-7/16	3-5/8	C22706	C22706HT	12
7	.2010	2-7/16	3-5/8	C22707	C22707HT	12
6	.2040	2-1/2	3-3/4	C22709	C22709HT	12
5	.2055	2-1/2	3-3/4	C22710	C22710HT	12
4	.2090	2-1/2	3-3/4	C22711	C22711HT	12
3	.2130	2-1/2	3-3/4	C22712	C22712HT	12
2	.2210	2-5/8	3-7/8	C22714	C22714HT	12
1	.2280	2-5/8	3-7/8	C22715	C22715HT	12
Letter						
A	.2340	2-5/8	3-7/8	C22716	C22716HT	12
B	.2380	2-3/4	4	C22718	C22718HT	12
C	.2420	2-3/4	4	C22719	C22719HT	12
D	.2460	2-3/4	4	C22720	C22720HT	12
E	.2500	2-3/4	4	C22721	C22721HT	12
F	.2570	2-7/8	4-1/8	C22722	C22722HT	12
G	.2610	2-7/8	4-1/8	C22723	C22723HT	12
H	.2660	2-7/8	4-1/8	C22725	C22725HT	12
I	.2720	2-7/8	4-1/8	C22726	C22726HT	12
J	.2770	2-7/8	4-1/8	C22727	C22727HT	12
K	.2810	2-15/16	4-1/4	C22728	C22728HT	12
L	.2900	2-15/16	4-1/4	C22730	C22730HT	12
M	.2950	3-1/16	4-3/8	C22731	C22731HT	6
N	.3020	3-1/16	4-3/8	C22733	C22733HT	6
O	.3160	3-3/16	4-1/2	C22735	C22735HT	6
P	.3230	3-5/16	4-5/8	C22736	C22736HT	6
Q	.3320	3-7/16	4-3/4	C22738	C22738HT	6
R	.3390	3-7/16	4-3/4	C22739	C22739HT	6
S	.3480	3-1/2	4-7/8	C22741	C22741HT	6
T	.3580	3-1/2	4-7/8	C22742	C22742HT	6
U	.3680	3-5/8	5	C22744	C22744HT	6
V	.3770	3-5/8	5	C22746	C22746HT	6
W	.3860	3-3/4	5-1/8	C22747	C22747HT	6
X	.3970	3-3/4	5-1/8	C22748	C22748HT	6
Y	.4040	3-7/8	5-1/4	C22749	C22749HT	6
Z	.4130	3-7/8	5-1/4	C22750	C22750HT	6

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
0.35	.0138	4	19	C22780	12
0.40	.0157	5	20	C22781	12
0.45	.0177	5	20	C22782	12
0.50	.0197	6	22	C22783	12
0.55	.0217	7	24	C22784	12
0.60	.0236	7	24	C22785	12
0.65	.0256	8	26	C22786	12
0.70	.0276	9	28	C22787	12
0.75	.0295	9	28	C22788	12
0.80	.0315	10	30	C22789	12
0.85	.0335	10	30	C22790	12
0.90	.0354	11	32	C22791	12
0.95	.0374	11	32	C22792	12
1.00	.0394	12	34	C22793	12
1.05	.0413	12	34	C22794	12
1.10	.0433	14	36	C22795	12
1.15	.0453	14	36	C22796	12
1.20	.0472	16	38	C22797	12
1.25	.0492	16	38	C22798	12
1.30	.0512	16	38	C22799	12
1.35	.0531	18	40	C22800	12
1.40	.0551	18	40	C22801	12
1.45	.0571	18	40	C22802	12
1.50	.0591	18	40	C22803	12
1.55	.0610	20	43	C22804	12
1.60	.0630	20	43	C22805	12
1.65	.0650	20	43	C22806	12
1.70	.0669	20	43	C22807	12
1.75	.0689	22	46	C22808	12
1.80	.0709	22	46	C22809	12
1.85	.0728	22	46	C22810	12
1.90	.0748	22	46	C22811	12
1.95	.0768	24	49	C22812	12
2.00	.0787	24	49	C22813	12
2.05	.0807	24	49	C22814	12
2.10	.0827	24	49	C22815	12
2.15	.0846	27	53	C22816	12
2.20	.0866	27	53	C22817	12
2.25	.0886	27	53	C22818	12
2.30	.0906	27	53	C22819	12
2.35	.0925	27	53	C22820	12
2.40	.0945	30	57	C22821	12
2.45	.0965	30	57	C22822	12
2.50	.0984	30	57	C22823	12
2.60	.1024	30	57	C22824	12
2.70	.1063	33	61	C22825	12
2.75	.1082	33	61	C01112	12
2.80	.1102	33	61	C22826	12
2.90	.1142	33	61	C22827	12
3.00	.1181	33	61	C22828	12
3.10	.1220	36	65	C22829	12
3.20	.1260	36	65	C22830	12
3.25	.1280	36	65	C01125	12

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GENERAL PURPOSE JOBBER LENGTH DRILLS

01

DRILLS

CLE-LINE | WALTER

1899 SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
3.30	.1299	36	65	C22831	12
3.40	.1339	39	70	C22832	12
3.50	.1378	39	70	C22833	12
3.60	.1417	39	70	C22834	12
3.70	.1457	39	70	C22835	12
3.75	.1476	39	70	C01137	12
3.80	.1496	43	75	C22836	12
3.90	.1535	43	75	C22837	12
4.00	.1575	43	75	C22838	12
4.10	.1614	43	75	C22839	12
4.20	.1654	43	75	C22840	12
4.25	.1673	43	75	C01338	12
4.30	.1693	47	80	C22841	12
4.40	.1732	47	80	C22842	12
4.50	.1772	47	80	C22843	12
4.60	.1811	47	80	C22844	12
4.70	.1850	47	80	C22845	12
4.75	.1870	47	80	C01164	12
4.80	.1890	52	86	C22846	12
4.90	.1929	52	86	C22847	12
5.00	.1969	52	86	C22848	12
5.10	.2008	52	86	C22849	12
5.20	.2047	52	86	C22850	12
5.25	.2066	52	86	C01180	12
5.30	.2087	52	86	C22851	12
5.40	.2126	57	93	C22852	12
5.50	.2165	57	93	C22853	12
5.60	.2205	57	93	C22854	12
5.70	.2244	57	93	C22855	12
5.75	.2263	57	93	C01190	12
5.80	.2283	57	93	C22856	12
5.90	.2323	57	93	C22857	12
6.00	.2362	57	93	C22858	12
6.10	.2402	63	101	C22859	12
6.20	.2441	63	101	C22860	12
6.25	.2460	63	101	C01202	12
6.30	.2480	63	101	C22861	12
6.40	.2520	63	101	C22862	12
6.50	.2559	63	101	C22863	12
6.60	.2598	63	101	C22864	12
6.70	.2638	63	101	C22865	12
6.75	.2657	69	109	C01213	12
6.80	.2677	69	109	C22866	12
6.90	.2717	69	109	C22867	12
7.00	.2756	69	109	C22868	12
7.10	.2795	69	109	C22869	12
7.20	.2835	69	109	C22870	12
7.25	.2854	69	109	C01223	12
7.30	.2874	69	109	C22871	12
7.40	.2913	69	109	C22872	6
7.50	.2953	69	109	C22873	6
7.60	.2992	75	117	C22874	6
7.70	.3031	75	117	C22875	6

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
7.75	.3051	75	117	C01234	6
7.80	.3071	75	117	C22876	6
7.90	.3110	75	117	C22877	6
8.00	.3150	75	117	C22878	6
8.10	.3189	75	117	C22879	6
8.20	.3228	75	117	C22880	6
8.25	.3248	75	117	C01243	6
8.30	.3268	75	117	C22881	6
8.40	.3307	75	117	C22882	6
8.50	.3346	75	117	C22883	6
8.60	.3386	81	125	C22884	6
8.70	.3425	81	125	C22885	6
8.75	.3444	81	125	C01253	6
8.80	.3465	81	125	C22886	6
8.90	.3504	81	125	C22887	6
9.00	.3543	81	125	C22888	6
9.10	.3583	81	125	C22889	6
9.20	.3622	81	125	C22890	6
9.25	.3641	81	125	C01262	6
9.30	.3661	81	125	C22891	6
9.40	.3701	81	125	C22892	6
9.50	.3740	81	125	C22893	6
9.60	.3780	87	133	C22894	6
9.70	.3819	87	133	C22895	6
9.80	.3858	87	133	C22896	6
9.90	.3898	87	133	C22897	6
10.00	.3937	87	133	C22898	6
10.10	.3976	87	133	C22941	6
10.20	.4016	87	133	C22899	6
10.25	.4035	87	133	C22942	6
10.40	.4094	87	133	C22944	6
10.50	.4134	87	133	C22900	6
10.70	.4212	94	142	C22947	6
10.80	.4252	94	142	C22901	6
11.00	.4331	94	142	C22902	6
11.10	.4370	94	142	C22951	6
11.20	.4409	94	142	C22903	6
11.40	.4488	94	142	C22954	6
11.50	.4528	94	142	C22904	6
11.80	.4646	94	142	C22905	6
12.00	.4724	101	151	C22906	6
12.20	.4803	101	151	C22907	6
12.50	.4921	101	151	C22908	6
12.80	.5039	101	151	C22909	1
13.00	.5118	101	151	C22910	1
13.20	.5197	101	161	C22911	1
13.50	.5315	108	160	C22912	1
13.80	.5433	108	160	C22913	1
14.00	.5512	108	160	C22914	1
14.25	.5610	114	169	C22915	1
14.50	.5709	114	169	C22916	1
14.75	.5807	114	169	C22917	1
15.00	.5906	114	169	C22918	1

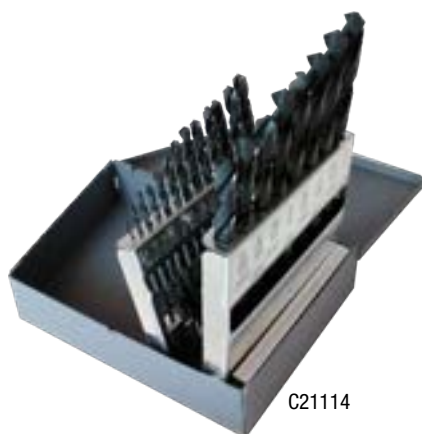
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GENERAL PURPOSE JOBBER LENGTH DRILLS

1899 SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
15.25	.6004	120	178	C22919	1
15.50	.6102	120	178	C22920	1
15.75	.6201	120	178	C22921	1
16.00	.6299	120	178	C22922	1
16.25	.6398	125	184	C22923	1
16.50	.6496	125	184	C22924	1
16.75	.6594	125	184	C22925	1
17.00	.6693	125	184	C22926	1
17.25	.6791	130	191	C22927	1
17.50	.6890	130	191	C22928	1
18.00	.7086	130	191	C22929	1
18.50	.7283	135	198	C22930	1
19.00	.7480	135	198	C22931	1
19.50	.7677	140	205	C22932	1
20.00	.7874	140	205	C22933	1



C21114

Corresponding Sets		
Number of Pieces	Description	Order Number
11	1/16" – 3/8" x 1/32"	C21101
13	1/16" – 1/4" x 1/64"	C21105
15	1/16" – 1/2" x 1/32"	C21109
21	1/16" – 3/8" x 1/64"	C21114
29	1/16" – 1/2" x 1/64"	C21118
26	A – Z	C21158
60	#1 – #60	C21123
115	1/16" – 1/2" x 1/64", A to Z, #1 – #60	C21127
11	1mm – 6mm x 0.5mm	C21130
25	1mm – 13mm x 0.5mm	C21131

Metal cases

GENERAL PURPOSE JOBBER LENGTH DRILLS

1898T SERIES

HIGH SPEED STEEL

118° Point / Round Shank / TiN

The 1898T Series is an HSS jobber drill engineered for general-purpose drilling with extended tool life. It features a 118° point for smooth starts and a titanium nitride (TiN) coating that provides superior wear resistance and reduced friction. The TiN coating creates a hard, heat-resistant surface, ideal for increasing productivity and durability.

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C19160	12
5/64	.0781	1	2	C19161	12
3/32	.0938	1-1/4	2-1/4	C19162	12
7/64	.1094	1-1/2	2-5/8	C19163	12
1/8	.1250	1-5/8	2-3/4	C19164	12
9/64	.1406	1-3/4	2-7/8	C19165	12
5/32	.1562	2	3-1/8	C19166	12
11/64	.1719	2-1/8	3-1/4	C19167	12
3/16	.1875	2-5/16	3-1/2	C19168	12
13/64	.2031	2-7/16	3-5/8	C19169	12
7/32	.2188	2-1/2	3-3/4	C19170	12
15/64	.2344	2-5/8	3-7/8	C19171	12
1/4	.2500	2-3/4	4	C19172	12
17/64	.2656	2-7/8	4-1/8	C19173	12
9/32	.2812	2-15/16	4-1/4	C19174	12
19/64	.2969	3-1/16	4-3/8	C19175	6
5/16	.3125	3-3/16	4-1/2	C19176	6
21/64	.3281	3-5/16	4-5/8	C19177	6
11/32	.3438	3-7/16	4-3/4	C19178	6
23/64	.3594	3-1/2	4-7/8	C19179	6
3/8	.3750	3-5/8	5	C19180	6
25/64	.3906	3-3/4	5-1/8	C19181	6
13/32	.4062	3-7/8	5-1/4	C19182	6
27/64	.4219	3-15/16	5-3/8	C19183	6
7/16	.4375	4-1/16	5-1/2	C19184	6
29/64	.4531	4-3/16	5-5/8	C19185	6
15/32	.4688	4-5/16	5-3/4	C19186	6
31/64	.4844	4-3/8	5-7/8	C19187	6
1/2	.5000	4-1/2	6	C19188	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
60	.0400	11/16	1-5/8	C19159	12
59	.0410	11/16	1-5/8	C19158	12
58	.0420	11/16	1-5/8	C19157	12
57	.0430	3/4	1-3/4	C19156	12
56	.0465	3/4	1-3/4	C19155	12
55	.0520	7/8	1-7/8	C19154	12
54	.0550	7/8	1-7/8	C19153	12
53	.0595	7/8	1-7/8	C19152	12
52	.0635	7/8	1-7/8	C19151	12
51	.0670	1	2	C19150	12
50	.0700	1	2	C19149	12
49	.0730	1	2	C19148	12
48	.0760	1	2	C19147	12
47	.0785	1	2	C19146	12
46	.0810	1-1/8	2-1/8	C19145	12
45	.0820	1-1/8	2-1/8	C19144	12
44	.0860	1-1/8	2-1/8	C19143	12
43	.0890	1-1/4	2-1/4	C19142	12
42	.0935	1-1/4	2-1/4	C19141	12
41	.0960	1-3/8	2-3/8	C19140	12
40	.0980	1-3/8	2-3/8	C19139	12
39	.0995	1-3/8	2-3/8	C19138	12
38	.1015	1-7/16	2-1/2	C19137	12
37	.1040	1-7/16	2-1/2	C19136	12
36	.1065	1-7/16	2-1/2	C19135	12
35	.1100	1-1/2	2-5/8	C19134	12
34	.1110	1-1/2	2-5/8	C19133	12
33	.1130	1-1/2	2-5/8	C19132	12
32	.1160	1-5/8	2-3/4	C19131	12
31	.1200	1-5/8	2-3/4	C19130	12
30	.1285	1-5/8	2-3/4	C19129	12
29	.1360	1-3/4	2-7/8	C19128	12
28	.1405	1-3/4	2-7/8	C19127	12
27	.1440	1-7/8	3	C19126	12

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GENERAL PURPOSE JOBBER LENGTH DRILLS

1898T SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
26	.1470	1-7/8	3	C19125	12
25	.1495	1-7/8	3	C19124	12
24	.1520	2	3-1/8	C19123	12
23	.1540	2	3-1/8	C19122	12
22	.1570	2	3-1/8	C19121	12
21	.1590	2-1/8	3-1/4	C19120	12
20	.1610	2-1/8	3-1/4	C19119	12
19	.1660	2-1/8	3-1/4	C19118	12
18	.1695	2-1/8	3-1/4	C19117	12
17	.1730	2-3/16	3-3/8	C19116	12
16	.1770	2-3/16	3-3/8	C19115	12
15	.1800	2-3/16	3-3/8	C19114	12
14	.1820	2-3/16	3-3/8	C19113	12
13	.1850	2-5/16	3-1/2	C19112	12
12	.1890	2-5/16	3-1/2	C19111	12
11	.1910	2-5/16	3-1/2	C19110	12
10	.1935	2-7/16	3-5/8	C19109	12
9	.1960	2-7/16	3-5/8	C19108	12
8	.1990	2-7/16	3-5/8	C19107	12
7	.2010	2-7/16	3-5/8	C19106	12
6	.2040	2-1/2	3-3/4	C19105	12
5	.2055	2-1/2	3-3/4	C19104	12
4	.2090	2-1/2	3-3/4	C19103	12
3	.2130	2-1/2	3-3/4	C19102	12
2	.2210	2-5/8	3-7/8	C19101	12
1	.2280	2-5/8	3-7/8	C19100	12
Letter					
A	.2340	2-5/8	3-7/8	C24700	12
B	.2380	2-3/4	4	C24701	12
C	.2420	2-3/4	4	C19192	12
D	.2460	2-3/4	4	C19193	12
E	.2500	2-3/4	4	C19172	12
F	.2570	2-7/8	4-1/8	C19194	12
G	.2610	2-7/8	4-1/8	C19195	12
H	.2660	2-7/8	4-1/8	C19196	12
I	.2720	2-7/8	4-1/8	C19197	12
J	.2770	2-7/8	4-1/8	C19198	12
K	.2810	2-15/16	4-1/4	C24702	12
L	.2900	2-15/16	4-1/4	C19199	12
M	.2950	3-1/16	4-3/8	C24703	6
N	.3020	3-1/16	4-3/8	C19200	6
O	.3160	3-3/16	4-1/2	C19201	6
P	.3230	3-5/16	4-5/8	C24704	6
Q	.3320	3-7/16	4-3/4	C19202	6
R	.3390	3-7/16	4-3/4	C19203	6
S	.3480	3-1/2	4-7/8	C24705	6
T	.3580	3-1/2	4-7/8	C19204	6
U	.3680	3-5/8	5	C19205	6
V	.3770	3-5/8	5	C24706	6
W	.3860	3-3/4	5-1/8	C19206	6
X	.3970	3-3/4	5-1/8	C24707	6
Y	.4040	3-7/8	5-1/4	C24708	6
Z	.4130	3-7/8	5-1/4	C24709	6
Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
1.00	.0394	12	34	C24325	12
1.20	.0472	16	38	C24326	12

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
1.50	.0591	18	40	C24327	12
1.60	.0630	20	43	C24306	12
2.00	.0787	24	49	C24328	12
2.30	.0906	27	53	C24329	12
2.40	.0945	30	57	C24330	12
2.50	.0984	30	57	C24331	12
2.70	.1063	33	61	C24332	12
2.80	.1102	33	61	C24333	12
2.90	.1142	33	61	C24334	12
3.00	.1181	33	61	C24335	12
3.10	.1220	36	65	C24336	12
3.20	.1260	36	65	C24337	12
3.30	.1299	36	65	C24338	12
3.50	.1378	39	70	C24339	12
3.60	.1417	39	70	C24340	12
3.70	.1457	39	70	C24341	12
3.80	.1496	43	75	C24342	12
4.00	.1575	43	75	C24343	12
4.10	.1614	43	75	C24344	12
4.20	.1654	43	75	C24345	12
4.50	.1772	47	80	C24346	12
4.60	.1811	47	80	C24347	12
4.80	.1890	52	86	C24348	12
4.90	.1929	52	86	C24349	12
5.00	.1969	52	86	C24350	12
5.10	.2008	52	86	C24351	12
5.20	.2047	52	86	C24352	12
5.50	.2165	57	93	C24353	12
5.90	.2323	57	93	C24354	12
6.00	.2362	57	93	C24355	12
6.40	.2520	63	101	C24356	12
6.50	.2559	63	101	C24357	12
6.60	.2598	63	101	C24358	12
6.70	.2638	63	101	C24359	12
6.80	.2677	69	109	C24360	12
6.90	.2717	69	109	C24361	12
7.00	.2756	69	109	C24362	12
7.20	.2835	69	109	C24363	12
7.30	.2874	69	109	C24317	6
7.50	.2953	69	109	C24364	6
8.00	.3150	75	117	C24365	6
8.30	.3268	75	117	C24366	6
8.50	.3346	75	117	C24367	6
9.00	.3543	81	125	C24368	6
9.50	.3740	81	125	C24369	6
10.00	.3937	87	133	C24370	6
10.20	.4016	87	133	C24371	6
10.50	.4134	87	133	C24372	6
10.80	.4252	94	142	C24373	6
11.00	.4331	94	142	C24374	6
11.50	.4528	94	142	C24375	6
11.80	.4646	94	142	C24376	6
12.00	.4724	101	151	C24377	6
12.50	.4921	101	151	C24378	6
13.00	.5118	101	151	C24379	1

Corresponding Sets		
Number of Pieces	Description	Order Number
15	1/16" – 1/2" x 1/32"	C19210
29	1/16" – 1/2" x 1/64"	C19211
19	1mm – 10mm x 0.5mm	C24380

Metal cases



C19211

GENERAL PURPOSE JOBBER LENGTH DRILLS

1900 SERIES

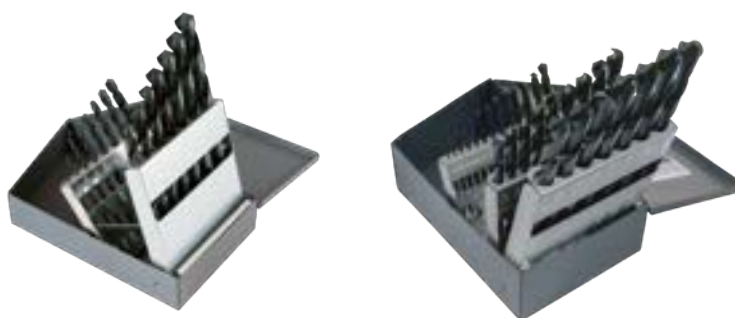
HIGH SPEED STEEL

118° Point / 3/8" Reduced Shank / Black Oxide

The CLE-LINE 1900 Series HSS jobber drills are designed for general-purpose applications requiring larger diameters in standard 3/8" chucks. It features a 118° point for smooth entry and clean hole formation in soft and medium-strength materials. The black oxide finish resists wear and promotes chip evacuation during prolonged use. Designed for handheld or drill press operations.



Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Order Number (Hanger)	Hanger Qty.
27/64	.4219	3-15/16	5-3/8	C69371	C69371HT	6
7/16	.4375	4-1/16	5-1/2	C69372	C69372HT	6
29/64	.4531	4-3/16	5-5/8	C69373	C69373HT	6
15/32	.4688	4-5/16	5-3/4	C69374	C69374HT	6
31/64	.4844	4-3/8	5-7/8	C69375	C69375HT	6
1/2	.5000	4-1/2	6	C69376	C69376HT	6



Corresponding Sets		
Number of Pieces	Description	Order Number
15	1/16" – 1/2" x 1/32"	C21156
29	1/16" – 1/2" x 1/64"	C21159

Metal cases

Best Material Application



STEEL



CAST IRON

Drill Specifications



118° POINT



REDUCED SHANK

GENERAL PURPOSE JOBBER LENGTH DRILLS

1898L SERIES

HIGH SPEED STEEL

118° Point / Left Hand / Round Shank / Bright

The 1898L Series is an HSS jobber drill designed for left-hand rotation, making it ideal for removing broken right-hand screws and reverse drilling operations. It features a 118° point that delivers smooth starts and clean hole geometry. The bright finish promotes efficient chip evacuation and reduces friction in mild steels and non-ferrous materials. Reliable solution when counter-rotation or extraction capability is required.

Best Material Application



STEEL



CAST IRON



NON-FERROUS

Drill Specifications



118° POINT



ROUND SHANK



Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
3/64	.0469	3/4	1-3/4	C18400	12	—	—
1/16	.0625	7/8	1-7/8	C18401	12	C18401HT	12
5/64	.0781	1	2	C18402	12	C18402HT	12
3/32	.0938	1-1/4	2-1/4	C18403	12	C18403HT	12
7/64	.1094	1-1/2	2-5/8	C18404	12	C18404HT	12
1/8	.1250	1-5/8	2-3/4	C18405	12	C18405HT	12
9/64	.1406	1-3/4	2-7/8	C18406	12	C18406HT	12
5/32	.1562	2	3-1/8	C18407	12	C18407HT	12
11/64	.1719	2-1/8	3-1/4	C18408	12	C18408HT	12
3/16	.1875	2-5/16	3-1/2	C18409	12	C18409HT	12
13/64	.2031	2-7/16	3-5/8	C18410	12	C18410HT	12
7/32	.2188	2-1/2	3-3/4	C18411	12	C18411HT	12
15/64	.2344	2-5/8	3-7/8	C18412	12	C18412HT	12
1/4	.2500	2-3/4	4	C18413	12	C18413HT	12
17/64	.2656	2-7/8	4-1/8	C18414	12	C18414HT	12
9/32	.2812	2-15/16	4-1/4	C18415	12	C18415HT	12
19/64	.2969	3-1/16	4-3/8	C18416	6	C18416HT	6
5/16	.3125	3-3/16	4-1/2	C18417	6	C18417HT	6
21/64	.3281	3-5/16	4-5/8	C18418	6	C18418HT	6
11/32	.3438	3-7/16	4-3/4	C18419	6	C18419HT	6
23/64	.3594	3-1/2	4-7/8	C18420	6	C18420HT	6
3/8	.3750	3-5/8	5	C18421	6	C18421HT	6
25/64	.3906	3-3/4	5-1/8	C18422	6	C18422HT	6
13/32	.4062	3-7/8	5-1/4	C18423	6	C18423HT	6
27/64	.4219	3-15/16	5-3/8	C18424	6	C18424HT	6
7/16	.4375	4-1/16	5-1/2	C18425	6	C18425HT	6
29/64	.4531	4-3/16	5-5/8	C18426	6	C18426HT	6
15/32	.4688	4-5/16	5-3/4	C18427	6	C18427HT	6
31/64	.4844	4-3/8	5-7/8	C18428	6	C18428HT	6
1/2	.5000	4-1/2	6	C18429	6	C18429HT	6

PARABOLIC JOBBER LENGTH DRILLS

01

DRILLS

CLE-LINE
WALTER

1872 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / High Helix / Black & Gold

The CLE-LINE 1872 Series is a premium HSS jobber drill designed with a parabolic flute geometry for efficient chip evacuation in deep-hole drilling. Its Aerospace-style 135° split point enables fast penetration and reduces walking, especially in work-hardened or high-tensile materials. The black and gold finish improves heat dissipation, enhances wear resistance, and extends tool life.

NOTE: Exceptional for deeper drilling.

Faster penetration rates than conventional HSS heavy duty jobber drills.

Best Material Application



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C18430	12
5/64	.0781	1	2	C18431	12
3/32	.0938	1-1/4	2-1/4	C18432	12
7/64	.1094	1-1/2	2-5/8	C18433	12
1/8	.1250	1-5/8	2-3/4	C18434	12
9/64	.1406	1-3/4	2-7/8	C18435	12
5/32	.1562	2	3-1/8	C18436	12
11/64	.1719	2-1/8	3-1/4	C18437	12
3/16	.1875	2-5/16	3-1/2	C18438	12
13/64	.2031	2-7/16	3-5/8	C18439	12
7/32	.2188	2-1/2	3-3/4	C18440	12
15/64	.2344	2-5/8	3-7/8	C18441	12
1/4	.2500	2-3/4	4	C18442	12
17/64	.2656	2-7/8	4-1/8	C18443	12
9/32	.2812	2-15/16	4-1/4	C18444	12
19/64	.2969	3-1/16	4-3/8	C18445	6
5/16	.3125	3-3/16	4-1/2	C18446	6
21/64	.3281	3-5/16	4-5/8	C18447	6
11/32	.3438	3-7/16	4-3/4	C18449	6
23/64	.3594	3-1/2	4-7/8	C18449	6
3/8	.3750	3-5/8	5	C18450	6
25/64	.3906	3-3/4	5-1/8	C18451	6
13/32	.4062	3-7/8	5-1/4	C18452	6
27/64	.4219	3-15/16	5-3/8	C18453	6
7/16	.4375	4-1/16	5-1/2	C18454	6
29/64	.4531	4-3/16	5-5/8	C18455	6
15/32	.4688	4-5/16	5-3/4	C18456	6
31/64	.4844	4-3/8	5-7/8	C18457	6
1/2	.5000	4-1/2	6	C18458	6
Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
41	.0960	1-3/8	2-3/8	C18541	12
40	.0980	1-3/8	2-3/8	C18540	12
39	.0995	1-3/8	2-3/8	C18539	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
38	.1015	1-7/16	2-1/2	C18538	12
37	.1040	1-7/16	2-1/2	C18537	12
36	.1065	1-7/16	2-1/2	C18536	12
35	.1100	1-1/2	2-5/8	C18535	12
34	.1110	1-1/2	2-5/8	C18534	12
33	.1130	1-1/2	2-5/8	C18533	12
32	.1160	1-5/8	2-3/4	C18532	12
31	.1200	1-5/8	2-3/4	C18531	12
30	.1285	1-5/8	2-3/4	C18530	12
29	.1360	1-3/4	2-7/8	C18529	12
28	.1405	1-3/4	2-7/8	C18528	12
27	.1440	1-7/8	3	C18527	12
26	.1470	1-7/8	3	C18526	12
25	.1495	1-7/8	3	C18525	12
24	.1520	2	3-1/8	C18524	12
23	.1540	2	3-1/8	C18523	12
22	.1570	2	3-1/8	C18522	12
21	.1590	2-1/8	3-1/4	C18521	12
20	.1610	2-1/8	3-1/4	C18520	12
19	.1660	2-1/8	3-1/4	C18519	12
18	.1695	2-1/8	3-1/4	C18518	12
17	.1730	2-3/16	3-3/8	C18517	12
16	.1770	2-3/16	3-3/8	C18516	12
15	.1800	2-3/16	3-3/8	C18515	12
14	.1820	2-3/16	3-3/8	C18514	12
13	.1850	2-5/16	3-1/2	C18513	12
12	.1890	2-5/16	3-1/2	C18512	12
11	.1910	2-5/16	3-1/2	C18511	12
10	.1935	2-7/16	3-5/8	C18510	12
9	.1960	2-7/16	3-5/8	C18509	12
8	.1990	2-7/16	3-5/8	C18508	12
7	.2010	2-7/16	3-5/8	C18507	12
6	.2040	2-1/2	3-3/4	C18506	12
5	.2055	2-1/2	3-3/4	C18505	12
4	.2090	2-1/2	3-3/4	C18504	12
3	.2130	2-1/2	3-3/4	C18503	12
2	.2210	2-5/8	3-7/8	C18502	12
1	.2280	2-5/8	3-7/8	C18501	12

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PARABOLIC JOBBER LENGTH DRILLS

1872 SERIES continued



Letter					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
F	.2570	2-7/8	4-1/8	C18474	12
Q	.3320	3-7/16	4-3/4	C18485	6
Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.00	.0394	12	34	C18570	12
*1.50	.0591	18	40	C18573	12
1.60	.0630	20	43	C18574	12
1.65	.0650	20	43	C18575	12
1.75	.0689	22	46	C18576	12
1.80	.0709	22	46	C18577	12
2.00	.0787	24	49	C18578	12
2.05	.0807	24	49	C18579	12
2.30	.0906	27	53	C18580	12
2.50	.0984	30	57	C18581	12
2.60	.1024	30	57	C18582	12
2.90	.1142	33	61	C18583	12
3.00	.1181	33	61	C18584	12
3.20	.1260	36	65	C18585	12
3.30	.1299	36	65	C18586	12
3.50	.1378	39	70	C18587	12
3.70	.1457	39	70	C18588	12
4.00	.1575	43	75	C18589	12
4.10	.1614	43	75	C18590	12
4.20	.1654	43	75	C18591	12

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
4.50	.1772	47	80	C18592	12
5.00	.1969	52	86	C18593	12
5.50	.2165	57	93	C18594	12
6.00	.2362	57	93	C18595	12
6.50	.2559	63	101	C18596	12
6.70	.2638	63	101	C18597	12
6.80	.2677	69	109	C18598	12
7.00	.2756	69	109	C18599	12
7.40	.2913	69	109	C18600	6
7.50	.2953	69	109	C18601	6
7.80	.3071	75	117	C18602	6
8.00	.3150	75	117	C18603	6
8.50	.3346	75	117	C18604	6
8.70	.3425	81	125	C18605	6
9.00	.3543	81	125	C18606	6
9.40	.3701	81	125	C18607	6
9.50	.3740	81	125	C18608	6
10.00	.3937	87	133	C18609	6
10.20	.4016	87	133	C18610	6
10.50	.4134	87	133	C18611	6
10.80	.4252	94	142	C18612	6
11.00	.4331	94	142	C18613	6
11.20	.4409	94	142	C18614	6
11.50	.4528	94	142	C18615	6
12.00	.4724	101	151	C18616	6
12.50	.4921	101	151	C18617	6
13.00	.5118	101	151	C18618	1

*Not split point

Corresponding Sets		
Number of Pieces	Description	Order Number Metal BIT BARREL
13	1/16" – 1/4" x 1/64"	C18619
15	1/16" – 1/2" x 1/32"	C18620
21	1/16" – 3/8" x 1/64"	C18621
29	1/16" – 1/2" x 1/64"	C18622 *C18623
11	1mm – 6mm x 0.5mm	C18626
25	1mm – 13mm x 1mm	C18628

Metal cases



#C18622

PARABOLIC JOBBER LENGTH DRILLS

1872TN SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / High Helix / TiN

The 1872TN Series is an HSS parabolic flute jobber drill coated with titanium nitride (TiN) for enhanced performance in tough materials. It features an Aerospace-style 135° split point for accurate starts and reduced thrust pressure in deep-hole applications. The gold TiN coating increases surface hardness, minimizes friction, and significantly extends tool life. Excels in deep drilling where wear resistance and cutting efficiency are critical.

NOTE: Exceptional for deeper drilling.

Faster penetration rates than conventional HSS heavy duty jobber drills.

Best Material Application



STAINLESS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C18630	12
5/64	.0781	1	2	C18631	12
3/32	.0938	1-1/4	2-1/4	C18632	12
7/64	.1094	1-1/2	2-5/8	C18633	12
1/8	.1250	1-5/8	2-3/4	C18634	12
9/64	.1406	1-3/4	2-7/8	C18635	12
5/32	.1562	2	3-1/8	C18636	12
11/64	.1719	2-1/8	3-1/4	C18637	12
3/16	.1875	2-5/16	3-1/2	C18638	12
13/64	.2031	2-7/16	3-5/8	C18639	12
7/32	.2188	2-1/2	3-3/4	C18640	12
15/64	.2344	2-5/8	3-7/8	C18641	12
1/4	.2500	2-3/4	4	C18642	12
17/64	.2656	2-7/8	4-1/8	C18643	12

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
9/32	.2812	2-15/16	4-1/4	C18644	12
19/64	.2969	3-1/16	4-3/8	C18645	6
5/16	.3125	3-3/16	4-1/2	C18646	6
21/64	.3281	3-5/16	4-5/8	C18647	6
11/32	.3438	3-7/16	4-3/4	C18648	6
23/64	.3594	3-1/2	4-7/8	C18649	6
3/8	.3750	3-5/8	5	C18650	6
25/64	.3906	3-3/4	5-1/8	C18651	6
13/32	.4062	3-7/8	5-1/4	C18652	6
27/64	.4219	3-15/16	5-3/8	C18653	6
7/16	.4375	4-1/16	5-1/2	C18654	6
29/64	.4531	4-3/16	5-5/8	C18655	6
15/32	.4688	4-5/16	5-3/4	C18656	6
31/64	.4844	4-3/8	5-7/8	C18657	6
1/2	.5000	4-1/2	6	C18658	6



C18703

Corresponding Sets		
Number of Pieces	Description	Order Number
13	1/16" - 1/4" x 1/64"	C18700
15	1/16" - 1/2" x 1/32"	C18701
21	1/16" - 3/8" x 1/64"	C18702
29	1/16" - 1/2" x 1/64"	C18703

Metal cases

HEAVY DUTY JOBBER LENGTH DRILLS

400N / 480N / 440N SERIES **NITRO®**

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Black & Gold

NITRO® drills (NAS Type B) offer superior performance over conventional HSS drills. 135° Split Point reduces “walking” at the drill point and makes these drills ideal for both handheld and CNC Operations.

- ▷ Heavy duty construction increases tool life and performance
- ▷ Black & Gold surface treatment for maximum lubricity
- ▷ Usable in a wide range of materials including difficult-to-machine materials such as stainless steel
- ▷ Jobber length for extra reach
- ▷ Available in bulk packaging



Best Material Application



STAINLESS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK

Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Pack	Pack Qty.	Order Number Blister Pack	Blister Qty.
1/16	.0625	7/8	1-7/8	400N104	12	400N104BP	2
5/64	.0781	1	2	400N105	12	400N105BP	2
3/32	.0938	1-1/4	2-1/4	400N106	12	400N106BP	2
7/64	.1094	1-1/2	2-5/8	400N107	12	400N107BP	2
1/8	.1250	1-5/8	2-3/4	400N108	12	400N108BP	2
9/64	.1406	1-3/4	2-7/8	400N109	12	400N109BP	2
5/32	.1562	2	3-1/8	400N110	12	400N110BP	2
11/64	.1719	2-1/8	3-1/4	400N111	12	400N111BP	1
3/16	.1875	2-5/16	3-1/2	400N112	12	400N112BP	1
13/64	.2031	2-7/16	3-5/8	400N113	12	400N113BP	1
7/32	.2188	2-1/2	3-3/4	400N114	12	400N114BP	1
15/64	.2344	2-5/8	3-7/8	400N115	12	400N115BP	1
1/4	.2500	2-3/4	4	400N116	12	400N116BP	1
17/64	.2656	2-7/8	4-1/8	400N117	12	400N117BP	1
9/32	.2812	2-15/16	4-1/4	400N118	12	400N118BP	1
19/64	.2969	3-1/16	4-3/8	400N119	12	400N119BP	1
5/16	.3125	3-3/16	4-1/2	400N120	6	400N120BP	1
21/64	.3281	3-5/16	4-5/8	400N121	6	400N121BP	1
11/32	.3438	3-7/16	4-3/4	400N122	6	400N122BP	1
23/64	.3594	3-1/2	4-7/8	400N123	6	400N123BP	1
3/8	.3750	3-5/8	5	400N124	6	400N124BP	1
25/64	.3906	3-3/4	5-1/8	400N125	6	400N125BP	1
13/32	.4062	3-7/8	5-1/4	400N126	6	400N126BP	1
27/64	.4219	3-15/16	5-3/8	400N127	6	400N127BP	1
7/16	.4375	4-1/16	5-1/2	400N128	6	400N128BP	1
29/64	.4531	4-3/16	5-5/8	400N129	6	400N129BP	1
15/32	.4688	4-5/16	5-3/4	400N130	6	400N130BP	1
31/64	.4844	4-3/8	5-7/8	400N131	6	400N131BP	1
1/2	.5000	4-1/2	6	400N132	6	400N132BP	1

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Pack	Pack Qty.
*60	.0400	11/16	1-5/8	480N060	12
*59	.0410	11/16	1-5/8	480N059	12
*58	.0420	11/16	1-5/8	480N058	12
*57	.0430	3/4	1-3/4	480N057	12
*56	.0465	3/4	1-3/4	480N056	12
*55	.0520	7/8	1-7/8	480N055	12
*54	.0550	7/8	1-7/8	480N054	12
*53	.0595	7/8	1-7/8	480N053	12
52	.0635	7/8	1-7/8	480N052	12
51	.0670	1	2	480N051	12
50	.0700	1	2	480N050	12
49	.0730	1	2	480N049	12
48	.0760	1	2	480N048	12
47	.0785	1	2	480N047	12
46	.0810	1-1/8	2-1/8	480N046	12
45	.0820	1-1/8	2-1/8	480N045	12
44	.0860	1-1/8	2-1/8	480N044	12
43	.0890	1-1/4	2-1/4	480N043	12
42	.0935	1-1/4	2-1/4	480N042	12
41	.0960	1-3/8	2-3/8	480N041	12
40	.0980	1-3/8	2-3/8	480N040	12
39	.0995	1-3/8	2-3/8	480N039	12
38	.1015	1-7/16	2-1/2	480N038	12
37	.1040	1-7/16	2-1/2	480N037	12
36	.1065	1-7/16	2-1/2	480N036	12
35	.1100	1-1/2	2-5/8	480N035	12
34	.1110	1-1/2	2-5/8	480N034	12
33	.1130	1-1/2	2-5/8	480N033	12
32	.1160	1-5/8	2-3/4	480N032	12
31	.1200	1-5/8	2-3/4	480N031	12
30	.1285	1-5/8	2-3/4	480N030	12
29	.1360	1-3/4	2-7/8	480N029	12

*Not split point

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HEAVY DUTY JOBBER LENGTH DRILLS

400N / 480N / 440N SERIES continued **NITRO**

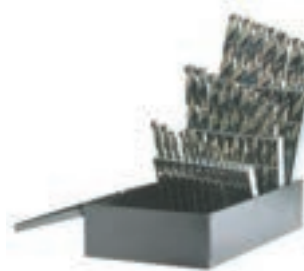


Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Pack	Pack Qty.
28	.1405	1-3/4	2-7/8	480N028	12
27	.1440	1-7/8	3	480N027	12
26	.1470	1-7/8	3	480N026	12
25	.1495	1-7/8	3	480N025	12
24	.1520	2	3-1/8	480N024	12
23	.1540	2	3-1/8	480N023	12
22	.1570	2	3-1/8	480N022	12
21	.1590	2-1/8	3-1/4	480N021	12
20	.1610	2-1/8	3-1/4	480N020	12
19	.1660	2-1/8	3-1/4	480N019	12
18	.1695	2-1/8	3-1/4	480N018	12
17	.1730	2-3/16	3-3/8	480N017	12
16	.1770	2-3/16	3-3/8	480N016	12
15	.1800	2-3/16	3-3/8	480N015	12
14	.1820	2-3/16	3-3/8	480N014	12
13	.1850	2-5/16	3-1/2	480N013	12
12	.1890	2-5/16	3-1/2	480N012	12
11	.1910	2-5/16	3-1/2	480N011	12
10	.1935	2-7/16	3-5/8	480N010	12
9	.1960	2-7/16	3-5/8	480N009	12
8	.1990	2-7/16	3-5/8	480N008	12
7	.2010	2-7/16	3-5/8	480N007	12
6	.2040	2-1/2	3-3/4	480N006	12
5	.2055	2-1/2	3-3/4	480N005	12
4	.2090	2-1/2	3-3/4	480N004	12
3	.2130	2-1/2	3-3/4	480N003	12
2	.2210	2-1/2	3-7/8	480N002	12
1	.2280	2-5/8	3-7/8	480N001	12

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Pack	Pack Qty.
A	.2340	2-5/8	3-7/8	440N501	12
B	.2380	2-3/4	4	440N502	12
C	.2420	2-3/4	4	440N503	12
D	.2460	2-3/4	4	440N504	12
E	.2500	2-3/4	4	440N505	12
F	.2570	2-7/8	4-1/8	440N506	12
G	.2610	2-7/8	4-1/8	440N507	12
H	.2660	2-7/8	4-1/8	440N508	12
I	.2720	2-7/8	4-1/8	440N509	12
J	.2770	2-7/8	4-1/8	440N510	12
K	.2810	2-15/16	4-1/4	440N511	12
L	.2900	2-15/16	4-1/4	440N512	12
M	.2950	3-1/16	4-3/8	440N513	6
N	.3020	3-1/16	4-3/8	440N514	6
O	.3160	3-3/16	4-1/2	440N515	6
P	.3230	3-5/16	4-5/8	440N516	6
Q	.3320	3-7/16	4-3/4	440N517	6
R	.3390	3-7/16	4-3/4	440N518	6
S	.3480	3-1/2	4-7/8	440N519	6
T	.3580	3-1/2	4-7/8	440N520	6
U	.3680	3-5/8	5	440N521	6
V	.3770	3-5/8	5	440N522	6
W	.3860	3-3/4	5-1/8	440N523	6
X	.3970	3-3/4	5-1/8	440N524	6
Y	.4040	3-7/8	5-1/4	440N525	6
Z	.4130	3-7/8	5-1/4	440N526	6



Corresponding Blister Packs		
Sizes		Bulk Qty.
1 per package, except for 1/16" - 5/32" which are 2 per pack		
1/16" - 1/8" & #60 - #30		504
9/64" - 13/64" & #29 - #6		252
7/32" - 5/16" & #5 - #1 & A - N		132
21/64" - 1/2" & O - Z		72



400N29

Corresponding Sets		
Number of Pieces	Sizes	Order Number
13	1/16" - 1/4" x 1/64	400N13
15	1/16" - 1/2" x 1/32	400N15
21	1/16" - 3/8" x 1/64	400N21
26	A - Z	400N26
29	1/16" - 1/2" x 1/64	400N29
29	BIT BARREL 1/16" - 1/2" x 1/64	400NW29
60	#1 - #60	400N60
115	1/16" - 1/2" x 1/64, #1 - 60, A - Z	400N0115

Metal cases unless noted otherwise

HEAVY DUTY JOBBER LENGTH DRILLS

410N / 490N / 450N SERIES **NITRO+**

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / 3-Flat Shank / Black & Gold

NITRO+® drills elevate the performance of heavy duty drilling with their robust Black & Gold HSS design and a practical 3-flat shank that ensures stability in the toughest materials. The 135° Split Point minimizes drill “walking”, making these drills a reliable choice for both handheld and CNC operations across diverse material groups.

- ▷ All NITRO+® drills are made from premium quality M2 High Speed Steel. Recommended for heavy duty drilling in a wide range of material groups, including stainless steel.
- ▷ 3-flat shank drill reduces slippage in the drill chuck
- ▷ Body and flute are black and gold surface-treated for maximum lubricity
- ▷ Designed for use in portable hand drills

Best Material Application



STAINLESS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



3 FLAT SHANK



Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
1/16	.0625	7/8	1-7/8	410N104	12	022704	12
5/64	.0781	1	2	410N105	12	022705	12
3/32	.0938	1-1/4	2-1/4	410N106	12	022706	12
7/64	.1094	1-1/2	2-5/8	410N107	12	022707	12
1/8	.1250	1-5/8	2-3/4	410N108	12	022708	12
9/64	.1406	1-3/4	2-7/8	410N109	12	022709	12
5/32	.1562	2	3-1/8	410N110	12	022710	12
11/64	.1719	2-1/8	3-1/4	410N111	12	022711	12
3/16	.1875	2-5/16	3-1/2	410N112	12	022712	12
13/64	.2031	2-7/16	3-5/8	410N113	12	022713	12
7/32	.2188	2-1/2	3-3/4	410N114	12	022714	12
15/64	.2344	2-5/8	3-7/8	410N115	12	022715	12
1/4	.2500	2-3/4	4	410N116	12	022716	12
17/64	.2656	2-7/8	4-1/8	410N117	12	022717	12
9/32	.2812	2-15/16	4-1/4	410N118	12	022718	12
19/64	.2969	3-1/16	4-3/8	410N119	12	022719	12
5/16	.3125	3-3/16	4-1/2	410N120	6	022720	6
21/64	.3281	3-5/16	4-5/8	410N121	6	022721	6
11/32	.3438	3-7/16	4-3/4	410N122	6	022722	6
23/64	.3594	3-1/2	4-7/8	410N123	6	022723	6
*3/8	.3750	3-5/8	5	410N124	6	022724	6
25/64	.3906	3-3/4	5-1/8	410N125	6	022725	6
13/32	.4062	3-7/8	5-1/4	410N126	6	022726	6
27/64	.4219	3-15/16	5-3/8	410N127	6	022727	6
7/16	.4375	4-1/16	5-1/2	410N128	6	022728	6
29/64	.4531	4-3/16	5-5/8	410N129	6	022729	6
15/32	.4688	4-5/16	5-3/4	410N130	6	022730	6
31/64	.4844	4-3/8	5-7/8	410N131	6	022731	6
1/2	.5000	4-1/2	6	410N132	6	022732	6

Wire							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
60	.0400	11/16	1-5/8	490N060	12	024760	12
59	.0410	11/16	1-5/8	490N059	12	024759	12
58	.0420	11/16	1-5/8	490N058	12	024758	12
57	.0430	3/4	1-3/4	490N057	12	024757	12
56	.0465	3/4	1-3/4	490N056	12	024756	12
55	.0520	7/8	1-7/8	490N055	12	024755	12
54	.0550	7/8	1-7/8	490N054	12	024754	12
53	.0595	7/8	1-7/8	490N053	12	024753	12
52	.0635	7/8	1-7/8	490N052	12	024752	12
51	.0670	1	2	490N051	12	024751	12
50	.0700	1	2	490N050	12	024750	12
49	.0730	1	2	490N049	12	024749	12
48	.0760	1	2	490N048	12	024748	12
47	.0785	1	2	490N047	12	024747	12
46	.0810	1-1/8	2-1/8	490N046	12	024746	12
45	.0820	1-1/8	2-1/8	490N045	12	024745	12
44	.0860	1-1/4	2-1/4	490N044	12	024744	12
43	.0890	1-1/4	2-1/4	490N043	12	024743	12
42	.0935	1-1/4	2-1/4	490N042	12	024742	12
41	.0960	1-3/8	2-3/8	490N041	12	024741	12
40	.0980	1-3/8	2-3/8	490N040	12	024740	12
39	.0995	1-3/8	2-3/8	490N039	12	024739	12
38	.1015	1-3/8	2-1/2	490N038	12	024738	12
37	.1040	1-7/16	2-1/2	490N037	12	024737	12
36	.1065	1-7/16	2-1/2	490N036	12	024736	12
35	.1100	1-1/2	2-5/8	490N035	12	024735	12
34	.1110	1-1/2	2-5/8	490N034	12	024734	12
33	.1130	1-1/2	2-5/8	490N033	12	024733	12
32	.1160	1-5/8	2-5/8	490N032	12	024732	12

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HEAVY DUTY JOBBER LENGTH DRILLS

410N / 490N / 450N SERIES continued **NITRO+**



Wire							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
31	.1200	2-3/4	3-1/4	490N031	12	024731	12
30	.1285	1-5/8	2-3/4	490N030	12	024730	12
29	.1360	1-3/4	2-7/8	490N029	12	024729	12
28	.1405	1-3/4	2-7/8	490N028	12	024728	12
27	.1440	1-7/8	3	490N027	12	024727	12
26	.1470	1-7/8	3	490N026	12	024726	12
25	.1495	1-7/8	3	490N025	12	024725	12
24	.1520	2	3-1/8	490N024	12	024724	12
23	.1540	2	3-1/8	490N023	12	024723	12
22	.1570	2	3-1/8	490N022	12	024722	12
21	.1590	2	3-1/4	490N021	12	024721	12
20	.1610	2-1/8	3-1/4	490N020	12	024720	12
19	.1660	2-1/8	3-1/4	490N019	12	024719	12
18	.1695	2-1/8	3-1/4	490N018	12	024718	12
17	.1730	2-1/16	3-3/8	490N017	12	024717	12
16	.1770	2-3/16	3-3/8	490N016	12	024716	12
15	.1800	2-3/16	3-3/8	490N015	12	024715	12
14	.1820	2-3/16	3-3/8	490N014	12	024714	12
13	.1850	2-5/16	3-1/2	490N013	12	024713	12
12	.1890	2-5/16	3-1/2	490N012	12	024712	12
11	.1910	2-5/16	3-1/2	490N011	12	024711	12
10	.1935	2-7/16	3-1/2	490N010	12	024710	12
9	.1960	2-7/16	3-5/8	490N009	12	024709	12
8	.1990	2-7/16	3-5/8	490N008	12	024708	12
7	.2010	2-7/16	3-5/8	490N007	12	024707	12
6	.2040	2-1/2	3-3/4	490N006	12	024706	12
5	.2055	2-1/2	3-3/4	490N005	12	024705	12
4	.2090	2-1/2	3-3/4	490N004	12	024704	12
3	.2130	2-1/2	3-3/4	490N003	12	024703	12
2	.2210	2-1/2	3-7/8	490N002	12	024702	12
1	.2280	2-5/8	3-7/8	490N001	12	024701	12

Letter							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
A	.2340	2-5/8	3-7/8	450N501	12	026701	12
B	.2380	2-3/4	4	450N502	12	026702	12
C	.2420	2-3/4	4	450N503	12	026703	12
D	.2460	2-3/4	4	450N504	12	026704	12
E	.2500	2-3/4	4	450N505	12	026705	12
F	.2570	2-7/8	4-1/8	450N506	12	026706	12
G	.2610	2-7/8	4-1/8	450N507	12	026707	12
H	.2660	2-7/8	4-1/8	450N508	12	026708	12
I	.2720	2-7/8	4-1/8	450N509	12	026709	12
J	.2770	2-7/8	4-1/8	450N510	12	026710	12
K	.2810	2-15/16	4-1/4	450N511	12	026711	12
L	.2900	2-15/16	4-1/4	450N512	12	026712	12
M	.2950	3-1/16	4-3/8	450N513	6	026713	12
N	.3020	3-1/16	4-3/8	450N514	6	026714	12
O	.3160	3-1/16	4-1/2	450N515	6	026715	6
P	.3230	3-5/16	4-5/8	450N516	6	026716	6
Q	.3320	3-7/16	4-3/4	450N517	6	026717	6
R	.3390	3-7/16	4-3/4	450N518	6	026718	6
S	.3480	3-1/2	4-7/8	450N519	6	026719	6
T	.3580	3-1/2	4-7/8	450N520	6	026720	6
U	.3680	3-5/8	5	450N521	6	026721	6
V	.3770	3-5/8	5	450N522	6	026722	6
W	.3860	3-3/4	5-1/8	450N523	6	026723	6
X	.3970	3-3/4	5-1/8	450N524	6	026724	6
Y	.4040	3-7/8	5-1/4	450N525	6	026725	6
Z	.4130	3-7/8	5-1/4	450N526	6	026726	6

Corresponding Sets		
Number of Pieces	Description	Order Number
13	1/16" - 1/4" x 1/64	410N13
15	1/16" - 1/2" x 1/32	410N15
21	1/16" - 3/8" x 1/64	410N21
26	A-Z	410N26
29	1/16" - 1/2" x 1/64	410N29
29	BIT BARREL 1/16" - 1/2" x 1/64	410NW29
115	#1 - #60	410N0115
115	1/16" - 1/2" x 1/64, #1 - 60, A - Z	410N115

Corresponding Sets			
Number of Pieces	Style	Sizes	Order Number
13	T1019D	1/16"-1/4" x 1/64	090113
15	T1018D	1/16"-1/2" x 1/32	090115
21	T10180D	1/16"-3/8" x 1/64	090121
29	T1017D	1/16"-1/2" x 1/64	090190
29	T1017DC	1/16"-1/2" x 1/64 Bit Barrel	090192
115	T10123D	1/16"-1/2" x 1/64	090196
26	T10125D	A-Z	099828
115	T10123D	1/16"-1/2" x 1/64, #1 - #60, A-Z	090196

Metal cases

Metal cases unless noted otherwise

HEAVY DUTY JOBBER LENGTH DRILLS

1035N SERIES

HEAVY DUTY HIGH SPEED STEEL

NITRO®

135° Split Point / 3/8" Reduced Shank / Black & Gold

Nitro® jobber drills (NAS Type B) offer superior performance over standard HSS drills. Heavy duty design increases tool life and performance. 135° Split Point reduces walking at the point. Ideal for hand held or CNC Operations. Black & Gold. 3/8" Shank.

Best Material Application



STAINLESS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



REDUCED SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
25/64	.3906	3	6	1035N125	6
13/32	.4062	3	6	1035N126	6
27/64	.4219	3	6	1035N127	6
7/16	.4375	3	6	1035N128	6
29/64	.4531	3	6	1035N129	6
15/32	.4688	3	6	1035N130	6
31/64	.4844	3	6	1035N131	6
1/2	.5000	3	6	1035N132	6
17/32	.5310	3	6	1035N134	1
9/16	.5630	3	6	1035N136	1
5/8	.6250	3	6	1035N140	1
11/16	.6880	3	6	1035N144	1
3/4	.7500	3	6	1035N148	1



1035N15

Corresponding Sets		
Number of Pieces	Description	Order Number
15	1/16" - 1/2" x 1/32	1035N15
29	1/16" - 1/2" x 1/64	1035N29

Metal cases

HEAVY DUTY JOBBER LENGTH DRILLS

400A / 480A / 440A

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Black Oxide

The heavy duty construction affords efficient drilling in medium strength alloy materials. The split point reduces the thrust requirements and minimizes "walking". A black oxide surface treatment improves tool life.

- ▷ Heavy duty 135° Split Point minimizes "walking"
- ▷ Black oxide surface treatment for increased wear resistance
- ▷ A multi-purpose heavy duty drill bit



Best Material Application



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK

Fractional									
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.	Order Number Bulk	Bulk Qty
1/16	.0625	7/8	1-7/8	400A104	12	011404	12	—	—
5/64	.0781	1	2	400A105	12	011405	12	011405.20	288
3/32	.0938	1-1/4	2-1/4	400A106	12	011406	12	011406.20	288
7/64	.1094	1-1/2	2-5/8	400A107	12	011407	12	011407.20	288
1/8	.1250	1-5/8	2-3/4	400A108	12	011408	12	011408.20	288
9/64	.1406	1-3/4	2-7/8	400A109	12	011409	12	—	—
5/32	.1562	2	3-1/8	400A110	12	011410	12	011410.20	288
11/64	.1719	2-1/8	3-1/4	400A111	12	011411	12	011411.20	288
3/16	.1875	2-5/16	3-1/2	400A112	12	011412	12	011412.20	288
13/64	.2031	2-7/16	3-5/8	400A113	12	011413	12	011413.20	288
7/32	.2188	2-1/2	3-3/4	400A114	12	011414	12	011414.20	288
15/64	.2344	2-5/8	3-7/8	400A115	12	011415	12	011415.20	288
1/4	.2500	2-3/4	4	400A116	12	011416	12	011416.20	288
17/64	.2656	2-7/8	4-1/8	400A117	12	011417	12	—	—
9/32	.2812	2-15/16	4-1/4	400A118	12	011418	12	011418.20	144
19/64	.2969	3-1/16	4-3/8	400A119	12	011419	12	011419.20	144
5/16	.3125	3-3/16	4-1/2	400A120	6	011420	6	011420.20	144
21/64	.3281	3-5/16	4-5/8	400A121	6	011421	6	011421.20	144
11/32	.3438	3-7/16	4-3/4	400A122	6	011422	6	011422.20	144
23/64	.3594	3-1/2	4-7/8	400A123	6	011423	6	011423.20	144
3/8	.3750	3-5/8	5	400A124	6	011424	6	011424.20	144
25/64	.3906	3-3/4	5-1/8	400A125	6	011425	6	—	—
13/32	.4062	3-7/8	5-1/4	400A126	6	011426	6	011426.20	144
27/64	.4219	3-15/16	5-3/8	400A127	6	011427	6	011427.20	144
7/16	.4375	4-1/16	5-1/2	400A128	6	011428	6	011428.20	144
29/64	.4531	4-3/16	5-5/8	400A129	6	011429	6	011429.20	144
15/32	.4688	4-5/16	5-3/4	400A130	6	011430	6	011430.20	144
31/64	.4844	4-3/8	5-7/8	400A131	6	011431	6	011431.20	144
1/2	.5000	4-1/2	6	400A132	6	011432	6	—	—
Wire									
60*	.0400	11/16	1-5/8	480A060	12	012460	12	—	—
59*	.0410	11/16	1-5/8	480A059	12	012459	12	—	—
58*	.0420	11/16	1-5/8	480A058	12	012458	12	—	—
57*	.0430	3/4	1-3/4	480A057	12	012457	12	—	—

*Not split point

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HEAVY DUTY
JOBBER LENGTH DRILLS

400A / 480A / 440A continued



Size	Wire						
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
56*	.0465	3/4	1-3/4	480A056	12	012456	12
55*	.0520	7/8	1-7/8	480A055	12	012455	12
54*	.0550	7/8	1-7/8	480A054	12	012454	12
53*	.0595	7/8	1-7/8	480A053	12	012453	12
52	.0635	7/8	1-7/8	480A052	12	012452	12
51	.0670	1	2	480A051	12	012451	12
50	.0700	1	2	480A050	12	012450	12
49	.0730	1	2	480A049	12	012449	12
48	.0760	1	2	480A048	12	012448	12
47	.0785	1	2	480A047	12	012447	12
46	.0810	1-1/8	2-1/8	480A046	12	012446	12
45	.0820	1-1/8	2-1/8	480A045	12	012445	12
44	.0860	1-1/8	2-1/8	480A044	12	012444	12
43	.0890	1-1/4	2-1/4	480A043	12	012443	12
42	.0935	1-1/4	2-1/4	480A042	12	012442	12
41	.0960	1-3/8	2-3/8	480A041	12	012441	12
40	.0980	1-3/8	2-3/8	480A040	12	012440	12
39	.0995	1-3/8	2-3/8	480A039	12	012439	12
38	.1015	1-7/16	2-1/2	480A038	12	012438	12
37	.1040	1-7/16	2-1/2	480A037	12	012437	12
36	.1065	1-7/16	2-1/2	480A036	12	012436	12
35	.1100	1-1/2	2-5/8	480A035	12	012435	12
34	.1110	1-1/2	2-5/8	480A034	12	012434	12
33	.1130	1-1/2	2-5/8	480A033	12	012433	12
32	.1160	1-5/8	2-3/4	480A032	12	012432	12
31	.1200	1-5/8	2-3/4	480A031	12	012431	12
30	.1285	1-5/8	2-3/4	480A030	12	012430	12
29	.1360	1-3/4	2-7/8	480A029	12	012429	12
28	.1405	1-3/4	2-7/8	480A028	12	012428	12
27	.1440	1-7/8	3	480A027	12	012427	12
26	.1470	1-7/8	3	480A026	12	012426	12
25	.1495	1-7/8	3	480A025	12	012425	12
24	.1520	2	3-1/8	480A024	12	012424	12
23	.1540	2	3-1/8	480A023	12	012423	12
22	.1570	2	3-1/8	480A022	12	012422	12
21	.1590	2-1/8	3-1/4	480A021	12	012421	12
20	.1610	2-1/8	3-1/4	480A020	12	012420	12
19	.1660	2-1/8	3-1/4	480A019	12	012419	12
18	.1695	2-1/8	3-1/4	480A018	12	012418	12
17	.1730	2-3/16	3-3/8	480A017	12	012417	12
16	.1770	2-3/16	3-3/8	480A016	12	012416	12
15	.1800	2-3/16	3-3/8	480A015	12	012415	12
14	.1820	2-3/16	3-3/8	480A014	12	012414	12
13	.1850	2-5/16	3-1/2	480A013	12	012413	12
12	.1890	2-5/16	3-1/2	480A012	12	012412	12
11	.1910	2-5/16	3-1/2	480A011	12	012411	12
10	.1935	2-7/16	3-5/8	480A010	12	012410	12
9	.1960	2-7/16	3-5/8	480A009	12	012409	12
8	.1990	2-7/16	3-5/8	480A008	12	012408	12
7	.2010	2-7/16	3-5/8	480A007	12	012407	12
6	.2040	2-1/2	3-3/4	480A006	12	012406	12
5	.2055	2-1/2	3-3/4	480A005	12	012405	12
4	.2090	2-1/2	3-3/4	480A004	12	012404	12
3	.2130	2-1/2	3-3/4	480A003	12	012403	12
2	.2210	2-1/2	3-7/8	480A002	12	012402	12
1	.2280	2-5/8	3-7/8	480A001	12	012401	12

*Not split point

HEAVY DUTY JOBBER LENGTH DRILLS

400A / 480A / 440A continued



Letter							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
A	.2340	2-5/8	3-7/8	440A501	12	013401	12
B	.2380	2-3/4	4	440A502	12	013402	12
C	.2420	2-3/4	4	440A503	12	013403	12
D	.2460	2-3/4	4	440A504	12	013404	12
E	.2500	2-3/4	4	440A505	12	013405	12
F	.2570	2-7/8	4-1/8	440A506	12	013406	12
G	.2610	2-7/8	4-1/8	440A507	12	013407	12
H	.2660	2-7/8	4-1/8	440A508	12	013408	12
I	.2720	2-7/8	4-1/8	440A509	12	013409	12
J	.2770	2-7/8	4-1/8	440A510	12	013410	12
K	.2810	2-15/16	4-1/4	440A511	12	013411	12
L	.2900	2-15/16	4-1/4	440A512	12	013412	12
M	.2950	3-1/16	4-3/8	440A513	6	013413	12
N	.3020	3-1/16	4-3/8	440A514	6	013414	12
O	.3160	3-3/16	4-1/2	440A515	6	013415	6
P	.3230	3-5/16	4-5/8	440A516	6	013416	6
Q	.3320	3-7/16	4-3/4	440A517	6	013417	6
R	.3390	3-7/16	4-3/4	440A518	6	013418	6
S	.3480	3-1/2	4-7/8	440A519	6	013419	6
T	.3580	3-1/2	4-7/8	440A520	6	013420	6
U	.3680	3-5/8	5	440A521	6	013421	6
V	.3770	3-5/8	5	440A522	6	013422	6
W	.3860	3-3/4	5-1/8	440A523	6	013423	6
X	.3970	3-3/4	5-1/8	440A524	6	013424	6
Y	.4040	3-7/8	5-1/4	440A525	6	013425	6
Z	.4130	3-7/8	5-1/4	440A526	6	013426	6



400HD21

Corresponding Sets		
Number of Pieces	Size	Order Number
13	1/16" - 1/4" x 1/64	099815
15	1/16" - 1/2" x 1/32	099809
21	1/16" - 3/8" x 1/64	099836
29	Bit Barrel 1/16" - 1/2" x 1/64	099804
29	1/16" - 1/2" x 1/64	099803
115	1/16" - 1/2" x 1/64, #1 - 60, A - Z	090561

Metal cases unless noted otherwise

Corresponding Sets		
Number of Pieces	Description	Order Number
13	1/16" - 1/4" x 1/64	400HD13
15	1/16" - 1/2" x 1/32	400HD15
21	1/16" - 3/8" x 1/64	400HD21
26	A - Z	400HD26
29	1/16" - 1/2" x 1/64	400HD29
29	BIT BARREL 1/16" - 1/2" x 1/64	400AW29
60	#1 - #60	400HD60
115	1/16" - 1/2" x 1/64, #1 - 60, A - Z	400HD0115
13	1/16" - 1/4" x 1/64	400HDE13
15	1/16" - 1/2" x 1/32	400HDE15
21	1/16" - 3/8" x 1/64	400HDE21
29	1/16" - 1/2" x 1/64	400HDE29
29	BIT BARREL 1/16" - 1/2" x 1/64	400EW29

Metal cases unless noted otherwise

HEAVY DUTY JOBBER LENGTH DRILLS

450T SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / TiN Tip Coated

The TiN (Titanium Nitride) coating provides a super hard surface with high lubricity and longer tool life, as the heat is deflected away from the drill. These drills can be used in a wide range of materials including steel, stainless steel, titanium, nickel, and aluminum. TiN coating is applied to the "working" part of the drill. This allows for all of the benefits that the user receives from a fully TiN coated product, but at a reduced price when compared to a drill that is fully coated.

- ▷ The TiN (titanium nitride) coating provides a super hard surface with high lubricity
- ▷ Extended tool life in high wear application
- ▷ 135° split point for self centering and reduced "walking"



Best Material Application



STAINLESS



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	450T104	12
5/64	.0781	1	2	450T105	12
3/32	.0938	1-1/4	2-1/4	450T106	12
7/64	.1094	1-1/2	2-5/8	450T107	12
1/8	.1250	1-5/8	2-3/4	450T108	12
9/64	.1406	1-3/4	2-7/8	450T109	12
5/32	.1562	2	3-1/8	450T110	12
11/64	.1719	2-1/8	3-1/4	450T111	12
3/16	.1875	2-5/16	3-1/2	450T112	12
13/64	.2031	2-7/16	3-5/8	450T113	12
7/32	.2188	2-1/2	3-3/4	450T114	12
15/64	.2344	2-5/8	3-7/8	450T115	12
1/4	.2500	2-3/4	4	450T116	12
17/64	.2656	2-7/8	4-1/8	450T117	12
9/32	.2812	2-15/16	4-1/4	450T118	12
19/64	.2969	3-1/16	4-3/8	450T119	12
5/16	.3125	3-3/16	4-1/2	450T120	6
21/64	.3281	3-5/16	4-5/8	450T121	6
11/32	.3438	3-7/16	4-3/4	450T122	6
23/64	.3594	3-1/2	4-7/8	450T123	6
3/8	.3750	3-5/8	5	450T124	6
25/64	.3906	3-3/4	5-1/8	450T125	6
13/32	.4062	3-7/8	5-1/4	450T126	6
27/64	.4219	3-15/16	5-3/8	450T127	6
7/16	.4375	4-1/16	5-1/2	450T128	6
29/64	.4531	4-3/16	5-5/8	450T129	6
15/32	.4688	4-5/16	5-3/4	450T130	6
31/64	.4844	4-3/8	5-7/8	450T131	6
1/2	.5000	4-1/2	6	450T132	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
60*	.0400	11/16	1-5/8	450T060	12
59*	.0410	11/16	1-5/8	450T059	12
58*	.0420	11/16	1-5/8	450T058	12
57*	.0430	3/4	1-3/4	450T057	12
56*	.0465	3/4	1-3/4	450T056	12
55*	.0520	7/8	1-7/8	450T055	12
54*	.0550	7/8	1-7/8	450T054	12
53*	.0595	7/8	1-7/8	450T053	12
52	.0635	7/8	1-7/8	450T052	12
51	.0670	1	2	450T051	12
50	.0700	1	2	450T050	12
49	.0730	1	2	450T049	12
48	.0760	1	2	450T048	12
47	.0785	1	2	450T047	12
46	.0810	1-1/8	2-1/8	450T046	12
45	.0820	1-1/8	2-1/8	450T045	12
44	.0860	1-1/8	2-1/8	450T044	12
43	.0890	1-1/4	2-1/4	450T043	12
42	.0935	1-1/4	2-1/4	450T042	12
41	.0960	1-3/8	2-3/8	450T041	12
40	.0980	1-3/8	2-3/8	450T040	12
39	.0995	1-3/8	2-3/8	450T039	12
38	.1015	1-7/16	2-1/2	450T038	12
37	.1040	1-7/16	2-1/2	450T037	12
36	.1065	1-7/16	2-1/2	450T036	12
35	.1100	1-1/2	2-5/8	450T035	12
34	.1110	1-1/2	2-5/8	450T034	12
33	.1130	1-1/2	2-5/8	450T033	12
32	.1160	1-5/8	2-3/4	450T032	12
31	.1200	1-5/8	2-3/4	450T031	12
30	.1285	1-5/8	2-3/4	450T030	12
29	.1360	1-3/4	2-7/8	450T029	12

*Not split point

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HEAVY DUTY JOBBER LENGTH DRILLS

450T SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
28	.1405	1-3/4	2-7/8	450T028	12
27	.1440	1-7/8	3	450T027	12
26	.1470	1-7/8	3	450T026	12
25	.1495	1-7/8	3	450T025	12
24	.1520	2	3-1/8	450T024	12
23	.1540	2	3-1/8	450T023	12
22	.1570	2	3-1/8	450T022	12
21	.1590	2-1/8	3-1/4	450T021	12
20	.1610	2-1/8	3-1/4	450T020	12
19	.1660	2-1/8	3-1/4	450T019	12
18	.1695	2-1/8	3-1/4	450T018	12
17	.1730	2-3/16	3-3/8	450T017	12
16	.1770	2-3/16	3-3/8	450T016	12
15	.1800	2-3/16	3-3/8	450T015	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
14	.1820	2-3/16	3-3/8	450T014	12
13	.1850	2-5/16	3-1/2	450T013	12
12	.1890	2-5/16	3-1/2	450T012	12
11	.1910	2-5/16	3-1/2	450T011	12
10	.1935	2-7/16	3-5/8	450T010	12
9	.1960	2-7/16	3-5/8	450T009	12
8	.1990	2-7/16	3-5/8	450T008	12
7	.2010	2-7/16	3-5/8	450T007	12
6	.2040	2-1/2	3-3/4	450T006	12
5	.2055	2-1/2	3-3/4	450T005	12
4	.2090	2-1/2	3-3/4	450T004	12
3	.2130	2-1/2	3-3/4	450T003	12
2	.2210	2-5/8	3-7/8	450T002	12
1	.2280	2-5/8	3-7/8	450T001	12



450T21



450TW29

Corresponding Sets		
Number of Pieces	Description	Order Number
13	1/16 - 1/4 x 1/64	450T13
15	1/16 - 1/2 x 1/32	450T15
21	1/16 - 3/8 x 1/64	450T21
29	1/16 - 1/2 x 1/64	450T29
29	1/16 - 1/2 x 1/64 Bit Barrel	450TW29
60	#1 - 60	450T60

Metal cases unless noted otherwise

HEAVY DUTY JOBBER LENGTH DRILLS

500 / 580 / 540 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze

Heavy duty construction made to NAS Type J aircraft specifications. Used for drilling holes in hard, tough materials such as stainless steel, titanium high temperature and high strength alloys.

- ▷ High red hardness of cobalt permits speeds 30% greater than HSS drills
- ▷ Bronze surface treatment for high lubricity
- ▷ Cobalt drills can cut harder materials than HSS drills
- ▷ Available in bulk packaging

Best Material Application



STAINLESS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional									
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.	Order Number Bulk	Bulk Qty.
3/64	.0470	3/4	1-3/4	500A103	12	—	—	—	—
1/16	.0625	7/8	1-7/8	500A104	12	011504	12	011504.20	288
5/64	.0781	1	2	500A105	12	011505	12	011505.20	288
3/32	.0938	1-1/4	2-1/4	500A106	12	011506	12	011506.20	288
7/64	.1094	1-1/2	2-5/8	500A107	12	011507	12	011507.20	288
1/8	.1250	1-5/8	2-3/4	500A108	12	011508	12	011508.20	288
9/64	.1406	1-3/4	2-7/8	500A109	12	011509	12	011509.20	288
5/32	.1562	2	3-1/8	500A110	12	011510	12	011510.20	288
11/64	.1719	2-1/8	3-1/4	500A111	12	011511	12	011511.20	288
3/16	.1875	2-5/16	3-1/2	500A112	12	011512	12	011512.20	288
13/64	.2031	2-7/16	3-5/8	500A113	12	011513	12	011513.20	288
7/32	.2188	2-1/2	3-3/4	500A114	12	011514	12	011514.20	288
15/64	.2344	2-5/8	3-7/8	500A115	12	011515	12	011515.20	288
1/4	.2500	2-3/4	4	500A116	12	011516	12	011516.20	288
17/64	.2656	2-7/8	4-1/8	500A117	12	011517	12	011517.20	144
9/32	.2812	2-15/16	4-1/4	500A118	12	011518	12	011518.20	144
19/64	.2969	3-1/16	4-3/8	500A119	12	011519	12	011519.20	144
5/16	.3125	3-3/16	4-1/2	500A120	6	011520	6	011520.20	144
21/64	.3281	3-5/16	4-5/8	500A121	6	011521	6	011521.20	144
11/32	.3438	3-7/16	4-3/4	500A122	6	011522	6	011522.20	144
23/64	.3594	3-1/2	4-7/8	500A123	6	011523	6	011523.20	144
3/8	.3750	3-5/8	5	500A124	6	011524	6	011524.20	144
25/64	.3906	3-3/4	5-1/8	500A125	6	011525	6	011525.20	144
13/32	.4062	3-7/8	5-1/4	500A126	6	011526	6	011526.20	144
27/64	.4219	3-15/16	5-3/8	500A127	6	011527	6	011527.20	144
7/16	.4375	4-1/16	5-1/2	500A128	6	011528	6	011528.20	144
29/64	.4531	4-3/16	5-5/8	500A129	6	011529	6	011529.20	144
15/32	.4688	4-5/16	5-3/4	500A130	6	011530	6	011530.20	144
31/64	.4844	4-3/8	5-7/8	500A131	6	011531	6	011531.20	144
1/2	.5000	4-1/2	6	500A132	6	011532	6	011532.20	144

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HEAVY DUTY JOBBER LENGTH DRILLS

500 / 580 / 540 SERIES continued



Wire									
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.	Order Number Bulk	Bulk Qty.
60*	.0400	11/16	1-5/8	580A060	12	011760	12	—	—
59*	.0410	11/16	1-5/8	580A059	12	011759	12	—	—
58*	.0420	11/16	1-5/8	580A058	12	011758	12	—	—
57*	.0430	3/4	1-3/4	580A057	12	011757	12	—	—
56*	.0465	3/4	1-3/4	580A056	12	011756	12	—	—
55*	.0520	7/8	1-7/8	580A055	12	011755	12	—	—
54*	.0550	7/8	1-7/8	580A054	12	011754	12	—	—
53*	.0595	7/8	1-7/8	580A053	12	011753	12	—	—
52	.0635	7/8	1-7/8	580A052	12	011752	12	—	—
51	.0670	1	2	580A051	12	011751	12	—	—
50	.0700	1	2	580A050	12	011750	12	—	—
49	.0730	1	2	580A049	12	011749	12	—	—
48	.0760	1	2	580A048	12	011748	12	—	—
47	.0785	1	2	580A047	12	011747	12	—	—
46	.0810	1-1/8	2-1/8	580A046	12	011746	12	—	—
45	.0820	1-1/8	2-1/8	580A045	12	011745	12	—	—
44	.0860	1-1/8	2-1/8	580A044	12	011744	12	—	—
43	.0890	1-1/4	2-1/4	580A043	12	011743	12	—	—
42	.0935	1-1/4	2-1/4	580A042	12	011742	12	—	—
41	.0960	1-3/8	2-3/8	580A041	12	011741	12	—	—
40	.0980	1-3/8	2-3/8	580A040	12	011740	12	—	—
39	.0995	1-3/8	2-3/8	580A039	12	011739	12	—	—
38	.1015	1-7/16	2-1/2	580A038	12	011738	12	—	—
37	.1040	1-7/16	2-1/2	580A037	12	011737	12	—	—
36	.1065	1-7/16	2-1/2	580A036	12	011736	12	—	—
35	.1100	1-1/2	2-5/8	580A035	12	011735	12	—	—
34	.1110	1-1/2	2-5/8	580A034	12	011734	12	—	—
33	.1130	1-1/2	2-5/8	580A033	12	011733	12	—	—
32	.1160	1-5/8	2-3/4	580A032	12	011732	12	—	—
31	.1200	1-5/8	2-3/4	580A031	12	011731	12	—	—
30	.1285	1-5/8	2-3/4	580A030	12	011730	12	—	—
29	.1360	1-3/4	2-7/8	580A029	12	011729	12	—	—
28	.1405	1-3/4	2-7/8	580A028	12	011728	12	—	—
27	.1440	1-7/8	3	580A027	12	011727	12	—	—
26	.1470	1-7/8	3	580A026	12	011726	12	—	—
25	.1495	1-7/8	3	580A025	12	011725	12	—	—
24	.1520	2	3-1/8	580A024	12	011724	12	—	—
23	.1540	2	3-1/8	580A023	12	011723	12	—	—
22	.1570	2	3-1/8	580A022	12	011722	12	—	—
21	.1590	2-1/8	3-1/4	580A021	12	011721	12	—	—
20	.1610	2-1/8	3-1/4	580A020	12	011720	12	—	—
19	.1660	2-1/8	3-1/4	580A019	12	011719	12	—	—
18	.1695	2-1/8	3-1/4	580A018	12	011718	12	—	—
17	.1730	2-3/16	3-3/8	580A017	12	011717	12	—	—
16	.1770	2-3/16	3-3/8	580A016	12	011716	12	—	—
15	.1800	2-3/16	3-3/8	580A015	12	011715	12	—	—
14	.1820	2-3/16	3-3/8	580A014	12	011714	12	—	—
13	.1850	2-5/16	3-1/2	580A013	12	011713	12	—	—
12	.1890	2-5/16	3-1/2	580A012	12	011712	12	—	—
11	.1910	2-5/16	3-1/2	580A011	12	011711	12	—	—
10	.1935	2-7/16	3-5/8	580A010	12	011710	12	—	—
9	.1960	2-7/16	3-5/8	580A009	12	011709	12	—	—
8	.1990	2-7/16	3-5/8	580A008	12	011708	12	—	—

*Not split point

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HEAVY DUTY JOBBER LENGTH DRILLS

500 / 580 / 540 SERIES continued



Wire									
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.	Order Number Bulk	Bulk Qty.
7	.2010	2-7/16	3-5/8	580A007	12	011707	12	011707.20	288
6	.2040	2-1/2	3-3/4	580A006	12	011706	12	—	—
5	.2055	2-1/2	3-3/4	580A005	12	011705	12	—	—
4	.2090	2-1/2	3-3/4	580A004	12	011704	12	—	—
3	.2130	2-1/2	3-3/4	580A003	12	011703	12	—	—
2	.2210	2-1/2	3-7/8	580A002	12	011702	12	—	—
1	.2280	2-5/8	3-7/8	580A001	12	011701	12	—	—
Letter									
A	.2340	2-5/8	3-7/8	540A501	12	011901	12	—	—
B	.2380	2-3/4	4	540A502	12	011902	12	—	—
C	.2420	2-3/4	4	540A503	12	011903	12	—	—
D	.2460	2-3/4	4	540A504	12	011904	12	—	—
E	.2500	2-3/4	4	540A505	12	011905	12	—	—
F	.2570	2-7/8	4-1/8	540A506	12	011906	12	—	—
G	.2610	2-7/8	4-1/8	540A507	12	011907	12	—	—
H	.2660	2-7/8	4-1/8	540A508	12	011908	12	—	—
I	.2720	2-7/8	4-1/8	540A509	12	011909	12	—	—
J	.2770	2-7/8	4-1/8	540A510	12	011910	12	—	—
K	.2810	2-15/16	4-1/4	540A511	12	011911	12	—	—
L	.2900	2-15/16	4-1/4	540A512	12	011912	12	—	—
M	.2950	3-1/16	4-3/8	540A513	6	011913	12	—	—
N	.3020	3-1/16	4-3/8	540A514	6	011914	12	—	—
O	.3160	3-3/16	4-1/2	540A515	6	011915	6	—	—
P	.3230	3-5/16	4-5/8	540A516	6	011916	6	—	—
Q	.3320	3-7/16	4-3/4	540A517	6	011917	6	—	—
R	.3390	3-7/16	4-3/4	540A518	6	011918	6	—	—
S	.3480	3-1/2	4-7/8	540A519	6	011919	6	—	—
T	.3580	3-1/2	4-7/8	540A520	6	011920	6	—	—
U	.3680	3-5/8	5	540A521	6	011921	6	—	—
V	.3770	3-5/8	5	540A522	6	011922	6	—	—
W	.3860	3-3/4	5-1/8	540A523	6	011923	6	—	—
X	.3970	3-3/4	5-1/8	540A524	6	011924	6	—	—
Y	.4040	3-7/8	5-1/4	540A525	6	011925	6	—	—
Z	.4130	3-7/8	5-1/4	540A526	6	011926	6	—	—

Corresponding Sets		
Number of Pieces	Description	Order Number
13	1/16 - 1/4 x 1/64	500A13
15	1/16 - 1/2 x 1/32	500A15
21	1/16 - 3/8 x 1/64	500A21
26	A - Z	500A26
29	1/16 - 1/2 x 1/64	500A29
29	Bit Barrel 1/16 - 1/2 x 1/64	500AW29
60	#1 - #60	500A60
115	1/16 - 1/2 x 1/64, #1 - 60, A - Z	500A0115

Metal cases



500A29

GENERAL PURPOSE JOBBER LENGTH DRILLS

01

DRILLS

200A / 280A / 240A SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Black Oxide

Designed for general purpose drilling under a wide range of drilling conditions. It can drill various materials such as cast iron, steel, and steel forging. The surface treatment prevents chip welding, improves chip flow, and increases abrasion resistance.

- ▷ 118° Point designed for general use
- ▷ A general purpose jobber for a wide range of applications
- ▷ Black oxide finish improves chip flow and increases abrasion resistance
- ▷ Available in bulk packaging

Best Material Application



STEEL



CAST IRON

Drill Specifications



118° POINT



ROUND SHANK



Fractional									
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.	Order Number Bulk	Bulk Qty.
1/64	.0156	3/16	3/4	200A101	12	011201	12	—	—
1/32	.0312	1/2	1-3/8	200A102	12	011202	12	—	—
3/64	.0469	3/4	1-3/4	200A103	12	011203	12	—	—
1/16	.0625	7/8	1-7/8	200A104	12	011204	12	011204.20	288
5/64	.0781	1	2	200A105	12	011205	12	011205.20	288
3/32	.0938	1-1/4	2-1/4	200A106	12	011206	12	011206.20	288
7/64	.1094	1-1/2	2-5/8	200A107	12	011207	12	011207.20	288
1/8	.1250	1-5/8	2-3/4	200A108	12	011208	12	011208.20	288
9/64	.1406	1-3/4	2-7/8	200A109	12	011209	12	011209.20	288
5/32	.1562	2	3-1/8	200A110	12	011210	12	011210.20	288
11/64	.1719	2-1/8	3-1/4	200A111	12	011211	12	011211.20	288
3/16	.1875	2-5/16	3-1/2	200A112	12	011212	12	011212.20	288
13/64	.2031	2-7/16	3-5/8	200A113	12	011213	12	011213.20	288
7/32	.2188	2-1/2	3-3/4	200A114	12	011214	12	011214.20	288
15/64	.2344	2-5/8	3-7/8	200A115	12	011215	12	011215.20	288
1/4	.2500	2-3/4	4	200A116	12	011216	12	011216.20	288
17/64	.2656	2-7/8	4-1/8	200A117	12	011217	12	011217.20	144
9/32	.2812	2-15/16	4-1/4	200A118	12	011218	12	011218.20	144
19/64	.2969	3-1/16	4-3/8	200A119	12	011219	12	011219.20	144
5/16	.3125	3-3/16	4-1/2	200A120	6	011220	6	011220.20	144
21/64	.3281	3-5/16	4-5/8	200A121	6	011221	6	011221.20	144
11/32	.3438	3-7/16	4-3/4	200A122	6	011222	6	011222.20	144
23/64	.3594	3-1/2	4-7/8	200A123	6	011223	6	011223.20	144
3/8	.3750	3-5/8	5	200A124	6	011224	6	011224.20	144
25/64	.3906	3-3/4	5-1/8	200A125	6	011225	6	011225.20	144
13/32	.4062	3-7/8	5-1/4	200A126	6	011226	6	011226.20	144
27/64	.4219	3-15/16	5-3/8	200A127	6	011227	6	011227.20	144
7/16	.4375	4-1/16	5-1/2	200A128	6	011228	6	011228.20	144
29/64	.4531	4-3/16	5-5/8	200A129	6	011229	6	011229.20	144
15/32	.4688	4-5/16	5-3/4	200A130	6	011230	6	011230.20	144
31/64	.4844	4-3/8	5-7/8	200A131	6	011231	6	011231.20	144
1/2	.5000	4-1/2	6	200A132	6	011232	6	011232.20	144

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DRILCO | WALTER

GENERAL PURPOSE JOBBER LENGTH DRILLS

200A / 280A / 240A SERIES continued



Wire							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
80	.0135	1/8	3/4	280A080	12	—	—
79	.0145	1/8	3/4	280A079	12	—	—
78	.0160	3/16	7/8	280A078	12	—	—
77	.0180	3/16	7/8	280A077	12	—	—
76	.0200	3/16	7/8	280A076	12	—	—
75	.0210	1/4	1	280A075	12	—	—
74	.0225	1/4	1	280A074	12	—	—
73	.0240	5/16	1-1/8	280A073	12	—	—
72	.0250	5/16	1-1/8	280A072	12	—	—
71	.0260	3/8	1-1/4	280A071	12	—	—
70	.0280	3/8	1-1/4	280A070	12	—	—
69	.0292	1/2	1-3/8	280A069	12	—	—
68	.0310	1/2	1-3/8	280A068	12	—	—
67	.0320	1/2	1-3/8	280A067	12	—	—
66	.0330	1/2	1-3/8	280A066	12	—	—
65	.0350	5/8	1-1/2	280A065	12	—	—
64	.0360	5/8	1-1/2	280A064	12	—	—
63	.0370	5/8	1-1/2	280A063	12	—	—
62	.0380	5/8	1-1/2	280A062	12	—	—
61	.0390	11/16	1-5/8	280A061	12	—	—
60	.0400	11/16	1-5/8	280A060	12	012260	12
59	.0410	11/16	1-5/8	280A059	12	012259	12
58	.0420	11/16	1-5/8	280A058	12	012258	12
57	.0430	3/4	1-3/4	280A057	12	012257	12
56	.0465	3/4	1-3/4	280A056	12	012256	12
55	.0520	7/8	1-7/8	280A055	12	012255	12
54	.0550	7/8	1-7/8	280A054	12	012254	12
53	.0595	7/8	1-7/8	280A053	12	012253	12
52	.0635	7/8	1-7/8	280A052	12	012252	12
51	.0670	1	2	280A051	12	012251	12
50	.0700	1	2	280A050	12	012250	12
49	.0730	1	2	280A049	12	012249	12
48	.0760	1	2	280A048	12	012248	12
47	.0785	1	2	280A047	12	012247	12
46	.0810	1-1/8	2-1/8	280A046	12	012246	12
45	.0820	1-1/8	2-1/8	280A045	12	012245	12
44	.0860	1-1/8	2-1/8	280A044	12	012244	12
43	.0890	1-1/4	2-1/4	280A043	12	012243	12
42	.0935	1-1/4	2-1/4	280A042	12	012242	12
41	.0960	1-3/8	2-3/8	280A041	12	012241	12
40	.0980	1-3/8	2-3/8	280A040	12	012240	12
39	.0995	1-3/8	2-3/8	280A039	12	012239	12
38	.1015	1-7/16	2-1/2	280A038	12	012238	12
37	.1040	1-7/16	2-1/2	280A037	12	012237	12
36	.1065	1-7/16	2-1/2	280A036	12	012236	12
35	.1100	1-1/2	2-5/8	280A035	12	012235	12
34	.1110	1-1/2	2-5/8	280A034	12	012234	12
33	.1130	1-1/2	2-5/8	280A033	12	012233	12
32	.1160	1-5/8	2-3/4	280A032	12	012232	12
31	.1200	1-5/8	2-3/4	280A031	12	012231	12
30	.1285	1-5/8	2-3/4	280A030	12	012230	12
29	.1405	1-3/4	2-7/8	280A029	12	012229	12
28	.1405	1-3/4	2-7/8	280A028	12	012228	12

Wire							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number	Pack Qty.
27	.1440	1-7/8	3	280A027	12	012227	12
26	.1470	1-7/8	3	280A026	12	012226	12
25	.1495	1-7/8	3	280A025	12	012225	12
24	.1520	2	3-1/8	280A024	12	012224	12
23	.1540	2	3-1/8	280A023	12	012223	12
22	.1570	2	3-1/8	280A022	12	012222	12
21	.1590	2-1/8	3-1/4	280A021	12	012221	12
20	.1610	2-1/8	3-1/4	280A020	12	012220	12
19	.1660	2-1/8	3-1/4	280A019	12	012219	12
18	.1695	2-1/8	3-1/4	280A018	12	012218	12
17	.1730	2-3/16	3-3/8	280A017	12	012217	12
16	.1770	2-3/16	3-3/8	280A016	12	012216	12
15	.1800	2-3/16	3-3/8	280A015	12	012215	12
14	.1820	2-3/16	3-3/8	280A014	12	012214	12
13	.1850	2-5/16	3-1/2	280A013	12	012213	12
12	.1890	2-5/16	3-1/2	280A012	12	012212	12
11	.1910	2-5/16	3-1/2	280A011	12	012211	12
10	.1935	2-7/16	3-5/8	280A010	12	012210	12
9	.1960	2-7/16	3-5/8	280A009	12	012209	12
8	.1990	2-7/16	3-5/8	280A008	12	012208	12
7	.2010	2-7/16	3-5/8	280A007	12	012207	12
6	.2040	2-1/2	3-3/4	280A006	12	012206	12
5	.2055	2-1/2	3-3/4	280A005	12	012205	12
4	.2090	2-1/2	3-3/4	280A004	12	012204	12
3	.2130	2-1/2	3-3/4	280A003	12	012203	12
2	.2210	2-1/2	3-7/8	280A002	12	012202	12
1	.2280	2-5/8	3-7/8	280A001	12	012201	12
Letter							
A	.2340	2-5/8	3-7/8	240A501	12	013201	12
B	.2380	2-3/4	4	240A502	12	013202	12
C	.2420	2-3/4	4	240A503	12	013203	12
D	.2460	2-3/4	4	240A504	12	013204	12
E	.2500	2-3/4	4	240A505	12	013205	12
F	.2570	2-7/8	4-1/8	240A506	12	013206	12
G	.2610	2-7/8	4-1/8	240A507	12	013207	12
H	.2660	2-7/8	4-1/8	240A508	12	013208	12
I	.2720	2-7/8	4-1/8	240A509	12	013209	12
J	.2770	2-7/8	4-1/8	240A510	12	013210	12
K	.2810	2-15/16	4-1/4	240A511	12	013211	12
L	.2900	2-15/16	4-1/4	240A512	12	013212	12
M	.2950	3-1/16	4-3/8	240A513	6	013213	12
N	.3020	3-1/16	4-3/8	240A514	6	013214	12
O	.3160	3-3/16	4-1/2	240A515	6	013215	6
P	.3230	3-5/16	4-5/8	240A516	6	013216	6
Q	.3320	3-7/16	4-3/4	240A517	6	013217	6
R	.3390	3-7/16	4-3/4	240A518	6	013218	6
S	.3480	3-1/2	4-7/8	240A519	6	013219	6
T	.3580	3-1/2	4-7/8	240A520	6	013220	6
U	.3680	3-5/8	5	240A521	6	013221	6
V	.3770	3-5/8	5	240A522	6	013222	6
W	.3860	3-3/4	5-1/8	240A523	6	013223	6
X	.3970	3-3/4	5-1/8	240A524	6	013224	6
Y	.4040	3-7/8	5-1/4	240A525	6	013225	6
Z	.4130	3-7/8	5-1/4	240A526	6	013226	6

GENERAL PURPOSE JOBBER LENGTH DRILLS

200B / 280B / 240B / MM1 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Bright

Designed for general purpose drilling under a wide range of drilling conditions. It can drill various materials such as cast iron, steel, and steel forging. The surface treatment prevents chip welding, improves chip flow, and increases abrasion resistance.

- ▷ 118° Point designed for general use
- ▷ A general purpose jobber for a wide range of applications
- ▷ Bright finish recommended for aluminum and other non-ferrous materials
- ▷ Available in bulk packaging

Best Material Application



Drill Specifications



Fractional									
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.	Order Number Bulk	Bulk Qty.
1/64	.0156	3/16	3/4	200B101	12	011001	12	—	—
1/32	.0312	1/2	1-3/8	200B102	12	011002	12	—	—
3/64	.0469	3/4	1-3/4	200B103	12	011003	12	011003.20	288
1/16	.0625	7/8	1-7/8	200B104	12	011004	12	011004.20	288
5/64	.0781	1	2	200B105	12	011005	12	011005.20	288
3/32	.0938	1-1/4	2-1/4	200B106	12	011006	12	011006.20	288
7/64	.1094	1-1/2	2-5/8	200B107	12	011007	12	011007.20	288
1/8	.1250	1-5/8	2-3/4	200B108	12	011008	12	011008.20	288
9/64	.1406	1-3/4	2-7/8	200B109	12	011009	12	011009.20	288
5/32	.1562	2	3-1/8	200B110	12	011010	12	011010.20	288
11/64	.1719	2-1/8	3-1/4	200B111	12	011011	12	011011.20	288
3/16	.1875	2-5/16	3-1/2	200B112	12	011012	12	011012.20	288
13/64	.2031	2-7/16	3-5/8	200B113	12	011013	12	011013.20	288
7/32	.2188	2-1/2	3-3/4	200B114	12	011014	12	011014.20	288
15/64	.2344	2-5/8	3-7/8	200B115	12	011015	12	011015.20	288
1/4	.2500	2-3/4	4	200B116	12	011016	12	011016.20	288
17/64	.2656	2-7/8	4-1/8	200B117	12	011017	12	011017.20	144
9/32	.2812	2-15/16	4-1/4	200B118	12	011018	12	011018.20	144
19/64	.2969	3-1/16	4-3/8	200B119	12	011019	12	011019.20	144
5/16	.3125	3-3/16	4-1/2	200B120	6	011020	6	011020.20	144
21/64	.3281	3-5/16	4-5/8	200B121	6	011021	6	011021.20	144
11/32	.3438	3-7/16	4-3/4	200B122	6	011022	6	011022.20	144
23/64	.3594	3-1/2	4-7/8	200B123	6	011023	6	011023.20	144
3/8	.3750	3-5/8	5	200B124	6	011024	6	011024.20	144
25/64	.3906	3-3/4	5-1/8	200B125	6	011025	6	011025.20	144
13/32	.4062	3-7/8	5-1/4	200B126	6	011026	6	011026.20	144
27/64	.4219	3-15/16	5-3/8	200B127	6	011027	6	011027.20	144
7/16	.4375	4-1/16	5-1/2	200B128	6	011028	6	011028.20	144
29/64	.4531	4-3/16	5-5/8	200B129	6	011029	6	011029.20	144
15/32	.4688	4-5/16	5-3/4	200B130	6	011030	6	011030.20	144
31/64	.4844	4-3/8	5-7/8	200B131	6	011031	6	011031.20	144
1/2	.5000	4-1/2	6	200B132	6	011032	6	011032.20	144

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GENERAL PURPOSE
JOBBER LENGTH DRILLS

200B / 280B / 240B / MM1 SERIES continued



Wire							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
80	.0135	1/8	3/4	280B080	12	012080	12
79	.0145	1/8	3/4	280B079	12	012079	12
78	.0160	3/16	7/8	280B078	12	012078	12
77	.0180	3/16	7/8	280B077	12	012077	12
76	.0200	3/16	7/8	280B076	12	012076	12
75	.0210	1/4	1	280B075	12	012075	12
74	.0225	1/4	1	280B074	12	012074	12
73	.0240	5/16	1-1/8	280B073	12	012073	12
72	.0250	5/16	1-1/8	280B072	12	012072	12
71	.0260	3/8	1-1/4	280B071	12	012071	12
70	.0280	3/8	1-1/4	280B070	12	012070	12
69	.0292	1/2	1-3/8	280B069	12	012069	12
68	.0310	1/2	1-3/8	280B068	12	012068	12
67	.0320	1/2	1-3/8	280B067	12	012067	12
66	.0330	1/2	1-3/8	280B066	12	012066	12
65	.0350	5/8	1-1/2	280B065	12	012065	12
64	.0360	5/8	1-1/2	280B064	12	012064	12
63	.0370	5/8	1-1/2	280B063	12	012063	12
62	.0380	5/8	1-1/2	280B062	12	012062	12
61	.0390	11/16	1-5/8	280B061	12	012061	12
60	.0400	11/16	1-5/8	280B060	12	012060	12
59	.0410	11/16	1-5/8	280B059	12	012059	12
58	.0420	11/16	1-5/8	280B058	12	012058	12
57	.0430	3/4	1-3/4	280B057	12	012057	12
56	.0465	3/4	1-3/4	280B056	12	012056	12
55	.0520	7/8	1-7/8	280B055	12	012055	12
54	.0550	7/8	1-7/8	280B054	12	012054	12
53	.0595	7/8	1-7/8	280B053	12	012053	12
52	.0635	7/8	1-7/8	280B052	12	012052	12
51	.0670	1	2	280B051	12	012051	12
50	.0700	1	2	280B050	12	012050	12
49	.0730	1	2	280B049	12	012049	12
48	.0760	1	2	280B048	12	012048	12
47	.0785	1	2	280B047	12	012047	12
46	.0810	1-1/8	2-1/8	280B046	12	012046	12
45	.0820	1-1/8	2-1/8	280B045	12	012045	12
44	.0860	1-1/8	2-1/8	280B044	12	012044	12
43	.0890	1-1/4	2-1/4	280B043	12	012043	12
42	.0935	1-1/4	2-1/4	280B042	12	012042	12
41	.0960	1-3/8	2-3/8	280B041	12	012041	12
40	.0980	1-3/8	2-3/8	280B040	12	012040	12
39	.0995	1-3/8	2-3/8	280B039	12	012039	12
38	.1015	1-7/16	2-1/2	280B038	12	012038	12
37	.1040	1-7/16	2-1/2	280B037	12	012037	12
36	.1065	1-7/16	2-1/2	280B036	12	012036	12
35	.1100	1-1/2	2-5/8	280B035	12	012035	12
34	.1110	1-1/2	2-5/8	280B034	12	012034	12
33	.1130	1-1/2	2-5/8	280B033	12	012033	12
32	.1160	1-5/8	2-3/4	280B032	12	012032	12
31	.1200	1-5/8	2-3/4	280B031	12	012031	12
30	.1285	1-5/8	2-3/4	280B030	12	012030	12
29	.1405	1-3/4	2-7/8	280B029	12	012029	12
28	.1405	1-3/4	2-7/8	280B028	12	012028	12

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GENERAL PURPOSE JOBBER LENGTH DRILLS

200B / 280B / 240B / MM1 SERIES continued



Wire							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
27	.1440	1-7/8	3	280B027	12	012027	12
26	.1470	1-7/8	3	280B026	12	012026	12
25	.1495	1-7/8	3	280B025	12	012025	12
24	.1520	2	3-1/8	280B024	12	012024	12
23	.1540	2	3-1/8	280B023	12	012023	12
22	.1570	2	3-1/8	280B022	12	012022	12
21	.1590	2-1/8	3-1/4	280B021	12	012021	12
20	.1610	2-1/8	3-1/4	280B020	12	012020	12
19	.1660	2-1/8	3-1/4	280B019	12	012019	12
18	.1695	2-1/8	3-1/4	280B018	12	012018	12
17	.1730	2-3/16	3-3/8	280B017	12	012017	12
16	.1770	2-3/16	3-3/8	280B016	12	012016	12
15	.1800	2-3/16	3-3/8	280B015	12	012015	12
14	.1820	2-3/16	3-3/8	280B014	12	012014	12
13	.1850	2-5/16	3-1/2	280B013	12	012013	12
12	.1890	2-5/16	3-1/2	280B012	12	012012	12
11	.1910	2-5/16	3-1/2	280B011	12	012011	12
10	.1935	2-7/16	3-5/8	280B010	12	012010	12
9	.1960	2-7/16	3-5/8	280B009	12	012009	12
8	.1990	2-7/16	3-5/8	280B008	12	012008	12
7	.2010	2-7/16	3-5/8	280B007	12	012007	12
6	.2040	2-1/2	3-3/4	280B006	12	012006	12
5	.2055	2-1/2	3-3/4	280B005	12	012005	12
4	.2090	2-1/2	3-3/4	280B004	12	012004	12
3	.2130	2-1/2	3-3/4	280B003	12	012003	12
2	.2210	2-1/2	3-7/8	280B002	12	012002	12
1	.2280	2-5/8	3-7/8	280B001	12	012001	12
Letter							
A	.2340	2-5/8	3-7/8	240B501	12	013001	12
B	.2380	2-3/4	4	240B502	12	013002	12
C	.2420	2-3/4	4	240B503	12	013003	12
D	.2460	2-3/4	4	240B504	12	013004	12
E	.2500	2-3/4	4	240B505	12	013005	12
F	.2570	2-7/8	4-1/8	240B506	12	013006	12
G	.2610	2-7/8	4-1/8	240B507	12	013007	12
H	.2660	2-7/8	4-1/8	240B508	12	013008	12
I	.2720	2-7/8	4-1/8	240B509	12	013009	12
J	.2770	2-7/8	4-1/8	240B510	12	013010	12
K	.2810	2-15/16	4-1/4	240B511	12	013011	12
L	.2900	2-15/16	4-1/4	240B512	12	013012	12
M	.2950	3-1/16	4-3/8	240B513	6	013013	12
N	.3020	3-1/16	4-3/8	240B514	6	013014	12
O	.3160	3-3/16	4-1/2	240B515	6	013015	6
P	.3230	3-5/16	4-5/8	240B516	6	013016	6
Q	.3320	3-7/16	4-3/4	240B517	6	013017	6
R	.3390	3-7/16	4-3/4	240B518	6	013018	6
S	.3480	3-1/2	4-7/8	240B519	6	013019	6
T	.3580	3-1/2	4-7/8	240B520	6	013020	6
U	.3680	3-5/8	5	240B521	6	013021	6
V	.3770	3-5/8	5	240B522	6	013022	6
W	.3860	3-3/4	5-1/8	240B523	6	013023	6
X	.3970	3-3/4	5-1/8	240B524	6	013024	6
Y	.4040	3-7/8	5-1/4	240B525	6	013025	6
Z	.4130	3-7/8	5-1/4	240B526	6	013026	6

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GENERAL PURPOSE JOBBER LENGTH DRILLS

200B / 280B / 240B / MM1 SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number (Hanger)	Pack Qty.
1.00	.0394	17	41	013910	12
1.20	.0472	22	48	013912	12
1.50	.0591	22	48	013915	12
2.00	.0787	25	51	013920	12
2.50	.0984	35	60	013925	12
3.00	.1181	41	70	013930	12
3.30	.1299	44	73	013933	12
3.50	.1378	44	73	013935	12
4.00	.1575	54	83	013940	12
4.20	.1654	54	83	013942	12
4.50	.1772	56	86	013945	12
5.00	.1969	62	92	013950	12
5.10	.2008	62	92	013951	12
5.30	.2087	64	95	013953	12
5.50	.2165	64	95	013955	12
6.00	.2362	70	102	013960	12

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number (Hanger)	Pack Qty.
6.50	.2559	73	105	013965	12
6.90	.2717	73	105	013969	6
7.00	.2756	73	105	013970	6
7.20	.2835	75	108	013972	6
7.50	.2953	78	111	013975	6
8.00	.3150	81	114	013980	6
8.30	.3268	84	117	013983	6
8.50	.3346	87	121	013985	6
9.00	.3543	89	124	013990	6
10.00	.3937	95	130	013800	6
10.50	.4134	98	133	013805	6
11.00	.4331	103	140	013810	6
11.50	.4528	106	143	013811	6
12.00	.4724	111	149	013812	6
12.50	.4921	114	152	013813	6
13.00	.5118	114	152	013814	1

3/8" Reduced Shank



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number (Hanger)	Hanger Qty.
27/64	.4219	3-15/16	5-3/8	091827	6
7/16	.4375	4-1/16	5-1/2	091828	6
29/64	.4531	4-3/16	5-5/8	091829	6
15/32	.4688	4-5/16	5-3/4	091830	6
31/64	.4844	4-3/8	5-7/8	091831	6
1/2	.5000	4-1/2	6	091832	6

Corresponding Sets			
Number of Pieces	Style	Description	Order Number
15	T815	1/16-1/2 x 1/32	090815
29	T829	1/16-1/2 x 1/64	090829

Metal cases

GENERAL PURPOSE JOBBER LENGTH DRILLS

200A, 280A, 240A, 200B, 280B, 240B, MM1 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Bright



200AW29



200B29

Number of Pieces	Description	Corresponding Sets	
		Black Oxide	Bright
13	1/16 - 1/4 x 1/64	200A13	200B13
15	1/16 - 1/2 x 1/32	200A15	200B15
20	#61 - #80	200A20	200B20
21	1/16 - 3/8 x 1/64	200A21	200B21
26	A - Z	200A26	200B26
29	1/16 - 1/2 x 1/64	200A29	200B29
29	Bit Barrel 1/16 - 1/2 x 1/64	200AW29	-
60	#1 - #60	200A60	200B60
115	1/16 - 1/2 x 1/64, #1 - 60, A - Z	200A0115	200B0115

Metal cases unless noted otherwise.

Number of Pieces	Style	Point Angle	Material	Surface Treatment	Corresponding Sets	
					Description	Order Number
13	SAD13	118°	High Speed Steel	Bright	1/16-1/4 x 1/64	Select-A-Drill 090490
21	SAD21	118°	High Speed Steel	Bright	1/16-3/8 x 1/64	Select-A-Drill 090491
14	*T14P	118°	High Speed Steel	Bright	1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4*, 5/16, 3/8, 7/16, 1/2	Metal Index 090614
29	T17	118°	High Speed Steel	Bright	1/16-1/2 x 1/64	Metal Index 090517
15	T18	118°	High Speed Steel	Bright	1/16-1/2 x 1/32	Metal Index 090518
13	T19	118°	High Speed Steel	Bright	1/16-1/4 x 1/64	Metal Index 090519
21	T180	118°	High Speed Steel	Bright	1/16-3/8 x 1/64	Metal Index 090580
115	T123	118°	High Speed Steel	Bright	1/16-1/2 x 1/64, #1-#60, A-Z	Metal Index 090560
29	T829B*	118°	High Speed Steel	Bright	1/16-1/2 x 1/64	Metal Index 099833

Metal cases. Sizes over 1/4 are 1/4 reduced shank

GENERAL PURPOSE JOBBER LENGTH DRILLS

200LH SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Left Hand / Bright

Used in close center multiple spindle gear driven drilling heads, where adjacent spindles operate alternately left and right hand. They are also used in left hand screw machines. Can be used to drill out broken bolts.

- ▷ Left-handed flutes and cutting edges allow for counter-clockwise drilling
- ▷ Easy removal of broken bolts
- ▷ Bright finish for increased lubricity when drilling softer materials

Best Material Application



NON-FERROUS



STEEL



CAST IRON

Drill Specifications



118° POINT



ROUND SHANK



Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
1/16	.0625	7/8	1-7/8	200LH104	12	011104	12
5/64	.0781	1	2	200LH105	12	011105	12
3/32	.0938	1-1/4	2-1/4	200LH106	12	011106	12
7/64	.1094	1-1/2	2-5/8	200LH107	12	011107	12
1/8	.1250	1-5/8	2-3/4	200LH108	12	011108	12
9/64	.1406	1-3/4	2-7/8	200LH109	12	011109	12
5/32	.1562	2	3-1/8	200LH110	12	011110	12
11/64	.1719	2-1/8	3-1/4	200LH111	12	011111	12
3/16	.1875	2-5/16	3-1/2	200LH112	12	011112	12
13/64	.2031	2-7/16	3-5/8	200LH113	12	011113	12
7/32	.2188	2-1/2	3-3/4	200LH114	12	011114	12
15/64	.2344	2-5/8	3-7/8	200LH115	12	011115	12
1/4	.2500	2-3/4	4	200LH116	12	011116	12
17/64	.2656	2-7/8	4-1/8	200LH117	12	011117	12
9/32	.2812	2-15/16	4-1/4	200LH118	12	011118	12
19/64	.2969	3-1/16	4-3/8	200LH119	12	011119	12
5/16	.3125	3-3/16	4-1/2	200LH120	6	011120	6
21/64	.3281	3-5/16	4-5/8	200LH121	6	011121	6
11/32	.3438	3-7/16	4-3/4	200LH122	6	011122	6
23/64	.3594	3-1/2	4-7/8	200LH123	6	011123	6
3/8	.3750	3-5/8	5	200LH124	6	011124	6
25/64	.3906	3-3/4	5-1/8	200LH125	6	011125	6
13/32	.4062	3-7/8	5-1/4	200LH126	6	011126	6
27/64	.4219	3-15/16	5-3/8	200LH127	6	011127	6
7/16	.4375	4-1/16	5-1/2	200LH128	6	011128	6
29/64	.4531	4-3/16	5-5/8	200LH129	6	011129	6
15/32	.4688	4-5/16	5-3/4	200LH130	6	011130	6
31/64	.4844	4-3/8	5-7/8	200LH131	6	011131	6
1/2	.5000	4-1/2	6	200LH132	6	011132	6



200LH29

Corresponding Sets			
Number of Pieces	Style	Description	Order Number
13		1/16 - 1/4 x 1/64	200LH13
15		1/16 - 1/2 x 1/32	200LH15
21		1/16 - 3/8 x 1/64	200LH21
21		1/16 - 1/4 x 1/64 & 9/32 - 1/2 x 1/32	200LH21V
29		1/16 - 1/2 x 1/64	200LH29
29	T17L	1/16-1/2 x 1/64	011199

Metal cases

GENERAL PURPOSE JOBBER LENGTH DRILLS

600A SERIES

CARBIDE TIPPED

118° Point / Round Shank / Bright

DRILCO 600A Carbide Tipped jobbers length drills are made of solid carbide that drills up to 2x faster than HSS. Designed with a 118° conventional point for rapid penetration, and a bright finish for added lubricity. Primarily for drilling cast iron, cast steel, bronze, hard copper, aluminum, and hard non-ferrous materials which have a high degree of abrasiveness and which requires a sturdy drill for strength.



Best Material Application



NON-FERROUS



STAINLESS



STEEL



CAST IRON

Drill Specifications



118° POINT



ROUND SHANK

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	1-5/8	2-3/4	600A108	1
9/64	.1406	1-3/4	2-7/8	600A109	1
5/32	.1562	2	3-1/8	600A110	1
11/64	.1719	2-1/8	3-1/4	600A111	1
3/16	.1875	2-5/16	3-1/2	600A112	1
13/64	.2031	2-7/16	3-5/8	600A113	1
7/32	.2188	2-1/2	3-3/4	600A114	1
15/64	.2344	2-5/8	3-7/8	600A115	1
1/4	.2500	2-3/4	4	600A116	1
17/64	.2656	2-7/8	4-1/8	600A117	1
9/32	.2812	2-15/16	4-1/4	600A118	1
19/64	.2969	3-1/16	4-3/8	600A119	1
5/16	.3125	3-3/16	4-1/2	600A120	1
21/64	.3281	3-5/16	4-5/8	600A121	1
11/32	.3438	3-7/16	4-3/4	600A122	1
23/64	.3594	3-1/2	4-7/8	600A123	1
3/8	.3750	3-5/8	5	600A124	1
25/64	.3906	3-3/4	5-1/8	600A125	1
13/32	.4062	3-7/8	5-1/4	600A126	1
27/64	.4219	3-15/16	5-3/8	600A127	1
7/16	.4375	4-1/16	5-1/2	600A128	1
29/64	.4531	4-3/16	5-5/8	600A129	1
15/32	.4688	4-5/16	5-3/4	600A130	1
31/64	.4844	4-3/8	5-7/8	600A131	1
1/2	.5000	4-1/2	6	600A132	1
33/64	.5160	4-13/16	6-5/8	600A133	1
17/32	.5310	4-13/16	6-5/8	600A134	1
35/64	.5470	4-13/16	6-5/8	600A135	1
9/16	.5630	4-13/16	6-5/8	600A136	1
37/64	.5780	4-13/16	6-5/8	600A137	1
19/32	.5940	5-3/16	7-1/8	600A138	1
39/64	.6090	5-3/16	7-1/8	600A139	1
5/8	.6250	5-3/16	7-1/8	600A140	1
41/64	.6410	5-3/16	7-1/8	600A141	1
21/32	.6560	5-3/16	7-1/8	600A142	1
43/64	.6720	5-5/8	7-5/8	600A143	1
11/16	.6880	5-5/8	7-5/8	600A144	1

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
32	.1160	1-5/8	2-3/4	680A032	1
31	.1200	1-5/8	2-3/4	680A031	1
30	.1285	1-5/8	2-3/4	680A030	1
29	.1405	1-3/4	2-7/8	680A029	1
28	.1405	1-3/4	2-7/8	680A028	1
27	.1440	1-7/8	3	680A027	1
26	.1470	1-7/8	3	680A026	1
25	.1495	1-7/8	3	680A025	1
24	.1520	2	3-1/8	680A024	1
23	.1540	2	3-1/8	680A023	1
22	.1570	2	3-1/8	680A022	1
21	.1590	2-1/8	3-1/4	680A021	1
20	.1610	2-1/8	3-1/4	680A020	1
19	.1660	2-1/8	3-1/4	680A019	1
18	.1695	2-1/8	3-1/4	680A018	1
17	.1730	2-3/16	3-3/8	680A017	1
16	.1770	2-3/16	3-3/8	680A016	1
15	.1800	2-3/16	3-3/8	680A015	1
14	.1820	2-3/16	3-3/8	680A014	1
13	.1850	2-5/16	3-1/2	680A013	1
12	.1890	2-5/16	3-1/2	680A012	1
11	.1910	2-5/16	3-1/2	680A011	1
10	.1935	2-7/16	3-5/8	680A010	1
9	.1960	2-7/16	3-5/8	680A009	1
8	.1990	2-7/16	3-5/8	680A008	1
7	.2010	2-7/16	3-5/8	680A007	1
6	.2040	2-1/2	3-3/4	680A006	1
5	.2055	2-1/2	3-3/4	680A005	1
4	.2090	2-1/2	3-3/4	680A004	1
3	.2130	2-1/2	3-3/4	680A003	1
2	.2210	2-5/8	3-7/8	680A002	1
1	.2280	2-5/8	3-7/8	680A001	1



HEAVY DUTY JOBBER LENGTH DRILLS

150ASP SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Black Oxide

The 150ASP Series is a heavy duty HSS jobber drill. Engineered to NAS 907 specs with self-centering split points and premium finishes like TiAlN and TiCN, ensuring durability, precision, and performance in tough materials like stainless steel and titanium.

Best Material Application



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/64*	.0156	3/16	3/4	44601	12
1/32*	.0312	1/2	1-3/8	44602	12
3/64*	.0469	3/4	1-3/4	44603	12
1/16	.0625	7/8	1-7/8	45604	12
5/64	.0781	1	2	45605	12
3/32	.0938	1-1/4	2-1/4	45606	12
7/64	.1094	1-1/2	2-5/8	45607	12
1/8	.1250	1-5/8	2-3/4	45608	12
9/64	.1406	1-3/4	2-7/8	45609	12
5/32	.1562	2	3-1/8	45610	12
11/64	.1719	2-1/8	3-1/4	45611	12
3/16	.1875	2-5/16	3-1/2	45612	12
13/64	.2031	2-7/16	3-5/8	45613	12
7/32	.2188	2-1/2	3-3/4	45614	12
15/64	.2344	2-5/8	3-7/8	45615	12
1/4	.2500	2-3/4	4	45616	12
17/64	.2656	2-7/8	4-1/8	45617	12
9/32	.2812	2-15/16	4-1/4	45618	12
19/64	.2969	3-1/16	4-3/8	45619	6
5/16	.3125	3-3/16	4-1/2	45620	6
21/64	.3281	3-5/16	4-5/8	45621	6
11/32	.3438	3-7/16	4-3/4	45622	6
23/64	.3594	3-1/2	4-7/8	45623	6
3/8	.3750	3-5/8	5	45624	6
25/64	.3906	3-3/4	5-1/8	45625	6
13/32	.4062	3-7/8	5-1/4	45626	6
27/64	.4219	3-15/16	5-3/8	45627	6
7/16	.4375	4-1/16	5-1/2	45628	6
29/64	.4531	4-3/16	5-5/8	45629	6
15/32	.4688	4-5/16	5-3/4	45630	6
31/64	.4844	4-3/8	5-7/8	45631	6
1/2	.5000	4-1/2	6	45632	6

*Not split point

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
80*	.0135	1/8	3/4	44750	12
79*	.0145	1/8	3/4	44749	12
78*	.0160	3/16	7/8	44748	12
77*	.0180	3/16	7/8	44747	12
76*	.0200	3/16	7/8	44746	12
75*	.0210	1/4	1	44745	12
74*	.0225	1/4	1	44744	12
73*	.0240	5/16	1-1/8	44743	12
72*	.0250	5/16	1-1/8	44742	12
71*	.0260	3/8	1-1/4	44741	12
70*	.0280	3/8	1-1/4	44740	12
69*	.0292	1/2	1-3/8	44739	12
68*	.0310	1/2	1-3/8	44738	12
67*	.0320	1/2	1-3/8	44737	12
66*	.0330	1/2	1-3/8	44736	12
65*	.0350	5/8	1-1/2	44735	12
64*	.0360	5/8	1-1/2	44734	12
63*	.0370	5/8	1-1/2	44733	12
62*	.0380	5/8	1-1/2	44732	12
61*	.0390	11/16	1-5/8	44731	12
60*	.0400	11/16	1-5/8	44730	12
59*	.0410	11/16	1-5/8	44729	12
58*	.0420	11/16	1-5/8	44728	12
57*	.0430	3/4	1-3/4	44727	12
56*	.0465	3/4	1-3/4	44726	12
55*	.0520	7/8	1-7/8	44725	12
54*	.0550	7/8	1-7/8	44724	12
53*	.0595	7/8	1-7/8	44723	12
52	.0635	7/8	1-7/8	45722	12
51	.0670	1	2	45721	12
50	.0700	1	2	45720	12
49	.0730	1	2	45719	12

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HEAVY DUTY
JOBBER LENGTH DRILLS

150ASP SERIES continued

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
48	.0760	1	2	45718	12
47	.0785	1	2	45717	12
46	.0810	1-1/8	2-1/8	45716	12
45	.0820	1-1/8	2-1/8	45715	12
44	.0860	1-1/8	2-1/8	45714	12
43	.0890	1-1/4	2-1/4	45713	12
42	.0935	1-1/4	2-1/4	45712	12
41	.0960	1-3/8	2-3/8	45711	12
40	.0980	1-3/8	2-3/8	45710	12
39	.0995	1-3/8	2-3/8	45709	12
38	.1015	1-7/16	2-1/2	45708	12
37	.1040	1-7/16	2-1/2	45707	12
36	.1065	1-7/16	2-1/2	45706	12
35	.1100	1-1/2	2-5/8	45705	12
34	.1110	1-1/2	2-5/8	45704	12
33	.1130	1-1/2	2-5/8	45703	12
32	.1160	1-5/8	2-3/4	45702	12
31	.1200	1-5/8	2-3/4	45701	12
30	.1285	1-5/8	2-3/4	45700	12
29	.1360	1-3/4	2-7/8	45699	12
28	.1405	1-3/4	2-7/8	45698	12
27	.1440	1-7/8	3	45697	12
26	.1470	1-7/8	3	45696	12
25	.1495	1-7/8	3	45695	12
24	.1520	2	3-1/8	45694	12
23	.1540	2	3-1/8	45693	12
22	.1570	2	3-1/8	45692	12
21	.1590	2-1/8	3-1/4	45691	12
20	.1610	2-1/8	3-1/4	45690	12
19	.1660	2-1/8	3-1/4	45689	12
18	.1695	2-1/8	3-1/4	45688	12
17	.1730	2-3/16	3-3/8	45687	12
16	.1770	2-3/16	3-3/8	45686	12
15	.1800	2-3/16	3-3/8	45685	12
14	.1820	2-3/16	3-3/8	45684	12
13	.1850	2-5/16	3-1/2	45683	12
12	.1890	2-5/16	3-1/2	45682	12
11	.1910	2-5/16	3-1/2	45681	12
10	.1935	2-7/16	3-5/8	45680	12
9	.1960	2-7/16	3-5/8	45679	12
8	.1990	2-7/16	3-5/8	45678	12
7	.2010	2-7/16	3-5/8	45677	12
6	.2040	2-1/2	3-3/4	45676	12
5	.2055	2-1/2	3-3/4	45675	12
4	.2090	2-1/2	3-3/4	45674	12
3	.2130	2-1/2	3-3/4	45673	12
2	.2210	2-5/8	3-7/8	45672	12
1	.2280	2-5/8	3-7/8	45671	12
Letter					
A	.2340	2-5/8	3-7/8	45771	12
B	.2380	2-3/4	4	45772	12
C	.2420	2-3/4	4	45773	12
D	.2460	2-3/4	4	45774	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
E	.2500	2-3/4	4	45616	12
F	.2570	2-7/8	4-1/8	45776	12
G	.2610	2-7/8	4-1/8	45777	12
H	.2660	2-7/8	4-1/8	45778	12
I	.2720	2-7/8	4-1/8	45779	12
J	.2770	2-7/8	4-1/8	45780	12
K	.2810	2-15/16	4-1/4	45781	12
L	.2900	2-15/16	4-1/4	45782	12
M	.2950	3-1/16	4-3/8	45783	6
N	.3020	3-1/16	4-3/8	45784	6
O	.3160	3-3/16	4-1/2	45785	6
P	.3230	3-5/16	4-5/8	45786	6
Q	.3320	3-7/16	4-3/4	45787	6
R	.3390	3-7/16	4-3/4	45788	6
S	.3480	3-1/2	4-7/8	45789	6
T	.3580	3-1/2	4-7/8	45790	6
U	.3680	3-5/8	5	45791	6
V	.3770	3-5/8	5	45792	6
W	.3860	3-3/4	5-1/8	45793	6
X	.3970	3-3/4	5-1/8	45794	6
Y	.4040	3-7/8	5-1/4	45795	6
Z	.4130	3-7/8	5-1/4	45796	6

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
1.00*	.0394	12.00	34.00	45800	12
1.10*	.0433	14.00	36.00	45801	12
1.20*	.0472	16.00	38.00	45802	12
1.40*	.0551	18.00	40.00	45804	12
1.50*	.0591	18.00	40.00	45805	12
1.60	.0630	20.00	43.00	45806	12
1.70	.0669	20.00	43.00	45807	12
1.90	.0748	22.00	46.00	45810	12
2.00	.0787	24.00	49.00	45811	12
2.10	.0827	24.00	49.00	45812	12
2.20	.0866	27.00	53.00	45813	12
2.40	.0945	30.00	57.00	45816	12
2.50	.0984	30.00	57.00	45817	12
2.60	.1024	30.00	57.00	45818	12
2.70	.1062	33.00	61.00	45819	12
2.80	.1102	33.00	61.00	45820	12
2.90	.1142	33.00	61.00	45821	12
3.00	.1181	33.00	61.00	45822	12
3.10	.1220	36.00	65.00	45823	12
3.20	.1260	36.00	65.00	45824	12
3.25	.1279	36.00	65.00	45825	12
3.30	.1299	36.00	65.00	45826	12
3.50	.1378	39.00	70.00	45828	12
3.60	.1417	39.00	70.00	45829	12
3.70	.1457	39.00	70.00	45830	12
3.80	.1496	43.00	75.00	45831	12
3.90	.1535	43.00	75.00	45832	12
4.00	.1575	43.00	75.00	45833	12

*Not split point

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HEAVY DUTY JOBBER LENGTH DRILLS

150ASP SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
4.10	.1614	43.00	75.00	45834	12
4.20	.1654	43.00	75.00	45835	12
4.30	.1692	47.00	80.00	45836	12
4.50	.1772	47.00	80.00	45838	12
4.60	.1811	47.00	80.00	45839	12
4.80	.1890	52.00	86.00	45841	12
4.90	.1929	52.00	86.00	45842	12
5.00	.1969	52.00	86.00	45843	12
5.10	.2008	52.00	86.00	45845	12
5.20	.2047	52.00	86.00	45846	12
5.40	.2125	57.00	93.00	45849	12
5.50	.2165	57.00	93.00	45850	12
5.60	.2205	57.00	93.00	45851	12
5.70	.2244	57.00	93.00	45852	12
6.00	.2362	57.00	93.00	45855	12
6.10	.2401	63.00	101.00	45856	12
6.20	.2440	63.00	101.00	45857	12
6.40	.2520	63.00	101.00	45859	12

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
6.50	.2559	63.00	101.00	45860	12
6.60	.2598	63.00	101.00	45861	12
6.70	.2638	63.00	101.00	45862	12
6.80	.2677	69.00	109.00	45863	12
6.90	.2717	69.00	109.00	45864	12
7.00	.2756	69.00	109.00	45865	12
7.50	.2953	69.00	109.00	45870	6
8.00	.3150	75.00	117.00	45875	6
8.50	.3346	75.00	117.00	45880	6
9.00	.3543	81.00	125.00	45885	6
9.50	.3740	81.00	125.00	45890	6
10.00	.3937	87.00	133.00	45895	6
10.20	.4016	87.00	133.00	45896	6
10.50	.4134	87.00	133.00	45897	6
11.00	.4331	94.00	142.00	45899	6
11.50	.4527	94.00	142.00	45900	6
12.00	.4724	101.00	151.00	45902	6
12.50	.4921	101.00	151.00	45904	6
13.00	.5118	101.00	151.00	45905	1

150ASP-TN SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / TiN



Best Material Application



STAINLESS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/32*	.0312	1/2	1-3/8	41602	12
3/64*	.0469	3/4	1-3/4	41603	12
1/16	.0625	7/8	1-7/8	41604	12
5/64	.0781	1	2	41605	12
3/32	.0938	1-1/4	2-1/4	41606	12
7/64	.1094	1-1/2	2-5/8	41607	12
1/8	.1250	1-5/8	2-3/4	41608	12
9/64	.1406	1-3/4	2-7/8	41609	12
5/32	.1562	2	3-1/8	41610	12
11/64	.1719	2-1/8	3-1/4	41611	12
3/16	.1875	2-5/16	3-1/2	41612	12
13/64	.2031	2-7/16	3-5/8	41613	12
7/32	.2188	2-1/2	3-3/4	41614	12
15/64	.2344	2-5/8	3-7/8	41615	12
1/4	.2500	2-3/4	4	41616	12
17/64	.2656	2-7/8	4-1/8	41617	12
9/32	.2812	2-15/16	4-1/4	41618	12
19/64	.2969	3-1/16	4-3/8	41619	6
5/16	.3125	3-3/16	4-1/2	41620	6

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
21/64	.3281	3-5/16	4-5/8	41621	6
11/32	.3438	3-7/16	4-3/4	41622	6
23/64	.3594	3-1/2	4-7/8	41623	6
3/8	.3750	3-5/8	5	41624	6
25/64	.3906	3-3/4	5-1/8	41625	6
13/32	.4062	3-7/8	5-1/4	41626	6
27/64	.4219	3-15/16	5-3/8	41627	6
7/16	.4375	4-1/16	5-1/2	41628	6
29/64	.4531	4-3/16	5-5/8	41629	6
15/32	.4688	4-5/16	5-3/4	41630	6
31/64	.4844	4-3/8	5-7/8	41631	6
1/2	.5000	4-1/2	6	41632	6
Wire					
80*	.0135	1/8	3/4	41750	12
79*	.0145	1/8	3/4	41749	12
78*	.0160	3/16	7/8	41748	12
77*	.0180	3/16	7/8	41747	12
76*	.0200	3/16	7/8	41746	12
75*	.0210	1/4	1	41745	12
74*	.0225	1/4	1	41744	12

*Not split point

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HEAVY DUTY JOBBER LENGTH DRILLS

150ASP-TN SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
73*	.0240	5/16	1-1/8	41743	12
72*	.0250	5/16	1-1/8	41742	12
71*	.0260	3/8	1-1/4	41741	12
70*	.0280	3/8	1-1/4	41740	12
69*	.0292	1/2	1-3/8	41739	12
68*	.0310	1/2	1-3/8	41738	12
67*	.0320	1/2	1-3/8	41737	12
66*	.0330	1/2	1-3/8	41736	12
65*	.0350	5/8	1-1/2	41735	12
64*	.0360	5/8	1-1/2	41734	12
63*	.0370	5/8	1-1/2	41733	12
62*	.0380	5/8	1-1/2	41732	12
61*	.0390	11/16	1-5/8	41731	12
60*	.0400	11/16	1-5/8	41730	12
59*	.0410	11/16	1-5/8	41729	12
58*	.0420	11/16	1-5/8	41728	12
57*	.0430	3/4	1-3/4	41727	12
56*	.0465	3/4	1-3/4	41726	12
55*	.0520	7/8	1-7/8	41725	12
54*	.0550	7/8	1-7/8	41724	12
53*	.0595	7/8	1-7/8	41723	12
52	.0635	7/8	1-7/8	41722	12
51	.0670	1	2	41721	12
50	.0700	1	2	41720	12
49	.0730	1	2	41719	12
48	.0760	1	2	41718	12
47	.0785	1	2	41717	12
46	.0810	1-1/8	2-1/8	41716	12
45	.0820	1-1/8	2-1/8	41715	12
44	.0860	1-1/8	2-1/8	41714	12
43	.0890	1-1/4	2-1/4	41713	12
42	.0935	1-1/4	2-1/4	41712	12
41	.0960	1-3/8	2-3/8	41711	12
40	.0980	1-3/8	2-3/8	41710	12
39	.0995	1-3/8	2-3/8	41709	12
38	.1015	1-7/16	2-1/2	41708	12
37	.1040	1-7/16	2-1/2	41707	12
36	.1065	1-7/16	2-1/2	41706	12
35	.1100	1-1/2	2-5/8	41705	12
34	.1110	1-1/2	2-5/8	41704	12
33	.1130	1-1/2	2-5/8	41703	12
32	.1160	1-5/8	2-3/4	41702	12
31	.1200	1-5/8	2-3/4	41701	12
30	.1285	1-5/8	2-3/4	41700	12
29	.1360	1-3/4	2-7/8	41699	12
28	.1405	1-3/4	2-7/8	41698	12
27	.1440	1-7/8	3	41697	12
26	.1470	1-7/8	3	41696	12
25	.1495	1-7/8	3	41695	12
24	.1520	2	3-1/8	41694	12
23	.1540	2	3-1/8	41693	12
22	.1570	2	3-1/8	41692	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
21	.1590	2-1/8	3-1/4	41691	12
20	.1610	2-1/8	3-1/4	41690	12
19	.1660	2-1/8	3-1/4	41689	12
18	.1695	2-1/8	3-1/4	41688	12
17	.1730	2-3/16	3-3/8	41687	12
16	.1770	2-3/16	3-3/8	41686	12
15	.1800	2-3/16	3-3/8	41685	12
14	.1820	2-3/16	3-3/8	41684	12
13	.1850	2-5/16	3-1/2	41683	12
12	.1890	2-5/16	3-1/2	41682	12
11	.1910	2-5/16	3-1/2	41681	12
10	.1935	2-7/16	3-5/8	41680	12
9	.1960	2-7/16	3-5/8	41679	12
8	.1990	2-7/16	3-5/8	41678	12
7	.2010	2-7/16	3-5/8	41677	12
6	.2040	2-1/2	3-3/4	41676	12
5	.2055	2-1/2	3-3/4	41675	12
4	.2090	2-1/2	3-3/4	41674	12
3	.2130	2-1/2	3-3/4	41673	12
2	.2210	2-5/8	3-7/8	41672	12
1	.2280	2-5/8	3-7/8	41671	12
Letter					
A	.2340	2-5/8	3-7/8	41771	12
B	.2380	2-3/4	4	41772	12
C	.2420	2-3/4	4	41773	12
D	.2460	2-3/4	4	41774	12
E	.2500	2-3/4	4	41616	12
F	.2570	2-7/8	4-1/8	41776	12
G	.2610	2-7/8	4-1/8	41777	12
H	.2660	2-7/8	4-1/8	41778	12
I	.2720	2-7/8	4-1/8	41779	12
J	.2770	2-7/8	4-1/8	41780	12
K	.2810	2-15/16	4-1/4	41781	12
L	.2900	2-15/16	4-1/4	41782	12
M	.2950	3-1/16	4-3/8	41783	6
N	.3020	3-1/16	4-3/8	41784	6
O	.3160	3-3/16	4-1/2	41785	6
P	.3230	3-5/16	4-5/8	41786	6
Q	.3320	3-7/16	4-3/4	41787	6
R	.3390	3-7/16	4-3/4	41788	6
S	.3480	3-1/2	4-7/8	41789	6
T	.3580	3-1/2	4-7/8	41790	6
U	.3680	3-5/8	5	41791	6
V	.3770	3-5/8	5	41792	6
W	.3860	3-3/4	5-1/8	41793	6
X	.3970	3-3/4	5-1/8	41794	6
Y	.4040	3-7/8	5-1/4	41795	6
Z	.4130	3-7/8	5-1/4	41796	6

*Not split point

HEAVY DUTY JOBBER LENGTH DRILLS

150ASP-TC SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / TiCN



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/32*	.0312	1/2	1-3/8	43602	12
3/64*	.0469	3/4	1-3/4	43603	12
1/16	.0625	7/8	1-7/8	43604	12
5/64	.0781	1	2	43605	12
3/32	.0938	1-1/4	2-1/4	43606	12
7/64	.1094	1-1/2	2-5/8	43607	12
1/8	.1250	1-5/8	2-3/4	43608	12
9/64	.1406	1-3/4	2-7/8	43609	12
5/32	.1562	2	3-1/8	43610	12
11/64	.1719	2-1/8	3-1/4	43611	12
3/16	.1875	2-5/16	3-1/2	43612	12
13/64	.2031	2-7/16	3-5/8	43613	12
7/32	.2188	2-1/2	3-3/4	43614	12
15/64	.2344	2-5/8	3-7/8	43615	12
1/4	.2500	2-3/4	4	43616	12
17/64	.2656	2-7/8	4-1/8	43617	12
9/32	.2812	2-15/16	4-1/4	43618	12
19/64	.2969	3-1/16	4-3/8	43619	6
5/16	.3125	3-3/16	4-1/2	43620	6
21/64	.3281	3-5/16	4-5/8	43621	6
11/32	.3438	3-7/16	4-3/4	43622	6
23/64	.3594	3-1/2	4-7/8	43623	6
3/8	.3750	3-5/8	5	43624	6
25/64	.3906	3-3/4	5-1/8	43625	6
13/32	.4062	3-7/8	5-1/4	43626	6
27/64	.4219	3-15/16	5-3/8	43627	6
7/16	.4375	4-1/16	5-1/2	43628	6
29/64	.4531	4-3/16	5-5/8	43629	6
15/32	.4688	4-5/16	5-3/4	43630	6
31/64	.4844	4-3/8	5-7/8	43631	6
1/2	.5000	4-1/2	6	43632	6
Wire					
52	.0635	7/8	1-7/8	43722	12
51	.0670	1	2	43721	12
50	.0700	1	2	43720	12
49	.0730	1	2	43719	12
48	.0760	1	2	43718	12
47	.0785	1	2	43717	12
46	.0810	1-1/8	2-1/8	43716	12
45	.0820	1-1/8	2-1/8	43715	12
44	.0860	1-1/8	2-1/8	43714	12
43	.0890	1-1/4	2-1/4	43713	12
42	.0935	1-1/4	2-1/4	43712	12
41	.0960	1-3/8	2-3/8	43711	12
40	.0980	1-3/8	2-3/8	43710	12
39	.0995	1-3/8	2-3/8	43709	12
38	.1015	1-7/16	2-1/2	43708	12
37	.1040	1-7/16	2-1/2	43707	12
36	.1065	1-7/16	2-1/2	43706	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
35	.1100	1-1/2	2-5/8	43705	12
34	.1110	1-1/2	2-5/8	43704	12
33	.1130	1-1/2	2-5/8	43703	12
32	.1160	1-5/8	2-3/4	43702	12
31	.1200	1-5/8	2-3/4	43701	12
30	.1285	1-5/8	2-3/4	43700	12
29	.1360	1-3/4	2-7/8	43699	12
28	.1405	1-3/4	2-7/8	43698	12
27	.1440	1-7/8	3	43697	12
26	.1470	1-7/8	3	43696	12
25	.1495	1-7/8	3	43695	12
24	.1520	2	3-1/8	43694	12
23	.1540	2	3-1/8	43693	12
22	.1570	2	3-1/8	43692	12
21	.1590	2-1/8	3-1/4	43691	12
20	.1610	2-1/8	3-1/4	43690	12
19	.1660	2-1/8	3-1/4	43689	12
18	.1695	2-1/8	3-1/4	43688	12
17	.1730	2-3/16	3-3/8	43687	12
16	.1770	2-3/16	3-3/8	43686	12
15	.1800	2-3/16	3-3/8	43685	12
14	.1820	2-3/16	3-3/8	43684	12
13	.1850	2-5/16	3-1/2	43683	12
12	.1890	2-5/16	3-1/2	43682	12
11	.1910	2-5/16	3-1/2	43681	12
10	.1935	2-7/16	3-5/8	43680	12
9	.1960	2-7/16	3-5/8	43679	12
8	.1990	2-7/16	3-5/8	43678	12
7	.2010	2-7/16	3-5/8	43677	12
6	.2040	2-1/2	3-3/4	43676	12
5	.2055	2-1/2	3-3/4	43675	12
4	.2090	2-1/2	3-3/4	43674	12
3	.2130	2-1/2	3-3/4	43673	12
2	.2210	2-5/8	3-7/8	43672	12
1	.2280	2-5/8	3-7/8	43671	12
Letter					
A	.2340	2-5/8	3-7/8	43771	12
B	.2380	2-3/4	4	43772	12
C	.2420	2-3/4	4	43773	12
D	.2460	2-3/4	4	43774	12
E	.2500	2-3/4	4	43616	12
F	.2570	2-7/8	4-1/8	43776	12
G	.2610	2-7/8	4-1/8	43777	12
H	.2660	2-7/8	4-1/8	43778	12
I	.2720	2-7/8	4-1/8	43779	12
J	.2770	2-7/8	4-1/8	43780	12
K	.2810	2-15/16	4-1/4	43781	12
L	.2900	2-15/16	4-1/4	43782	12
M	.2950	3-1/16	4-3/8	43783	6
N	.3020	3-1/16	4-3/8	43784	6

*Not split point

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HEAVY DUTY JOBBER LENGTH DRILLS

150ASP-TC SERIES continued



Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
O	.3160	3-3/16	4-1/2	43785	6
P	.3230	3-5/16	4-5/8	43786	6
Q	.3320	3-7/16	4-3/4	43787	6
R	.3390	3-7/16	4-3/4	43788	6
S	.3480	3-1/2	4-7/8	43789	6
T	.3580	3-1/2	4-7/8	43790	6

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
U	.3680	3-5/8	5	43791	6
V	.3770	3-5/8	5	43792	6
W	.3860	3-3/4	5-1/8	43793	6
X	.3970	3-3/4	5-1/8	43794	6
Y	.4040	3-7/8	5-1/4	43795	6
Z	.4130	3-7/8	5-1/4	43796	6

150ASP-TA SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / TiAlN



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/32*	.0312	1/2	1-3/8	42602	12
3/64*	.0469	3/4	1-3/4	42603	12
1/16	.0625	7/8	1-7/8	42604	12
5/64	.0781	1	2	42605	12
3/32	.0938	1-1/4	2-1/4	42606	12
7/64	.1094	1-1/2	2-5/8	42607	12
1/8	.1250	1-5/8	2-3/4	42608	12
9/64	.1406	1-3/4	2-7/8	42609	12
5/32	.1562	2	3-1/8	42610	12
11/64	.1719	2-1/8	3-1/4	42611	12
3/16	.1875	2-5/16	3-1/2	42612	12
13/64	.2031	2-7/16	3-5/8	42613	12
7/32	.2188	2-1/2	3-3/4	42614	12
15/64	.2344	2-5/8	3-7/8	42615	12
1/4	.2500	2-3/4	4	42616	12
17/64	.2656	2-7/8	4-1/8	42617	12
9/32	.2812	2-15/16	4-1/4	42618	12
19/64	.2969	3-1/16	4-3/8	42619	6
5/16	.3125	3-3/16	4-1/2	42620	6
21/64	.3281	3-5/16	4-5/8	42621	6
11/32	.3438	3-7/16	4-3/4	42622	6
23/64	.3594	3-1/2	4-7/8	42623	6
3/8	.3750	3-5/8	5	42624	6
25/64	.3906	3-3/4	5-1/8	42625	6
13/32	.4062	3-7/8	5-1/4	42626	6
27/64	.4219	3-15/16	5-3/8	42627	6
7/16	.4375	4-1/16	5-1/2	42628	6
29/64	.4531	4-3/16	5-5/8	42629	6
15/32	.4688	4-5/16	5-3/4	42630	6
31/64	.4844	4-3/8	5-7/8	42631	6
1/2	.5000	4-1/2	6	42632	6

Wire					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
52	.0635	1.8750	.8750	42722	12
51	.0670	2.0000	1.0000	42721	12
50	.0700	2.0000	1.0000	42720	12
49	.0730	2.0000	1.0000	42719	12
48	.0760	2.0000	1.0000	42718	12
47	.0785	2.0000	1.0000	42717	12
46	.0810	2.1250	1.1250	42716	12
45	.0820	2.1250	1.1250	42715	12
44	.0860	2.1250	1.1250	42714	12
43	.0890	2.2500	1.2500	42713	12
42	.0935	2.2500	1.2500	42712	12
41	.0960	2.3750	1.3750	42711	12
40	.0980	2.3750	1.3750	42710	12
39	.0995	2.3750	1.3750	42709	12
38	.1015	2.5000	1.4375	42708	12
37	.1040	2.5000	1.4375	42707	12
36	.1065	2.5000	1.4375	42706	12
35	.1100	2.6250	1.5000	42705	12
34	.1110	2.6250	1.5000	42704	12
33	.1130	2.6250	1.5000	42703	12
32	.1160	2.7500	1.6250	42702	12
31	.1200	2.7500	1.6250	42701	12
30	.1285	2.7500	1.6250	42700	12
29	.1360	2.8750	1.7500	42699	12
28	.1405	2.8750	1.7500	42698	12
27	.1440	3.0000	1.8750	42697	12
26	.1470	3.0000	1.8750	42696	12
25	.1495	3.0000	1.8750	42695	12
24	.1520	3.1250	2.0000	42694	12
23	.1540	3.1250	2.0000	42693	12

*Not split point

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HEAVY DUTY JOBBER LENGTH DRILLS

01

DRILLS

Chicago-Latrobe
WALTER

150ASP-TA SERIES continued



Wire					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
22	.1570	3.1250	2.0000	42692	12
21	.1590	3.2500	2.1250	42691	12
20	.1610	3.2500	2.1250	42690	12
19	.1660	3.2500	2.1250	42689	12
18	.1695	3.2500	2.1250	42688	12
17	.1730	3.3750	2.1875	42687	12
16	.1770	3.3750	2.1875	42686	12
15	.1800	3.3750	2.1875	42685	12
14	.1820	3.3750	2.1875	42684	12
13	.1850	3.5000	2.3125	42683	12
12	.1890	3.5000	2.3125	42682	12
11	.1910	3.5000	2.3125	42681	12
10	.1935	3.6250	2.4375	42680	12
9	.1960	3.6250	2.4375	42679	12
8	.1990	3.6250	2.4375	42678	12
7	.2010	3.6250	2.4375	42677	12
6	.2040	3.7500	2.5000	42676	12
5	.2055	3.7500	2.5000	42675	12
4	.2090	3.7500	2.5000	42674	12
3	.2130	3.7500	2.5000	42673	12
2	.2210	3.8750	2.6250	42672	12
1	.2280	3.8750	2.6250	42671	12

Letter					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	2-5/8	3-7/8	42771	12
B	.2380	2-3/4	4	42772	12
C	.2420	2-3/4	4	42773	12
D	.2460	2-3/4	4	42774	12
E	.2500	2-3/4	4	42616	12
F	.2570	2-7/8	4-1/8	42776	12
G	.2610	2-7/8	4-1/8	42777	12
H	.2660	2-7/8	4-1/8	42778	12
I	.2720	2-7/8	4-1/8	42779	12
J	.2770	2-7/8	4-1/8	42780	12
K	.2810	2-15/16	4-1/4	42781	12
L	.2900	2-15/16	4-1/4	42782	12
M	.2950	3-1/16	4-3/8	42783	6
N	.3020	3-1/16	4-3/8	42784	6
O	.3160	3-3/16	4-1/2	42785	6
P	.3230	3-5/16	4-5/8	42786	6
Q	.3320	3-7/16	4-3/4	42787	6
R	.3390	3-7/16	4-3/4	42788	6
S	.3480	3-1/2	4-7/8	42789	6
T	.3580	3-1/2	4-7/8	42790	6
U	.3680	3-5/8	5	42791	6
V	.3770	3-5/8	5	42792	6
W	.3860	3-3/4	5-1/8	42793	6
X	.3970	3-3/4	5-1/8	42794	6
Y	.4040	3-7/8	5-1/4	42795	6
Z	.4130	3-7/8	5-1/4	42796	6

Corresponding Sets					
Number of Pieces	Description	Order Number			
		150ASP Black Oxide	150ASP-TN TiN	150ASP-TC TiCN	150ASP-TA TiAlN
13	1/16 - 1/4 X 1/64	69847	41798	43638	42801
15	1/16 - 1/2 X 1/32	69850	41797	43637	42800
21	1/16 - 3/8 X 1/64	69851	41799	43639	49026
29	1/16 - 1/2 X 1/64	45640	41800	43640	49027
26	Letters A - Z	45638	41801	—	—
60	#1 - #60 wire gauge	45639	41802	—	—
20	#61 - #80 wire gauge	45656	41803	—	—
115	1/16 - 1/2 X 1/64, A - Z, #1 - #60	45650	41804	—	—
25	1mm - 13mm X 0.5mm	45925	—	—	—



Set 42800

HEAVY DUTY JOBBER LENGTH DRILLS

250AN SERIES

HEAVY DUTY HIGH SPEED STEEL

118° Point / Tanged Shank / Black Oxide

The 250AN Series are jobber-length automotive tanged shank drills with 118° point and black oxide finish for durability and improved chip flow. Made from premium high-speed steel, ideal for carbon steel, alloy steel, and cast iron.

Best Material Application



STEEL



CAST IRON

Drill Specifications



118° POINT



TANGED SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	1-5/8	2-3/4	47458	12
5/32	.1562	2	3-1/8	47468	12
3/16	.1875	2-5/16	3-1/2	47477	12
13/64	.2031	2-7/16	3-5/8	47482	12
1/4	.2500	2-3/4	4	47491	12
17/64	.2656	2-7/8	4-1/8	47495	12
9/32	.2812	2-15/16	4-1/4	47498	12

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
5/16	.3125	3-3/16	4-1/2	47504	6
11/32	.3438	3-7/16	4-3/4	47510	6
3/8	.3750	3-5/8	5	47515	6
7/16	.4375	4-1/16	5-1/2	47521	6
1/2	.5000	4-1/2	6	47525	6
Letter					
E	.2500	2-3/4	4	47491	12

HEAVY DUTY JOBBER LENGTH DRILLS

150K SERIES

HEAVY DUTY HIGH SPEED STEEL

118° Split Point / Round Shank / Black Oxide

The 150K Series are general-purpose drills with 118° split points for self-centering and reduced thrust. Made from premium high-speed steel with a black oxide finish, suitable for various materials and operating conditions.

Best Material Application



STEEL



CAST IRON

Drill Specifications



118° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	57204	12
5/64	.0781	1	2	57205	12
3/32	.0938	1-1/4	2-1/4	57206	12
7/64	.1094	1-1/2	2-5/8	57207	12
1/8	.1250	1-5/8	2-3/4	57208	12
9/64	.1406	1-3/4	2-7/8	57209	12
5/32	.1562	2	3-1/8	57210	12
11/64	.1719	2-1/8	3-1/4	57211	12
3/16	.1875	2-5/16	3-1/2	57212	12
13/64	.2031	2-7/16	3-5/8	57213	12
7/32	.2188	2-1/2	3-3/4	57214	12
15/64	.2344	2-5/8	3-7/8	57215	12
1/4	.2500	2-3/4	4	57216	12
17/64	.2656	2-7/8	4-1/8	57217	12
9/32	.2812	2-15/16	4-1/4	57218	12

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
19/64	.2969	3-1/16	4-3/8	57219	6
5/16	.3125	3-3/16	4-1/2	57220	6
21/64	.3281	3-5/16	4-5/8	57221	6
11/32	.3438	3-7/16	4-3/4	57222	6
23/64	.3594	3-1/2	4-7/8	57223	6
3/8	.3750	3-5/8	5	57224	6
25/64	.3906	3-3/4	5-1/8	57225	6
13/32	.4062	3-7/8	5-1/4	57226	6
27/64	.4219	3-15/16	5-3/8	57227	6
7/16	.4375	4-1/16	5-1/2	57228	6
29/64	.4531	4-3/16	5-5/8	57229	6
15/32	.4688	4-5/16	5-3/4	57230	6
31/64	.4844	4-3/8	5-7/8	57231	6
1/2	.5000	4-1/2	6	57232	6

HEAVY DUTY JOBBER LENGTH DRILLS

550ASP SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze Finish

The 550ASP Series are heavy duty cobalt drills with 135° split points for precise penetration. Abrasion-resistant, with bronze or TiN finishes for durability, ideal for stainless steel, alloy steel, and titanium under tough conditions.

Best Material Application



STAINLESS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	47704	12
5/64	.0781	1	2	47705	12
3/32	.0938	1-1/4	2-1/4	47706	12
7/64	.1094	1-1/2	2-5/8	47707	12
1/8	.1250	1-5/8	2-3/4	47708	12
9/64	.1406	1-3/4	2-7/8	47709	12
5/32	.1562	2	3-1/8	47710	12
11/64	.1719	2-1/8	3-1/4	47711	12
3/16	.1875	2-5/16	3-1/2	47712	12
13/64	.2031	2-7/16	3-5/8	47713	12
7/32	.2188	2-1/2	3-3/4	47714	12
15/64	.2344	2-5/8	3-7/8	47715	12
1/4	.2500	2-3/4	4	47716	12
17/64	.2656	2-7/8	4-1/8	47717	12
9/32	.2812	2-15/16	4-1/4	47718	12
19/64	.2969	3-1/16	4-3/8	47719	6
5/16	.3125	3-3/16	4-1/2	47720	6
21/64	.3281	3-5/16	4-5/8	47721	6
11/32	.3438	3-7/16	4-3/4	47722	6
23/64	.3594	3-1/2	4-7/8	47723	6
3/8	.3750	3-5/8	5	47724	6
25/64	.3906	3-3/4	5-1/8	47725	6
13/32	.4062	3-7/8	5-1/4	47726	6
27/64	.4219	3-15/16	5-3/8	47727	6
7/16	.4375	4-1/16	5-1/2	47728	6
29/64	.4531	4-3/16	5-5/8	47729	6
15/32	.4688	4-5/16	5-3/4	47730	6
31/64	.4844	4-3/8	5-7/8	47731	6
1/2	.5000	4-1/2	6	47732	6
Wire					
52	.0635	7/8	1-7/8	47786	12
51	.0670	1	2	47785	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
50	.0700	1	2	47784	12
49	.0730	1	2	47783	12
48	.0760	1	2	47782	12
47	.0785	1	2	47781	12
46	.0810	1-1/8	2-1/8	47780	12
45	.0820	1-1/8	2-1/8	47779	12
44	.0860	1-1/8	2-1/8	47778	12
43	.0890	1-1/4	2-1/4	47777	12
42	.0935	1-1/4	2-1/4	47776	12
41	.0960	1-3/8	2-3/8	47775	12
40	.0980	1-3/8	2-3/8	47774	12
39	.0995	1-3/8	2-3/8	47773	12
38	.1015	1-7/16	2-1/2	47772	12
37	.1040	1-7/16	2-1/2	47771	12
36	.1065	1-7/16	2-1/2	47770	12
35	.1100	1-1/2	2-5/8	47769	12
34	.1110	1-1/2	2-5/8	47768	12
33	.1130	1-1/2	2-5/8	47767	12
32	.1160	1-5/8	2-3/4	47766	12
31	.1200	1-5/8	2-3/4	47765	12
30	.1285	1-5/8	2-3/4	47764	12
29	.1360	1-3/4	2-7/8	47763	12
28	.1405	1-3/4	2-7/8	47762	12
27	.1440	1-7/8	3	47761	12
26	.1470	1-7/8	3	47760	12
25	.1495	1-7/8	3	47759	12
24	.1520	2	3-1/8	47758	12
23	.1540	2	3-1/8	47757	12
22	.1570	2	3-1/8	47756	12
21	.1590	2-1/8	3-1/4	47755	12
20	.1610	2-1/8	3-1/4	47754	12
19	.1660	2-1/8	3-1/4	47753	12
18	.1695	2-1/8	3-1/4	47752	12
17	.1730	2-3/16	3-3/8	47751	12
16	.1770	2-3/16	3-3/8	47750	12

continued on next page

HEAVY DUTY JOBBER LENGTH DRILLS

01

DRILLS

Chicago-Latrobe
WALTER

550ASP SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
15	.1800	2-3/16	3-3/8	47749	12
14	.1820	2-3/16	3-3/8	47748	12
13	.1850	2-5/16	3-1/2	47747	12
12	.1890	2-5/16	3-1/2	47746	12
11	.1910	2-5/16	3-1/2	47745	12
10	.1935	2-7/16	3-5/8	47744	12
9	.1960	2-7/16	3-5/8	47743	12
8	.1990	2-7/16	3-5/8	47742	12
7	.2010	2-7/16	3-5/8	47741	12
6	.2040	2-1/2	3-3/4	47740	12
5	.2055	2-1/2	3-3/4	47739	12
4	.2090	2-1/2	3-3/4	47738	12
3	.2130	2-1/2	3-3/4	47737	12
2	.2210	2-5/8	3-7/8	47736	12
1	.2280	2-5/8	3-7/8	47735	12
Letter					
H	.2660	2-7/8	4-1/8	47807	12
J	.2770	2-7/8	4-1/7	47809	12
Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.00	.0394	12.00	34.00	47820	12
*1.10	.0433	14.00	36.00	47821	12
*1.20	.0472	16.00	38.00	47822	12
*1.30	.0512	16.00	38.00	47823	12
*1.40	.0551	18.00	40.00	47824	12
*1.50	.0591	18.00	40.00	47825	12
1.60	.0630	20.00	43.00	47826	12
1.70	.0669	20.00	43.00	47827	12
1.80	.0709	22.00	46.00	47828	12
1.90	.0748	22.00	46.00	47829	12
2.00	.0787	24.00	49.00	47830	12
2.10	.0827	24.00	49.00	47831	12
2.20	.0866	27.00	53.00	47832	12
2.3	.0906	27.00	53.00	47833	12
2.40	.0945	30.00	57.00	47834	12
2.50	.0984	30.00	57.00	47835	12
2.60	.1024	30.00	57.00	47836	12
2.70	.1062	33.00	61.00	47837	12
2.80	.1102	33.00	61.00	47838	12
2.90	.1142	33.00	61.00	47839	12
3.00	.1181	33.00	61.00	47840	12
3.10	.1220	36.00	65.00	47841	12
3.20	.1260	36.00	65.00	47842	12
3.30	.1299	36.00	65.00	47843	12
3.40	.1339	39.00	70.00	47844	12
3.50	.1378	39.00	70.00	47845	12
3.60	.1417	39.00	70.00	47846	12
3.70	.1457	39.00	70.00	47847	12
3.80	.1496	43.00	75.00	47848	12
3.90	.1535	43.00	75.00	47849	12
4.00	.1575	43.00	75.00	47850	12
4.10	.1614	43.00	75.00	47851	12
4.20	.1654	43.00	75.00	47852	12
4.30	.1692	47.00	80.00	47853	12

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
4.40	.1732	47.00	80.00	47854	12
4.50	.1772	47.00	80.00	47855	12
4.60	.1811	47.00	80.00	47856	12
4.70	.1850	47.00	80.00	47857	12
4.80	.1890	52.00	86.00	47858	12
4.90	.1929	52.00	86.00	47859	12
5.00	.1969	52.00	86.00	47860	12
5.10	.2008	52.00	86.00	47861	12
5.20	.2047	52.00	86.00	47862	12
5.30	.2087	52.00	86.00	47863	12
5.40	.2125	57.00	93.00	47864	12
5.50	.2165	57.00	93.00	47865	12
5.60	.2205	57.00	93.00	47866	12
5.70	.2244	57.00	93.00	47867	12
5.80	.2283	57.00	93.00	47868	12
5.90	.2323	57.00	93.00	47869	12
6.00	.2362	57.00	93.00	47870	12
6.10	.2401	63.00	101.00	47871	12
6.20	.2440	63.00	101.00	47872	12
6.30	.2480	63.00	101.00	47873	12
6.40	.2520	63.00	101.00	47874	12
6.50	.2559	63.00	101.00	47875	12
6.60	.2598	63.00	101.00	47876	12
6.70	.2638	63.00	101.00	47877	12
6.80	.2677	69.00	109.00	47878	12
6.90	.2717	69.00	109.00	47879	12
7.00	.2756	69.00	109.00	47880	12
7.10	.2795	69.00	109.00	47881	12
7.20	.2835	69.00	109.00	47882	12
7.40	.2913	69.00	109.00	47884	6
7.50	.2953	69.00	109.00	47885	6
7.80	.3071	75.00	117.00	47888	6
7.90	.3110	75.00	117.00	47889	6
8.00	.3150	75.00	117.00	47890	6
8.10	.3189	75.00	117.00	47891	6
8.20	.3228	75.00	117.00	47892	6
8.30	.3268	75.00	117.00	47893	6
8.40	.3307	75.00	117.00	47894	6
8.50	.3346	75.00	117.00	47895	6
8.60	.3386	81.00	125.00	47896	6
8.70	.3425	81.00	125.00	47897	6
8.80	.3465	81.00	125.00	47898	6
8.90	.3504	81.00	125.00	47899	6
9.00	.3543	81.00	125.00	47900	6
9.30	.3661	81.00	125.00	47903	6
9.40	.3701	81.00	125.00	47904	6
9.50	.3740	81.00	125.00	47905	6
9.60	.3780	81.00	133.00	47906	6
9.80	.3858	81.00	133.00	47908	6
10.00	.3937	87.00	133.00	47910	6
10.20	.4016	87.00	133.00	47911	6
10.50	.4134	87.00	133.00	47912	6
11.00	.4331	94.00	142.00	47913	6
11.50	.4527	94.00	142.00	47914	6
12.00	.4724	101.00	151.00	47915	6
12.50	.4921	101.00	151.00	47916	6
13.00	.5118	101.00	151.00	47917	1

*Sizes smaller than .0625 do not have split point

HEAVY DUTY JOBBER LENGTH DRILLS

550ASP-TN SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / TiN



Best Material Application



STAINLESS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK

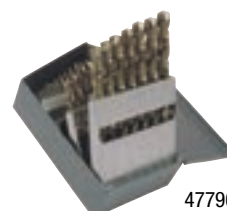
Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	47630	12
5/64	.0781	1	2	47631	12
3/32	.0938	1-1/4	2-1/4	47632	12
7/64	.1094	1-1/2	2-5/8	47633	12
1/8	.1250	1-5/8	2-3/4	47634	12
9/64	.1406	1-3/4	2-7/8	47635	12
5/32	.1562	2	3-1/8	47636	12
11/64	.1719	2-1/8	3-1/4	47637	12
3/16	.1875	2-5/16	3-1/2	47638	12
13/64	.2031	2-7/16	3-5/8	47600	12
7/32	.2188	2-1/2	3-3/4	47640	12
15/64	.2344	2-5/8	3-7/8	47601	12
1/4	.2500	2-3/4	4	47642	12
17/64	.2656	2-7/8	4-1/8	47602	12
9/32	.2812	2-15/16	4-1/4	47644	12
19/64	.2969	3-1/16	4-3/8	47603	6
5/16	.3125	3-3/16	4-1/2	47646	6
21/64	.3281	3-5/16	4-5/8	47604	6
11/32	.3438	3-7/16	4-3/4	47648	6
23/64	.3594	3-1/2	4-7/8	47605	6
3/8	.3750	3-5/8	5	47650	6
25/64	.3906	3-3/4	5-1/8	47606	6
13/32	.4062	3-7/8	5-1/4	47652	6
27/64	.4219	3-15/16	5-3/8	47607	6
7/16	.4375	4-1/16	5-1/2	47654	6
29/64	.4531	4-3/16	5-5/8	47608	6
15/32	.4688	4-5/16	5-3/4	47656	6
31/64	.4844	4-3/8	5-7/8	47657	6
1/2	.5000	4-1/2	6	47658	6
Letter					
H	.2660	4-1/8	2-7/8	47907	12
Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.00	.0394	12.00	34.00	*47930	12
*1.40	.0551	18.00	40.00	*47934	12
*1.50	.0591	18.00	40.00	*47935	12
2.00	.0787	24.00	49.00	47940	12
2.40	.0945	30.00	57.00	47944	12
2.50	.0984	30.00	57.00	47945	12
2.80	.1102	33.00	61.00	47948	12
3.00	.1181	33.00	61.00	47950	12

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
3.20	.1260	36.00	65.00	47952	12
3.30	.1299	36.00	65.00	47953	12
3.50	.1378	39.00	70.00	47955	12
3.60	.1417	39.00	70.00	47956	12
3.70	.1457	39.00	70.00	47957	12
3.90	.1535	43.00	75.00	47959	12
4.00	.1575	43.00	75.00	47960	12
4.10	.1614	43.00	75.00	47961	12
4.20	.1654	43.00	75.00	47962	12
4.30	.1692	47.00	80.00	47963	12
4.50	.1772	47.00	80.00	47965	12
4.60	.1811	47.00	80.00	47966	12
4.70	.1850	47.00	80.00	47967	12
4.80	.1890	52.00	86.00	47968	12
4.90	.1929	52.00	86.00	47969	12
5.00	.1969	52.00	86.00	47970	12
5.10	.2008	52.00	86.00	47971	12
5.20	.2047	52.00	86.00	47972	12
5.50	.2165	57.00	93.00	47975	12
5.70	.2244	57.00	93.00	47977	12
5.80	.2283	57.00	93.00	47978	12
6.00	.2362	57.00	93.00	47980	12
6.10	.2401	63.00	101.00	47981	12
6.20	.2440	63.00	101.00	47982	12
6.50	.2559	63.00	101.00	47985	12
6.70	.2638	63.00	101.00	47987	12
6.80	.2677	69.00	109.00	47988	12
7.00	.2756	69.00	109.00	47990	12
7.50	.2953	69.00	109.00	47994	6
8.00	.3150	75.00	117.00	47997	6
8.50	.3346	75.00	117.00	48001	6
8.70	.3425	81.00	125.00	48002	6
9.00	.3543	81.00	125.00	48005	6
9.50	.3740	81.00	125.00	48006	6
10.00	.3937	87.00	133.00	48009	6
10.20	.4016	87.00	133.00	48010	6
10.50	.4134	87.00	133.00	48011	6
11.00	.4331	94.00	142.00	48012	6
11.50	.4527	94.00	142.00	48013	6
12.00	.4724	101.00	151.00	48014	6
12.50	.4921	101.00	151.00	48015	6
13.00	.5118	101.00	151.00	48016	1

* Sizes smaller than .0625 are not split point

Corresponding Sets		
Number of Pieces	Description	Order Number
15	1/16 - 1/2 x 1/32	47795
29	1/16 - 1/2 X 1/64	47796
19	1mm - 10mm x 0.5mm	47924
25	1mm - 13mm X 0.5mm	47925

Metal cases



47796

HEAVY DUTY JOBBER LENGTH DRILLS

550 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze Finish

The 550 Series are cobalt drills with heavy duty construction, self-centering 135° split points, and durable TiAlN, TiN, and bronze finishes. Engineered for tough, high-tensile, and work-hardening materials.

Best Material Application



STAINLESS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*1/64	.0156	3/16	3/4	46601	12
*1/32	.0312	1/2	1-3/8	46602	12
*3/64	.0469	3/4	1-3/4	46603	12
1/16	.0625	7/8	1-7/8	46604	12
5/64	.0781	1	2	46605	12
3/32	.0938	1-1/4	2-1/4	46606	12
7/64	.1094	1-1/2	2-5/8	46607	12
1/8	.1250	1-5/8	2-3/4	46608	12
9/64	.1406	1-3/4	2-7/8	46609	12
5/32	.1562	2	3-1/8	46610	12
11/64	.1719	2-1/8	3-1/4	46611	12
3/16	.1875	2-5/16	3-1/2	46612	12
13/64	.2031	2-7/16	3-5/8	46613	12
7/32	.2188	2-1/2	3-3/4	46614	12
15/64	.2344	2-5/8	3-7/8	46615	12
1/4	.2500	2-3/4	4	46616	12
17/64	.2656	2-7/8	4-1/8	46617	12
9/32	.2812	2-15/16	4-1/4	46618	6
19/64	.2969	3-1/16	4-3/8	46619	6
5/16	.3125	3-3/16	4-1/2	46620	6
21/64	.3281	3-5/16	4-5/8	46621	6
11/32	.3438	3-7/16	4-3/4	46622	6
23/64	.3594	3-1/2	4-7/8	46623	6
3/8	.3750	3-5/8	5	46624	6
25/64	.3906	3-3/4	5-1/8	46625	6
13/32	.4062	3-7/8	5-1/4	46626	6
27/64	.4219	3-15/16	5-3/8	46627	6
7/16	.4375	4-1/16	5-1/2	46628	6
29/64	.4531	4-3/16	5-5/8	46629	6
15/32	.4688	4-5/16	5-3/4	46630	6
31/64	.4844	4-3/8	5-7/8	46631	6
1/2	.5000	4-1/2	6	46632	6
33/64	.5156	4-13/16	6-5/8	50075	1

* Sizes smaller than .0625 do not have split point

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
17/32	.5312	4-13/16	6-5/8	50076	1
35/64	.5469	4-13/16	6-5/8	50077	1
9/16	.5625	4-13/16	6-5/8	50078	1
37/64	.5781	4-13/16	6-5/8	50079	1
19/32	.5938	5-3/16	7-1/8	50080	1
39/64	.6094	5-3/16	7-1/8	50081	1
5/8	.6250	5-3/16	7-1/8	50082	1
41/64	.6406	5-3/16	7-1/8	50083	1
21/32	.6562	5-3/16	7-1/8	50084	1
43/64	.6719	5-3/16	7-1/8	50085	1
11/16	.6875	5-3/16	7-1/8	50086	1
Wire					
*80	.0135	1/8	3/4	46750	12
*79	.0145	1/8	3/4	46749	12
*78	.0160	3/16	7/8	46748	12
*77	.0180	3/16	7/8	46747	12
*76	.0200	3/16	7/8	46746	12
*75	.0210	1/4	1	46745	12
*74	.0225	1/4	1	46744	12
*73	.0240	5/16	1-1/8	46743	12
*72	.0250	5/16	1-1/8	46742	12
*71	.0260	3/8	1-1/4	46741	12
*70	.0280	3/8	1-1/4	46740	12
*69	.0292	1/2	1-3/8	46739	12
*68	.0310	1/2	1-3/8	46738	12
*67	.0320	1/2	1-3/8	46737	12
*66	.0330	1/2	1-3/8	46736	12
*65	.0350	5/8	1-1/2	46735	12
*64	.0360	5/8	1-1/2	46734	12
*63	.0370	5/8	1-1/2	46733	12
*62	.0380	5/8	1-1/2	46732	12
*61	.0390	11/16	1-5/8	46731	12
*60	.0400	11/16	1-5/8	46730	12
*59	.0410	11/16	1-5/8	46729	12

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HEAVY DUTY JOBBER LENGTH DRILLS

550 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*58	.0420	11/16	1-5/8	46728	12
*57	.0430	3/4	1-3/4	46727	12
*56	.0465	3/4	1-3/4	46726	12
*55	.0520	7/8	1-7/8	46725	12
*54	.0550	7/8	1-7/8	46724	12
*53	.0595	7/8	1-7/8	46723	12
52	.0635	7/8	1-7/8	46722	12
51	.0670	1	2	46721	12
50	.0700	1	2	46720	12
49	.0730	1	2	46719	12
48	.0760	1	2	46718	12
47	.0785	1	2	46717	12
46	.0810	1-1/8	2-1/8	46716	12
45	.0820	1-1/8	2-1/8	46715	12
44	.0860	1-1/8	2-1/8	46714	12
43	.0890	1-1/4	2-1/4	46713	12
42	.0935	1-1/4	2-1/4	46712	12
41	.0960	1-3/8	2-3/8	46711	12
40	.0980	1-3/8	2-3/8	46710	12
39	.0995	1-3/8	2-3/8	46709	12
38	.1015	1-7/16	2-1/2	46708	12
37	.1040	1-7/16	2-1/2	46707	12
36	.1065	1-7/16	2-1/2	46706	12
35	.1100	1-1/2	2-5/8	46705	12
34	.1110	1-1/2	2-5/8	46704	12
33	.1130	1-1/2	2-5/8	46703	12
32	.1160	1-5/8	2-3/4	46702	12
31	.1200	1-5/8	2-3/4	46701	12
30	.1285	1-5/8	2-3/4	46700	12
29	.1360	1-3/4	2-7/8	46699	12
28	.1405	1-3/4	2-7/8	46698	12
27	.1440	1-7/8	3	46697	12
26	.1470	1-7/8	3	46696	12
25	.1495	1-7/8	3	46695	12
24	.1520	2	3-1/8	46694	12
23	.1540	2	3-1/8	46693	12
22	.1570	2	3-1/8	46692	12
21	.1590	2-1/8	3-1/4	46691	12
20	.1610	2-1/8	3-1/4	46690	12
19	.1660	2-1/8	3-1/4	46689	12
18	.1695	2-1/8	3-1/4	46688	12
17	.1730	2-3/16	3-3/8	46687	12
16	.1770	2-3/16	3-3/8	46686	12
15	.1800	2-3/16	3-3/8	46685	12
14	.1820	2-3/16	3-3/8	46684	12
13	.1850	2-5/16	3-1/2	46683	12
12	.1890	2-5/16	3-1/2	46682	12
11	.1910	2-5/16	3-1/2	46681	12
10	.1935	2-7/16	3-5/8	46680	12
9	.1960	2-7/16	3-5/8	46679	12
8	.1990	2-7/16	3-5/8	46678	12
7	.2010	2-7/16	3-5/8	46677	12
6	.2040	2-1/2	3-3/4	46676	12
5	.2055	2-1/2	3-3/4	46675	12
4	.2090	2-1/2	3-3/4	46674	12
3	.2130	2-1/2	3-3/4	46673	12
2	.2210	2-5/8	3-7/8	46672	12
1	.2280	2-5/8	3-7/8	46671	12

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	2-5/8	3-7/8	46771	12
B	.2380	2-3/4	4	46772	12
C	.2420	2-3/4	4	46773	12
D	.2460	2-3/4	4	46774	12
E	.2500	2-3/4	4	46616	12
F	.2570	2-7/8	4-1/8	46776	12
G	.2610	2-7/8	4-1/8	46777	12
H	.2660	2-7/8	4-1/8	46778	12
I	.2720	2-7/8	4-1/8	46779	12
J	.2770	2-7/8	4-1/8	46780	12
K	.2810	2-15/16	4-1/4	46781	12
L	.2900	2-15/16	4-1/4	46782	12
M	.2950	3-1/16	4-3/8	46783	6
N	.3020	3-1/16	4-3/8	46784	6
O	.3160	3-3/16	4-1/2	46785	6
P	.3230	3-5/16	4-5/8	46786	6
Q	.3320	3-7/16	4-3/4	46787	6
R	.3390	3-7/16	4-3/4	46788	6
S	.3480	3-1/2	4-7/8	46789	6
T	.3580	3-1/2	4-7/8	46790	6
U	.3680	3-5/8	5	46791	6
V	.3770	3-5/8	5	46792	6
W	.3860	3-3/4	5-1/8	46793	6
X	.3970	3-3/4	5-1/8	46794	6
Y	.4040	3-7/8	5-1/4	46795	6
Z	.4130	3-7/8	5-1/4	46796	6

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.00	.0394	.4724	1.3386	46430	12
*1.20	.0472	.6299	1.4961	46433	12
*1.25	.0492	.6299	1.4961	46434	12
*1.30	.0512	.6299	1.4961	46435	12
*1.45	.0571	.7087	1.5748	46436	12
*1.50	.0591	.7087	1.5748	46437	12
*1.55	.0610	.7874	1.6929	46438	12
1.65	.0650	.7874	1.6929	46440	12
1.80	.0709	.8661	1.8110	46442	12
1.90	.0748	.8661	1.8110	46443	12
2.00	.0787	.9449	1.9291	46444	12
2.05	.0807	.9449	1.9291	46445	12
2.10	.0827	.9449	1.9291	46446	12
2.20	.0866	1.0630	2.0866	46448	12
2.30	.0906	1.0630	2.0866	46450	12
2.40	.0945	1.1811	2.2441	46452	12
2.50	.0984	1.1811	2.2441	46453	12
2.60	.1024	1.1811	2.2441	46454	12
2.80	.1102	1.2992	2.4016	46455	12
2.90	.1142	1.2992	2.4016	46456	12
3.00	.1181	1.2992	2.4016	46457	12
3.10	.1220	1.4173	2.5591	46458	12
3.20	.1260	1.4173	2.5591	46459	12
3.30	.1299	1.4173	2.5591	46460	12
3.40	.1339	1.5354	2.7559	46461	12
3.50	.1378	1.5354	2.7559	46462	12

* Sizes smaller than .0625 do not have split point

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HEAVY DUTY JOBBER LENGTH DRILLS

550 SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
3.70	.1457	1.5354	2.7559	46463	12
4.00	.1575	1.6929	2.9528	46464	12
4.20	.1654	1.6929	2.9528	46466	12
4.50	.1772	1.8504	3.1496	46467	12
4.80	.1890	2.0472	3.3858	46468	12
5.00	.1968	2.0472	3.3858	46469	12
5.50	.2165	2.2441	3.6614	46471	12
5.70	.2244	2.2441	3.6614	46472	12
6.00	.2362	2.2441	3.6614	46473	12
6.40	.2520	2.4803	3.9764	46474	12
6.50	.2559	2.4803	3.9764	46475	12
6.60	.2598	2.4803	3.9764	46476	12
6.70	.2638	2.4803	3.9764	46477	12
6.80	.2677	2.7165	4.2913	46478	12
7.00	.2756	2.7165	4.2913	46479	12

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
7.50	.2953	2.7165	4.2913	46481	6
8.00	.3150	2.9528	4.6063	46482	6
8.10	.3189	2.9528	4.6063	46483	6
8.50	.3346	2.9528	4.6063	46484	6
9.00	.3543	3.1890	4.9213	46486	6
9.50	.3740	3.1890	4.9213	46487	6
10.00	.3937	3.4252	5.2362	46488	6
10.20	.4016	3.4252	5.2362	46489	6
10.50	.4134	3.4252	5.2362	46490	6
10.80	.4252	3.7008	5.5905	46491	6
11.00	.4331	3.7008	5.5905	46492	6
11.20	.4409	3.7008	5.5905	46493	6
11.50	.4528	3.7008	5.5905	46495	6
12.00	.4724	3.9764	5.9449	46496	6
12.50	.4921	3.9764	5.9449	46498	6
13.00	.5118	3.9764	5.9449	46499	1

550TN SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / TiN



Best Material Application



STAINLESS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	54007	12
5/64	.0781	1	2	54008	12
3/32	.0938	1-1/4	2-1/4	54009	12
7/64	.1094	1-1/2	2-5/8	54010	12
1/8	.1250	1-5/8	2-3/4	54050	12
9/64	.1406	1-3/4	2-7/8	54051	12
5/32	.1562	2	3-1/8	54052	12
11/64	.1719	2-1/8	3-1/4	54053	12
3/16	.1875	2-5/16	3-1/2	54054	12
13/64	.2031	2-7/16	3-5/8	54055	12
7/32	.2188	2-1/2	3-3/4	54056	12
15/64	.2344	2-5/8	3-7/8	54057	12
1/4	.2500	2-3/4	4	54058	12
17/64	.2656	2-7/8	4-1/8	54059	12
9/32	.2812	2-15/16	4-1/4	54060	12
19/64	.2969	3-1/16	4-3/8	54061	6
5/16	.3125	3-3/16	4-1/2	54062	6
21/64	.3281	3-5/16	4-5/8	54063	6
11/32	.3438	3-7/16	4-3/4	54064	6
23/64	.3594	3-1/2	4-7/8	54065	6
3/8	.3750	3-5/8	5	54066	6
25/64	.3906	3-3/4	5-1/8	54070	6
13/32	.4062	3-7/8	5-1/4	54067	6
27/64	.4219	3-15/16	5-3/8	54071	6
7/16	.4375	4-1/16	5-1/2	54068	6
29/64	.4531	4-3/16	5-5/8	54072	6
15/32	.4688	4-5/16	5-3/4	54073	6
31/64	.4844	4-3/8	5-7/8	54074	6
1/2	.5000	4-1/2	6	54069	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
52	.0635	7/8	1-7/8	54092	12
51	.0670	1	2	54091	12
50	.0700	1	2	54090	12
49	.0730	1	2	54089	12
48	.0760	1	2	54088	12
47	.0785	1	2	54087	12
46	.0810	1-1/8	2-1/8	54081	12
45	.0820	1-1/8	2-1/8	54080	12
44	.0860	1-1/8	2-1/8	54079	12
43	.0890	1-1/4	2-1/4	54078	12
42	.0935	1-1/4	2-1/4	54077	12
41	.0960	1-3/8	2-3/8	54076	12
40	.0980	1-3/8	2-3/8	54075	12
39	.0995	1-3/8	2-3/8	54049	12
38	.1015	1-7/16	2-1/2	54048	12
37	.1040	1-7/16	2-1/2	54047	12
36	.1065	1-7/16	2-1/2	54046	12
35	.1100	1-1/2	2-5/8	54045	12
34	.1110	1-1/2	2-5/8	54044	12
33	.1130	1-1/2	2-5/8	54043	12
32	.1160	1-5/8	2-3/4	54042	12
31	.1200	1-5/8	2-3/4	54041	12
30	.1285	1-5/8	2-3/4	54040	12
29	.1360	1-3/4	2-7/8	54039	12
28	.1405	1-3/4	2-7/8	54038	12
27	.1440	1-7/8	3	54037	12
26	.1470	1-7/8	3	54036	12
25	.1495	1-7/8	3	54035	12
24	.1520	2	3-1/8	54034	12
23	.1540	2	3-1/8	54033	12

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HEAVY DUTY
JOBBER LENGTH DRILLS

550TN SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
22	.1570	2	3-1/8	54032	12
21	.1590	2-1/8	3-1/4	54031	12
20	.1610	2-1/8	3-1/4	54030	12
19	.1660	2-1/8	3-1/4	54029	12
18	.1695	2-1/8	3-1/4	54028	12
17	.1730	2-3/16	3-3/8	54027	12
16	.1770	2-3/16	3-3/8	54026	12
15	.1800	2-3/16	3-3/8	54025	12
14	.1820	2-3/16	3-3/8	54024	12
13	.1850	2-5/16	3-1/2	54023	12
12	.1890	2-5/16	3-1/2	54022	12
11	.1910	2-5/16	3-1/2	54021	12
10	.1935	2-7/16	3-5/8	54020	12
9	.1960	2-7/16	3-5/8	54019	12
8	.1990	2-7/16	3-5/8	54018	12
7	.2010	2-7/16	3-5/8	54017	12
6	.2040	2-1/2	3-3/4	54016	12
5	.2055	2-1/2	3-3/4	54015	12
4	.2090	2-1/2	3-3/4	54014	12
3	.2130	2-1/2	3-3/4	54013	12
2	.2210	2-5/8	3-7/8	54012	12
1	.2280	2-5/8	3-7/8	54011	12

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	2-5/8	3-7/8	54101	12
B	.2380	2-3/4	4	54102	12
C	.2420	2-3/4	4	54103	12
D	.2460	2-3/4	4	54104	12
E	.2500	2-3/4	4	54058	12
F	.2570	2-7/8	4-1/8	54105	12
G	.2610	2-7/8	4-1/8	54106	12
H	.2660	2-7/8	4-1/8	54107	12
I	.2720	2-7/8	4-1/8	54108	12
J	.2770	2-7/8	4-1/8	54109	12
K	.2810	2-15/16	4-1/4	54110	12
L	.2900	2-15/16	4-1/4	54111	12
M	.2950	3-1/16	4-3/8	54112	6
N	.3020	3-1/16	4-3/8	54113	6
O	.3160	3-3/16	4-1/2	54114	6
P	.3230	3-5/16	4-5/8	54115	6
Q	.3320	3-7/16	4-3/4	54116	6
R	.3390	3-7/16	4-3/4	54117	6
S	.3480	3-1/2	4-7/8	54118	6
T	.3580	3-1/2	4-7/8	54119	6
U	.3680	3-5/8	5	54120	6
V	.3770	3-5/8	5	54121	6
W	.3860	3-3/4	5-1/8	54122	6
X	.3970	3-3/4	5-1/8	54123	6
Y	.4040	3-7/8	5-1/4	54124	6
Z	.4130	3-7/8	5-1/4	54125	6

550TA SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / TiAlN

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*1/32	.0312	1/2	1-3/8	44902	12
*3/64	.0469	3/4	1-3/4	44903	12
1/16	.0625	7/8	1-7/8	44904	12
5/64	.0781	1	2	44905	12
3/32	.0938	1-1/4	2-1/4	44906	12
7/64	.1094	1-1/2	2-5/8	44907	12
1/8	.1250	1-5/8	2-3/4	44908	12
9/64	.1406	1-3/4	2-7/8	44909	12
5/32	.1562	2	3-1/8	44910	12
11/64	.1719	2-1/8	3-1/4	44911	12

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/16	.1875	2-5/16	3-1/2	44912	12
13/64	.2031	2-7/16	3-5/8	44913	12
7/32	.2188	2-1/2	3-3/4	44914	12
15/64	.2344	2-5/8	3-7/8	44915	12
1/4	.2500	2-3/4	4	44916	12
17/64	.2656	2-7/8	4-1/8	44917	12
9/32	.2812	2-15/16	4-1/4	44918	12
19/64	.2969	3-1/16	4-3/8	44919	6
5/16	.3125	3-3/16	4-1/2	44920	6
21/64	.3281	3-5/16	4-5/8	44921	6
11/32	.3438	3-7/16	4-3/4	44922	6
23/64	.3594	3-1/2	4-7/8	44923	6

* Sizes smaller than .0625 do not have split point

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HEAVY DUTY JOBBER LENGTH DRILLS

550TA SERIES continued



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/8	.3750	3-5/8	5	44924	6
25/64	.3906	3-3/4	5-1/8	44925	6
13/32	.4062	3-7/8	5-1/4	44926	6
27/64	.4219	3-15/16	5-3/8	44927	6
7/16	.4375	4-1/16	5-1/2	44928	6
29/64	.4531	4-3/16	5-5/8	44929	6
15/32	.4688	4-5/16	5-3/4	44930	6
31/64	.4844	4-3/8	5-7/8	44931	6
1/2	.5000	4-1/2	6	44932	6
Wire					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
52	.0635	7/8	1-7/8	45022	12
51	.0670	1	2	45021	12
50	.0700	1	2	45020	12
49	.0730	1	2	45019	12
48	.0760	1	2	45018	12
47	.0785	1	2	45017	12
46	.0810	1-1/8	2-1/8	45016	12
45	.0820	1-1/8	2-1/8	45015	12
44	.0860	1-1/8	2-1/8	45014	12
43	.0890	1-1/4	2-1/4	45013	12
42	.0935	1-1/4	2-1/4	45012	12
41	.0960	1-3/8	2-3/8	45011	12
40	.0980	1-3/8	2-3/8	45010	12
39	.0995	1-3/8	2-3/8	45009	12
38	.1015	1-7/16	2-1/2	45008	12
37	.1040	1-7/16	2-1/2	45007	12
36	.1065	1-7/16	2-1/2	45006	12
35	.1100	1-1/2	2-5/8	45005	12
34	.1110	1-1/2	2-5/8	45004	12
33	.1130	1-1/2	2-5/8	45003	12
32	.1160	1-5/8	2-3/4	45002	12
31	.1200	1-5/8	2-3/4	45001	12
30	.1285	1-5/8	2-3/4	45000	12
29	.1360	1-3/4	2-7/8	44999	12
28	.1405	1-3/4	2-7/8	44998	12
27	.1440	1-7/8	3	44997	12
26	.1470	1-7/8	3	44996	12
25	.1495	1-7/8	3	44995	12
24	.1520	2	3-1/8	44994	12
23	.1540	2	3-1/8	44993	12
22	.1570	2	3-1/8	44992	12
21	.1590	2-1/8	3-1/4	44991	12
20	.1610	2-1/8	3-1/4	44990	12
19	.1660	2-1/8	3-1/4	44989	12
18	.1695	2-1/8	3-1/4	44988	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
17	.1730	2-3/16	3-3/8	44987	12
16	.1770	2-3/16	3-3/8	44986	12
15	.1800	2-3/16	3-3/8	44985	12
14	.1820	2-3/16	3-3/8	44984	12
13	.1850	2-5/16	3-1/2	44983	12
12	.1890	2-5/16	3-1/2	44982	12
11	.1910	2-5/16	3-1/2	44981	12
10	.1935	2-7/16	3-5/8	44980	12
9	.1960	2-7/16	3-5/8	44979	12
8	.1990	2-7/16	3-5/8	44978	12
7	.2010	2-7/16	3-5/8	44977	12
6	.2040	2-1/2	3-3/4	44976	12
5	.2055	2-1/2	3-3/4	44975	12
4	.2090	2-1/2	3-3/4	44974	12
3	.2130	2-1/2	3-3/4	44973	12
2	.2210	2-5/8	3-7/8	44972	12
1	.2280	2-5/8	3-7/8	44971	12

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	2-5/8	3-7/8	44945	12
B	.2380	2-3/4	4	44946	12
C	.2420	2-3/4	4	44947	12
D	.2460	2-3/4	4	44948	12
E	.2500	2-3/4	4	44916	12
F	.2570	2-7/8	4-1/8	44950	12
G	.2610	2-7/8	4-1/8	44951	12
H	.2660	2-7/8	4-1/8	44952	12
I	.2720	2-7/8	4-1/8	44953	12
J	.2770	2-7/8	4-1/8	44954	12
K	.2810	2-15/16	4-1/4	44955	12
L	.2900	2-15/16	4-1/4	44956	12
M	.2950	3-1/16	4-3/8	44957	6
N	.3020	3-1/16	4-3/8	44958	6
O	.3160	3-3/16	4-1/2	44959	6
P	.3230	3-5/16	4-5/8	44960	6
Q	.3320	3-7/16	4-3/4	44961	6
R	.3390	3-7/16	4-3/4	44962	6
S	.3480	3-1/2	4-7/8	44963	6
T	.3580	3-1/2	4-7/8	44964	6
U	.3680	3-5/8	5	44965	6
V	.3770	3-5/8	5	44966	6
W	.3860	3-3/4	5-1/8	44967	6
X	.3970	3-3/4	5-1/8	44968	6
Y	.4040	3-7/8	5-1/4	44969	6
Z	.4130	3-7/8	5-1/4	44970	6

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HEAVY DUTY JOBBER LENGTH DRILLS

550L SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze Finish

The 550L Series is a premium Cobalt HSS left-hand helix drill with 135° split point for self-centering, reduced thrust and easier penetration. Ideal for counter-clockwise spindle rotation and removing broken parts without damage.

Best Material Application



STAINLESS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	46504	12
5/64	.0781	1	2	46505	12
3/32	.0938	1-1/4	2-1/4	46506	12
7/64	.1094	1-1/2	2-5/8	46507	12
1/8	.1250	1-5/8	2-3/4	46508	12
9/64	.1406	1-3/4	2-7/8	46509	12
5/32	.1562	2	3-1/8	46510	12
11/64	.1719	2-1/8	3-1/4	46511	12
3/16	.1875	2-5/16	3-1/2	46512	12
13/64	.2031	2-7/16	3-5/8	46513	12
7/32	.2188	2-1/2	3-3/4	46514	12
15/64	.2344	2-5/8	3-7/8	46515	12
1/4	.2500	2-3/4	4	46516	12
17/64	.2656	2-7/8	4-1/8	46517	12

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
9/32	.2812	2-15/16	4-1/4	46518	12
19/64	.2969	3-1/16	4-3/8	46519	6
5/16	.3125	3-3/16	4-1/2	46520	6
21/64	.3281	3-5/16	4-5/8	46521	6
11/32	.3438	3-7/16	4-3/4	46522	6
23/64	.3594	3-1/2	4-7/8	46523	6
3/8	.3750	3-5/8	5	46524	6
25/64	.3906	3-3/4	5-1/8	46525	6
13/32	.4062	3-7/8	5-1/4	46526	6
27/64	.4219	3-15/16	5-3/8	46527	6
7/16	.4375	4-1/16	5-1/2	46528	6
29/64	.4531	4-3/16	5-5/8	46529	6
15/32	.4688	4-5/16	5-3/4	46530	6
31/64	.4844	4-3/8	5-7/8	46531	6
1/2	.5000	4-1/2	6	46532	6



57850

Corresponding Sets				
Number of Pieces	Description	Order Number		
		550 Bronze	TiN	550L Bronze
13	1/16 - 1/4 X 1/64	57851	69891	—
15	1/16 - 1/2 X 1/32	57852	69871	46533
21	1/16 - 3/8 X 1/64	69887	69892	—
29	1/16 - 1/2 X 1/64	57850	69870	46534
26	Letters A - Z	69886	—	—
60	#1 - #60 wire gauge	57853	—	—
20	#61 - #80 wire gauge	45657	—	—
115	1/16 - 1/2 X 1/64, A - Z, #1 - #60	46650	—	—
11	1mm - 6mm X 0.5mm	54126	—	—
25	1mm - 13mm X 0.5mm	54127	—	—

Metal cases

GENERAL PURPOSE JOBBER LENGTH DRILLS

150D SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Bright

The CHICAGO-LATROBE 150D Jobber Drill is a versatile, general-purpose tool with a 118° point and bright finish for improved chip flow. Made from premium high-speed steel, it's ideal for a wide range of materials and conditions. Metric sizes conform to DIN 338 specs.

NOTE: Also available in Black Oxide and TiN finishes.

Style 150D is also available in sets ranging from 11-118 pieces in fractional, letter, wire, and metric sizing.

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/64	.0156	3/16	3/4	44201	12
1/32	.0312	1/2	1-3/8	44202	12
3/64	.0469	3/4	1-3/4	44203	12
1/16	.0625	7/8	1-7/8	44204	12
5/64	.0781	1	2	44205	12
3/32	.0938	1-1/4	2-1/4	44206	12
7/64	.1094	1-1/2	2-5/8	44207	12
1/8	.1250	1-5/8	2-3/4	44208	12
9/64	.1406	1-3/4	2-7/8	44209	12
5/32	.1562	2	3-1/8	44210	12
11/64	.1719	2-1/8	3-1/4	44211	12
3/16	.1875	2-5/16	3-1/2	44212	12
13/64	.2031	2-7/16	3-5/8	44213	12
7/32	.2188	2-1/2	3-3/4	44214	12
15/64	.2344	2-5/8	3-7/8	44215	12
1/4	.2500	2-3/4	4	44216	12
17/64	.2656	2-7/8	4-1/8	44217	12
9/32	.2812	2-15/16	4-1/4	44218	12
19/64	.2969	3-1/16	4-3/8	44219	6
5/16	.3125	3-3/16	4-1/2	44220	6
21/64	.3281	3-5/16	4-5/8	44221	6
11/32	.3438	3-7/16	4-3/4	44222	6
23/64	.3594	3-1/2	4-7/8	44223	6
3/8	.3750	3-5/8	5	44224	6
25/64	.3906	3-3/4	5-1/8	44225	6
13/32	.4062	3-7/8	5-1/4	44226	6
27/64	.4219	3-15/16	5-3/8	44227	6
7/16	.4375	4-1/16	5-1/2	44228	6
29/64	.4531	4-3/16	5-5/8	44229	6
15/32	.4688	4-5/16	5-3/4	44230	6
31/64	.4844	4-3/8	5-7/8	44231	6
1/2	.5000	4-1/2	6	44232	6
33/64	.5156	4-13/16	6-5/8	44233	1
17/32	.5312	4-13/16	6-5/8	44234	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
35/64	.5469	4-13/16	6-5/8	44235	1
9/16	.5625	4-13/16	6-5/8	44236	1
37/64	.5781	4-13/16	6-5/8	44237	1
19/32	.5938	5-3/16	7-1/8	44238	1
39/64	.6094	5-3/16	7-1/8	44239	1
5/8	.6250	5-3/16	7-1/8	44240	1
41/64	.6406	5-3/16	7-1/8	44241	1
21/32	.6562	5-3/16	7-1/8	44242	1
43/64	.6719	5-3/16	7-1/8	44243	1
11/16	.6875	5-5/8	7-5/8	44244	1
Wire					
80	.0135	1/8	3/4	44350	12
79	.0145	1/8	3/4	44349	12
78	.0160	3/16	7/8	44348	12
77	.0180	3/16	7/8	44347	12
76	.0200	3/16	7/8	44346	12
75	.0210	1/4	1	44345	12
74	.0225	1/4	1	44344	12
73	.0240	5/16	1-1/8	44343	12
72	.0250	5/16	1-1/8	44342	12
71	.0260	3/8	1-1/4	44341	12
70	.0280	3/8	1-1/4	44340	12
69	.0292	1/2	1-3/8	44339	12
68	.0310	1/2	1-3/8	44338	12
67	.0320	1/2	1-3/8	44337	12
66	.0330	1/2	1-3/8	44336	12
65	.0350	5/8	1-1/2	44335	12
64	.0360	5/8	1-1/2	44334	12
63	.0370	5/8	1-1/2	44333	12
62	.0380	5/8	1-1/2	44332	12
61	.0390	11/16	1-5/8	44331	12
60	.0400	11/16	1-5/8	44330	12
59	.0410	11/16	1-5/8	44329	12
58	.0420	11/16	1-5/8	44328	12
57	.0430	3/4	1-3/4	44327	12

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GENERAL PURPOSE JOBBER LENGTH DRILLS

150D SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
56	.0465	3/4	1-3/4	44326	12
55	.0520	7/8	1-7/8	44325	12
54	.0550	7/8	1-7/8	44324	12
53	.0595	7/8	1-7/8	44323	12
52	.0635	7/8	1-7/8	44322	12
51	.0670	1	2	44321	12
50	.0700	1	2	44320	12
49	.0730	1	2	44319	12
48	.0760	1	2	44318	12
47	.0785	1	2	44317	12
46	.0810	1-1/8	2-1/8	44316	12
45	.0820	1-1/8	2-1/8	44315	12
44	.0860	1-1/8	2-1/8	44314	12
43	.0890	1-1/4	2-1/4	44313	12
42	.0935	1-1/4	2-1/4	44312	12
41	.0960	1-3/8	2-3/8	44311	12
40	.0980	1-3/8	2-3/8	44310	12
39	.0995	1-3/8	2-3/8	44309	12
38	.1015	1-7/16	2-1/2	44308	12
37	.1040	1-7/16	2-1/2	44307	12
36	.1065	1-7/16	2-1/2	44306	12
35	.1100	1-1/2	2-5/8	44305	12
34	.1110	1-1/2	2-5/8	44304	12
33	.1130	1-1/2	2-5/8	44303	12
32	.1160	1-5/8	2-3/4	44302	12
31	.1200	1-5/8	2-3/4	44301	12
30	.1285	1-5/8	2-3/4	44300	12
29	.1360	1-3/4	2-7/8	44299	12
28	.1405	1-3/4	2-7/8	44298	12
27	.1440	1-7/8	3	44297	12
26	.1470	1-7/8	3	44296	12
25	.1495	1-7/8	3	44295	12
24	.1520	2	3-1/8	44294	12
23	.1540	2	3-1/8	44293	12
22	.1570	2	3-1/8	44292	12
21	.1590	2-1/8	3-1/4	44291	12
20	.1610	2-1/8	3-1/4	44290	12
19	.1660	2-1/8	3-1/4	44289	12
18	.1695	2-1/8	3-1/4	44288	12
17	.1730	2-3/16	3-3/8	44287	12
16	.1770	2-3/16	3-3/8	44286	12
15	.1800	2-3/16	3-3/8	44285	12
14	.1820	2-3/16	3-3/8	44284	12
13	.1850	2-5/16	3-1/2	44283	12
12	.1890	2-5/16	3-1/2	44282	12
11	.1910	2-5/16	3-1/2	44281	12
10	.1935	2-7/16	3-5/8	44280	12
9	.1960	2-7/16	3-5/8	44279	12
8	.1990	2-7/16	3-5/8	44278	12
7	.2010	2-7/16	3-5/8	44277	12
6	.2040	2-1/2	3-3/4	44276	12
5	.2055	2-1/2	3-3/4	44275	12
4	.2090	2-1/2	3-3/4	44274	12
3	.2130	2-1/2	3-3/4	44273	12
2	.2210	2-5/8	3-7/8	44272	12
1	.2280	2-5/8	3-7/8	44271	12

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	2-5/8	3-7/8	44371	12
B	.2380	2-3/4	4	44372	12
C	.2420	2-3/4	4	44373	12
D	.2460	2-3/4	4	44374	12
E	.2500	2-3/4	4	44216	12
F	.2570	2-7/8	4-1/8	44376	12
G	.2610	2-7/8	4-1/8	44377	12
H	.2660	2-7/8	4-1/8	44378	12
I	.2720	2-7/8	4-1/8	44379	12
J	.2770	2-7/8	4-1/8	44380	12
K	.2810	2-15/16	4-1/4	44381	12
L	.2900	2-15/16	4-1/4	44382	12
M	.2950	3-1/16	4-3/8	44383	6
N	.3020	3-1/16	4-3/8	44384	6
O	.3160	3-3/16	4-1/2	44385	6
P	.3230	3-5/16	4-5/8	44386	6
Q	.3320	3-7/16	4-3/4	44387	6
R	.3390	3-7/16	4-3/4	44388	6
S	.3480	3-1/2	4-7/8	44389	6
T	.3580	3-1/2	4-7/8	44390	6
U	.3680	3-5/8	5	44391	6
V	.3770	3-5/8	5	44392	6
W	.3860	3-3/4	5-1/8	44393	6
X	.3970	3-3/4	5-1/8	44394	6
Y	.4040	3-7/8	5-1/4	44395	6
Z	.4130	3-7/8	5-1/4	44396	6
Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
0.35	.0138	4.00	19.00	47210	12
0.40	.0157	5.00	20.00	47211	12
0.45	.0177	5.00	20.00	47212	12
0.50	.0197	6.00	22.00	47213	12
0.55	.0217	7.00	24.00	47214	12
0.60	.0236	7.00	24.00	47215	12
0.65	.0256	8.00	26.00	47216	12
0.70	.0276	9.00	28.00	47217	12
0.75	.0295	9.00	28.00	47218	12
0.80	.0315	10.00	30.00	47219	12
0.85	.0335	10.00	30.00	47220	12
0.90	.0354	11.00	32.00	47221	12
0.95	.0374	11.00	32.00	47222	12
1.00	.0394	12.00	34.00	45223	12
1.05	.0413	12.00	34.00	45224	12
1.10	.0433	14.00	36.00	45225	12
1.15	.0453	14.00	36.00	45226	12
1.20	.0472	16.00	38.00	45227	12
1.25	.0492	16.00	38.00	45228	12
1.30	.0512	16.00	38.00	45229	12
1.35	.0531	18.00	40.00	45230	12
1.40	.0551	18.00	40.00	45231	12
1.45	.0571	18.00	40.00	45232	12
1.50	.0591	18.00	40.00	45233	12
1.55	.0610	20.00	43.00	45234	12
1.60	.0630	20.00	43.00	45235	12
1.65	.0650	20.00	43.00	45236	12

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GENERAL PURPOSE JOBBER LENGTH DRILLS

01

DRILLS

Chicago-Latrobe | WALTER

150D SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
1.70	.0669	20.00	43.00	45237	12
1.75	.0689	22.00	46.00	45238	12
1.80	.0709	22.00	46.00	45239	12
1.85	.0728	22.00	46.00	45240	12
1.90	.0748	22.00	46.00	45241	12
1.95	.0768	24.00	49.00	45242	12
2.00	.0787	24.00	49.00	45243	12
2.05	.0807	24.00	49.00	45244	12
2.10	.0827	24.00	49.00	45245	12
2.15	.0846	27.00	53.00	45246	12
2.20	.0866	27.00	53.00	45247	12
2.25	.0886	27.00	53.00	45248	12
2.30	.0906	27.00	53.00	45249	12
2.35	.0925	27.00	53.00	45250	12
2.40	.0945	30.00	57.00	45251	12
2.45	.0965	30.00	57.00	45252	12
2.50	.0984	30.00	57.00	45253	12
2.60	.1024	30.00	57.00	45254	12
2.70	.1063	33.00	61.00	45255	12
2.80	.1102	33.00	61.00	45257	12
2.90	.1142	33.00	61.00	45258	12
3.00	.1181	33.00	61.00	45259	12
3.10	.1220	36.00	65.00	45260	12
3.20	.1260	36.00	65.00	45261	12
3.30	.1299	36.00	65.00	45263	12
3.40	.1339	39.00	70.00	45264	12
3.50	.1378	39.00	70.00	45265	12
3.60	.1417	39.00	70.00	45266	12
3.70	.1457	39.00	70.00	45267	12
3.80	.1496	43.00	75.00	45269	12
3.90	.1535	43.00	75.00	45270	12
4.00	.1575	43.00	75.00	45271	12
4.10	.1614	43.00	75.00	45272	12
4.20	.1654	43.00	75.00	45273	12
4.30	.1693	47.00	80.00	45275	12
4.40	.1732	47.00	80.00	45276	12
4.50	.1772	47.00	80.00	45277	12
4.60	.1811	47.00	80.00	45278	12
4.70	.1850	47.00	80.00	45279	12
4.80	.1890	52.00	86.00	45281	12
4.90	.1929	52.00	86.00	45282	12
5.00	.1969	52.00	86.00	45283	12
5.10	.2008	52.00	86.00	45284	12
5.20	.2047	52.00	86.00	45285	12
5.30	.2087	52.00	86.00	45287	12
5.40	.2126	57.00	93.00	45288	12
5.50	.2165	57.00	93.00	45289	12
5.60	.2205	57.00	93.00	45290	12
5.70	.2244	57.00	93.00	45291	12
5.80	.2283	57.00	93.00	45293	12
5.90	.2323	57.00	93.00	45294	12
6.00	.2362	57.00	93.00	45295	12
6.10	.2402	63.00	101.00	45296	12
6.20	.2441	63.00	101.00	45297	12
6.30	.2480	63.00	101.00	45299	12
6.40	.2520	63.00	101.00	45300	12
6.50	.2559	63.00	101.00	45301	12
6.60	.2598	63.00	101.00	45302	12
6.70	.2638	63.00	101.00	45303	12
6.80	.2677	69.00	109.00	45305	12

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
6.90	.2717	69.00	109.00	45306	12
7.00	.2756	69.00	109.00	45307	12
7.10	.2795	69.00	109.00	45308	12
7.20	.2835	69.00	109.00	45309	12
7.30	.2874	69.00	109.00	45311	12
7.40	.2913	69.00	109.00	45312	6
7.50	.2953	69.00	109.00	45313	6
7.60	.2992	75.00	117.00	45314	6
7.70	.3031	75.00	117.00	45315	6
7.80	.3071	75.00	117.00	45317	6
7.90	.3110	75.00	117.00	45318	6
8.00	.3150	75.00	117.00	45319	6
8.10	.3189	75.00	117.00	45320	6
8.20	.3228	75.00	117.00	45321	6
8.30	.3268	75.00	117.00	45323	6
8.40	.3307	75.00	117.00	45324	6
8.50	.3346	75.00	117.00	45325	6
8.60	.3386	81.00	125.00	45326	6
8.70	.3425	81.00	125.00	45327	6
8.80	.3465	81.00	125.00	45329	6
8.90	.3504	81.00	125.00	45330	6
9.00	.3543	81.00	125.00	45331	6
9.10	.3583	81.00	125.00	45332	6
9.20	.3622	81.00	125.00	45333	6
9.30	.3661	81.00	125.00	45335	6
9.40	.3701	81.00	125.00	45336	6
9.50	.3740	81.00	125.00	45337	6
9.60	.3780	87.00	133.00	45338	6
9.70	.3819	87.00	133.00	45339	6
9.80	.3858	87.00	133.00	45341	6
9.90	.3898	87.00	133.00	45342	6
10.00	.3937	87.00	133.00	45343	6
10.20	.4016	87.00	133.00	45354	6
10.50	.4134	87.00	133.00	45344	6
10.80	.4252	94.00	142.00	45356	6
11.00	.4331	94.00	142.00	45345	6
11.20	.4409	94.00	142.00	45357	6
11.50	.4528	94.00	142.00	45346	6
11.80	.4646	94.00	142.00	45358	6
12.00	.4724	101.00	151.00	45347	6
12.20	.4803	101.00	151.00	45359	6
12.50	.4921	101.00	151.00	45348	6
12.80	.5039	101.00	151.00	45360	1
13.00	.5118	101.00	151.00	45349	1
13.20	.5197	101.00	151.00	45361	1
13.50	.5315	108.00	160.00	45363	1
13.80	.5433	108.00	160.00	45364	1
14.00	.5512	108.00	160.00	45362	1
14.25	.5610	108.00	160.00	45365	1
14.50	.5709	114.00	169.00	45366	1
14.75	.5807	114.00	169.00	45367	1
15.00	.5906	114.00	169.00	45369	1
15.25	.6004	114.00	169.00	45370	1
15.50	.6102	120.00	178.00	45368	1
15.75	.6201	120.00	178.00	45371	1
16.00	.6299	120.00	178.00	45372	1
16.25	.6398	120.00	178.00	45373	1
16.50	.6496	125.00	184.00	45374	1
16.75	.6594	125.00	184.00	45376	1
17.00	.6693	125.00	184.00	45377	1
17.25	.6791	125.00	184.00	45378	1
17.50	.6890	130.00	191.00	45375	1

GENERAL PURPOSE JOBBER LENGTH DRILLS

150 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Black Oxide

The CHICAGO-LATROBE 150 Jobber Drill is a versatile, general-purpose tool with a 118° point and black oxide finish for increased wear resistance and adds lubricity, and improved chip flow. Made from premium high-speed steel, it's ideal for a wide range of materials and conditions. Metric sizes conform to DIN 338 specs.

NOTE: Also available in Bright (Style 150D) and TiN (Style 150-TN) finishes.

Style 150 is also available in sets ranging from 11-118 pieces in fractional, letter, wire, and metric sizing.

Best Material Application



STEEL



CAST IRON

Drill Specifications



118° POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/64	.0156	3/16	3/4	44001	12
1/32	.0312	1/2	1-3/8	44002	12
3/64	.0469	3/4	1-3/4	44003	12
1/16	.0625	7/8	1-7/8	44004	12
5/64	.0781	1	2	44005	12
3/32	.0938	1-1/4	2-1/4	44006	12
7/64	.1094	1-1/2	2-5/8	44007	12
1/8	.1250	1-5/8	2-3/4	44008	12
9/64	.1406	1-3/4	2-7/8	44009	12
5/32	.1562	2	3-1/8	44010	12
11/64	.1719	2-1/8	3-1/4	44011	12
3/16	.1875	2-5/16	3-1/2	44012	12
13/64	.2031	2-7/16	3-5/8	44013	12
7/32	.2188	2-1/2	3-3/4	44014	12
15/64	.2344	2-5/8	3-7/8	44015	12
1/4	.2500	2-3/4	4	44016	12
17/64	.2656	2-7/8	4-1/8	44017	12
9/32	.2812	2-15/16	4-1/4	44018	12
19/64	.2969	3-1/16	4-3/8	44019	6
5/16	.3125	3-3/16	4-1/2	44020	6
21/64	.3281	3-5/16	4-5/8	44021	6
11/32	.3438	3-7/16	4-3/4	44022	6
23/64	.3594	3-1/2	4-7/8	44023	6
3/8	.3750	3-5/8	5	44024	6
25/64	.3906	3-3/4	5-1/8	44025	6
13/32	.4062	3-7/8	5-1/4	44026	6
27/64	.4219	3-15/16	5-3/8	44027	6
7/16	.4375	4-1/16	5-1/2	44028	6
29/64	.4531	4-3/16	5-5/8	44029	6
15/32	.4688	4-5/16	5-3/4	44030	6
31/64	.4844	4-3/8	5-7/8	44031	6
1/2	.5000	4-1/2	6	44032	6
33/64	.5156	4-13/16	6-5/8	44033	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
17/32	.5312	4-13/16	6-5/8	44034	1
35/64	.5469	4-13/16	6-5/8	44035	1
9/16	.5625	4-13/16	6-5/8	44036	1
37/64	.5781	4-13/16	6-5/8	44037	1
19/32	.5938	5-3/16	7-1/8	44038	1
39/64	.6094	5-3/16	7-1/8	44039	1
5/8	.6250	5-3/16	7-1/8	44040	1
41/64	.6406	5-3/16	7-1/8	44041	1
21/32	.6562	5-3/16	7-1/8	44042	1
43/64	.6719	5-3/16	7-1/8	44043	1
11/16	.6875	5-5/8	7-5/8	44044	1

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
80	.0135	1/8	3/4	44150	12
79	.0145	1/8	3/4	44149	12
78	.0160	3/16	7/8	44148	12
77	.0180	3/16	7/8	44147	12
76	.0200	3/16	7/8	44146	12
75	.0210	1/4	1	44145	12
74	.0225	1/4	1	44144	12
73	.0240	5/16	1-1/8	44143	12
72	.0250	5/16	1-1/8	44142	12
71	.0260	3/8	1-1/4	44141	12
70	.0280	3/8	1-1/4	44140	12
69	.0292	1/2	1-3/8	44139	12
68	.0310	1/2	1-3/8	44138	12
67	.0320	1/2	1-3/8	44137	12
66	.0330	1/2	1-3/8	44136	12
65	.0350	5/8	1-1/2	44135	12
64	.0360	5/8	1-1/2	44134	12
63	.0370	5/8	1-1/2	44133	12

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GENERAL PURPOSE JOBBER LENGTH DRILLS

150 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
62	.0380	5/8	1-1/2	44132	12
61	.0390	11/16	1-5/8	44131	12
60	.0400	11/16	1-5/8	44130	12
59	.0410	11/16	1-5/8	44129	12
58	.0420	11/16	1-5/8	44128	12
57	.0430	3/4	1-3/4	44127	12
56	.0465	3/4	1-3/4	44126	12
55	.0520	7/8	1-7/8	44125	12
54	.0550	7/8	1-7/8	44124	12
53	.0595	7/8	1-7/8	44123	12
52	.0635	7/8	1-7/8	44122	12
51	.0670	1	2	44121	12
50	.0700	1	2	44120	12
49	.0730	1	2	44119	12
48	.0760	1	2	44118	12
47	.0785	1	2	44117	12
46	.0810	1-1/8	2-1/8	44116	12
45	.0820	1-1/8	2-1/8	44115	12
44	.0860	1-1/8	2-1/8	44114	12
43	.0890	1-1/4	2-1/4	44113	12
42	.0935	1-1/4	2-1/4	44112	12
41	.0960	1-3/8	2-3/8	44111	12
40	.0980	1-3/8	2-3/8	44110	12
39	.0995	1-3/8	2-3/8	44109	12
38	.1015	1-7/16	2-1/2	44108	12
37	.1040	1-7/16	2-1/2	44107	12
36	.1065	1-7/16	2-1/2	44106	12
35	.1100	1-1/2	2-5/8	44105	12
34	.1110	1-1/2	2-5/8	44104	12
33	.1130	1-1/2	2-5/8	44103	12
32	.1160	1-5/8	2-3/4	44102	12
31	.1200	1-5/8	2-3/4	44101	12
30	.1285	1-5/8	2-3/4	44100	12
29	.1360	1-3/4	2-7/8	44099	12
28	.1405	1-3/4	2-7/8	44098	12
27	.1440	1-7/8	3	44097	12
26	.1470	1-7/8	3	44096	12
25	.1495	1-7/8	3	44095	12
24	.1520	2	3-1/8	44094	12
23	.1540	2	3-1/8	44093	12
22	.1570	2	3-1/8	44092	12
21	.1590	2-1/8	3-1/4	44091	12
20	.1610	2-1/8	3-1/4	44090	12
19	.1660	2-1/8	3-1/4	44089	12
18	.1695	2-1/8	3-1/4	44088	12
17	.1730	2-3/16	3-3/8	44087	12
16	.1770	2-3/16	3-3/8	44086	12
15	.1800	2-3/16	3-3/8	44085	12
14	.1820	2-3/16	3-3/8	44084	12
13	.1850	2-5/16	3-1/2	44083	12
12	.1890	2-5/16	3-1/2	44082	12
11	.1910	2-5/16	3-1/2	44081	12
10	.1935	2-7/16	3-5/8	44080	12
9	.1960	2-7/16	3-5/8	44079	12
8	.1990	2-7/16	3-5/8	44078	12
7	.2010	2-7/16	3-5/8	44077	12
6	.2040	2-1/2	3-3/4	44076	12
5	.2055	2-1/2	3-3/4	44075	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
4	.2090	2-1/2	3-3/4	44074	12
3	.2130	2-1/2	3-3/4	44073	12
2	.2210	2-5/8	3-7/8	44072	12
1	.2280	2-5/8	3-7/8	44071	12

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	2-5/8	3-7/8	44171	12
B	.2380	2-3/4	4	44172	12
C	.2420	2-3/4	4	44173	12
D	.2460	2-3/4	4	44174	12
E	.2500	2-3/4	4	44016	12
F	.2570	2-7/8	4-1/8	44176	12
G	.2610	2-7/8	4-1/8	44177	12
H	.2660	2-7/8	4-1/8	44178	12
I	.2720	2-7/8	4-1/8	44179	12
J	.2770	2-7/8	4-1/8	44180	12
K	.2810	2-15/16	4-1/4	44181	12
L	.2900	2-15/16	4-1/4	44182	12
M	.2950	3-1/16	4-3/8	44183	6
N	.3020	3-1/16	4-3/8	44184	6
O	.3160	3-3/16	4-1/2	44185	6
P	.3230	3-5/16	4-5/8	44186	6
Q	.3320	3-7/16	4-3/4	44187	6
R	.3390	3-7/16	4-3/4	44188	6
S	.3480	3-1/2	4-7/8	44189	6
T	.3580	3-1/2	4-7/8	44190	6
U	.3680	3-5/8	5	44191	6
V	.3770	3-5/8	5	44192	6
W	.3860	3-3/4	5-1/8	44193	6
X	.3970	3-3/4	5-1/8	44194	6
Y	.4040	3-7/8	5-1/4	44195	6
Z	.4130	3-7/8	5-1/4	44196	6

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
1.00	.0394	12.00	34.00	47223	12
1.05	.0413	12.00	34.00	47224	12
1.10	.0433	14.00	36.00	47225	12
1.15	.0453	14.00	36.00	47226	12
1.20	.0472	16.00	38.00	47227	12
1.25	.0492	16.00	38.00	47228	12
1.30	.0512	16.00	38.00	47229	12
1.35	.0531	18.00	40.00	47230	12
1.40	.0551	18.00	40.00	47231	12
1.45	.0571	18.00	40.00	47232	12
1.50	.0591	18.00	40.00	47233	12
1.55	.0610	20.00	43.00	47234	12
1.60	.0630	20.00	43.00	47235	12
1.65	.0650	20.00	43.00	47236	12
1.70	.0669	20.00	43.00	47237	12
1.75	.0689	22.00	46.00	47238	12
1.80	.0709	22.00	46.00	47239	12
1.85	.0728	22.00	46.00	47240	12
1.90	.0748	22.00	46.00	47241	12
1.95	.0768	24.00	49.00	47242	12

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GENERAL PURPOSE
JOBBER LENGTH DRILLS

150 SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
2.00	.0787	24.00	49.00	47243	12
2.05	.0807	24.00	49.00	47244	12
2.10	.0827	24.00	49.00	47245	12
2.15	.0846	27.00	53.00	47246	12
2.20	.0866	27.00	53.00	47247	12
2.25	.0886	27.00	53.00	47248	12
2.30	.0906	27.00	53.00	47249	12
2.35	.0925	27.00	53.00	47250	12
2.40	.0945	30.00	57.00	47251	12
2.45	.0965	30.00	57.00	47252	12
2.50	.0984	30.00	57.00	47253	12
2.60	.1024	30.00	57.00	47254	12
2.70	.1063	33.00	61.00	47255	12
2.80	.1102	33.00	61.00	47257	12
2.90	.1142	33.00	61.00	47258	12
3.00	.1181	33.00	61.00	47259	12
3.10	.1220	36.00	65.00	47260	12
3.20	.1260	36.00	65.00	47261	12
3.30	.1299	36.00	65.00	47263	12
3.40	.1339	39.00	70.00	47264	12
3.50	.1378	39.00	70.00	47265	12
3.60	.1417	39.00	70.00	47266	12
3.70	.1457	39.00	70.00	47267	12
3.80	.1496	43.00	75.00	47269	12
3.90	.1535	43.00	75.00	47270	12
4.00	.1575	43.00	75.00	47271	12
4.10	.1614	43.00	75.00	47272	12
4.20	.1654	43.00	75.00	47273	12
4.30	.1693	47.00	80.00	47275	12
4.40	.1732	47.00	80.00	47276	12
4.50	.1772	47.00	80.00	47277	12
4.60	.1811	47.00	80.00	47278	12
4.70	.1850	47.00	80.00	47279	12
4.80	.1890	52.00	86.00	47281	12
4.90	.1929	52.00	86.00	47282	12
5.00	.1969	52.00	86.00	47283	12
5.10	.2008	52.00	86.00	47284	12
5.20	.2047	52.00	86.00	47285	12
5.30	.2087	52.00	86.00	47287	12
5.40	.2126	57.00	93.00	47288	12
5.50	.2165	57.00	93.00	47289	12
5.60	.2205	57.00	93.00	47290	12
5.70	.2244	57.00	93.00	47291	12
5.80	.2283	57.00	93.00	47293	12
5.90	.2323	57.00	93.00	47294	12
6.00	.2362	57.00	93.00	47295	12
6.10	.2402	63.00	101.00	47296	12
6.20	.2441	63.00	101.00	47297	12
6.30	.2480	63.00	101.00	47299	12
6.40	.2520	63.00	101.00	47300	12
6.50	.2559	63.00	101.00	47301	12
6.60	.2598	63.00	101.00	47302	12
6.70	.2638	63.00	101.00	47303	12
6.80	.2677	69.00	109.00	47305	12
6.90	.2717	69.00	109.00	47306	12
7.00	.2756	69.00	109.00	47307	12

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
7.10	.2795	69.00	109.00	47308	12
7.20	.2835	69.00	109.00	47309	12
7.30	.2874	69.00	109.00	47311	12
7.40	.2913	69.00	109.00	47312	6
7.50	.2953	69.00	109.00	47313	6
7.60	.2992	75.00	117.00	47314	6
7.70	.3031	75.00	117.00	47315	6
7.80	.3071	75.00	117.00	47317	6
7.90	.3110	75.00	117.00	47318	6
8.00	.3150	75.00	117.00	47319	6
8.10	.3189	75.00	117.00	47320	6
8.20	.3228	75.00	117.00	47321	6
8.30	.3268	75.00	117.00	47323	6
8.40	.3307	75.00	117.00	47324	6
8.50	.3346	75.00	117.00	47325	6
8.60	.3386	81.00	125.00	47326	6
8.70	.3425	81.00	125.00	47327	6
8.80	.3465	81.00	125.00	47329	6
8.90	.3504	81.00	125.00	47330	6
9.00	.3543	81.00	125.00	47331	6
9.10	.3583	81.00	125.00	47332	6
9.20	.3622	81.00	125.00	47333	6
9.30	.3661	81.00	125.00	47335	6
9.40	.3701	81.00	125.00	47336	6
9.50	.3740	81.00	125.00	47337	6
9.60	.3780	87.00	133.00	47338	6
9.70	.3819	87.00	133.00	47339	6
9.80	.3858	87.00	133.00	47341	6
9.90	.3898	87.00	133.00	47342	6
10.00	.3937	87.00	133.00	47343	6
10.20	.4016	87.00	133.00	47354	6
10.50	.4134	87.00	133.00	47344	6
10.80	.4252	94.00	142.00	47356	6
11.00	.4331	94.00	142.00	47345	6
11.20	.4409	94.00	142.00	47357	6
11.50	.4528	94.00	142.00	47346	6
11.80	.4646	94.00	142.00	47358	6
12.00	.4724	101.00	151.00	47347	6
12.20	.4803	101.00	151.00	47359	6
12.50	.4921	101.00	151.00	47348	6
12.80	.5039	101.00	151.00	47360	1
13.00	.5118	101.00	151.00	47349	1
13.20	.5197	101.00	151.00	47361	1
13.50	.5315	108.00	160.00	47363	1
13.80	.5433	108.00	160.00	47364	1
14.00	.5512	108.00	160.00	47362	1
14.25	.5610	108.00	160.00	47365	1
14.50	.5709	114.00	169.00	47366	1
14.75	.5807	114.00	169.00	47367	1
15.00	.5906	114.00	169.00	47369	1
15.25	.6004	114.00	169.00	47370	1
15.50	.6102	120.00	178.00	47368	1
15.75	.6201	120.00	178.00	47371	1
16.00	.6299	120.00	178.00	47372	1
16.25	.6398	120.00	178.00	47373	1
16.50	.6496	125.00	184.00	47374	1
16.75	.6594	125.00	184.00	47376	1
17.00	.6693	125.00	184.00	47377	1
17.25	.6791	125.00	184.00	47378	1
17.50	.6890	130.00	191.00	47375	1

GENERAL PURPOSE JOBBER LENGTH DRILLS

01

DRILLS

150-TN SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / TiN

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/64	.0156	3/16	3/4	70201	12
1/32	.0312	1/2	1-3/8	70202	12
3/64	.0469	3/4	1-3/4	70203	12
1/16	.0625	7/8	1-7/8	70204	12
5/64	.0781	1	2	70205	12
3/32	.0938	1-1/4	2-1/4	70206	12
7/64	.1094	1-1/2	2-5/8	70207	12
1/8	.1250	1-5/8	2-3/4	70208	12
9/64	.1406	1-3/4	2-7/8	70209	12
5/32	.1562	2	3-1/8	70210	12
11/64	.1719	2-1/8	3-1/4	70211	12
3/16	.1875	2-5/16	3-1/2	70212	12
13/64	.2031	2-7/16	3-5/8	70213	12
7/32	.2188	2-1/2	3-3/4	70214	12
15/64	.2344	2-5/8	3-7/8	70215	12
1/4	.2500	2-3/4	4	70216	12
17/64	.2656	2-7/8	4-1/8	70217	12
9/32	.2812	2-15/16	4-1/4	70218	12
19/64	.2969	3-1/16	4-3/8	70219	6
5/16	.3125	3-3/16	4-1/2	70220	6
21/64	.3281	3-5/16	4-5/8	70221	6
11/32	.3438	3-7/16	4-3/4	70222	6
23/64	.3594	3-1/2	4-7/8	70223	6
3/8	.3750	3-5/8	5	70224	6
25/64	.3906	3-3/4	5-1/8	70225	6
13/32	.4062	3-7/8	5-1/4	70226	6
27/64	.4219	3-15/16	5-3/8	70227	6
7/16	.4375	4-1/16	5-1/2	70228	6
29/64	.4531	4-3/16	5-5/8	70229	6
15/32	.4688	4-5/16	5-3/4	70230	6
31/64	.4844	4-3/8	5-7/8	70231	6
1/2	.5000	4-1/2	6	70232	6
33/64	.5156	4-13/16	6-5/8	70233	1
17/32	.5312	4-13/16	6-5/8	70234	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
35/64	.5469	4-13/16	6-5/8	70235	1
9/16	.5625	4-13/16	6-5/8	70236	1
37/64	.5781	4-13/16	6-5/8	70237	1
19/32	.5938	5-3/16	7-1/8	70238	1
39/64	.6094	5-3/16	7-1/8	70239	1
5/8	.6250	5-3/16	7-1/8	70240	1
41/64	.6406	5-3/16	7-1/8	70241	1
21/32	.6562	5-3/16	7-1/8	70242	1
43/64	.6719	5-3/16	7-1/8	70243	1
11/16	.6875	5-5/8	7-5/8	70244	1

Wire					
80	.0135	1/8	3/4	70180	12
79	.0145	1/8	3/4	70179	12
78	.0160	3/16	7/8	70178	12
77	.0180	3/16	7/8	70177	12
76	.0200	3/16	7/8	70176	12
75	.0210	1/4	1	70175	12
74	.0225	1/4	1	70174	12
73	.0240	5/16	1-1/8	70173	12
72	.0250	5/16	1-1/8	70172	12
71	.0260	3/8	1-1/4	70171	12
70	.0280	3/8	1-1/4	70170	12
69	.0292	1/2	1-3/8	70169	12
68	.0310	1/2	1-3/8	70168	12
67	.0320	1/2	1-3/8	70167	12
66	.0330	1/2	1-3/8	70166	12
65	.0350	5/8	1-1/2	70165	12
64	.0360	5/8	1-1/2	70164	12
63	.0370	5/8	1-1/2	70163	12
62	.0380	5/8	1-1/2	70162	12
61	.0390	11/16	1-5/8	70161	12
60	.0400	11/16	1-5/8	70160	12
59	.0410	11/16	1-5/8	70159	12
58	.0420	11/16	1-5/8	70158	12

Chicago-Latrobe

WALTER

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GENERAL PURPOSE JOBBER LENGTH DRILLS

150-TN SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
57	.0430	3/4	1-3/4	70157	12
56	.0465	3/4	1-3/4	70156	12
55	.0520	7/8	1-7/8	70155	12
54	.0550	7/8	1-7/8	70154	12
53	.0595	7/8	1-7/8	70153	12
52	.0635	7/8	1-7/8	70152	12
51	.0670	1	2	70151	12
50	.0700	1	2	70150	12
49	.0730	1	2	70149	12
48	.0760	1	2	70148	12
47	.0785	1	2	70147	12
46	.0810	1-1/8	2-1/8	70146	12
45	.0820	1-1/8	2-1/8	70145	12
44	.0860	1-1/8	2-1/8	70144	12
43	.0890	1-1/4	2-1/4	70143	12
42	.0935	1-1/4	2-1/4	70142	12
41	.0960	1-3/8	2-3/8	70141	12
40	.0980	1-3/8	2-3/8	70140	12
39	.0995	1-3/8	2-3/8	70139	12
38	.1015	1-7/16	2-1/2	70138	12
37	.1040	1-7/16	2-1/2	70137	12
36	.1065	1-7/16	2-1/2	70136	12
35	.1100	1-1/2	2-5/8	70135	12
34	.1110	1-1/2	2-5/8	70134	12
33	.1130	1-1/2	2-5/8	70133	12
32	.1160	1-5/8	2-3/4	70132	12
31	.1200	1-5/8	2-3/4	70131	12
30	.1285	1-5/8	2-3/4	70130	12
29	.1360	1-3/4	2-7/8	70129	12
28	.1405	1-3/4	2-7/8	70128	12
27	.1440	1-7/8	3	70127	12
26	.1470	1-7/8	3	70126	12
25	.1495	1-7/8	3	70125	12
24	.1520	2	3-1/8	70124	12
23	.1540	2	3-1/8	70123	12
22	.1570	2	3-1/8	70122	12
21	.1590	2-1/8	3-1/4	70121	12
20	.1610	2-1/8	3-1/4	70120	12
19	.1660	2-1/8	3-1/4	70119	12
18	.1695	2-1/8	3-1/4	70118	12
17	.1730	2-3/16	3-3/8	70117	12
16	.1770	2-3/16	3-3/8	70116	12
15	.1800	2-3/16	3-3/8	70115	12
14	.1820	2-3/16	3-3/8	70114	12
13	.1850	2-5/16	3-1/2	70113	12
12	.1890	2-5/16	3-1/2	70112	12
11	.1910	2-5/16	3-1/2	70111	12
10	.1935	2-7/16	3-5/8	70110	12
9	.1960	2-7/16	3-5/8	70109	12
8	.1990	2-7/16	3-5/8	70108	12
7	.2010	2-7/16	3-5/8	70107	12
6	.2040	2-1/2	3-3/4	70106	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
5	.2055	2-1/2	3-3/4	70105	12
4	.2090	2-1/2	3-3/4	70104	12
3	.2130	2-1/2	3-3/4	70103	12
2	.2210	2-5/8	3-7/8	70102	12
1	.2280	2-5/8	3-7/8	70101	12
Letter					
A	.2340	2-5/8	3-7/8	70301	12
B	.2380	2-3/4	4	70302	12
C	.2420	2-3/4	4	70303	12
D	.2460	2-3/4	4	70304	12
E	.2500	2-3/4	4	70216	12
F	.2570	2-7/8	4-1/8	70306	12
G	.2610	2-7/8	4-1/8	70307	12
H	.2660	2-7/8	4-1/8	70308	12
I	.2720	2-7/8	4-1/8	70309	12
J	.2770	2-7/8	4-1/8	70310	12
K	.2810	2-15/16	4-1/4	70311	12
L	.2900	2-15/16	4-1/4	70312	12
M	.2950	3-1/16	4-3/8	70313	6
N	.3020	3-1/16	4-3/8	70314	6
O	.3160	3-3/16	4-1/2	70315	6
P	.3230	3-5/16	4-5/8	70316	6
Q	.3320	3-7/16	4-3/4	70317	6
R	.3390	3-7/16	4-3/4	70318	6
S	.3480	3-1/2	4-7/8	70319	6
T	.3580	3-1/2	4-7/8	70320	6
U	.3680	3-5/8	5	70321	6
V	.3770	3-5/8	5	70322	6
W	.3860	3-3/4	5-1/8	70323	6
X	.3970	3-3/4	5-1/8	70324	6
Y	.4040	3-7/8	5-1/4	70325	6
Z	.4130	3-7/8	5-1/4	70326	6
Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
1.00	.0394	12.00	34.00	70331	12
1.25	.0492	16.00	38.00	70344	12
1.30	.0512	16.00	38.00	70345	12
1.45	.0571	18.00	40.00	70346	12
1.50	.0591	18.00	40.00	70347	12
1.55	.0610	20.00	43.00	70348	12
1.65	.0650	20.00	43.00	70349	12
1.75	.0689	22.00	46.00	70364	12
2.00	.0787	24.00	49.00	70332	12
2.05	.0807	24.00	49.00	70365	12
2.10	.0827	24.00	49.00	70366	12
2.20	.0866	27.00	53.00	70367	12
2.30	.0906	27.00	53.00	70368	12
2.50	.0984	30.00	57.00	70369	12
2.80	.1102	33.00	61.00	70370	12
2.90	.1142	33.00	61.00	70371	12
3.00	.1181	33.00	61.00	70333	12
3.10	.1220	36.00	65.00	70372	12

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GENERAL PURPOSE JOBBER LENGTH DRILLS

150-TN SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
3.20	.1260	36.00	65.00	70373	12
3.30	.1299	36.00	65.00	70374	12
3.40	.1339	39.00	70.00	70375	12
3.50	.1378	39.00	70.00	70376	12
3.70	.1457	39.00	70.00	70377	12
4.00	.1575	43.00	75.00	70334	12
4.20	.1654	43.00	75.00	70378	12
4.50	.1772	47.00	80.00	70379	12
4.90	.1929	52.00	86.00	70380	12
5.00	.1969	52.00	86.00	70335	12
5.50	.2165	57.00	93.00	70381	12
5.70	.2244	57.00	93.00	70382	12
6.00	.2362	57.00	93.00	70336	12
6.40	.2520	63.00	101.00	70383	12
6.50	.2559	63.00	101.00	70384	12
6.70	.2638	63.00	101.00	70385	12
6.80	.2677	69.00	109.00	70386	12

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
7.00	.2756	69.00	109.00	70337	12
7.20	.2835	69.00	109.00	70387	12
7.50	.2953	69.00	109.00	70388	12
8.00	.3150	75.00	117.00	70338	6
8.50	.3346	75.00	117.00	70389	6
8.70	.3425	81.00	125.00	70390	6
9.00	.3543	81.00	125.00	70339	6
9.50	.3740	81.00	125.00	70391	6
10.00	.3937	87.00	133.00	70340	6
10.20	.4016	87.00	133.00	70392	6
10.50	.4134	87.00	133.00	70393	6
11.00	.4331	94.00	142.00	70341	6
11.20	.4409	94.00	142.00	70394	6
11.50	.4528	94.00	142.00	70395	6
12.00	.4724	101.00	151.00	70342	6
12.20	.4803	101.00	151.00	70396	6
12.50	.4921	101.00	151.00	70397	6
13.00	.5118	101.00	151.00	70343	1



69861



57714



49914

Corresponding Sets					
Number of Pieces	Description	Order Number			
		Black Oxide	Bright	TiN	
13	1/16 - 1/4 X 1/64	57711	49911	—	
15	1/16 - 1/2 X 1/32	57713	49913	69862	
21	1/16 - 3/8 X 1/64	57712	49912	—	
29	1/16 - 1/2 X 1/64	57714	49914	69861	
26	Letters A - Z	57718	49918	69883	
60	#1 - #60 wire gauge	57716	49916	69863	
80	#1 - #80 wire gauge	57717	—	—	
20	#61 - #80 wire gauge	57720	57715	69897	
115	1/16 - 1/2 X 1/64, A - Z, #1 - #60	57728	49928	—	
114	1/16 - 1/2 X 1/64, #1 - #60, 1mm - 13mm X 0.5mm	57726	—	—	
11	1mm - 6mm X 0.5mm	57723	—	—	
13	1mm - 7mm X 0.5mm	57729	—	—	
25	1mm - 13mm X 0.5mm	57725	—	—	
118	1mm - 13mm X 0.1mm	57727	—	—	

GENERAL PURPOSE JOBBER LENGTH DRILLS

150L SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Left Hand / Bright

The 150L Series are left-hand helix drills with 118° points, crafted from premium high-speed steel. Perfect for counter-clockwise spindle rotation and removing broken parts without damaging threads. Bright finish standard, alternate coatings are available.

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/32	.0312	1/2	1-3/8	44402	12
3/64	.0469	3/4	1-3/4	44403	12
1/16	.0625	7/8	1-7/8	44404	12
5/64	.0781	1	2	44405	12
3/32	.0938	1-1/4	2-1/4	44406	12
7/64	.1094	1-1/2	2-5/8	44407	12
1/8	.1250	1-5/8	2-3/4	44408	12
9/64	.1406	1-3/4	2-7/8	44409	12
5/32	.1562	2	3-1/8	44410	12
11/64	.1719	2-1/8	3-1/4	44411	12
3/16	.1875	2-5/16	3-1/2	44412	12
13/64	.2031	2-7/16	3-5/8	44413	12
7/32	.2188	2-1/2	3-3/4	44414	12
15/64	.2344	2-5/8	3-7/8	44415	12
1/4	.2500	2-3/4	4	44416	12
17/64	.2656	2-7/8	4-1/8	44417	12
9/32	.2812	2-15/16	4-1/4	44418	12
19/64	.2969	3-1/16	4-3/8	44419	6
5/16	.3125	3-3/16	4-1/2	44420	6
21/64	.3281	3-5/16	4-5/8	44421	6
11/32	.3438	3-7/16	4-3/4	44422	6
23/64	.3594	3-1/2	4-7/8	44423	6
3/8	.3750	3-5/8	5	44424	6
25/64	.3906	3-3/4	5-1/8	44425	6
13/32	.4062	3-7/8	5-1/4	44426	6
27/64	.4219	3-15/16	5-3/8	44427	6
7/16	.4375	4-1/16	5-1/2	44428	6
29/64	.4531	4-3/16	5-5/8	44429	6
15/32	.4688	4-5/16	5-3/4	44430	6
31/64	.4844	4-3/8	5-7/8	44431	6
1/2	.5000	4-1/2	6	44432	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
69	.0292	1/2	1-3/8	44539	12
68	.0310	1/2	1-3/8	44538	12
67	.0320	1/2	1-3/8	44537	12
66	.0330	1/2	1-3/8	44536	12
65	.0350	5/8	1-1/2	44535	12
64	.0360	5/8	1-1/2	44534	12
63	.0370	5/8	1-1/2	44533	12
62	.0380	5/8	1-1/2	44532	12
61	.0390	11/16	1-5/8	44531	12
60	.0400	11/16	1-5/8	44530	12
59	.0410	11/16	1-5/8	44529	12
58	.0420	11/16	1-5/8	44528	12
57	.0430	3/4	1-3/4	44527	12
56	.0465	3/4	1-3/4	44526	12
55	.0520	7/8	1-7/8	44525	12
54	.0550	7/8	1-7/8	44524	12
53	.0595	7/8	1-7/8	44523	12
52	.0635	7/8	1-7/8	44522	12
51	.0670	1	2	44521	12
50	.0700	1	2	44520	12
49	.0730	1	2	44519	12
48	.0760	1	2	44518	12
47	.0785	1	2	44517	12
46	.0810	1-1/8	2-1/8	44516	12
45	.0820	1-1/8	2-1/8	44515	12
44	.0860	1-1/8	2-1/8	44514	12
43	.0890	1-1/4	2-1/4	44513	12
42	.0935	1-1/4	2-1/4	44512	12
41	.0960	1-3/8	2-3/8	44511	12
40	.0980	1-3/8	2-3/8	44510	12
39	.0995	1-3/8	2-3/8	44509	12
38	.1015	1-7/16	2-1/2	44508	12

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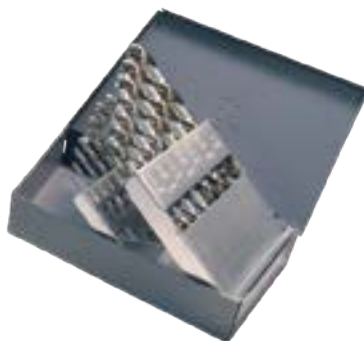
GENERAL PURPOSE JOBBER LENGTH DRILLS

150L SERIES continued



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
37	.1040	1-7/16	2-1/2	44507	12
36	.1065	1-7/16	2-1/2	44506	12
35	.1100	1-1/2	2-5/8	44505	12
34	.1110	1-1/2	2-5/8	44504	12
33	.1130	1-1/2	2-5/8	44503	12
32	.1160	1-5/8	2-3/4	44502	12
31	.1200	1-5/8	2-3/4	44501	12
30	.1285	1-5/8	2-3/4	44500	12
29	.1360	1-3/4	2-7/8	44499	12
28	.1405	1-3/4	2-7/8	44498	12
27	.1440	1-7/8	3	44497	12
26	.1470	1-7/8	3	44496	12
25	.1495	1-7/8	3	44495	12
24	.1520	2	3-1/8	44494	12
23	.1540	2	3-1/8	44493	12
22	.1570	2	3-1/8	44492	12
21	.1590	2-1/8	3-1/4	44491	12
20	.1610	2-1/8	3-1/4	44490	12
19	.1660	2-1/8	3-1/4	44489	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
18	.1695	2-1/8	3-1/4	44488	12
17	.1730	2-3/16	3-3/8	44487	12
16	.1770	2-3/16	3-3/8	44486	12
15	.1800	2-3/16	3-3/8	44485	12
14	.1820	2-3/16	3-3/8	44484	12
13	.1850	2-5/16	3-1/2	44483	12
12	.1890	2-5/16	3-1/2	44482	12
11	.1910	2-5/16	3-1/2	44481	12
10	.1935	2-7/16	3-5/8	44480	12
9	.1960	2-7/16	3-5/8	44479	12
8	.1990	2-7/16	3-5/8	44478	12
7	.2010	2-7/16	3-5/8	44477	12
6	.2040	2-1/2	3-3/4	44476	12
5	.2055	2-1/2	3-3/4	44475	12
4	.2090	2-1/2	3-3/4	44474	12
3	.2130	2-1/2	3-3/4	44473	12
2	.2210	2-5/8	3-7/8	44472	12
1	.2280	2-5/8	3-7/8	44471	12



69881

Corresponding Sets		
Number of Pieces	Description	Order Number
15	1/16 -1/2 X 1/32	69881
21	1/16 -3/8 X 1/64	69882
29	1/16 -1/2 X 1/64	69876

GENERAL PURPOSE JOBBER LENGTH DRILLS

150B SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Fast Spiral / Bright

The 150B Series is an HSS jobber drill with a bright finish, engineered for improved wear resistance, reduced friction, and enhanced heat dissipation during general-purpose drilling. It features a 118° standard point for consistent starts and effective material engagement. A fast helix and wide flute geometry promote efficient chip ejection.

Best Material Application



NON-FERROUS



STEEL



CAST IRON

Drill Specifications



118° POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/32	.0312	1/2	1-3/8	46002	12
3/64	.0469	3/4	1-3/4	46003	12
1/16	.0625	7/8	1-7/8	46004	12
5/64	.0781	1	2	46005	12
3/32	.0938	1-1/4	2-1/4	46006	12
7/64	.1094	1-1/2	2-5/8	46007	12
1/8	.1250	1-5/8	2-3/4	46008	12
9/64	.1406	1-3/4	2-7/8	46009	12
5/32	.1562	2	3-1/8	46010	12
11/64	.1719	2-1/8	3-1/4	46011	12
3/16	.1875	2-5/16	3-1/2	46012	12
13/64	.2031	2-7/16	3-5/8	46013	12
7/32	.2188	2-1/2	3-3/4	46014	12
15/64	.2344	2-5/8	3-7/8	46015	12
1/4	.2500	2-3/4	4	46016	12
17/64	.2656	2-7/8	4-1/8	46017	12
9/32	.2812	2-15/16	4-1/4	46018	12
19/64	.2969	3-1/16	4-3/8	46019	6
5/16	.3125	3-3/16	4-1/2	46020	6
21/64	.3281	3-5/16	4-5/8	46021	6
11/32	.3438	3-7/16	4-3/4	46022	6
23/64	.3594	3-1/2	4-7/8	46023	6
3/8	.3750	3-5/8	5	46024	6
25/64	.3906	3-3/4	5-1/8	46025	6
13/32	.4062	3-7/8	5-1/4	46026	6
27/64	.4219	3-15/16	5-3/8	46027	6
7/16	.4375	4-1/16	5-1/2	46028	6
29/64	.4531	4-3/16	5-5/8	46029	6
15/32	.4688	4-5/16	5-3/4	46030	6
31/64	.4844	4-3/8	5-7/8	46031	6
1/2	.5000	4-1/2	6	46032	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
80	.0135	1/8	3/4	46150	12
79	.0145	1/8	3/4	46149	12
78	.0160	3/16	7/8	46148	12
77	.0180	3/16	7/8	46147	12
76	.0200	3/16	7/8	46146	12
75	.0210	1/4	1	46145	12
74	.0225	1/4	1	46144	12
73	.0240	5/16	1-1/8	46143	12
72	.0250	5/16	1-1/8	46142	12
71	.0260	3/8	1-1/4	46141	12
70	.0280	3/8	1-1/4	46140	12
69	.0292	1/2	1-3/8	46139	12
68	.0310	1/2	1-3/8	46138	12
67	.0320	1/2	1-3/8	46137	12
66	.0330	1/2	1-3/8	46136	12
65	.0350	5/8	1-1/2	46135	12
64	.0360	5/8	1-1/2	46134	12
63	.0370	5/8	1-1/2	46133	12
62	.0380	5/8	1-1/2	46132	12
61	.0390	11/16	1-5/8	46131	12
60	.0400	11/16	1-5/8	46130	12
59	.0410	11/16	1-5/8	46129	12
58	.0420	11/16	1-5/8	46128	12
57	.0430	3/4	1-3/4	46127	12
56	.0465	3/4	1-3/4	46126	12
55	.0520	7/8	1-7/8	46125	12
54	.0550	7/8	1-7/8	46124	12
53	.0595	7/8	1-7/8	46123	12
52	.0635	7/8	1-7/8	46122	12
51	.0670	1	2	46121	12
50	.0700	1	2	46120	12
49	.0730	1	2	46119	12
48	.0760	1	2	46118	12

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GENERAL PURPOSE JOBBER LENGTH DRILLS

150B SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
47	.0785	1	2	46117	12
46	.0810	1-1/8	2-1/8	46116	12
45	.0820	1-1/8	2-1/8	46115	12
44	.0860	1-1/8	2-1/8	46114	12
43	.0890	1-1/4	2-1/4	46113	12
42	.0935	1-1/4	2-1/4	46112	12
41	.0960	1-3/8	2-3/8	46111	12
40	.0980	1-3/8	2-3/8	46110	12
39	.0995	1-3/8	2-3/8	46109	12
38	.1015	1-7/16	2-1/2	46108	12
37	.1040	1-7/16	2-1/2	46107	12
36	.1065	1-7/16	2-1/2	46106	12
35	.1100	1-1/2	2-5/8	46105	12
34	.1110	1-1/2	2-5/8	46104	12
33	.1130	1-1/2	2-5/8	46103	12
32	.1160	1-5/8	2-3/4	46102	12
31	.1200	1-5/8	2-3/4	46101	12
30	.1285	1-5/8	2-3/4	46100	12
29	.1360	1-3/4	2-7/8	46099	12
28	.1405	1-3/4	2-7/8	46098	12
27	.1440	1-7/8	3	46097	12
26	.1470	1-7/8	3	46096	12
25	.1495	1-7/8	3	46095	12
24	.1520	2	3-1/8	46094	12
23	.1540	2	3-1/8	46093	12
22	.1570	2	3-1/8	46092	12
21	.1590	2-1/8	3-1/4	46091	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
20	.1610	2-1/8	3-1/4	46090	12
19	.1660	2-1/8	3-1/4	46089	12
18	.1695	2-1/8	3-1/4	46088	12
17	.1730	2-3/16	3-3/8	46087	12
16	.1770	2-3/16	3-3/8	46086	12
15	.1800	2-3/16	3-3/8	46085	12
14	.1820	2-3/16	3-3/8	46084	12
13	.1850	2-5/16	3-1/2	46083	12
12	.1890	2-5/16	3-1/2	46082	12
11	.1910	2-5/16	3-1/2	46081	12
10	.1935	2-7/16	3-5/8	46080	12
9	.1960	2-7/16	3-5/8	46079	12
8	.1990	2-7/16	3-5/8	46078	12
7	.2010	2-7/16	3-5/8	46077	12
6	.2040	2-1/2	3-3/4	46076	12
5	.2055	2-1/2	3-3/4	46075	12
4	.2090	2-1/2	3-3/4	46074	12
3	.2130	2-1/2	3-3/4	46073	12
2	.2210	2-5/8	3-7/8	46072	12
1	.2280	2-5/8	3-7/8	46071	12
Letter					
E	.2500	2-3/4	4	46016	12
F	.2570	2-7/8	4-1/8	46176	12
I	.2720	2-7/8	4-1/8	46179	12
Q	.3320	3-7/16	4-3/4	46187	6
U	.3680	3-5/8	5	46191	6

GENERAL PURPOSE JOBBER LENGTH DRILLS

150C SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Slow Spiral / Bright

The 150C Series is an HSS jobber drill with slow spiral and 118° point, wide flute, and a bright finish for optimal chip ejection. Made from premium high-speed steel, perfect for non-ferrous materials, hard rubber, and thermoplastics.

Best Material Application



NON-FERROUS



STEEL



CAST IRON

Drill Specifications



118° POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	46204	12
5/64	.0781	1	2	46205	12
3/32	.0938	1-1/4	2-1/4	46206	12
7/64	.1094	1-1/2	2-5/8	46207	12
1/8	.1250	1-5/8	2-3/4	46208	12
9/64	.1406	1-3/4	2-7/8	46209	12
5/32	.1562	2	3-1/8	46210	12
11/64	.1719	2-1/8	3-1/4	46211	12
3/16	.1875	2-5/16	3-1/2	46212	12
13/64	.2031	2-7/16	3-5/8	46213	12
7/32	.2188	2-1/2	3-3/4	46214	12
15/64	.2344	2-5/8	3-7/8	46215	12
1/4	.2500	2-3/4	4	46216	12
17/64	.2656	2-7/8	4-1/8	46217	12
9/32	.2812	2-15/16	4-1/4	46218	12

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
19/64	.2969	3-1/16	4-3/8	46219	6
5/16	.3125	3-3/16	4-1/2	46220	6
21/64	.3281	3-5/16	4-5/8	46221	6
11/32	.3438	3-7/16	4-3/4	46222	6
23/64	.3594	3-1/2	4-7/8	46223	6
3/8	.3750	3-5/8	5	46224	6
25/64	.3906	3-3/4	5-1/8	46225	6
13/32	.4062	3-7/8	5-1/4	46226	6
27/64	.4219	3-15/16	5-3/8	46227	6
7/16	.4375	4-1/16	5-1/2	46228	6
29/64	.4531	4-3/16	5-5/8	46229	6
15/32	.4688	4-5/16	5-3/4	46230	6
31/64	.4844	4-3/8	5-7/8	46231	6
1/2	.5000	4-1/2	6	46232	6

GENERAL PURPOSE JOBBER LENGTH DRILLS

CTD SERIES

CARBIDE TIPPED

118° Point / Round Shank / Carbide Tipped / Bright

The CTD Series is a high-performance die drill designed for tough, abrasive material. Constructed from premium HSS with a brazed carbide tip, it withstands the heat and pressure of extreme applications. It features a 118° point angle for general-purpose performance, while the bright finish promotes clean chip ejection. The CTD Series can be run at speeds and feeds similar to general-purpose carbide drills and is effective in environments where standard drills fail due to material hardness or brittleness.

NOTE: Alternate coatings are available as stock modifications to enhance performance in specific materials.

Best Material Application



STAINLESS



NON-FERROUS



STEEL



CAST IRON

Drill Specifications



118° POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	1-5/8	2-3/4	77645	1
5/32	.1562	2	3-1/8	77647	1
3/16	.1875	2-5/16	3-1/2	77649	1
7/32	.2188	2-1/2	3-3/4	77651	1
1/4	.2500	2-3/4	4	77653	1
9/32	.2812	2-15/16	4-1/4	77655	1
5/16	.3125	3-3/16	4-1/2	77657	1
11/32	.3438	3-7/16	4-3/4	77659	1
3/8	.3750	3-5/8	5	77661	1
13/32	.4062	3-7/8	5-1/4	77663	1
7/16	.4375	4-1/16	5-1/2	77665	1
15/32	.4688	4-5/16	5-3/4	77667	1
1/2	.5000	4-1/2	6	77669	1

PARABOLIC JOBBER LENGTH DRILLS

150WLP SERIES

PARABOLIC HIGH SPEED STEEL

135° Split Point / Round Shank / Bright

Engineered for deep-hole drilling, these high-speed steel drills feature parabolic flutes and a self-centering 135° split point for precise, efficient performance. Wide land parabolic drills are better for deep-hole drilling. Some sizes are also available in TiCN coating which ensures durability and wear resistance.

Best Material Application



NON-FERROUS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	41004	12
5/64	.0781	1	2	41005	12
3/32	.0938	1-1/4	2-1/4	41006	12
7/64	.1094	1-1/2	2-5/8	41007	12
1/8	.1250	1-5/8	2-3/4	41008	12
9/64	.1406	1-3/4	2-7/8	41009	12
5/32	.1562	2	3-1/8	41010	12
11/64	.1719	2-1/8	3-1/4	41011	12
3/16	.1875	2-5/16	3-1/2	41012	12
13/64	.2031	2-7/16	3-5/8	41013	12
7/32	.2188	2-1/2	3-3/4	41014	12
15/64	.2344	2-5/8	3-7/8	41015	12
1/4	.2500	2-3/4	4	41016	12
17/64	.2656	2-7/8	4-1/8	41017	12
9/32	.2812	2-15/16	4-1/4	41018	12
19/64	.2969	3-1/16	4-3/8	41019	6
5/16	.3125	3-3/16	4-1/2	41020	6
21/64	.3281	3-5/16	4-5/8	41021	6
11/32	.3438	3-7/16	4-3/4	41022	6
23/64	.3594	3-1/2	4-7/8	41023	6
3/8	.3750	3-5/8	5	41024	6
25/64	.3906	3-3/4	5-1/8	41025	6
13/32	.4062	3-7/8	5-1/4	41026	6
27/64	.4219	3-15/16	5-3/8	41027	6
7/16	.4375	4-1/16	5-1/2	41028	6
29/64	.4531	4-3/16	5-5/8	41029	6
15/32	.4688	4-5/16	5-3/4	41030	6
31/64	.4844	4-3/8	5-7/8	41031	6
1/2	.5000	4-1/2	6	41032	6
Wire					
52	.0635	7/8	1-7/8	41122	12
51	.0670	1	2	41121	12
50	.0700	1	2	41120	12
49	.0730	1	2	41119	12
48	.0760	1	2	41118	12
47	.0785	1	2	41117	12
46	.0810	1-1/8	2-1/8	41116	12
45	.0820	1-1/8	2-1/8	41115	12
44	.0860	1-1/8	2-1/8	41114	12
43	.0890	1-1/4	2-1/4	41113	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
42	.0935	1-1/4	2-1/4	41112	12
41	.0960	1-3/8	2-3/8	41111	12
40	.0980	1-3/8	2-3/8	41110	12
39	.0995	1-3/8	2-3/8	41109	12
38	.1015	1-7/16	2-1/2	41108	12
37	.1040	1-7/16	2-1/2	41107	12
36	.1065	1-7/16	2-1/2	41106	12
35	.1100	1-1/2	2-5/8	41105	12
34	.1110	1-1/2	2-5/8	41104	12
33	.1130	1-1/2	2-5/8	41103	12
32	.1160	1-5/8	2-3/4	41102	12
31	.1200	1-5/8	2-3/4	41101	12
30	.1285	1-5/8	2-3/4	41100	12
29	.1360	1-3/4	2-7/8	41099	12
28	.1405	1-3/4	2-7/8	41098	12
27	.1440	1-7/8	3	41097	12
26	.1470	1-7/8	3	41096	12
25	.1495	1-7/8	3	41095	12
24	.1520	2	3-1/8	41094	12
23	.1540	2	3-1/8	41093	12
22	.1570	2	3-1/8	41092	12
21	.1590	2-1/8	3-1/4	41091	12
20	.1610	2-1/8	3-1/4	41090	12
19	.1660	2-1/8	3-1/4	41089	12
18	.1695	2-1/8	3-1/4	41088	12
17	.1730	2-3/16	3-3/8	41087	12
16	.1770	2-3/16	3-3/8	41086	12
15	.1800	2-3/16	3-3/8	41085	12
14	.1820	2-3/16	3-3/8	41084	12
13	.1850	2-5/16	3-1/2	41083	12
12	.1890	2-5/16	3-1/2	41082	12
11	.1910	2-5/16	3-1/2	41081	12
10	.1935	2-7/16	3-5/8	41080	12
9	.1960	2-7/16	3-5/8	41079	12
8	.1990	2-7/16	3-5/8	41078	12
7	.2010	2-7/16	3-5/8	41077	12
6	.2040	2-1/2	3-3/4	41076	12
5	.2055	2-1/2	3-3/4	41075	12
4	.2090	2-1/2	3-3/4	41074	12
3	.2130	2-1/2	3-3/4	41073	12
2	.2210	2-5/8	3-7/8	41072	12
1	.2280	2-5/8	3-7/8	41071	12

PARABOLIC JOBBER LENGTH DRILLS

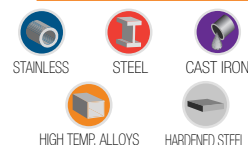
150WLP-TC SERIES

PARABOLIC HIGH SPEED STEEL

135° Split Point / Round Shank / TiCN



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	42004	12
5/64	.0781	1	2	42005	12
3/32	.0938	1-1/4	2-1/4	42006	12
7/64	.1094	1-1/2	2-5/8	42007	12
1/8	.1250	1-5/8	2-3/4	42008	12
9/64	.1406	1-3/4	2-7/8	42009	12
5/32	.1562	2	3-1/8	42010	12
11/64	.1719	2-1/8	3-1/4	42011	12
3/16	.1875	2-5/16	3-1/2	42012	12
13/64	.2031	2-7/16	3-5/8	42013	12
7/32	.2188	2-1/2	3-3/4	42014	12
15/64	.2344	2-5/8	3-7/8	42015	12
1/4	.2500	2-3/4	4	42016	12
17/64	.2656	2-7/8	4-1/8	42017	12
9/32	.2812	2-15/16	4-1/4	42018	12
19/64	.2969	3-1/16	4-3/8	42019	6
5/16	.3125	3-3/16	4-1/2	42020	6
21/64	.3281	3-5/16	4-5/8	42021	6
11/32	.3438	3-7/16	4-3/4	42022	6
23/64	.3594	3-1/2	4-7/8	42023	6
3/8	.3750	3-5/8	5	42024	6
25/64	.3906	3-3/4	5-1/8	42025	6
13/32	.4062	3-7/8	5-1/4	42026	6
27/64	.4219	3-15/16	5-3/8	42027	6
7/16	.4375	4-1/16	5-1/2	42028	6
29/64	.4531	4-3/16	5-5/8	42029	6
15/32	.4688	4-5/16	5-3/4	42030	6
31/64	.4844	4-3/8	5-7/8	42031	6
1/2	.5000	4-1/2	6	42032	6
Wire					
52	.0635	7/8	1-7/8	42122	12
51	.0670	1	2	42121	12
50	.0700	1	2	42120	12
49	.0730	1	2	42119	12
48	.0760	1	2	42118	12
47	.0785	1	2	42117	12
46	.0810	1-1/8	2-1/8	42116	12
45	.0820	1-1/8	2-1/8	42115	12
44	.0860	1-1/8	2-1/8	42114	12
43	.0890	1-1/4	2-1/4	42113	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
42	.0935	1-1/4	2-1/4	42112	12
41	.0960	1-3/8	2-3/8	42111	12
40	.0980	1-3/8	2-3/8	42110	12
39	.0995	1-3/8	2-3/8	42109	12
38	.1015	1-7/16	2-1/2	42108	12
37	.1040	1-7/16	2-1/2	42107	12
36	.1065	1-7/16	2-1/2	42106	12
35	.1100	1-1/2	2-5/8	42105	12
34	.1110	1-1/2	2-5/8	42104	12
33	.1130	1-1/2	2-5/8	42103	12
32	.1160	1-5/8	2-3/4	42102	12
31	.1200	1-5/8	2-3/4	42101	12
30	.1285	1-5/8	2-3/4	42100	12
29	.1360	1-3/4	2-7/8	42099	12
28	.1405	1-3/4	2-7/8	42098	12
27	.1440	1-7/8	3	42097	12
26	.1470	1-7/8	3	42096	12
25	.1495	1-7/8	3	42095	12
24	.1520	2	3-1/8	42094	12
23	.1540	2	3-1/8	42093	12
22	.1570	2	3-1/8	42092	12
21	.1590	2-1/8	3-1/4	42091	12
20	.1610	2-1/8	3-1/4	42090	12
19	.1660	2-1/8	3-1/4	42089	12
18	.1695	2-1/8	3-1/4	42088	12
17	.1730	2-3/16	3-3/8	42087	12
16	.1770	2-3/16	3-3/8	42086	12
15	.1800	2-3/16	3-3/8	42085	12
14	.1820	2-3/16	3-3/8	42084	12
13	.1850	2-5/16	3-1/2	42083	12
12	.1890	2-5/16	3-1/2	42082	12
11	.1910	2-5/16	3-1/2	42081	12
10	.1935	2-7/16	3-5/8	42080	12
9	.1960	2-7/16	3-5/8	42079	12
8	.1990	2-7/16	3-5/8	42078	12
7	.2010	2-7/16	3-5/8	42077	12
6	.2040	2-1/2	3-3/4	42076	12
5	.2055	2-1/2	3-3/4	42075	12
4	.2090	2-1/2	3-3/4	42074	12
3	.2130	2-1/2	3-3/4	42073	12
2	.2210	2-5/8	3-7/8	42072	12
1	.2280	2-5/8	3-7/8	42071	12

PARABOLIC JOBBER LENGTH DRILLS

150DH SERIES

PARABOLIC HIGH SPEED STEEL

135° Split Point / Round Shank / Bright

Deep-hole drills with parabolic Convo flute design for efficient chip ejection and enhanced coolant flow. Engineered for depths up to 12x diameter, with 135° split points and durable TiN or bright finishes.

Best Material Application



NON-FERROUS



STEEL



CAST IRON

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	68904	12
5/64	.0781	1	2	68905	12
3/32	.0938	1-1/4	2-1/4	68906	12
7/64	.1094	1-1/2	2-5/8	68907	12
1/8	.1250	1-5/8	2-3/4	68908	12
9/64	.1406	1-3/4	2-7/8	68909	12
5/32	.1562	2	3-1/8	68910	12
11/64	.1719	2-1/8	3-1/4	68911	12
3/16	.1875	2-5/16	3-1/2	68912	12
13/64	.2031	2-7/16	3-5/8	68913	12
7/32	.2188	2-1/2	3-3/4	68914	12
15/64	.2344	2-5/8	3-7/8	68915	12
1/4	.2500	2-3/4	4	68916	12
17/64	.2656	2-7/8	4-1/8	68917	12
9/32	.2812	2-15/16	4-1/4	68918	12
19/64	.2969	3-1/16	4-3/8	68919	6
5/16	.3125	3-3/16	4-1/2	68920	6
21/64	.3281	3-5/16	4-5/8	68921	6
11/32	.3438	3-7/16	4-3/4	68922	6
23/64	.3594	3-1/2	4-7/8	68923	6
3/8	.3750	3-5/8	5	68924	6
25/64	.3906	3-3/4	5-1/8	68925	6
13/32	.4062	3-7/8	5-1/4	68926	6
27/64	.4219	3-15/16	5-3/8	68927	6
7/16	.4375	4-1/16	5-1/2	68928	6
29/64	.4531	4-3/16	5-5/8	68929	6
15/32	.4688	4-5/16	5-3/4	68930	6
31/64	.4844	4-3/8	5-7/8	68931	6
1/2	.5000	4-1/2	6	68932	6
Wire					
52	.0635	7/8	1-7/8	69052	12
51	.0670	1	2	69051	12
50	.0700	1	2	69050	12
49	.0730	1	2	69049	12
48	.0760	1	2	69048	12
47	.0785	1	2	69047	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
46	.0810	1-1/8	2-1/8	69046	12
45	.0820	1-1/8	2-1/8	69045	12
44	.0860	1-1/8	2-1/8	69044	12
43	.0890	1-1/4	2-1/4	69043	12
42	.0935	1-1/4	2-1/4	69042	12
41	.0960	1-3/8	2-3/8	69041	12
40	.0980	1-3/8	2-3/8	69040	12
39	.0995	1-3/8	2-3/8	69039	12
38	.1015	1-7/16	2-1/2	69038	12
37	.1040	1-7/16	2-1/2	69037	12
36	.1065	1-7/16	2-1/2	69036	12
35	.1100	1-1/2	2-5/8	69035	12
34	.1110	1-1/2	2-5/8	69034	12
33	.1130	1-1/2	2-5/8	69033	12
32	.1160	1-5/8	2-3/4	69032	12
31	.1200	1-5/8	2-3/4	69031	12
30	.1285	1-5/8	2-3/4	69030	12
29	.1360	1-3/4	2-7/8	69029	12
28	.1405	1-3/4	2-7/8	69028	12
27	.1440	1-7/8	3	69027	12
26	.1470	1-7/8	3	69026	12
25	.1495	1-7/8	3	69025	12
24	.1520	2	3-1/8	69024	12
23	.1540	2	3-1/8	69023	12
22	.1570	2	3-1/8	69022	12
21	.1590	2-1/8	3-1/4	69021	12
20	.1610	2-1/8	3-1/4	69020	12
19	.1660	2-1/8	3-1/4	69019	12
18	.1695	2-1/8	3-1/4	69018	12
17	.1730	2-3/16	3-3/8	69017	12
16	.1770	2-3/16	3-3/8	69016	12
15	.1800	2-3/16	3-3/8	69015	12
14	.1820	2-3/16	3-3/8	69014	12
13	.1850	2-5/16	3-1/2	69013	12
12	.1890	2-5/16	3-1/2	69012	12
11	.1910	2-5/16	3-1/2	69011	12
10	.1935	2-7/16	3-5/8	69010	12

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PARABOLIC JOBBER LENGTH DRILLS

150DH SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
9	.1960	2-7/16	3-5/8	69009	12
8	.1990	2-7/16	3-5/8	69008	12
7	.2010	2-7/16	3-5/8	69007	12
6	.2040	2-1/2	3-3/4	69006	12
5	.2055	2-1/2	3-3/4	69005	12
4	.2090	2-1/2	3-3/4	69004	12
3	.2130	2-1/2	3-3/4	69003	12
2	.2210	2-5/8	3-7/8	69002	12
1	.2280	2-5/8	3-7/8	69001	12

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
C	.2420	2-3/4	4	68972	12
F	.2570	2-7/8	4-1/8	68975	12
G	.2610	2-7/8	4-1/8	68976	12
H	.2660	2-7/8	4-1/8	68977	12
I	.2720	2-7/8	4-1/8	68978	12
K	.2812	2-15/16	4-1/4	68918	12
L	.2900	2-15/16	4-1/4	68980	12
M	.2950	3-1/16	4-3/8	68981	12
N	.3020	3-1/16	4-3/8	68982	12
O	.3160	3-3/16	4-1/2	68983	12
P	.3230	3-5/16	4-5/8	68984	12
Q	.3320	3-7/16	4-3/4	68985	12
R	.3390	3-7/16	4-3/4	68986	12
S	.3480	3-1/2	4-7/8	68987	12
U	.3680	3-5/8	5	68989	12
W	.3860	3-3/4	5-1/8	68991	12

150DH-TN SERIES

PARABOLIC HIGH SPEED STEEL

135° Split Point / Round Shank / TiN



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	54083	12
5/64	.0781	1	2	54084	12
3/32	.0938	1-1/4	2-1/4	54085	12
7/64	.1094	1-1/2	2-5/8	54086	12
1/8	.1250	1-5/8	2-3/4	53901	12
9/64	.1406	1-3/4	2-7/8	53902	12
5/32	.1562	2	3-1/8	53903	12
11/64	.1719	2-1/8	3-1/4	53904	12
3/16	.1875	2-5/16	3-1/2	53905	12
13/64	.2031	2-7/16	3-5/8	53906	12
7/32	.2188	2-1/2	3-3/4	53907	12
15/64	.2344	2-5/8	3-7/8	53908	12
1/4	.2500	2-3/4	4	53909	12
17/64	.2656	2-7/8	4-1/8	53910	12
9/32	.2812	2-15/16	4-1/4	53911	12
19/64	.2969	3-1/16	4-3/8	53912	6
5/16	.3125	3-3/16	4-1/2	53913	6
21/64	.3281	3-5/16	4-5/8	53914	6
11/32	.3438	3-7/16	4-3/4	53915	6
23/64	.3594	3-1/2	4-7/8	53916	6
3/8	.3750	3-5/8	5	53917	6
25/64	.3906	3-3/4	5-1/8	53918	6
13/32	.4062	3-7/8	5-1/4	53919	6
27/64	.4219	3-15/16	5-3/8	53920	6

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
7/16	.4375	4-1/16	5-1/2	53921	6
29/64	.4531	4-3/16	5-5/8	53922	6
15/32	.4688	4-5/16	5-3/4	53923	6
31/64	.4844	4-3/8	5-7/8	53924	6
1/2	.5000	4-1/2	6	53925	6
Wire					
52	.0635	7/8	1-7/8	53981	12
51	.0670	1	2	53980	12
50	.0700	1	2	53979	12
49	.0730	1	2	53978	12
48	.0760	1	2	53977	12
47	.0785	1	2	53976	12
46	.0810	1-1/8	2-1/8	53975	12
45	.0820	1-1/8	2-1/8	53974	12
44	.0860	1-1/8	2-1/8	53973	12
43	.0890	1-1/4	2-1/4	53972	12
42	.0935	1-1/4	2-1/4	53971	12
41	.0960	1-3/8	2-3/8	53970	12
40	.0980	1-3/8	2-3/8	53969	12
39	.0995	1-3/8	2-3/8	53968	12
38	.1015	1-7/16	2-1/2	53967	12
37	.1040	1-7/16	2-1/2	53966	12
36	.1065	1-7/16	2-1/2	53965	12

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PARABOLIC JOBBER LENGTH DRILLS

150DH-TN SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
35	.1100	1-1/2	2-5/8	53964	12
34	.1110	1-1/2	2-5/8	53963	12
33	.1130	1-1/2	2-5/8	53962	12
32	.1160	1-5/8	2-3/4	53961	12
31	.1200	1-5/8	2-3/4	53960	12
30	.1285	1-5/8	2-3/4	53959	12
29	.1360	1-3/4	2-7/8	53958	12
28	.1405	1-3/4	2-7/8	53957	12
27	.1440	1-7/8	3	53956	12
26	.1470	1-7/8	3	53955	12
25	.1495	1-7/8	3	53954	12
24	.1520	2	3-1/8	53953	12
23	.1540	2	3-1/8	53952	12
22	.1570	2	3-1/8	53951	12
21	.1590	2-1/8	3-1/4	53950	12
20	.1610	2-1/8	3-1/4	53949	12
19	.1660	2-1/8	3-1/4	53948	12
18	.1695	2-1/8	3-1/4	53947	12
17	.1730	2-3/16	3-3/8	53946	12
16	.1770	2-3/16	3-3/8	53945	12
15	.1800	2-3/16	3-3/8	53944	12
14	.1820	2-3/16	3-3/8	53943	12
13	.1850	2-5/16	3-1/2	53942	12
12	.1890	2-5/16	3-1/2	53941	12
11	.1910	2-5/16	3-1/2	53940	12
10	.1935	2-7/16	3-5/8	53939	12
9	.1960	2-7/16	3-5/8	53938	12
8	.1990	2-7/16	3-5/8	53937	12
7	.2010	2-7/16	3-5/8	53936	12
6	.2040	2-1/2	3-3/4	53935	12
5	.2055	2-1/2	3-3/4	53934	12
4	.2090	2-1/2	3-3/4	53933	12
3	.2130	2-1/2	3-3/4	53932	12
2	.2210	2-5/8	3-7/8	53931	12
1	.2280	2-5/8	3-7/8	53930	12

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
C	.2420	2-3/4	4	53871	12
F	.2570	2-7/8	4-1/8	53873	12
G	.2610	2-7/8	4-1/8	53874	12
H	.2660	2-7/8	4-1/8	53875	12
I	.2720	2-7/8	4-1/8	53876	12
K	.2812	2-15/16	4-1/4	53911	12
L	.2900	2-15/16	4-1/4	53879	12
M	.2950	3-1/16	4-3/8	53880	6
N	.3020	3-1/16	4-3/8	53881	6
O	.3160	3-3/16	4-1/2	53882	6
P	.3230	3-5/16	4-5/8	53883	6
Q	.3320	3-7/16	4-3/4	53884	6
R	.3390	3-7/16	4-3/4	53885	6
S	.3480	3-1/2	4-7/8	53886	6
U	.3680	3-5/8	5	53888	6
W	.3860	3-3/4	5-1/8	53890	6



Corresponding Sets		
Number of Pieces	Description	Order Number
29	1/16 - 1/2 X 1/64	57734

HEAVY DUTY JOBBER LENGTH DRILLS

01

DRILLS

2222 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Bright

CLEVELAND 2222 Aircraft NAS 907 Type B heavy duty drill with HSS and bright finish is designed for precise drilling in steel, stainless steel, and aluminum.

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
* 3/64	.0469	3/4	1-3/4	C11600	12
1/16	.0625	7/8	1-7/8	C11601	12
5/64	.0781	1	2	C11602	12
3/32	.0938	1-1/4	2-1/4	C11603	12
7/64	.1094	1-1/2	2-5/8	C11604	12
1/8	.1250	1-5/8	2-3/4	C11605	12
9/64	.1406	1-3/4	2-7/8	C11606	12
5/32	.1562	2	3-1/8	C11607	12
11/64	.1719	2-1/8	3-1/4	C11608	12
3/16	.1875	2-5/16	3-1/2	C11609	12
13/64	.2031	2-7/16	3-5/8	C11610	12
7/32	.2188	2-1/2	3-3/4	C11611	12
15/64	.2344	2-5/8	3-7/8	C11612	12
1/4	.2500	2-3/4	4	C11613	12
17/64	.2656	2-7/8	4-1/8	C11614	12
9/32	.2812	2-15/16	4-1/4	C11615	12
19/64	.2969	3-1/16	4-3/8	C11616	6
5/16	.3125	3-3/16	4-1/2	C11617	6
21/64	.3281	3-5/16	4-5/8	C11618	6
11/32	.3438	3-7/16	4-3/4	C11619	6
23/64	.3594	3-1/2	4-7/8	C11620	6
3/8	.3750	3-5/8	5	C11621	6
25/64	.3906	3-3/4	5-1/8	C11622	6
13/32	.4062	3-7/8	5-1/4	C11623	6
27/64	.4219	3-15/16	5-3/8	C11624	6
7/16	.4375	4-1/16	5-1/2	C11625	6
29/64	.4531	4-3/16	5-5/8	C11626	6
15/32	.4688	4-5/16	5-3/4	C11627	6
31/64	.4844	4-3/8	5-7/8	C11628	6
1/2	.5000	4-1/2	6	C11629	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
52	.0635	7/8	1-7/8	C11706	12
51	.0670	1	2	C11705	12
50	.0700	1	2	C11704	12
49	.0730	1	2	C11703	12
48	.0760	1	2	C11702	12
47	.0785	1	2	C11701	12
46	.0810	1-1/8	2-1/8	C11700	12
45	.0820	1-1/8	2-1/8	C11699	12
44	.0860	1-1/8	2-1/8	C11698	12
43	.0890	1-1/4	2-1/4	C11697	12
42	.0935	1-1/4	2-1/4	C11696	12
41	.0960	1-3/8	2-3/8	C11695	12
40	.0980	1-3/8	2-3/8	C11694	12
39	.0995	1-3/8	2-3/8	C11693	12
38	.1015	1-7/16	2-1/2	C11692	12
37	.1040	1-7/16	2-1/2	C11691	12
36	.1065	1-7/16	2-1/2	C11690	12
35	.1100	1-1/2	2-5/8	C11689	12
34	.1110	1-1/2	2-5/8	C11688	12
33	.1130	1-1/2	2-5/8	C11687	12
32	.1160	1-5/8	2-3/4	C11686	12
31	.1200	1-5/8	2-3/4	C11685	12
30	.1285	1-5/8	2-3/4	C11684	12
29	.1360	1-3/4	2-7/8	C11683	12
28	.1405	1-3/4	2-7/8	C11682	12
27	.1440	1-7/8	3	C11681	12
26	.1470	1-7/8	3	C11680	12
25	.1495	1-7/8	3	C11679	12
24	.1520	2	3-1/8	C11678	12
23	.1540	2	3-1/8	C11677	12
22	.1570	2	3-1/8	C11676	12
21	.1590	2-1/8	3-1/4	C11675	12

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*Not Split Point

continued on next page

HEAVY DUTY
JOBBER LENGTH DRILLS

2222 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
20	.1610	2-1/8	3-1/4	C11674	12
19	.1660	2-1/8	3-1/4	C11673	12
18	.1695	2-1/8	3-1/4	C11672	12
17	.1730	2-3/16	3-3/8	C11671	12
16	.1770	2-3/16	3-3/8	C11670	12
15	.1800	2-3/16	3-3/8	C11669	12
14	.1820	2-3/16	3-3/8	C11668	12
13	.1850	2-5/16	3-1/2	C11667	12
12	.1890	2-5/16	3-1/2	C11666	12
11	.1910	2-5/16	3-1/2	C11665	12
10	.1935	2-7/16	3-5/8	C11664	12
9	.1960	2-7/16	3-5/8	C11663	12
8	.1990	2-7/16	3-5/8	C11662	12
7	.2010	2-7/16	3-5/8	C11661	12
6	.2040	2-1/2	3-3/4	C11660	12
5	.2055	2-1/2	3-3/4	C11659	12
4	.2090	2-1/2	3-3/4	C11658	12
3	.2130	2-1/2	3-3/4	C11657	12
2	.2210	2-5/8	3-7/8	C11656	12
1	.2280	2-5/8	3-7/8	C11655	12
Letter					
A	.2340	2-5/8	3-7/8	C11630	12
B	.2380	2-3/4	4	C11631	12
C	.2420	2-3/4	4	C11632	12
D	.2460	2-3/4	4	C11633	12
E	.2500	2-3/4	4	C11613	12
F	.2570	2-7/8	4-1/8	C11634	12
G	.2610	2-7/8	4-1/8	C11635	12
H	.2660	2-7/8	4-1/8	C11636	12
I	.2720	2-7/8	4-1/8	C11637	12
J	.2770	2-7/8	4-1/8	C11638	12
K	.2810	2-15/16	4-1/4	C11639	12
L	.2900	2-15/16	4-1/4	C11640	12
M	.2950	3-1/16	4-3/8	C11641	6
N	.3020	3-1/16	4-3/8	C11642	6
O	.3160	3-3/16	4-1/2	C11643	6
P	.3230	3-5/16	4-5/8	C11644	6
Q	.3320	3-7/16	4-3/4	C11645	6
R	.3390	3-7/16	4-3/4	C11646	6
S	.3480	3-1/2	4-7/8	C11647	6
T	.3580	3-1/2	4-7/8	C11648	6
U	.3680	3-5/8	5	C11649	6
V	.3770	3-5/8	5	C11650	6
W	.3860	3-3/4	5-1/8	C11651	6
X	.3970	3-3/4	5-1/8	C11652	6
Y	.4040	3-7/8	5-1/4	C11653	6
Z	.4130	3-7/8	5-1/4	C11654	6

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
* 1.00	.0394	12.00	34.00	C11800	12
1.50	.0591	18.00	40.00	C11805	12
2.00	.0787	24.00	49.00	C11810	12
2.50	.0984	30.00	57.00	C11815	12
3.00	.1181	33.00	61.00	C11820	12
3.20	.1260	36.00	65.00	C11822	12
3.50	.1378	39.00	70.00	C11825	12
4.00	.1575	43.00	75.00	C11830	12
4.10	.1614	43.00	75.00	C11831	12
4.50	.1772	47.00	80.00	C11835	12
4.90	.1929	52.00	86.00	C11839	12
5.00	.1969	52.00	86.00	C11840	12
5.50	.2165	57.00	93.00	C11845	12
6.00	.2362	57.00	93.00	C11850	12
6.50	.2559	63.00	101.00	C11855	12
7.00	.2756	69.00	109.00	C11860	12
7.50	.2953	69.00	109.00	C11865	6
8.00	.3150	75.00	117.00	C11870	6
8.50	.3346	75.00	117.00	C11875	6
9.00	.3543	81.00	125.00	C11880	6
9.50	.3740	81.00	125.00	C11885	6
10.00	.3937	87.00	133.00	C11890	6
10.50	.4134	87.00	133.00	C11895	6
11.00	.4331	94.00	142.00	C11900	6
11.50	.4528	94.00	142.00	C11905	6
12.00	.4724	101.00	151.00	C11910	6
12.50	.4921	101.00	151.00	C11915	6
13.00	.5118	101.00	151.00	C11920	1

*Not Split Point



Corresponding Sets		
Number of Pieces	Sizes	Order Number
29	1/16" through 1/2" x 1/64"	C70371

Metal case

HEAVY DUTY JOBBER LENGTH DRILLS

01

DRILLS

2011 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Black Oxide

CLEVELAND 2011 HSS jobber drill specifically engineered for cotter pin hole drilling in fabrication and maintenance operations. It features a 135° split point for fast penetration and self-centering starts. A black oxide finish enhances chip evacuation and cutting clarity. The 2011 Series includes a constant parallel web for easy regrinding and is a go-to tool for applications requiring accurate cotter pin clearance holes in structural components.

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C02652	10
5/64	.0781	1	2	C02666	10
3/32	.0938	1-1/4	2-1/4	C02681	10
7/64	.1094	1-1/2	2-5/8	C02694	10
1/8	.1250	1-5/8	2-3/4	C02704	10
9/64	.1406	1-3/4	2-7/8	C02713	10
5/32	.1562	2	3-1/8	C02724	10
11/64	.1719	2	3-1/8	C02735	10
3/16	.1875	2-5/16	3-1/2	C02746	10
7/32	.2188	2-1/2	3-3/4	C02767	10
15/64	.2344	2-5/8	3-7/8	C02776	10
1/4	.2500	2-3/4	4	C02785	10
9/32	.2812	2-15/16	4-1/4	C02807	10
19/64	.2969	3-1/16	4-3/8	C02811	5
5/16	.3125	3-3/16	4-1/2	C02818	5
11/32	.3438	3-3/16	4-3/4	C02833	5
3/8	.3750	3-5/8	5	C02848	5
13/32	.4062	3-7/8	5-1/4	C02861	5
7/16	.4375	4-1/16	5-1/2	C02867	5
15/32	.4688	4-5/16	5-3/4	C02872	5
1/2	.5000	4-1/2	6	C02877	5

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*80	.0135	1/8	3/4	C02593	10
*54	.0550	7/8	1-7/8	C02646	10
52	.0635	1	1-7/8	C02654	10
50	.0700	1	2	C02659	10
47	.0785	1	2	C02667	10
45	.0820	1-1/8	2-1/8	C02671	10
40	.0980	1-3/8	2-3/8	C02685	10
37	.1040	1-7/16	2-1/2	C02690	10
32	.1160	1-5/8	2-3/4	C02700	10
31	.1200	1-5/8	2-3/4	C02702	10
30	.1285	1-5/8	2-3/4	C02707	10
29	.1360	1-3/4	2-7/8	C02710	10
25	.1495	1-7/8	3	C02719	10
Letter					
E	.2500	2-3/4	4	C02785	10

*Not split point

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HEAVY DUTY JOBBER LENGTH DRILLS

2228 SERIES

HEAVY DUTY HIGH SPEED STEEL

118° Split Point / Round Shank / Bright

CLEVELAND 2228 Aircraft NAS 907 Type A heavy duty drill with HSS and bright finish excels in tough materials like steel, stainless steel, and aluminum. Split point for reduced thrust and easy penetration.

Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



118° SPLIT POINT ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C73400	12
5/64	.0781	1	2	C73401	12
3/32	.0938	1-1/4	2-1/4	C73402	12
7/64	.1094	1-1/2	2-5/8	C73403	12
1/8	.1250	1-5/8	2-3/4	C73404	12
9/64	.1406	1-3/4	2-7/8	C73405	12
5/32	.1562	2	3-1/8	C73406	12
11/64	.1719	2-1/8	3-1/4	C73407	12
3/16	.1875	2-5/16	3-1/2	C73408	12
13/64	.2031	2-7/16	3-5/8	C73409	12
7/32	.2188	2-1/2	3-3/4	C73410	12
15/64	.2344	2-5/8	3-7/8	C73411	12
1/4	.2500	2-3/4	4	C73412	12
17/64	.2656	2-7/8	4-1/8	C73413	12
9/32	.2812	2-15/16	4-1/4	C73414	12
19/64	.2969	3-1/16	4-3/8	C73415	6
5/16	.3125	3-3/16	4-1/2	C73416	6
21/64	.3281	3-5/16	4-5/8	C73417	6
11/32	.3438	3-7/16	4-3/4	C73418	6
23/64	.3594	3-1/2	4-7/8	C73419	6
3/8	.3750	3-5/8	5	C73420	6
25/64	.3906	3-3/4	5-1/8	C73421	6
13/32	.4062	3-7/8	5-1/4	C73422	6
27/64	.4219	3-15/16	5-3/8	C73423	6
7/16	.4375	4-1/16	5-1/2	C73424	6
29/64	.4531	4-3/16	5-5/8	C73425	6
15/32	.4688	4-5/16	5-3/4	C73426	6
31/64	.4844	4-3/8	5-7/8	C73427	6
1/2	.5000	4-1/2	6	C73428	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
52	.0635	7/8	1-7/8	C73480	12
51	.0670	1	2	C73479	12
50	.0700	1	2	C73478	12
49	.0730	1	2	C73477	12
48	.0760	1	2	C73476	12
47	.0785	1	2	C73475	12
46	.0810	1-1/8	2-1/8	C73474	12
45	.0820	1-1/8	2-1/8	C73473	12
44	.0860	1-1/8	2-1/8	C73472	12
43	.0890	1-1/4	2-1/4	C73471	12
42	.0935	1-1/4	2-1/4	C73470	12
41	.0960	1-3/8	2-3/8	C73469	12
40	.0980	1-3/8	2-3/8	C73468	12
39	.0995	1-3/8	2-3/8	C73467	12
38	.1015	1-7/16	2-1/2	C73466	12
37	.1040	1-7/16	2-1/2	C73465	12
36	.1065	1-7/16	2-1/2	C73464	12
35	.1100	1-1/2	2-5/8	C73463	12
34	.1110	1-1/2	2-5/8	C73462	12
33	.1130	1-1/2	2-5/8	C73461	12
32	.1160	1-5/8	2-3/4	C73460	12
31	.1200	1-5/8	2-3/4	C73459	12
30	.1285	1-5/8	2-3/4	C73458	12
29	.1360	1-3/4	2-7/8	C73457	12
28	.1405	1-3/4	2-7/8	C73456	12
27	.1440	1-7/8	3	C73455	12
26	.1470	1-7/8	3	C73454	12
25	.1495	1-7/8	3	C73453	12
24	.1520	2	3-1/8	C73452	12

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HEAVY DUTY JOBBER LENGTH DRILLS

2228 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
23	.1540	2	3-1/8	C73451	12
22	.1570	2	3-1/8	C73450	12
21	.1590	2-1/8	3-1/4	C73449	12
20	.1610	2-1/8	3-1/4	C73448	12
19	.1660	2-1/8	3-1/4	C73447	12
18	.1695	2-1/8	3-1/4	C73446	12
17	.1730	2-3/16	3-3/8	C73445	12
16	.1770	2-3/16	3-3/8	C73444	12
15	.1800	2-3/16	3-3/8	C73443	12
14	.1820	2-3/16	3-3/8	C73442	12
13	.1850	2-5/16	3-1/2	C73441	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
12	.1890	2-5/16	3-1/2	C73440	12
11	.1910	2-5/16	3-1/2	C73439	12
10	.1935	2-7/16	3-5/8	C73438	12
9	.1960	2-7/16	3-5/8	C73437	12
8	.1990	2-7/16	3-5/8	C73436	12
7	.2010	2-7/16	3-5/8	C73435	12
6	.2040	2-1/2	3-3/4	C73434	12
5	.2055	2-1/2	3-3/4	C73433	12
4	.2090	2-1/2	3-3/4	C73432	12
3	.2130	2-1/2	3-3/4	C73431	12
2	.2210	2-5/8	3-7/8	C73430	12
1	.2280	2-5/8	3-7/8	C73429	12

2213 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze Finish

CLEVELAND 2213 Aircraft NAS 907 Type J cobalt drill set with bronze finish offers heavy duty durability for tough materials, available in multiple set sizes. Highly heat resistant cobalt substrate for tough to machine materials.

Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK



6Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*1/64	.0156	3/16	3/4	C70000	12
*1/32	.0312	1/2	1-3/8	C70001	12
*3/64	.0469	3/4	1-3/4	C70002	12
1/16	.0625	7/8	1-7/8	C70003	12
5/64	.0781	1	2	C70004	12
3/32	.0938	1-1/4	2-1/4	C70005	12
7/64	.1094	1-1/2	2-5/8	C70006	12
1/8	.1250	1-5/8	2-3/4	C70007	12
9/64	.1406	1-3/4	2-7/8	C70008	12
5/32	.1562	2	3-1/8	C70009	12
11/64	.1719	2-1/8	3-1/4	C70010	12
3/16	.1875	2-5/16	3-1/2	C70011	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
13/64	.2031	2-7/16	3-5/8	C70012	12
7/32	.2188	2-1/2	3-3/4	C70013	12
15/64	.2344	2-5/8	3-7/8	C70014	12
1/4	.2500	2-3/4	4	C70015	12
17/64	.2656	2-7/8	4-1/8	C70016	12
9/32	.2812	2-15/16	4-1/4	C70017	12
19/64	.2969	3-1/16	4-3/8	C70018	6
5/16	.3125	3-3/16	4-1/2	C70019	6
21/64	.3281	3-5/16	4-5/8	C70020	6
11/32	.3438	3-7/16	4-3/4	C70021	6
23/64	.3594	3-1/2	4-7/8	C70022	6
3/8	.3750	3-5/8	5	C70023	6

*Not split point

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HEAVY DUTY
JOBBER LENGTH DRILLS

2213 SERIES continued



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
25/64	.3906	3-3/4	5-1/8	C70024	12
13/32	.4062	3-7/8	5-1/4	C70025	12
27/64	.4219	3-15/16	5-3/8	C70026	12
7/16	.4375	4-1/16	5-1/2	C70027	12
29/64	.4531	4-3/16	5-5/8	C70028	12
15/32	.4688	4-5/16	5-3/4	C70029	12
31/64	.4844	4-3/8	5-7/8	C70030	12
1/2	.5000	4-1/2	6	C70031	12
Wire					
*80	.0135	1/8	3/4	C70213	12
*79	.0145	1/8	3/4	C70212	12
*78	.0160	3/16	7/8	C70211	12
*77	.0180	3/16	7/8	C70210	12
*76	.0200	3/16	7/8	C70209	12
*75	.0210	1/4	1	C70208	12
*74	.0225	1/4	1	C70207	12
*73	.0240	5/16	1-1/8	C70206	12
*72	.0250	5/16	1-1/8	C70205	12
*71	.0260	3/8	1-1/4	C70204	12
*70	.0280	3/8	1-1/4	C70203	12
*69	.0292	1/2	1-3/8	C70202	12
*68	.0310	1/2	1-3/8	C70201	12
*67	.0320	1/2	1-3/8	C70200	12
*66	.0330	1/2	1-3/8	C70199	12
*65	.0350	5/8	1-1/2	C70198	12
*64	.0360	5/8	1-1/2	C70197	12
*63	.0370	5/8	1-1/2	C70196	12
*62	.0380	5/8	1-1/2	C70195	12
*61	.0390	11/16	1-5/8	C70194	12
*60	.0400	11/16	1-5/8	C70193	12
*59	.0410	11/16	1-5/8	C70192	12
*58	.0420	11/16	1-5/8	C70191	12
*57	.0430	3/4	1-3/4	C70190	12
*56	.0465	3/4	1-3/4	C70189	12
*55	.0520	7/8	1-7/8	C70188	12
*54	.0550	7/8	1-7/8	C70187	12
*53	.0595	7/8	1-7/8	C70186	12
52	.0635	7/8	1-7/8	C70185	12
51	.0670	1	2	C70184	12
50	.0700	1	2	C70183	12
49	.0730	1	2	C70182	12
48	.0760	1	2	C70181	12
47	.0785	1	2	C70180	12
46	.0810	1-1/8	2-1/8	C70179	12
45	.0820	1-1/8	2-1/8	C70178	12
44	.0860	1-1/8	2-1/8	C70177	12
43	.0890	1-1/4	2-1/4	C70176	12
42	.0935	1-1/4	2-1/4	C70175	12
41	.0960	1-3/8	2-3/8	C70174	12
40	.0980	1-3/8	2-3/8	C70173	12
39	.0995	1-3/8	2-3/8	C70172	12
38	.1015	1-7/16	2-1/2	C70171	12
37	.1040	1-7/16	2-1/2	C70170	12

*Not split point

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
36	.1065	1-7/16	2-1/2	C70169	12
35	.1100	1-1/2	2-5/8	C70168	12
34	.1110	1-1/2	2-5/8	C70167	12
33	.1130	1-1/2	2-5/8	C70166	12
32	.1160	1-5/8	2-3/4	C70165	12
31	.1200	1-5/8	2-3/4	C70164	12
30	.1285	1-5/8	2-3/4	C70163	12
29	.1360	1-3/4	2-7/8	C70162	12
28	.1405	1-3/4	2-7/8	C70161	12
27	.1440	1-7/8	3	C70160	12
26	.1470	1-7/8	3	C70159	12
25	.1495	1-7/8	3	C70158	12
24	.1520	2	3-1/8	C70157	12
23	.1540	2	3-1/8	C70156	12
22	.1570	2	3-1/8	C70155	12
21	.1590	2-1/8	3-1/4	C70154	12
20	.1610	2-1/8	3-1/4	C70153	12
19	.1660	2-1/8	3-1/4	C70152	12
18	.1695	2-1/8	3-1/4	C70151	12
17	.1730	2-3/16	3-3/8	C70150	12
16	.1770	2-3/16	3-3/8	C70149	12
15	.1800	2-3/16	3-3/8	C70148	12
14	.1820	2-3/16	3-3/8	C70147	12
13	.1850	2-5/16	3-1/2	C70146	12
12	.1890	2-5/16	3-1/2	C70145	12
11	.1910	2-5/16	3-1/2	C70144	12
10	.1935	2-7/16	3-5/8	C70143	12
9	.1960	2-7/16	3-5/8	C70142	12
8	.1990	2-7/16	3-5/8	C70141	12
7	.2010	2-7/16	3-5/8	C70140	12
6	.2040	2-1/2	3-3/4	C70139	12
5	.2055	2-1/2	3-3/4	C70138	12
4	.2090	2-1/2	3-3/4	C70137	12
3	.2130	2-1/2	3-3/4	C70136	12
2	.2210	2-5/8	3-7/8	C70135	12
1	.2280	2-5/8	3-7/8	C70134	12
Letter					
A	.2340	2-5/8	3-7/8	C70032	12
B	.2380	2-3/4	4	C70033	12
C	.2420	2-3/4	4	C70034	12
D	.2460	2-3/4	4	C70035	12
E	.2500	2-3/4	4	C70015	12
F	.2570	2-7/8	4-1/8	C70036	12
G	.2610	2-7/8	4-1/8	C70037	12
H	.2660	2-7/8	4-1/8	C70038	12
I	.2720	2-7/8	4-1/8	C70039	12
J	.2770	2-7/8	4-1/8	C70040	12
K	.2812	2-15/16	4-1/4	C70041	12
L	.2900	2-15/16	4-1/4	C70042	12
M	.2950	3-1/16	4-3/8	C70043	6
N	.3020	3-1/16	4-3/8	C70044	6
O	.3160	3-3/16	4-1/2	C70045	6
P	.3230	3-5/16	4-5/8	C70046	6
Q	.3320	3-7/16	4-3/4	C70047	6

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HEAVY DUTY JOBBER LENGTH DRILLS

2213 SERIES continued



Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
R	.3390	3-7/16	4-3/4	C70048	6
S	.3480	3-1/2	4-7/8	C70049	6
T	.3580	3-1/2	4-7/8	C70050	6
U	.3680	3-5/8	5	C70051	6
V	.3770	3-5/8	5	C70052	6
W	.3860	3-3/4	5-1/8	C70053	6
X	.3970	3-18/25	5-1/8	C70054	6
Y	.4040	3-7/8	5-1/4	C70055	6
Z	.4130	3-7/8	5-1/4	C70056	6

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.0	.0394	12.00	34.00	C70057	12
*1.1	.0433	14.00	36.00	C70058	12
*1.2	.0472	16.00	38.00	C70059	12
*1.3	.0512	16.00	38.00	C70060	12
*1.4	.0551	18.00	40.00	C70061	12
*1.5	.0591	18.00	40.00	C70062	12
1.6	.0630	20.00	43.00	C70063	12
1.7	.0669	20.00	43.00	C70064	12
1.8	.0709	22.00	46.00	C70065	12
1.9	.0748	22.00	46.00	C70220	12
2.0	.0787	24.00	49.00	C70067	12
2.1	.0827	24.00	49.00	C70068	12
2.2	.0866	27.00	53.00	C70221	12
2.3	.0906	27.00	53.00	C70070	12
2.4	.0945	30.00	57.00	C70071	12
2.5	.0984	30.00	57.00	C70072	12
2.6	.1024	30.00	57.00	C70073	12
2.7	.1063	33.00	61.00	C70074	12
2.8	.1102	33.00	61.00	C70222	12
2.9	.1142	33.00	61.00	C70076	12
3.0	.1181	33.00	61.00	C70077	12
3.1	.1220	36.00	65.00	C70078	12
3.2	.1260	36.00	65.00	C70079	12
3.3	.1299	36.00	65.00	C70080	12
3.4	.1339	39.00	70.00	C70081	12
3.5	.1378	39.00	70.00	C70082	12
3.6	.1417	39.00	70.00	C70083	12
3.7	.1457	39.00	70.00	C70223	12
3.8	.1496	43.00	75.00	C70085	12
3.9	.1535	43.00	75.00	C70086	12
4.0	.1575	43.00	75.00	C70087	12

*Not split point

Corresponding Sets		
Number of Pieces	Sizes	Order Number
29	1/16" through 1/2" x 1/64"	C70365
26	A through Z letter	C00986
60	#1 through #60 wire gauge	C70366
115	1/16" through 1/2" x 1/64", A through Z and #1 through #60	C70367

Metal cases

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
4.1	.1614	43.00	75.00	C70088	12
4.2	.1654	43.00	75.00	C70089	12
4.3	.1693	47.00	80.00	C70090	12
4.4	.1732	47.00	80.00	C70091	12
4.5	.1772	47.00	80.00	C70092	12
4.6	.1811	47.00	80.00	C70224	12
4.7	.1850	47.00	80.00	C70094	12
4.8	.1890	52.00	86.00	C70095	12
4.9	.1929	52.00	86.00	C70096	12
5.0	.1968	52.00	86.00	C70097	12
5.1	.2008	52.00	86.00	C70098	12
5.2	.2047	52.00	86.00	C70099	12
5.3	.2087	52.00	86.00	C70100	12
5.4	.2126	57.00	93.00	C70101	12
5.5	.2165	57.00	93.00	C70102	12
5.6	.2205	57.00	93.00	C70225	12
5.7	.2244	57.00	93.00	C70104	12
5.8	.2283	57.00	93.00	C70226	12
6.0	.2362	57.00	93.00	C70106	12
6.1	.2402	63.00	101.00	C70107	12
6.2	.2441	63.00	101.00	C70108	12
6.3	.2480	63.00	101.00	C70109	12
6.4	.2520	63.00	101.00	C70110	12
6.5	.2559	63.00	101.00	C70111	12
6.6	.2598	63.00	101.00	C70112	12
6.7	.2638	63.00	101.00	C70113	12
6.8	.2677	69.00	109.00	C70114	12
7.0	.2756	69.00	109.00	C70115	12
7.2	.2835	69.00	109.00	C70116	12
7.5	.2953	69.00	109.00	C70117	6
7.8	.3071	75.00	117.00	C70118	6
8.0	.3150	75.00	117.00	C70119	6
8.1	.3189	75.00	117.00	C70120	6
8.5	.3346	75.00	117.00	C70122	6
9.0	.3543	81.00	125.00	C70124	6
9.5	.3740	81.00	125.00	C70125	6
10.0	.3937	87.00	133.00	C70126	6
10.2	.4016	87.00	133.00	C70127	6
10.5	.4134	87.00	133.00	C70128	6
11.0	.4331	94.00	142.00	C70129	6
11.5	.4528	94.00	142.00	C70130	6
12.0	.4724	101.00	151.00	C70131	6
12.5	.4921	101.00	151.00	C70132	6
13.0	.5118	101.00	151.00	C70133	1



C00986



C70367

HEAVY DUTY JOBBER LENGTH DRILLS

3780 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / High Helix / Black Oxide

CLEVELAND 3780 Series is a Q-AMD short flute jobber drill specifically designed for automated drilling and high-speed CNC machining. It features a 135° split point for fast, self-centering starts and a short flute design that increases rigidity and reduces deflection during high-speed cutting. The black oxide finish improves chip evacuation and extends tool life.

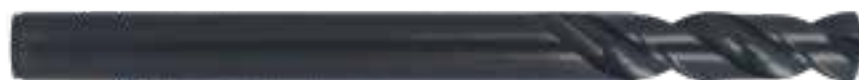
NOTE: Preferred point for work hardening materials, with extra heavy web for superior rigidity.

▷ *High helix design for efficient chip removal.*

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*3/64	.0469	1/2	1-3/4	C15885	10
1/16	.0625	5/8	1-7/8	C15889	10
5/64	.0781	11/16	2	C15895	10
3/32	.0938	3/4	2-1/4	C15902	10
7/64	.1094	13/16	2-5/8	C15909	10
1/8	.1250	7/8	2-3/4	C15915	10
9/64	.1406	15/16	2-7/8	C15919	10
5/32	.1562	1	3-1/8	C15925	10
11/64	.1719	1-1/16	3-1/4	C15931	10
3/16	.1875	1-1/8	3-1/2	C15937	10
13/64	.2031	1-3/16	3-5/8	C15944	10
7/32	.2188	1-1/4	3-3/4	C15949	10
15/64	.2344	1-5/16	3-7/8	C15953	10
1/4	.2500	1-3/8	4	C15957	10
17/64	.2656	1-7/16	4-1/8	C15960	10
9/32	.2812	1-1/2	4-1/4	C15965	10
19/64	.2969	1-9/16	4-3/8	C15968	5
5/16	.3125	1-5/8	4-1/2	C15970	5
21/64	.3281	1-11/16	4-5/8	C15973	5
11/32	.3438	1-11/16	4-3/4	C15976	5
23/64	.3594	1-3/4	4-7/8	C15979	5
3/8	.3750	1-13/16	5	C15981	5
25/64	.3906	1-7/8	5-1/8	C15984	5
13/32	.4062	1-15/16	5-1/4	C15987	5
27/64	.4219	2	5-3/8	C15989	5
7/16	.4375	2-1/16	5-1/2	C15990	5
29/64	.4531	2-1/8	5-5/8	C15991	5
15/32	.4688	2-1/8	5-3/4	C15992	5
31/64	.4844	2-3/16	5-7/8	C15993	5
1/2	.5000	2-1/4	6	C15994	5

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*60	.0400	1/2	1-5/8	C15880	10
*59	.0410	1/2	1-5/8	C15881	10
*58	.0420	1/2	1-5/8	C15882	10
*57	.0430	1/2	1-3/4	C15883	10
*56	.0465	1/2	1-3/4	C15884	10
*55	.0520	5/8	1-3/4	C15886	10
*54	.0550	5/8	1-7/8	C15887	10
*53	.0595	5/8	1-7/8	C15888	10
52	.0635	11/16	1-7/8	C15890	10
51	.0670	11/16	2	C15891	10
50	.0700	11/16	2	C15892	10
49	.0730	11/16	2	C15893	10
48	.0760	11/16	2	C15894	10
47	.0785	11/16	2	C15896	10
46	.0810	3/4	2-1/8	C15897	10
45	.0820	3/4	2-1/8	C15898	10
44	.0860	3/4	2-1/8	C15899	10
43	.0890	3/4	2-1/4	C15900	10
42	.0935	3/4	2-1/4	C15901	10
41	.0960	13/16	2-3/8	C15903	10
40	.0980	13/16	2-3/8	C15904	10
39	.0995	13/16	2-3/8	C15905	10
38	.1015	13/16	2-1/2	C15906	10
37	.1040	13/16	2-1/2	C15907	10
36	.1065	13/16	2-1/2	C15908	10
35	.1100	7/8	2-5/8	C15910	10
34	.1110	7/8	2-5/8	C15911	10
33	.1130	7/8	2-5/8	C15912	10
32	.1160	7/8	2-3/4	C15913	10
31	.1200	7/8	2-3/4	C15914	10

*Not split point

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HEAVY DUTY JOBBER LENGTH DRILLS

3780 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
30	.1285	15/16	2-3/4	C15916	10
29	.1360	15/16	2-7/8	C15917	10
28	.1405	15/16	2-7/8	C15918	10
27	.1440	1	3	C15920	10
26	.1470	1	3	C15921	10
25	.1495	1	3	C15922	10
24	.1520	1	3-1/8	C15923	10
23	.1540	1	3-1/8	C15924	10
22	.1570	1-1/16	3-1/8	C15926	10
21	.1590	1-1/16	3-1/4	C15927	10
20	.1610	1-1/16	3-1/4	C15928	10
19	.1660	1-1/16	3-1/4	C15929	10
18	.1695	1-1/16	3-1/4	C15930	10
17	.1730	1-1/8	3-3/8	C15932	10
16	.1770	1-1/8	3-3/8	C15933	10
15	.1800	1-1/8	3-3/8	C15934	10
14	.1820	1-1/8	3-3/8	C15935	10
13	.1850	1-1/8	3-1/2	C15936	10
12	.1890	1-3/16	3-1/2	C15938	10
11	.1910	1-3/16	3-1/2	C15939	10
10	.1935	1-3/16	3-5/8	C15940	10
9	.1960	1-3/16	3-5/8	C15941	10
8	.1990	1-3/16	3-5/8	C15942	10
7	.2010	1-3/16	3-5/8	C15943	10
6	.2040	1-1/4	3-3/4	C15945	10
5	.2055	1-1/4	3-3/4	C15946	10
4	.2090	1-1/4	3-3/4	C15947	10
3	.2130	1-1/4	3-3/4	C15948	10
2	.2210	1-5/16	3-7/8	C15950	10
1	.2280	1-5/16	3-7/8	C15951	10

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	1-5/16	3-7/8	C15952	10
B	.2380	1-3/8	4	C15954	10
C	.2420	1-3/8	4	C15955	10
D	.2460	1-3/8	4	C15956	10
E	.2500	1-3/8	4	C15957	10
F	.2570	1-7/16	4-1/8	C15958	10
G	.2610	1-7/16	4-1/8	C15959	10
H	.2660	1-1/2	4-1/8	C15961	10
I	.2720	1-1/2	4-1/8	C15962	10
J	.2770	1-1/2	4-1/8	C15963	10
K	.2810	1-1/2	4-1/4	C15964	10
L	.2900	1-9/16	4-1/4	C15966	10
M	.2950	1-9/16	4-3/8	C15967	5
N	.3020	1-5/8	4-3/8	C15969	5
O	.3160	1-11/16	4-1/2	C15971	5
P	.3230	1-11/16	4-5/8	C15972	5
Q	.3320	1-11/16	4-3/4	C15974	5
R	.3390	1-11/16	4-3/4	C15975	5
S	.3480	1-3/4	4-7/8	C15977	5
T	.3580	1-3/4	4-7/8	C15978	5
U	.3680	1-13/16	5	C15980	5
V	.3770	1-7/8	5	C15982	5
W	.3860	1-7/8	5-1/8	C15983	5
X	.3970	1-15/16	5-1/8	C15985	5
Y	.4040	1-15/16	5-1/4	C15986	5
Z	.4130	2	5-1/4	C15988	5

Corresponding Sets		
Number of Pieces	Sizes	Order Number
29	1/16" through 1/2" x 1/64"	C14499



GENERAL PURPOSE JOBBER LENGTH DRILLS

2001 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Black Oxide

CLEVELAND 2001 Drill with HSS and black oxide finish features a round shank design for efficient use in steel, stainless steel, and cast iron.

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/64	.0156	3/16	3/4	C01016	10
1/32	.0312	1/2	1-3/8	C01038	10
3/64	.0469	3/4	1-3/4	C71003	12
1/16	.0625	7/8	1-7/8	C71004	12
5/64	.0781	1	2	C71005	12
3/32	.0938	1-1/4	2-1/4	C71006	12
7/64	.1094	1-1/2	2-5/8	C71007	12
1/8	.1250	1-5/8	2-3/4	C71008	12
9/64	.1406	1-3/4	2-7/8	C71009	12
5/32	.1562	2	3-1/8	C71010	12
11/64	.1719	2-1/8	3-1/4	C71011	12
3/16	.1875	2-5/16	3-1/2	C71012	12
13/64	.2031	2-7/16	3-5/8	C71013	12
7/32	.2188	2-1/2	3-3/4	C71014	12
15/64	.2344	2-5/8	3-7/8	C71015	12
1/4	.2500	2-3/4	4	C71016	12
17/64	.2656	2-7/8	4-1/8	C71017	12
9/32	.2812	2-15/16	4-1/4	C71018	12
19/64	.2969	3-1/16	4-3/8	C71019	6
5/16	.3125	3-3/16	4-1/2	C71020	6
21/64	.3281	3-5/16	4-5/8	C71021	6
11/32	.3438	3-7/16	4-3/4	C71022	6
23/64	.3594	3-1/2	4-7/8	C71023	6
3/8	.3750	3-5/8	5	C71024	6
25/64	.3906	3-3/4	5-1/8	C71025	6
13/32	.4062	3-7/8	5-1/4	C71026	6
27/64	.4219	3-15/16	5-3/8	C71027	6
7/16	.4375	4-1/16	5-1/2	C71028	6
29/64	.4531	4-3/16	5-5/8	C71029	6
15/32	.4688	4-5/16	5-3/4	C71030	6
31/64	.4844	4-3/8	5-7/8	C71031	6
1/2	.5000	4-1/2	6	C71032	6
33/64	.5156	4-13/16	6-5/8	C71033	1
17/32	.5312	4-13/16	6-5/8	C71034	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
35/64	.5469	4-13/16	6-5/8	C71035	1
9/16	.5625	4-13/16	6-5/8	C71036	1
37/64	.5781	4-13/16	6-5/8	C71037	1
19/32	.5938	5-3/16	7-1/8	C71038	1
39/64	.6094	5-3/16	7-1/8	C71039	1
5/8	.6250	5-3/16	7-1/8	C71040	1
41/64	.6406	5-3/16	7-1/8	C71041	1
21/32	.6562	5-3/16	7-1/8	C71042	1
43/64	.6719	5-5/8	7-5/8	C71043	1
11/16	.6875	5-5/8	7-5/8	C71044	1
Wire					
80	.0135	1/8	3/4	C01012	10
79	.0145	3/16	3/4	C01014	10
78	.0160	3/16	7/8	C01018	10
77	.0180	3/16	7/8	C01021	10
76	.0200	3/16	7/8	C01024	10
75	.0210	1/4	1	C01025	10
74	.0225	1/4	1	C01027	10
73	.0240	5/16	1-1/8	C01029	10
72	.0250	5/16	1-1/8	C01030	10
71	.0260	3/8	1-1/4	C01032	10
70	.0280	3/8	1-1/4	C01034	10
69	.0292	1/2	1-3/8	C01035	10
68	.0310	1/2	1-3/8	C01037	10
67	.0320	1/2	1-3/8	C01040	10
66	.0330	1/2	1-3/8	C01041	10
65	.0350	5/8	1-1/2	C01043	10
64	.0360	5/8	1-1/2	C01045	10
63	.0370	5/8	1-1/2	C01046	10
62	.0380	5/8	1-1/2	C01048	10
61	.0390	11/16	1-1/2	C01049	10
60	.0400	11/16	1-5/8	C71160	12
59	.0410	11/16	1-5/8	C71159	12
58	.0420	11/16	1-5/8	C71158	12

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GENERAL PURPOSE JOBBER LENGTH DRILLS

01

DRILLS

CLEVELAND
WALTER

2001 SERIES continued



Size	Wire			Order Number	Pack Qty.
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)		
57	.0430	3/4	1-3/4	C71157	12
56	.0465	3/4	1-3/4	C71156	12
55	.0520	7/8	1-7/8	C71155	12
54	.0550	7/8	1-7/8	C71154	12
53	.0595	7/8	1-7/8	C71153	12
52	.0635	7/8	1-7/8	C71152	12
51	.0670	1	2	C71151	12
50	.0700	1	2	C71150	12
49	.0730	1	2	C71149	12
48	.0760	1	2	C71148	12
47	.0785	1	2	C71147	12
46	.0810	1-1/8	2-1/8	C71146	12
45	.0820	1-1/8	2-1/8	C71145	12
44	.0860	1-1/8	2-1/8	C71144	12
43	.0890	1-1/4	2-1/4	C71143	12
42	.0935	1-1/4	2-1/4	C71142	12
41	.0960	1-3/8	2-3/8	C71141	12
40	.0980	1-3/8	2-3/8	C71140	12
39	.0995	1-3/8	2-3/8	C71139	12
38	.1015	1-7/16	2-1/2	C71138	12
37	.1040	1-7/16	2-1/2	C71137	12
36	.1065	1-7/16	2-1/2	C71136	12
35	.1100	1-1/2	2-5/8	C71135	12
34	.1110	1-1/2	2-5/8	C71134	12
33	.1130	1-1/2	2-5/8	C71133	12
32	.1160	1-5/8	2-3/4	C71132	12
31	.1200	1-5/8	2-3/4	C71131	12
30	.1285	1-5/8	2-3/4	C71130	12
29	.1360	1-3/4	2-7/8	C71129	12
28	.1405	1-3/4	2-7/8	C71128	12
27	.1440	1-7/8	3	C71127	12
26	.1470	1-7/8	3	C71126	12
25	.1495	1-7/8	3	C71125	12
24	.1520	2	3-1/8	C71124	12
23	.1540	2	3-1/8	C71123	12
22	.1570	2	3-1/8	C71122	12
21	.1590	2-1/8	3-1/4	C71121	12
20	.1610	2-1/8	3-1/4	C71120	12
19	.1660	2-1/8	3-1/4	C71119	12
18	.1695	2-1/8	3-1/4	C71118	12
17	.1730	2-3/16	3-3/8	C71117	12
16	.1770	2-3/16	3-3/8	C71116	12
15	.1800	2-3/16	3-3/8	C71115	12
14	.1820	2-3/16	3-3/8	C71114	12
13	.1850	2-5/16	3-1/2	C71113	12
12	.1890	2-5/16	3-1/2	C71112	12
11	.1910	2-5/16	3-1/2	C71111	12
10	.1935	2-7/16	3-5/8	C71110	12
9	.1960	2-7/16	3-5/8	C71109	12
8	.1990	2-7/16	3-5/8	C71108	12
7	.2010	2-7/16	3-5/8	C71107	12
6	.2040	2-1/2	3-3/4	C71106	12
5	.2055	2-1/2	3-3/4	C71105	12
4	.2090	2-1/2	3-3/4	C71104	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3	.2130	2-1/2	3-3/4	C71103	12
2	.2210	2-5/8	3-7/8	C71102	12
1	.2280	2-5/8	3-7/8	C71101	12
Letter					
A	.2340	2-5/8	3-7/8	C71071	12
B	.2380	2-3/4	4	C71072	12
C	.2420	2-3/4	4	C71073	12
D	.2460	2-3/4	4	C71074	12
E	.2500	2-3/4	4	C71016	12
F	.2570	2-7/8	4-1/8	C71076	12
G	.2610	2-7/8	4-1/8	C71077	12
H	.2660	2-7/8	4-1/8	C71078	12
I	.2720	2-7/8	4-1/8	C71079	12
J	.2770	2-7/8	4-1/8	C71080	12
K	.2812	2-15/16	4-1/4	C71081	12
L	.2900	2-15/16	4-1/4	C71082	12
M	.2950	3-1/16	4-3/8	C71083	6
N	.3020	3-1/16	4-3/8	C71084	6
O	.3160	3-3/16	4-1/2	C71085	6
P	.3230	3-5/16	4-5/8	C71086	6
Q	.3320	3-7/16	4-3/4	C71087	6
R	.3390	3-7/16	4-3/4	C71088	6
S	.3480	3-1/2	4-7/8	C71089	6
T	.3580	3-1/2	4-7/8	C71090	6
U	.3680	3-5/8	5	C71091	6
V	.3770	3-5/8	5	C71092	6
W	.3860	3-3/4	5-1/8	C71093	6
X	.3970	3-3/4	5-1/4	C71094	6
Y	.4040	3-7/8	5-1/4	C71095	6
Z	.4130	3-7/8	5-1/4	C71096	6
Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
0.35	.0138	3.00	19.00	C01013	10
0.38	.0150	4.00	19.00	C01015	10
0.40	.0157	5.00	20.00	C01017	10
0.42	.0165	5.00	20.00	C01019	10
0.45	.0177	5.00	20.00	C01020	10
0.48	.0189	5.00	20.00	C01022	10
0.50	.0197	6.00	22.00	C01023	10
0.55	.0217	7.00	24.00	C01026	10
0.60	.0236	7.00	24.00	C01028	10
0.65	.0256	8.00	26.00	C01031	10
0.70	.0276	9.00	28.00	C01033	10
0.75	.0295	9.00	28.00	C01036	10
0.80	.0315	10.00	30.00	C01039	10
0.85	.0335	10.00	30.00	C01042	10
0.90	.0354	11.00	32.00	C01044	10
0.95	.0374	11.00	32.00	C01047	10
1.00	.0394	12.00	34.00	C71200	12
1.05	.0413	12.00	34.00	C71201	12
1.10	.0433	14.00	36.00	C71202	12
1.15	.0453	14.00	36.00	C71203	12
1.20	.0472	16.00	38.00	C71204	12

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GENERAL PURPOSE JOBBER LENGTH DRILLS

2001 SERIES continued



Size (mm)	Decimal Equiv. (Inch)	Metric		Order Number	Pack Qty.
		Flute Length (mm)	Overall Length (mm)		
1.25	.0492	16.00	38.00	C71205	12
1.30	.0512	16.00	38.00	C71206	12
1.35	.0531	18.00	40.00	C71207	12
1.40	.0551	18.00	40.00	C71208	12
1.45	.0571	18.00	40.00	C71209	12
1.50	.0591	18.00	40.00	C71210	12
1.55	.0610	20.00	43.00	C71211	12
1.60	.0630	20.00	43.00	C71212	12
1.65	.0650	20.00	43.00	C71213	12
1.70	.0669	20.00	43.00	C71214	12
1.75	.0689	22.00	46.00	C71215	12
1.80	.0709	22.00	46.00	C71216	12
1.85	.0728	22.00	46.00	C71217	12
1.90	.0748	22.00	46.00	C71218	12
1.95	.0767	24.00	49.00	C71219	12
2.00	.0787	24.00	49.00	C71220	12
2.05	.0807	24.00	49.00	C71221	12
2.10	.0827	24.00	49.00	C71222	12
2.15	.0846	27.00	53.00	C71223	12
2.20	.0866	27.00	53.00	C71224	12
2.25	.0886	27.00	53.00	C71225	12
2.30	.0906	27.00	53.00	C71226	12
2.35	.0925	27.00	53.00	C71227	12
2.40	.0945	30.00	57.00	C71228	12
2.45	.0964	30.00	57.00	C71229	12
2.50	.0984	30.00	57.00	C71230	12
2.60	.1024	30.00	57.00	C71231	12
2.70	.1062	33.00	61.00	C71232	12
2.80	.1102	33.00	61.00	C71233	12
2.90	.1142	33.00	61.00	C71234	12
3.00	.1181	33.00	61.00	C71235	12
3.10	.1220	36.00	65.00	C71236	12
3.20	.1260	37.00	66.00	C71237	12
3.30	.1299	38.00	67.00	C71238	12
3.40	.1339	39.00	70.00	C71239	12
3.50	.1378	39.00	70.00	C71240	12
3.60	.1417	39.00	70.00	C71241	12
3.70	.1457	39.00	70.00	C71242	12
3.80	.1496	43.00	75.00	C71243	12
3.90	.1535	43.00	75.00	C71244	12
4.00	.1575	43.00	75.00	C71245	12
4.10	.1614	43.00	75.00	C71246	12
4.20	.1654	43.00	75.00	C71247	12
4.30	.1692	47.00	80.00	C71248	12
4.40	.1732	47.00	80.00	C71249	12
4.50	.1772	47.00	80.00	C71250	12
4.60	.1811	47.00	80.00	C71251	12
4.70	.1850	47.00	80.00	C71252	12
4.80	.1890	52.00	86.00	C71253	12
4.90	.1929	52.00	86.00	C71254	12
5.00	.1969	52.00	86.00	C71255	12
5.10	.2008	52.00	86.00	C71256	12
5.20	.2047	52.00	86.00	C71257	12
5.30	.2087	64.00	95.00	C01181	12
5.40	.2125	57.00	93.00	C71259	12
5.50	.2165	57.00	93.00	C71260	12
5.60	.2205	57.00	93.00	C71261	12
5.70	.2244	57.00	93.00	C71262	12
5.80	.2283	67.00	98.00	C01192	12
5.90	.2322	57.00	93.00	C71264	12
6.00	.2362	57.00	93.00	C71265	12
6.10	.2401	63.00	101.00	C71266	12
6.20	.2440	63.00	101.00	C71267	12

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
6.30	.2480	63.00	101.00	C71268	12
6.40	.2520	63.00	101.00	C71269	12
6.50	.2559	63.00	101.00	C71270	12
6.60	.2598	63.00	101.00	C71271	12
6.70	.2638	63.00	101.00	C71272	12
6.80	.2677	69.00	109.00	C71273	12
6.90	.2717	69.00	109.00	C71274	12
7.00	.2756	69.00	109.00	C71275	12
7.10	.2795	69.00	109.00	C71276	12
7.20	.2835	69.00	109.00	C71277	12
7.30	.2874	69.00	109.00	C71278	6
7.40	.2913	69.00	109.00	C71279	6
7.50	.2953	69.00	109.00	C71280	6
7.70	.3031	75.00	117.00	C71282	6
7.80	.3070	75.00	117.00	C71283	6
7.90	.3110	75.00	117.00	C71284	6
8.00	.3150	75.00	117.00	C71285	6
8.10	.3189	75.00	117.00	C71286	6
8.20	.3228	75.00	117.00	C71287	6
8.40	.3307	75.00	117.00	C71289	6
8.50	.3346	75.00	117.00	C71290	6
8.70	.3425	81.00	125.00	C71292	6
8.80	.3464	81.00	125.00	C71293	6
9.00	.3543	81.00	125.00	C71295	6
9.20	.3622	81.00	125.00	C71297	6
9.30	.3661	81.00	125.00	C71298	6
9.40	.3700	81.00	125.00	C71299	6
9.50	.3740	81.00	125.00	C71300	6
9.60	.3779	87.00	133.00	C71301	6
9.70	.3817	87.00	133.00	C71302	6
9.80	.3858	87.00	133.00	C71303	6
10.00	.3937	87.00	133.00	C71305	6
10.20	.4016	87.00	133.00	C71306	6
10.50	.4134	87.00	133.00	C71308	6
10.80	.4252	94.00	142.00	C71309	6
11.00	.4331	94.00	142.00	C71310	6
11.20	.4409	94.00	142.00	C71311	6
11.50	.4527	94.00	142.00	C71312	6
12.00	.4724	101.00	151.00	C71314	6
12.20	.4803	101.00	151.00	C71315	6
12.50	.4921	101.00	151.00	C71316	6
13.00	.5118	101.00	151.00	C71319	1
13.50	.5315	108.00	160.00	C71321	1
14.00	.5512	108.00	160.00	C71323	1
14.50	.5709	114.00	169.00	C71325	1
15.00	.5906	114.00	169.00	C71327	1
15.50	.6102	120.00	178.00	C71329	1
16.00	.6299	120.00	178.00	C71331	1
16.50	.6496	120.00	184.00	C71333	1
17.00	.6693	120.00	184.00	C71335	1
17.50	.6890	130.00	191.00	C71337	1



C00690

Corresponding Sets		
Number of Pieces	Sizes	Order Number
25	1 mm through 13 mm x 0.5 mm	C71000
29	1/16" through 1/2" x 1/64"	C72197
50	1 mm through 5.9 mm x 0.1 mm	C00960

GENERAL PURPOSE JOBBER LENGTH DRILLS

01

DRILLS

2002 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Bright

CLEVELAND 2002 General Purpose Drill with HSS and bright finish provides optimized round shank drilling in aluminum and non-ferrous materials.

Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



118° POINT ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/64	.0156	3/16	3/4	C01803	10
1/32	.0312	1/2	1-3/8	C01825	10
3/64	.0469	3/4	1-3/4	C72003	6
1/16	.0625	7/8	1-7/8	C72004	6
5/64	.0781	1	2	C72005	6
3/32	.0938	1-1/4	2-1/4	C72006	6
7/64	.1094	1-1/2	2-5/8	C72007	6
1/8	.1250	1-5/8	2-3/4	C72008	6
9/64	.1406	1-3/4	2-7/8	C72009	6
5/32	.1562	2	3-1/8	C72010	6
11/64	.1719	2-1/8	3-1/4	C72011	6
3/16	.1875	2-5/16	3-1/2	C72012	6
13/64	.2031	2-7/16	3-5/8	C72013	6
7/32	.2188	2-1/2	3-3/4	C72014	6
15/64	.2344	2-5/8	3-7/8	C72015	6
1/4	.2500	2-3/4	4	C72016	6
17/64	.2656	2-7/8	4-1/8	C72017	6
9/32	.2812	2-15/16	4-1/4	C72018	6
19/64	.2969	3-1/16	4-3/8	C72019	6
5/16	.3125	3-3/16	4-1/2	C72020	6
21/64	.3281	3-5/16	4-5/8	C72021	6
11/32	.3438	3-7/16	4-3/4	C72022	6
23/64	.3594	3-1/2	4-7/8	C72023	6
3/8	.3750	3-5/8	5	C72024	6
25/64	.3906	3-3/4	5-1/8	C72025	6
13/32	.4062	3-7/8	5-1/4	C72026	6
27/64	.4219	3-15/16	5-3/8	C72027	6
7/16	.4375	4-1/16	5-1/2	C72028	6
29/64	.4531	4-3/16	5-5/8	C72029	6
15/32	.4688	4-5/16	5-3/4	C72030	6
31/64	.4844	4-3/8	5-7/8	C72031	6
1/2	.5000	4-1/2	6	C72032	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
80	.0135	1/8	3/4	C01799	10
79	.0145	3/16	3/4	C01801	10
78	.0160	3/16	7/8	C01805	10
77	.0180	3/16	7/8	C01808	10
76	.0200	3/16	7/8	C01811	10
75	.0210	1/4	1	C01812	10
74	.0225	1/4	1	C01814	10
73	.0240	5/16	1-1/8	C01816	10
72	.0250	5/16	1-1/8	C01817	10
71	.0260	3/8	1-1/4	C01819	10
70	.0280	3/8	1-1/4	C01821	10
69	.0292	1/2	1-3/8	C01822	10
68	.0310	1/2	1-3/8	C01824	10
67	.0320	1/2	1-3/8	C01827	10
66	.0330	1/2	1-3/8	C01828	10
65	.0350	5/8	1-1/2	C01830	10
64	.0360	5/8	1-1/2	C01832	10
63	.0370	5/8	1-1/2	C01833	10
62	.0380	5/8	1-1/2	C01835	10
61	.0390	11/16	1-1/2	C01836	10
60	.0400	11/16	1-5/8	C72160	12
59	.0410	11/16	1-5/8	C72159	12
58	.0420	11/16	1-5/8	C72158	12
57	.0430	3/4	1-3/4	C72157	12
56	.0465	3/4	1-3/4	C72156	12
55	.0520	7/8	1-7/8	C72155	12
54	.0550	7/8	1-7/8	C72154	12
53	.0595	7/8	1-7/8	C72153	12
52	.0635	7/8	1-7/8	C72152	12
51	.0670	1	2	C72151	12
50	.0700	1	2	C72150	12

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GENERAL PURPOSE
JOBBER LENGTH DRILLS

2002 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
49	.0730	1	2	C72149	12
48	.0760	1	2	C72148	12
47	.0785	1	2	C72147	12
46	.0810	1-1/8	2-1/8	C72146	12
45	.0820	1-1/8	2-1/8	C72145	12
44	.0860	1-1/8	2-1/8	C72144	12
43	.0890	1-1/4	2-1/4	C72143	12
42	.0935	1-1/4	2-1/4	C72142	12
41	.0960	1-3/8	2-3/8	C72141	12
40	.0980	1-3/8	2-3/8	C72140	12
39	.0995	1-3/8	2-3/8	C72139	12
38	.1015	1-7/16	2-1/2	C72138	12
37	.1040	1-7/16	2-1/2	C72137	12
36	.1065	1-7/16	2-1/2	C72136	12
35	.1100	1-1/2	2-5/8	C72135	12
34	.1110	1-1/2	2-5/8	C72134	12
33	.1130	1-1/2	2-5/8	C72133	12
32	.1160	1-5/8	2-3/4	C72132	12
31	.1200	1-5/8	2-3/4	C72131	12
30	.1285	1-5/8	2-3/4	C72130	12
29	.1360	1-3/4	2-7/8	C72129	12
28	.1405	1-3/4	2-7/8	C72128	12
27	.1440	1-7/8	3	C72127	12
26	.1470	1-7/8	3	C72126	12
25	.1495	1-7/8	3	C72125	12
24	.1520	2	3-1/8	C72124	12
23	.1540	2	3-1/8	C72123	12
22	.1570	2	3-1/8	C72122	12
21	.1590	2-1/8	3-1/4	C72121	12
20	.1610	2-1/8	3-1/4	C72120	12
19	.1660	2-1/8	3-1/4	C72119	12
18	.1695	2-1/8	3-1/4	C72118	12
17	.1730	2-3/16	3-3/8	C72117	12
16	.1770	2-3/16	3-3/8	C72116	12
15	.1800	2-3/16	3-3/8	C72115	12
14	.1820	2-3/16	3-3/8	C72114	12
13	.1850	2-5/16	3-1/2	C72113	12
12	.1890	2-5/16	3-1/2	C72112	12
11	.1910	2-5/16	3-1/2	C72111	12
10	.1935	2-7/16	3-5/8	C72110	12
9	.1960	2-7/16	3-5/8	C72109	12
8	.1990	2-7/16	3-5/8	C72108	12
7	.2010	2-7/16	3-5/8	C72107	12
6	.2040	2-1/2	3-3/4	C72106	12
5	.2055	2-1/2	3-3/4	C72105	12
4	.2090	2-1/2	3-3/4	C72104	12
3	.2130	2-1/2	3-3/4	C72103	12
2	.2210	2-5/8	3-7/8	C72102	12
1	.2280	2-5/8	3-7/8	C72101	12

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	2-5/8	3-7/8	C72071	12
B	.2380	2-3/4	4	C72072	12
C	.2420	2-3/4	4	C72073	12
D	.2460	2-3/4	4	C72074	12
E	.2500	2-3/4	4	C72016	12
F	.2570	2-7/8	4-1/8	C72076	12
G	.2610	2-7/8	4-1/8	C72077	12
H	.2660	2-7/8	4-1/8	C72078	12
I	.2720	2-7/8	4-1/8	C72079	12
J	.2770	2-7/8	4-1/8	C72080	12
K	.2812	2-15/16	4-1/4	C72081	12
L	.2900	2-15/16	4-1/4	C72082	12
M	.2950	3-1/16	4-3/8	C72083	6
N	.3020	3-1/16	4-3/8	C72084	6
O	.3160	3-3/16	4-1/2	C72085	6
P	.3230	3-5/16	4-5/8	C72086	6
Q	.3320	3-7/16	4-3/4	C72087	6
R	.3390	3-7/16	4-3/4	C72088	6
S	.3480	3-1/2	4-7/8	C72089	6
T	.3580	3-1/2	4-7/8	C72090	6
U	.3680	3-5/8	5	C72091	6
V	.3770	3-5/8	5	C72092	6
W	.3860	3-3/4	5-1/8	C72093	6
X	.3970	3-3/4	5-1/8	C72094	6
Y	.4040	3-7/8	5-1/4	C72095	6
Z	.4130	3-7/8	5-1/4	C72096	6
Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
1.00	.0394	12.00	34.00	C72200	12
1.10	.0433	14.00	36.00	C72202	12
1.20	.0472	16.00	38.00	C72204	12
1.30	.0512	16.00	38.00	C72206	12
1.40	.0551	18.00	40.00	C72208	12
1.50	.0591	18.00	40.00	C72210	12
1.60	.0630	20.00	43.00	C72212	12
1.70	.0669	20.00	43.00	C72214	12
1.80	.0709	22.00	46.00	C72216	12
1.90	.0748	22.00	46.00	C72218	12
2.00	.0787	24.00	49.00	C72220	12
2.10	.0827	24.00	49.00	C72222	12
2.20	.0866	27.00	53.00	C72224	12
2.30	.0906	27.00	53.00	C72226	12
2.40	.0945	30.00	57.00	C72228	12
2.50	.0984	30.00	57.00	C72230	12
2.60	.1024	30.00	57.00	C72231	12
2.70	.1062	33.00	61.00	C72232	12

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GENERAL PURPOSE JOBBER LENGTH DRILLS

2002 SERIES continued



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DRILLS

CLEVELAND | WALTER

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
2.80	.1102	33.00	61.00	C72233	12
2.90	.1142	33.00	61.00	C72234	12
3.00	.1181	33.00	61.00	C72235	12
3.10	.1220	36.00	65.00	C72236	12
3.20	.1260	37.00	66.00	C72237	12
3.30	.1299	38.00	67.00	C72238	12
3.40	.1339	39.00	70.00	C72239	12
3.50	.1378	39.00	70.00	C72240	12
3.60	.1417	39.00	70.00	C72241	12
3.70	.1457	39.00	70.00	C72242	12
3.80	.1496	43.00	75.00	C72243	12
3.90	.1535	43.00	75.00	C72244	12
4.00	.1575	43.00	75.00	C72245	12
4.10	.1614	43.00	75.00	C72246	12
4.20	.1654	43.00	75.00	C72247	12
4.30	.1692	47.00	80.00	C72248	12
4.40	.1732	47.00	80.00	C72249	12
4.50	.1772	47.00	80.00	C72250	12
4.60	.1811	47.00	80.00	C72251	12
4.70	.1850	47.00	80.00	C72252	12
4.80	.1890	52.00	86.00	C72253	12
4.90	.1929	52.00	86.00	C72254	12
5.00	.1969	52.00	86.00	C72255	12
5.10	.2008	52.00	86.00	C72256	12
5.20	.2047	52.00	86.00	C72257	12
5.40	.2125	57.00	93.00	C72259	12
5.50	.2165	57.00	93.00	C72260	12
5.60	.2205	57.00	93.00	C72261	12
5.70	.2244	57.00	93.00	C72262	12
5.90	.2322	57.00	93.00	C72264	12
6.00	.2362	57.00	93.00	C72265	12
6.10	.2401	63.00	101.00	C72266	12
6.20	.2440	63.00	101.00	C72267	12
6.30	.2480	63.00	101.00	C72268	12
6.40	.2520	63.00	101.00	C72269	12
6.50	.2559	63.00	101.00	C72270	12
6.60	.2598	63.00	101.00	C72271	12
6.70	.2638	63.00	101.00	C72272	12
6.80	.2677	69.00	109.00	C72273	12
6.90	.2717	69.00	109.00	C72274	12
7.00	.2756	69.00	109.00	C72275	12
7.10	.2795	69.00	109.00	C72276	12
7.20	.2835	69.00	109.00	C72277	12
7.30	.2874	69.00	109.00	C72278	6
7.40	.2913	69.00	109.00	C72279	6
7.50	.2953	69.00	109.00	C72280	6
7.70	.3031	75.00	117.00	C72282	6
7.80	.3070	75.00	117.00	C72283	6

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
7.90	.3110	75.00	117.00	C72284	6
8.00	.3150	75.00	117.00	C72285	6
8.10	.3189	75.00	117.00	C72286	6
8.20	.3228	75.00	117.00	C72287	6
8.40	.3307	75.00	117.00	C72289	6
8.50	.3346	75.00	117.00	C72290	6
8.70	.3425	81.00	125.00	C72292	6
8.80	.3464	81.00	125.00	C72293	6
9.00	.3543	81.00	125.00	C72295	6
9.20	.3622	81.00	125.00	C72297	6
9.30	.3661	81.00	125.00	C72298	6
9.40	.3700	81.00	125.00	C72299	6
9.50	.3740	81.00	125.00	C72300	6
9.60	.3779	87.00	133.00	C72301	6
9.70	.3817	87.00	133.00	C72302	6
9.80	.3858	87.00	133.00	C72303	6
10.00	.3937	87.00	133.00	C72305	6
10.20	.4016	87.00	133.00	C72306	6
10.50	.4134	87.00	133.00	C72308	6
10.80	.4252	94.00	142.00	C72309	6
11.00	.4331	94.00	142.00	C72310	6
11.20	.4409	94.00	142.00	C72311	6
11.50	.4527	94.00	142.00	C72312	6
12.00	.4724	101.00	151.00	C72314	6
12.20	.4803	101.00	151.00	C72315	6
12.50	.4921	101.00	151.00	C72316	6
13.00	.5118	101.00	151.00	C72319	1
13.50	.5315	108.00	160.00	C72321	1
14.00	.5512	108.00	160.00	C72323	1
14.50	.5709	114.00	169.00	C72325	1
15.00	.5906	114.00	169.00	C72327	1
15.50	.6102	120.00	178.00	C72329	1
16.00	.6299	120.00	178.00	C72331	1
16.50	.6496	120.00	184.00	C72333	1
17.00	.6693	120.00	184.00	C72335	1
17.50	.6890	130.00	191.00	C72337	1



C00934

Corresponding Sets		
Number of Pieces	Sizes	Order Number
15	1/16" through 1/2" x 1/32"	C72199
20	#61-#80	C00937
25	1 mm through 13 mm x 0.5 mm	C72000
26	letter A through Z	C00939
29	1/16" through 1/2" x 1/64"	C72198
60	wire gauge #1 through #60	C00934
115	1/16" through 1/2", A - Z, #1 - #60	C01330

GENERAL PURPOSE JOBBER LENGTH DRILLS

2002-TC SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / TiCN

CLEVELAND 2002G-TC General-purpose drill with HSS and TiCN coating ensures precise straight shank drilling in aluminum and non-ferrous materials.



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/64	.0469	3/4	1-3/4	C73003	12
1/16	.0625	7/8	1-7/8	C73004	12
5/64	.0781	1	2	C73005	12
3/32	.0938	1-1/4	2-1/4	C73006	12
7/64	.1094	1-1/2	2-5/8	C73007	12
1/8	.1250	1-5/8	2-3/4	C73008	12
9/64	.1406	1-3/4	2-7/8	C73009	12
5/32	.1562	2	3-1/8	C73010	12
11/64	.1719	2-1/8	3-1/4	C73011	12
3/16	.1875	2-5/16	3-1/2	C73012	12
13/64	.2031	2-7/16	3-5/8	C73013	12
7/32	.2188	2-1/2	3-3/4	C73014	12
15/64	.2344	2-5/8	3-7/8	C73015	12
1/4	.2500	2-3/4	4	C73016	12
17/64	.2656	2-7/8	4-1/8	C73017	12
9/32	.2812	2-15/16	4-1/4	C73018	12
19/64	.2969	3-1/16	4-3/8	C73019	6
5/16	.3125	3-3/16	4-1/2	C73020	6
21/64	.3281	3-5/16	4-5/8	C73021	6
11/32	.3438	3-7/16	4-3/4	C73022	6
23/64	.3594	3-1/2	4-7/8	C73023	6
3/8	.3750	3-5/8	5	C73024	6
25/64	.3906	3-3/4	5-1/8	C73025	6
13/32	.4062	3-7/8	5-1/4	C73026	6
27/64	.4219	3-15/16	5-3/8	C73027	6
7/16	.4375	4-1/16	5-1/2	C73028	6
29/64	.4531	4-3/16	5-5/8	C73029	6
15/32	.4688	4-5/16	5-3/4	C73030	6
31/64	.4844	4-3/8	5-7/8	C73031	6
1/2	.5000	4-1/2	6	C73032	6
Wire					
52	.0635	7/8	1-7/8	C73152	12
51	.0670	1	2	C73151	12
50	.0700	1	2	C73150	12
49	.0730	1	2	C73149	12
48	.0760	1	2	C73148	12
47	.0785	1	2	C73147	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
46	.0810	1-1/8	2-1/8	C73146	12
45	.0820	1-1/8	2-1/8	C73145	12
44	.0860	1-1/8	2-1/8	C73144	12
43	.0890	1-1/4	2-1/4	C73143	12
42	.0935	1-1/4	2-1/4	C73142	12
41	.0960	1-3/8	2-3/8	C73141	12
40	.0980	1-3/8	2-3/8	C73140	12
39	.0995	1-3/8	2-3/8	C73139	12
38	.1015	1-7/16	2-1/2	C73138	12
37	.1040	1-7/16	2-1/2	C73137	12
36	.1065	1-7/16	2-1/2	C73136	12
35	.1100	1-1/2	2-5/8	C73135	12
34	.1110	1-1/2	2-5/8	C73134	12
33	.1130	1-1/2	2-5/8	C73133	12
32	.1160	1-5/8	2-3/4	C73132	12
31	.1200	1-5/8	2-3/4	C73131	12
30	.1285	1-5/8	2-3/4	C73130	12
29	.1360	1-3/4	2-7/8	C73129	12
28	.1405	1-3/4	2-7/8	C73128	12
27	.1440	1-7/8	3	C73127	12
26	.1470	1-7/8	3	C73126	12
25	.1495	1-7/8	3	C73125	12
24	.1520	2	3-1/8	C73124	12
23	.1540	2	3-1/8	C73123	12
22	.1570	2	3-1/8	C73122	12
21	.1590	2-1/8	3-1/4	C73121	12
20	.1610	2-1/8	3-1/4	C73120	12
19	.1660	2-1/8	3-1/4	C73119	12
18	.1695	2-1/8	3-1/4	C73118	12
17	.1730	2-3/16	3-3/8	C73117	12
16	.1770	2-3/16	3-3/8	C73116	12
15	.1800	2-3/16	3-3/8	C73115	12
14	.1820	2-3/16	3-3/8	C73114	12
13	.1850	2-5/16	3-1/2	C73113	12
12	.1890	2-5/16	3-1/2	C73112	12
11	.1910	2-5/16	3-1/2	C73111	12
10	.1935	2-7/16	3-5/8	C73110	12
9	.1960	2-7/16	3-5/8	C73109	12

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GENERAL PURPOSE JOBBER LENGTH DRILLS

2002-TC SERIES continued



01

DRILLS

CLEVELAND | WALTER

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
8	.1990	2-7/16	3-5/8	C73108	12
7	.2010	2-7/16	3-5/8	C73107	12
6	.2040	2-1/2	3-3/4	C73106	12
5	.2055	2-1/2	3-3/4	C73105	12
4	.2090	2-1/2	3-3/4	C73104	12
3	.2130	2-1/2	3-3/4	C73103	12
2	.2210	2-5/8	3-7/8	C73102	12
1	.2280	2-5/8	3-7/8	C73101	12
Letter					
A	.2340	2-5/8	3-7/8	C73071	12
B	.2380	2-3/4	4	C73072	12
C	.2420	2-3/4	4	C73073	12
D	.2460	2-3/4	4	C73074	12
F	.2570	2-7/8	4-1/8	C73075	12
G	.2610	2-7/8	4-1/8	C73076	12
H	.2660	2-7/8	4-1/8	C73077	12
I	.2720	2-7/8	4-1/8	C73078	12
J	.2770	2-7/8	4-1/8	C73079	12
K	.2812	2-15/16	4-1/4	C73080	12
L	.2900	2-15/16	4-1/4	C73081	12
M	.2950	3-1/16	4-3/8	C73082	6
N	.3020	3-1/16	4-3/8	C73083	6
O	.3160	3-3/16	4-1/2	C73084	6
P	.3230	3-5/16	4-5/8	C73085	6
Q	.3320	3-7/16	4-3/4	C73086	6
R	.3390	3-7/16	4-3/4	C73087	6
S	.3480	3-1/2	4-7/8	C73088	6
T	.3580	3-1/2	4-7/8	C73089	6
U	.3680	3-5/8	5	C73090	6
V	.3770	3-5/8	5	C73091	6
W	.3860	3-3/4	5-1/8	C73092	6
X	.3970	3-3/4	5-1/8	C73093	6
Y	.4040	3-7/8	5-1/4	C73094	6
Z	.4130	3-7/8	5-1/4	C73095	6

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
1.00	.0394	12.00	34.00	C73200	12
1.50	.0591	18.00	40.00	C73210	12
1.60	.0630	20.00	43.00	C73212	12
2.00	.0787	24.00	49.00	C73220	12
2.40	.0945	30.00	57.00	C73228	12
2.50	.0984	30.00	57.00	C73230	12
3.00	.1181	33.00	61.00	C73235	12
3.20	.1260	37.00	66.00	C73237	12
3.30	.1299	38.00	67.00	C73238	12
3.50	.1378	39.00	70.00	C73240	12
3.60	.1417	39.00	70.00	C73241	12
4.00	.1575	43.00	75.00	C73245	12
4.10	.1614	43.00	75.00	C73246	12
4.20	.1654	43.00	75.00	C73247	12
4.30	.1692	47.00	80.00	C73248	12
4.50	.1772	47.00	80.00	C73250	12
4.80	.1890	52.00	86.00	C73253	12
4.90	.1929	52.00	86.00	C73254	12
5.00	.1969	52.00	86.00	C73255	12
5.10	.2008	52.00	86.00	C73256	12
5.20	.2047	52.00	86.00	C73257	12
5.50	.2165	57.00	93.00	C73260	12
6.00	.2362	57.00	93.00	C73265	12
6.50	.2559	63.00	101.00	C73270	12
6.80	.2677	69.00	109.00	C73273	12
7.00	.2756	69.00	109.00	C73275	12
7.50	.2953	69.00	109.00	C73280	6
8.00	.3150	75.00	117.00	C73285	6
8.50	.3346	75.00	117.00	C73290	6
9.00	.3543	81.00	125.00	C73295	6
9.50	.3740	81.00	125.00	C73300	6
10.00	.3937	87.00	133.00	C73305	6
10.20	.4016	87.00	133.00	C73306	6
10.50	.4134	87.00	133.00	C73308	6
11.00	.4331	94.00	142.00	C73310	6
11.50	.4527	94.00	142.00	C73312	6
12.00	.4724	101.00	151.00	C73314	6
12.50	.4921	101.00	151.00	C73316	6
13.00	.5118	101.00	151.00	C73319	1
14.00	.5512	108.00	160.00	C73323	1
15.00	.5906	114.00	169.00	C73327	1
16.00	.6299	120.00	178.00	C73331	1
17.00	.6693	120.00	184.00	C73335	1

GENERAL PURPOSE JOBBER LENGTH DRILLS

2006 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Left Hand / Bright

CLEVELAND 2006 is a jobber drill made from HSS, designed for reverse rotation drilling and the extraction of broken right-hand fasteners. It features a 118° standard point for general-purpose starts and a bright finish for smooth chip removal in soft to medium-strength materials. Provides reliable cutting performance where reverse rotation is required.

Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



118° POINT ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C01401	10
5/64	.0781	1	2	C01415	10
3/32	.0938	1-1/4	2-1/4	C01430	10
7/64	.1094	1-1/2	2-5/8	C01443	10
1/8	.1250	1-5/8	2-3/4	C01453	10
9/64	.1406	1-3/4	2-7/8	C01462	10
5/32	.1562	2	3-1/8	C01473	10
11/64	.1719	2-1/8	3-1/4	C01484	10
3/16	.1875	2-5/16	3-1/2	C01495	10
13/64	.2031	2-7/16	3-7/8	C01506	10
7/32	.2188	2-1/2	3-3/4	C01516	10
1/4	.2500	2-3/4	4	C01532	10
17/64	.2656	2-7/8	4-1/8	C01538	10
9/32	.2812	2-15/16	4-1/4	C01551	10
5/16	.3125	3-3/16	4-1/2	C01561	5
3/8	.3750	3-5/8	5	C01588	5
13/32	.4062	3-7/8	5-1/4	C01600	5

GENERAL PURPOSE JOBBER LENGTH DRILLS

01

DRILLS

2012 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / High Helix / Bright

CLEVELAND 2012 high-helix jobber drill constructed from HSS for drilling in softer, gummy materials. It features a 118° point for controlled entry and a bright finish that enhances chip flow and reduces clogging. The increased helix angle lifts chips more efficiently, ideal in applications requiring clean, uninterrupted cutting.

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/32	.0312	1/2	1-3/8	C02907	10
3/64	.0469	3/4	1-3/4	C02928	10
1/16	.0625	7/8	1-7/8	C02940	10
5/64	.0781	1	2	C02954	10
3/32	.0938	1-1/4	2-1/4	C02969	10
7/64	.1094	1-1/2	2-5/8	C02982	10
1/8	.1250	1-5/8	2-3/4	C02992	10
9/64	.1406	1-3/4	2-7/8	C03001	10
5/32	.1562	2	3-1/8	C03012	10
11/64	.1719	2-1/8	3-1/4	C03023	10
3/16	.1875	2-5/16	3-1/2	C03034	10
13/64	.2031	2-7/16	3-5/8	C03045	10
7/32	.2188	2-1/2	3-3/4	C03055	10
15/64	.2344	2-5/8	3-7/8	C03064	10
1/4	.2500	2-3/4	4	C03073	10
17/64	.2656	2-7/8	4-1/8	C03081	10
9/32	.2812	2-15/16	4-1/4	C03095	10
19/64	.2969	3-1/16	4-3/8	C03099	10
5/16	.3125	3-3/16	4-1/2	C03106	10
21/64	.3281	3-5/16	4-5/8	C03114	10
11/32	.3438	3-7/16	4-3/4	C03121	10
23/64	.3594	3-1/2	4-7/8	C03129	10
3/8	.3750	3-5/8	5	C03136	10
25/64	.3906	3-3/4	5-1/8	C03144	10
13/32	.4062	3-7/8	5-1/4	C03149	10
27/64	.4219	3-15/16	5-3/8	C03152	10
7/16	.4375	4-1/16	5-1/2	C03155	10
29/64	.4531	4-3/16	5-5/8	C03158	10
15/32	.4688	4-5/16	5-3/4	C03160	10
31/64	.4844	4-3/8	5-7/8	C03163	10
1/2	.5000	4-1/2	6	C03165	10

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
80	.0135	3/16	3/4	C02881	10
79	.0145	3/16	3/4	C02883	10
78	.0160	3/16	7/8	C02887	10
77	.0180	3/16	7/8	C02890	10
76	.0200	3/16	7/8	C02893	10
75	.0210	1/4	1	C02894	10
74	.0225	1/4	1	C02896	10
73	.0240	5/16	1-1/8	C02898	10
72	.0250	5/16	1-1/8	C02899	10
71	.0260	3/8	1-1/4	C02901	10
70	.0280	3/8	1-1/4	C02903	10
69	.0292	1/2	1-3/8	C02904	10
68	.0310	1/2	1-3/8	C02906	10
67	.0320	1/2	1-3/8	C02909	10
66	.0330	1/2	1-3/8	C02910	10
65	.0350	5/8	1-1/2	C02912	10
64	.0360	5/8	1-1/2	C02914	10
63	.0370	5/8	1-1/2	C02915	10
62	.0380	5/8	1-1/2	C02917	10
61	.0390	11/16	1-5/8	C02918	10
60	.0400	11/16	1-5/8	C02920	10
59	.0410	11/16	1-5/8	C02921	10
58	.0420	11/16	1-5/8	C02923	10
57	.0430	3/4	1-3/4	C02924	10
56	.0465	3/4	1-3/4	C02927	10
55	.0520	7/8	1-7/8	C02932	10
54	.0550	7/8	1-7/8	C02934	10
53	.0595	7/8	1-7/8	C02938	10
52	.0635	7/8	1-7/8	C02942	10
51	.0670	1	2	C02945	10

CLEVELAND | WALTER

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GENERAL PURPOSE
JOBBER LENGTH DRILLS

2012 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
50	.0700	1	2	C02947	10
49	.0730	1	2	C02950	10
48	.0760	1	2	C02952	10
47	.0785	1	2	C02955	10
46	.0810	1-1/8	2-1/8	C02958	10
45	.0820	1-1/8	2-1/8	C02959	10
44	.0860	1-1/8	2-1/8	C02962	10
43	.0890	1-1/4	2-1/4	C02965	10
42	.0935	1-1/4	2-1/4	C02968	10
41	.0960	1-3/8	2-3/8	C02971	10
40	.0980	1-3/8	2-3/8	C02973	10
39	.0995	1-3/8	2-3/8	C02975	10
38	.1015	1-7/16	2-1/2	C02976	10
37	.1040	1-7/16	2-1/2	C02978	10
36	.1065	1-7/16	2-1/2	C02980	10
35	.1100	1-1/2	2-5/8	C02983	10
34	.1110	1-1/2	2-5/8	C02985	10
33	.1130	1-1/2	2-5/8	C02986	10
32	.1160	1-5/8	2-3/4	C02988	10
31	.1200	1-5/8	2-3/4	C02990	10
30	.1285	1-5/8	2-3/4	C02995	10
29	.1360	1-3/4	2-7/8	C02998	10
28	.1405	1-3/4	2-7/8	C03000	10
27	.1440	1-7/8	3	C03003	10
26	.1470	1-7/8	3	C03005	10
25	.1495	1-7/8	3	C03007	10
24	.1520	2	3-1/8	C03009	10
23	.1540	2	3-1/8	C03011	10
22	.1570	2	3-1/8	C03013	10
21	.1590	2-1/8	3-1/4	C03015	10
20	.1610	2-1/8	3-1/4	C03016	10
19	.1660	2-1/8	3-1/4	C03019	10
18	.1695	2-1/8	3-1/4	C03022	10
17	.1730	2-3/16	3-3/8	C03024	10
16	.1770	2-3/16	3-3/8	C03026	10
15	.1800	2-3/16	3-3/8	C03028	10
14	.1820	2-3/16	3-3/8	C03030	10
13	.1850	2-5/16	3-1/2	C03031	10
12	.1890	2-5/16	3-1/2	C03035	10
11	.1910	2-5/16	3-1/2	C03037	10
10	.1935	2-7/16	3-5/8	C03039	10
9	.1960	2-7/16	3-5/8	C03040	10
8	.1990	2-7/16	3-5/8	C03042	10
7	.2010	2-7/16	3-5/8	C03044	10
6	.2040	2-1/2	3-3/4	C03046	10
5	.2055	2-1/2	3-3/4	C03048	10
4	.2090	2-1/2	3-3/4	C03051	10
3	.2130	2-1/2	3-3/4	C03053	10
2	.2210	2-5/8	3-7/8	C03057	10
1	.2280	2-5/8	3-7/8	C03060	10

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	2-5/8	3-7/8	C03063	10
B	.2380	2-3/4	4	C03066	10
C	.2420	2-3/4	4	C03068	10
D	.2460	2-3/4	4	C03070	10
E	.2500	2-3/4	4	C03073	10
F	.2570	2-7/8	4-1/8	C03077	10
G	.2610	2-7/8	4-1/8	C03079	10
H	.2660	2-7/8	4-1/8	C03083	10
I	.2720	2-7/8	4-1/8	C03086	10
J	.2770	2-7/8	4-1/8	C03088	10
L	.2900	2-15/16	4-1/4	C03094	10
M	.2950	3-1/16	4-3/8	C03097	5
N	.3020	3-1/16	4-3/8	C03101	5
O	.3160	3-3/16	5-3/4	C03108	5
P	.3230	3-5/16	4-5/8	C03111	5
Q	.3320	3-7/16	4-3/4	C03116	5
R	.3390	3-7/16	4-3/4	C03119	5
S	.3480	3-1/2	4-7/8	C03124	5
T	.3580	3-1/2	4-7/8	C03127	5
U	.3680	3-5/8	5	C03133	5
V	.3770	3-5/8	5	C03137	5
W	.3860	3-3/4	5-1/8	C03142	5
X	.3970	3-3/4	5-1/8	C03146	5
Y	.4040	3-7/8	5-1/4	C03148	5
Z	.4130	3-7/8	5-1/4	C03150	5

GENERAL PURPOSE JOBBER LENGTH DRILLS

01

DRILLS

2020 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Low Helix / Fractional / Bright

CLEVELAND 2020 is a low-helix jobber drill engineered from HSS to handle harder and work-hardened materials. It features a 118° standard point for consistent starts and a bright finish that reduces friction. The reduced helix angle improves chip control in horizontal drilling or when working with tough materials.

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C03477	10
5/64	.0781	1	2	C03491	10
3/32	.0938	1-1/4	2-1/4	C03506	10
7/64	.1094	1-1/2	2-5/8	C03519	10
1/8	.1250	1-5/8	2-3/4	C03529	10
9/64	.1406	1-3/4	2-7/8	C03538	10
5/32	.1562	2	3-1/8	C03549	10
11/64	.1719	2-1/8	3-1/4	C03560	10
3/16	.1875	2-5/16	3-1/2	C03571	10
13/64	.2031	2-7/16	3-5/8	C03582	10
7/32	.2188	2-1/2	3-3/4	C03592	10
15/64	.2344	2-5/8	3-7/8	C03601	10
1/4	.2500	2-3/4	4	C03610	10

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
17/64	.2656	2-7/8	4-1/8	C03618	10
9/32	.2812	2-15/16	4-1/4	C03632	10
19/64	.2969	3-1/16	4-3/8	C03636	5
5/16	.3125	3-3/16	4-1/2	C03643	5
21/64	.3281	3-5/16	4-5/8	C03651	5
11/32	.3438	3-7/16	4-3/4	C03658	5
3/8	.3750	3-5/8	5	C03673	5
25/64	.3906	3-3/4	5-1/8	C03681	5
13/32	.4062	3-7/8	5-1/4	C03686	5
27/64	.4219	3-15/16	5-3/8	C03689	5
7/16	.4375	4-1/16	5-1/2	C03692	5
29/64	.4531	4-3/16	5-5/8	C03695	5
15/32	.4688	4-5/16	5-3/4	C03697	5
1/2	.5000	4-1/2	6	C03702	5

CLEVELAND | WALTER

GENERAL PURPOSE JOBBER LENGTH DRILLS

2727 SERIES

CARBIDE TIPPED

118° Point / Round Shank / Fractional / Bright

CLEVELAND 2727 High speed steel, carbide-tipped drill with bright finish and round shank ensures precise drilling in steel, cast iron, and aluminum.

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	1-5/8	2-3/4	C48655	1
5/32	.1562	2	3-1/8	C48675	1
3/16	.1875	2-5/16	3-1/2	C48697	1
7/32	.2188	2-1/2	3-3/4	C48718	1
1/4	.2500	2-3/4	4	C48736	1
9/32	.2812	2-15/16	4-1/4	C48758	1
5/16	.3125	3-3/16	4-1/2	C48769	1
11/32	.3438	3-7/16	4-3/4	C48784	1
3/8	.3750	3-5/8	5	C48799	1
13/32	.4062	3-7/8	5-1/4	C48812	1
7/16	.4375	4-1/16	5-1/2	C48818	1
15/32	.4688	4-5/16	5-3/4	C48823	1
1/2	.5000	4-1/2	6	C48828	1
Wire					
7	.2010	2-7/16	3-5/8	C48707	1
Letter					
E	.2500	2-3/4	4	C48736	1

PARABOLIC JOBBER LENGTH DRILLS

01

DRILLS

CLEVELAND | WALTER

2065 SERIES

PARABOLIC HIGH SPEED STEEL

135° Split Point / Round Shank / High Helix /Bright

CLEVELAND 2065 Series is an HSS parabolic flute jobber drill designed for deep-hole drilling in softer and free-machining materials. It features a 135° split point for self-centering starts and faster penetration, while the bright finish enhances chip evacuation and reduces friction.

NOTE: Up to 10× diameter without pecking, where long flute lengths and efficient chip removal are critical

Best Material Application



Drill Specifications



Size	Fractional			Order Number	Pack Qty.
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)		
1/16	.0625	7/8	1-7/8	C16029	10
5/64	.0781	1	2	C16030	10
3/32	.0938	1-1/4	2-1/4	C16031	10
7/64	.1094	1-1/2	2-5/8	C16032	10
1/8	.1250	1-5/8	2-3/4	C16033	10
9/64	.1406	1-3/4	2-7/8	C16034	10
5/32	.1562	2	3-1/8	C16035	10
11/64	.1719	2-1/8	3-1/4	C16036	10
3/16	.1875	2-5/16	3-1/2	C16037	10
13/64	.2031	2-7/16	3-5/8	C16038	10
7/32	.2188	2-1/2	3-3/4	C16039	10
15/64	.2344	2-5/8	3-7/8	C16040	10
1/4	.2500	2-3/4	4	C16041	10
17/64	.2656	2-7/8	4-1/8	C16042	10
9/32	.2812	2-15/16	4-1/4	C16043	10
19/64	.2969	3-1/16	4-3/8	C16044	5
5/16	.3125	3-3/16	4-1/2	C16045	5
21/64	.3281	3-5/16	4-5/8	C16046	5
11/32	.3438	3-7/16	4-3/4	C16047	5
23/64	.3594	3-1/2	4-7/8	C16048	5
3/8	.3750	3-5/8	5	C16049	5
25/64	.3906	3-3/4	5-1/8	C16050	5
13/32	.4062	3-7/8	5-1/4	C16051	5
27/64	.4219	3-15/16	5-3/8	C16052	5
7/16	.4375	4-1/16	5-1/2	C16053	5
29/64	.4531	4-3/16	5-5/8	C16054	5
15/32	.4688	4-5/16	5-3/4	C16055	5
31/64	.4844	4-3/8	5-7/8	C16056	5
1/2	.5000	4-1/2	6	C16057	5
Wire					
52	.0635	7/8	1-7/8	C16219	10
51	.0670	1	2	C16218	10
50	.0700	1	2	C16217	10
49	.0730	1	2	C16216	10
48	.0760	1	2	C16215	10

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
47	.0785	1	2	C16214	10
46	.0810	1-1/8	2-1/8	C16213	10
45	.0820	1-1/8	2-1/8	C16212	10
44	.0860	1-1/8	2-1/8	C16211	10
43	.0890	1-1/4	2-1/4	C16210	10
42	.0935	1-1/4	2-1/4	C16209	10
41	.0960	1-3/8	2-3/8	C16208	10
40	.0980	1-3/8	2-3/8	C16207	10
39	.0995	1-3/8	2-3/8	C16206	10
38	.1015	1-7/16	2-1/2	C16205	10
37	.1040	1-7/16	2-1/2	C16204	10
36	.1065	1-7/16	2-1/2	C16203	10
35	.1100	1-1/2	2-5/8	C16202	10
34	.1110	1-1/2	2-5/8	C16201	10
33	.1130	1-1/2	2-5/8	C16200	10
32	.1160	1-5/8	2-3/4	C16199	10
31	.1200	1-5/8	2-3/4	C16198	10
30	.1285	1-5/8	2-3/4	C16197	10
29	.1360	1-3/4	2-7/8	C16196	10
28	.1405	1-3/4	2-7/8	C16195	10
27	.1440	1-7/8	3	C16194	10
26	.1470	1-7/8	3	C16193	10
25	.1495	1-7/8	3	C16192	10
24	.1520	2	3-1/8	C16191	10
23	.1540	2	3-1/8	C16190	10
22	.1570	2	3-1/8	C16189	10
21	.1590	2-5/16	3-1/2	C16188	10
20	.1610	2-1/8	3-1/4	C16187	10
19	.1695	2-1/8	3-1/4	C16186	10
18	.1695	2-1/8	3-1/4	C16185	10
17	.1730	2-3/16	3-3/8	C16184	10
16	.1770	2-3/16	3-3/8	C16183	10
15	.1800	2-3/16	3-3/8	C16182	10
14	.1820	2-3/16	3-3/8	C16181	10
13	.1850	2-5/16	3-1/2	C16180	10
12	.1890	2-5/16	3-1/2	C16179	10
11	.1910	2-5/16	3-1/2	C16178	10

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PARABOLIC JOBBER LENGTH DRILLS

2065 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
10	.1935	2.438	3.625	C16177	10
9	.1960	2.438	3.625	C16176	10
8	.1990	2.438	3.625	C16175	10
7	.2010	2.438	3.625	C16174	10
6	.2040	2.500	3.750	C16173	10
5	.2055	2.500	3.750	C16172	10

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
4	.2090	2.500	3.750	C16171	10
3	.2130	2.500	3.750	C16170	10
2	.2210	2.625	3.875	C16169	10
1	.2280	2.625	3.875	C16168	10
Letter					
E	.2500	2.750	4.000	C16041	10

2065-TN SERIES

PARABOLIC HIGH SPEED STEEL

135° Split Point / Round Shank / High Helix / TiN



Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C03705	10
5/64	.0781	1	2	C03711	10
3/32	.0938	1-1/4	2-1/4	C03718	10
7/64	.1094	1-1/2	2-5/8	C03725	10
1/8	.1250	1-5/8	2-3/4	C03731	10
5/32	.1562	2	3-1/8	C03741	10
11/64	.1719	2-1/8	3-1/4	C03747	10
3/16	.1875	2-5/16	3-1/2	C03753	10
13/64	.2031	2-7/16	3-5/8	C03760	10
7/32	.2188	2-1/2	3-3/4	C03765	10
1/4	.2500	2-3/4	4	C03773	10
17/64	.2656	2-7/8	4-1/8	C03776	10
9/32	.2812	2-15/16	4-1/4	C03781	10
19/64	.2969	3-1/16	4-3/8	C03784	5
5/16	.3125	3-3/16	4-1/2	C03786	5
13/32	.4062	3-7/8	5-1/4	C03801	5
7/16	.4375	4-1/16	5-1/2	C03804	5
15/32	.4688	4-5/16	5-3/4	C03806	5
31/64	.4844	4-3/8	5-7/8	C03807	5

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
50	.0700	1	2	C03708	10
40	.0980	1-3/8	2-3/8	C03720	10
38	.1015	1-7/16	2-1/2	C03722	10
36	.1065	1-7/16	2-1/2	C03724	10
33	.1130	1-1/2	2-5/8	C03728	10
31	.1200	1-5/8	2-3/4	C03730	10
30	.1285	1-5/8	2-3/4	C03732	10
29	.1360	1-3/4	2-7/8	C03733	10
25	.1495	1-7/8	3	C03738	10
22	.1570	2	3-1/8	C03742	10
21	.1590	2-5/16	3-1/2	C03743	10
19	.1695	2-1/8	3-1/4	C03745	10
15	.1800	2-3/16	3-3/8	C03750	10
14	.1820	2-3/16	3-3/8	C03751	10
13	.1850	2-5/16	3-1/2	C03752	10
10	.1935	2-7/16	3-5/8	C03756	10
8	.1990	2-7/16	3-5/8	C03758	10
6	.2040	2-1/2	3-3/4	C03761	10
5	.2055	2-1/2	3-3/4	C03762	10
3	.2130	2-1/2	3-3/4	C03764	10
Letter					
E	.2500	2-3/4	4	C03773	10

PARABOLIC JOBBER LENGTH DRILLS

01

DRILLS

2075 SERIES

PARABOLIC Q-COBALT™

135° Split Point / Round Shank / High Helix / Bronze Finish

The 2075 Series is an Cobalt, wide land parabolic Q-Cobalt™ flute jobber drill designed for deep-hole drilling applications requiring superior strength and chip evacuation. It features a 135° split point for accurate starts and reduced thrust, while the bright finish ensures smooth chip flow and clean cutting.

NOTE: Up to 7x diameter drilling without pecking.

Optional coatings are available to enhance tool life and increase productivity.

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C16555	10
5/64	.0781	1	2	C16556	10
3/32	.0938	1-1/4	2-1/4	C16557	10
7/64	.1094	1-1/2	2-5/8	C16558	10
1/8	.1250	1-5/8	2-3/4	C16559	10
9/64	.1406	1-3/4	2-7/8	C16560	10
5/32	.1562	2	3-1/8	C16561	10
11/64	.1719	2-1/8	3-1/4	C16562	10
3/16	.1875	2-5/16	3-1/2	C16563	10
13/64	.2031	2-7/16	3-5/8	C16564	10
7/32	.2188	2-1/2	3-3/4	C16565	10
15/64	.2344	2-5/8	3-7/8	C16566	10
1/4	.2500	2-3/4	4	C16567	10
17/64	.2656	2-7/8	4-1/8	C16568	10
9/32	.2812	2-15/16	4-1/4	C16569	10
19/64	.2969	3-1/16	4-3/8	C16570	5
5/16	.3125	3-3/16	4-1/2	C16571	5
21/64	.3281	3-5/16	4-5/8	C16572	5
11/32	.3438	3-7/16	4-3/4	C16573	5
23/64	.3594	3-1/2	4-7/8	C16574	5
3/8	.3750	3-5/8	5	C16575	5
25/64	.3906	3-3/4	5-1/8	C16576	5
13/32	.4062	3-7/8	5-1/4	C16577	5
27/64	.4219	3-15/16	5-3/8	C16578	5
7/16	.4375	4-1/16	5-1/2	C16579	5
29/64	.4531	4-3/16	5-5/8	C16580	5
15/32	.4688	4-5/16	5-3/4	C16581	5
31/64	.4844	4-3/8	5-7/8	C16582	5
1/2	.5000	4-1/2	6	C16583	5
Wire					
52	.0635	7/8	1-7/8	C16554	10
51	.0670	1	2	C16553	10
50	.0700	1	2	C16552	10
49	.0730	1	2	C16551	10
48	.0760	1	2	C16550	10
47	.0785	1	2	C16549	10
46	.0810	1-1/8	2-1/8	C16548	10

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
45	.0820	1-1/8	2-1/8	C16547	10
44	.0860	1-1/8	2-1/8	C16546	10
43	.0890	1-1/4	2-1/4	C16545	10
42	.0935	1-1/4	2-1/4	C16544	10
41	.0960	1-3/8	2-3/8	C16543	10
40	.0980	1-3/8	2-3/8	C16542	10
39	.0995	1-3/8	2-3/8	C16541	10
38	.1015	1-7/16	2-1/2	C16540	10
37	.1040	1-7/16	2-1/2	C16539	10
36	.1065	1-7/16	2-1/2	C16538	10
35	.1100	1-1/2	2-5/8	C16537	10
34	.1110	1-1/2	2-5/8	C16536	10
33	.1130	1-1/2	2-5/8	C16535	10
32	.1160	1-5/8	2-3/4	C16534	10
31	.1200	1-5/8	2-3/4	C16533	10
30	.1285	1-5/8	2-3/4	C16532	10
29	.1360	1-3/4	2-7/8	C16531	10
28	.1405	1-3/4	2-7/8	C16530	10
27	.1440	1-7/8	3	C16529	10
26	.1470	1-7/8	3	C16528	10
25	.1495	1-7/8	3	C16527	10
24	.1520	2	3-1/8	C16526	10
23	.1540	2	3-1/8	C16525	10
22	.1570	2	3-1/8	C16524	10
21	.1590	2-5/16	3-1/2	C16523	10
20	.1610	2-1/8	3-1/4	C16522	10
19	.1660	2-1/8	3-1/4	C16521	10
18	.1695	2-1/8	3-1/4	C16520	10
17	.1730	2-3/16	3-3/8	C16519	10
16	.1770	2-3/16	3-3/8	C16518	10
15	.1800	2-3/16	3-3/8	C16517	10
14	.1820	2-3/16	3-3/8	C16516	10
13	.1850	2-5/16	3-1/2	C16515	10
12	.1890	2-5/16	3-1/2	C16514	10
11	.1910	2-5/16	3-1/2	C16513	10
10	.1935	2-7/16	3-5/8	C16512	10
9	.1960	2-7/16	3-5/8	C16511	10

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PARABOLIC JOBBER LENGTH DRILLS

2075 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
8	.1990	2-7/16	3-5/8	C16510	10
7	.2010	2-7/16	3-5/8	C16509	10
6	.2040	2-1/2	3-3/4	C16508	10
5	.2055	2-1/2	3-3/4	C16507	10
4	.2090	2-1/2	3-3/4	C16506	10
3	.2130	2-1/2	3-3/4	C16505	10
2	.2210	2-5/8	3-7/8	C16504	10
1	.2280	2-5/8	3-7/8	C16503	10
Letter					
A	.2340	2-5/8	3-7/8	C15650	10
B	.2380	2-3/4	4	C15651	10
C	.2420	2-3/4	4	C15652	10
D	.2460	2-3/4	4	C15653	10
E	.2500	2-3/4	4	C16567	10
F	.2570	2-7/8	4-1/8	C15654	10
G	.2610	2-7/8	4-1/8	C15655	10
H	.2660	2-7/8	4-1/8	C15656	10
I	.2720	2-7/8	4-1/8	C15657	10
J	.2770	2-7/8	4-1/8	C15658	10
K	.2810	2-15/16	4-1/4	C15659	10
L	.2900	2-15/16	4-1/4	C15660	10
M	.2950	3-1/16	4-3/8	C15661	5
N	.3020	3-1/16	4-3/8	C15662	5
O	.3160	3-3/16	4-1/2	C15663	5
P	.3230	3-5/16	4-5/8	C15664	5
Q	.3320	3-7/16	4-3/4	C15665	5
R	.3390	3-7/16	4-3/4	C15666	5
S	.3480	3-1/2	4-7/8	C15667	5
T	.3580	3-1/2	4-7/8	C15668	5
U	.3680	3-5/8	5	C15669	5
V	.3770	3-5/8	5	C15670	5
W	.3860	3-3/4	5-1/8	C15671	5
X	.3970	3-3/4	5-1/8	C15672	5
Y	.4040	3-7/8	5-1/4	C15673	5
Z	.4130	3-7/8	5-1/4	C15674	5

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.50	.0591	18.00	40.00	C16584	10
1.60	.0630	20.00	43.00	C15541	10
2.00	.0787	24.00	49.00	C16585	10
2.50	.0984	30.00	57.00	C16586	10
2.90	.1142	33.00	61.00	C15556	10
3.00	.1181	33.00	61.00	C16587	10
3.30	.1299	36.00	65.00	C15559	10
3.50	.1378	39.00	70.00	C16588	10
4.00	.1575	43.00	75.00	C16589	10
4.20	.1654	43.00	75.00	C15563	10
4.50	.1772	47.00	80.00	C16590	10
5.00	.1969	52.00	86.00	C16591	10
5.50	.2165	57.00	93.00	C16593	10
6.00	.2362	57.00	93.00	C16595	10
6.50	.2559	63.00	101.00	C16596	10
6.80	.2677	69.00	109.00	C16597	10
7.00	.2756	69.00	109.00	C16598	10
8.00	.3150	75.00	117.00	C16600	5
8.70	.3425	81.00	125.00	C15573	5
9.00	.3543	81.00	125.00	C16604	5
10.00	.3937	87.00	133.00	C16606	5
10.20	.4016	87.00	133.00	C15574	5
10.80	.4252	94.00	142.00	C15575	5
11.00	.4331	94.00	142.00	C16608	5
12.00	.4724	101.00	151.00	C16610	5
12.25	.4823	101.00	151.00	C15577	5
12.50	.4921	101.00	151.00	C16611	5
13.00	.5118	101.00	151.00	C15583	1

*Not split point



C00902

Corresponding Sets		
Number of Pieces	Sizes	Order Number
15	1/16" through 1/2" x 1/32"	C00901
29	1/16" through 1/2" x 1/64"	C00902

PARABOLIC JOBBER LENGTH DRILLS

01

DRILLS

2075-TN SERIES

PARABOLIC Q-COALT™

135° Split Point / Round Shank / High Helix / TiN



Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



135° SPLIT POINT

ROUND SHANK

Size	Fractional			Order Number	Pack Qty.
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)		
1/16	.0625	7/8	1-7/8	C16667	10
5/64	.0781	1	2	C16668	10
3/32	.0938	1-1/4	2-1/4	C16669	10
7/64	.1094	1-1/2	2-5/8	C16670	10
1/8	.1250	1-5/8	2-3/4	C16671	10
9/64	.1406	1-3/4	2-7/8	C16672	10
5/32	.1562	2	3-1/8	C16673	10
11/64	.1719	2-1/8	3-1/4	C16674	10
3/16	.1875	2-5/16	3-1/2	C16675	10
13/64	.2031	2-7/16	3-5/8	C16676	10
7/32	.2188	2-1/2	3-3/4	C16677	10
15/64	.2344	2-5/8	3-7/8	C16678	10
1/4	.2500	2-3/4	4	C16679	10
17/64	.2656	2-7/8	4-1/8	C16680	10
9/32	.2812	2-15/16	4-1/4	C16681	10
19/64	.2969	3-1/16	4-3/8	C16682	5
5/16	.3125	3-3/16	4-1/2	C16683	5
21/64	.3281	3-5/16	4-5/8	C16684	5
11/32	.3438	3-7/16	4-3/4	C16685	5
23/64	.3594	3-1/2	4-7/8	C16686	5
3/8	.3750	3-5/8	5	C16687	5
25/64	.3906	3-3/4	5-1/8	C16688	5
13/32	.4062	3-7/8	5-1/4	C16689	5
27/64	.4219	3-15/16	5-3/8	C16690	5
7/16	.4375	4-1/16	5-1/2	C16691	5
29/64	.4531	4-3/16	5-5/8	C16692	5
15/32	.4688	4-5/16	5-3/4	C16693	5
31/64	.4844	4-3/8	5-7/8	C16694	5
1/2	.5000	4-1/2	6	C16695	5
Wire					
52	.0635	7/8	1-7/8	C16666	10
51	.0670	1	2	C16665	10
50	.0700	1	2	C16664	10
49	.0730	1	2	C16663	10
48	.0760	1	2	C16661	10
47	.0785	1	2	C16660	10
46	.0810	1-1/8	2-1/8	C16659	10
45	.0820	1-1/8	2-1/8	C16658	10
44	.0860	1-1/8	2-1/8	C16657	10
43	.0890	1-1/4	2-1/4	C16656	10
42	.0935	1-1/4	2-1/4	C16655	10
41	.0960	1-3/8	2-3/8	C16654	10
40	.0980	1-3/8	2-3/8	C16652	10
39	.0995	1-3/8	2-3/8	C16651	10
38	.1015	1-7/16	2-1/2	C16650	10
37	.1040	1-7/16	2-1/2	C16649	10
36	.1065	1-7/16	2-1/2	C16648	10
35	.1100	1-1/2	2-5/8	C16647	10
34	.1110	1-1/2	2-5/8	C16646	10
33	.1130	1-1/2	2-5/8	C16645	10
32	.1160	1-5/8	2-3/4	C16644	10
31	.1200	1-5/8	2-3/4	C16643	10
30	.1285	1-5/8	2-3/4	C16642	10
29	.1360	1-3/4	2-7/8	C16641	10
28	.1405	1-3/4	2-7/8	C16640	10
27	.1440	1-7/8	3	C16639	10
26	.1470	1-7/8	3	C16638	10

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
25	.1495	1-7/8	3	C16637	10
24	.1520	2	3-1/8	C16636	10
23	.1540	2	3-1/8	C16635	10
22	.1570	2	3-1/8	C16634	10
21	.1590	2-5/16	3-1/2	C16633	10
20	.1610	2-1/8	3-1/4	C16632	10
19	.1660	2-1/8	3-1/4	C16631	10
18	.1695	2-1/8	3-1/4	C16630	10
17	.1730	2-3/16	3-3/8	C16629	10
16	.1770	2-3/16	3-3/8	C16628	10
15	.1800	2-3/16	3-3/8	C16626	10
14	.1820	2-3/16	3-3/8	C16625	10
13	.1850	2-5/16	3-1/2	C16624	10
12	.1890	2-5/16	3-1/2	C16623	10
11	.1910	2-5/16	3-1/2	C16622	10
10	.1935	2-7/16	3-5/8	C16621	10
9	.1960	2-7/16	3-5/8	C16620	10
8	.1990	2-7/16	3-5/8	C16619	10
7	.2010	2-7/16	3-5/8	C16618	10
6	.2040	2-1/2	3-3/4	C16617	10
5	.2055	2-1/2	3-3/4	C16616	10
4	.2090	2-1/2	3-3/4	C16615	10
3	.2130	2-1/2	3-3/4	C16614	10
2	.2210	2-5/8	3-7/8	C16613	10
1	.2280	2-5/8	3-7/8	C16612	10

Letter

E	.2500	2-3/4	4	C16679	10

Metric

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.50	.0591	18.00	40.00	C16696	10
1.60	.0630	20.00	43.00	C13029	10
2.00	.0787	24.00	49.00	C16697	10
2.50	.0984	30.00	57.00	C16698	10
2.90	.1142	33.00	61.00	C13030	10
3.00	.1181	33.00	61.00	C16699	10
3.30	.1299	36.00	65.00	C13031	10
3.50	.1378	39.00	70.00	C16700	10
4.00	.1575	43.00	75.00	C16701	10
4.20	.1654	43.00	75.00	C13033	10
4.50	.1772	47.00	80.00	C16702	10
5.00	.1969	52.00	86.00	C16703	10
5.50	.2165	57.00	93.00	C16705	10
6.00	.2362	57.00	93.00	C16707	10
6.50	.2559	63.00	101.00	C16708	10
6.80	.2677	69.00	109.00	C16709	10
7.00	.2756	69.00	109.00	C16710	10
8.00	.3150	75.00	117.00	C16712	5
8.70	.3425	81.00	125.00	C13035	5
9.00	.3543	81.00	125.00	C16716	5
10.00	.3937	87.00	133.00	C16718	5
10.20	.4016	87.00	133.00	C13036	5
10.80	.4252	94.00	142.00	C13037	5
11.00	.4331	94.00	142.00	C16720	5
12.00	.4724	101.00	151.00	C16722	5
12.25	.4823	101.00	151.00	C13038	5
12.50	.4921	101.00	151.00	C16723	5
13.00	.5118	101.00	151.00	C13040	1

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PARABOLIC JOBBER LENGTH DRILLS

2075-TC SERIES

PARABOLIC Q-COBALT™
135° Split Point / Round Shank / High Helix / TiCN

Best Material Application

Drill Specifications


Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C16942	10
5/64	.0781	1	2	C16943	10
3/32	.0938	1-1/4	2-1/4	C16945	10
7/64	.1094	1-1/2	2-5/8	C16950	10
1/8	.1250	1-5/8	2-3/4	C16951	10
9/64	.1406	1-3/4	2-7/8	C13042	10
5/32	.1562	2	3-1/8	C16954	10
11/64	.1719	2-1/8	3-1/4	C13043	10
3/16	.1875	2-5/16	3-1/2	C16956	10
13/64	.2031	2-7/16	3-5/8	C16958	10
7/32	.2188	2-1/2	3-3/4	C16961	10
15/64	.2344	2-5/8	3-7/8	C16962	10
1/4	.2500	2-3/4	4	C16963	10
17/64	.2656	2-7/8	4-1/8	C16964	10
9/32	.2812	2-15/16	4-1/4	C16966	10
19/64	.2969	3-1/16	4-3/8	C13044	10
5/16	.3125	3-3/16	4-1/2	C16967	5
21/64	.3281	3-5/16	4-5/8	C13045	5
11/32	.3438	3-7/16	4-3/4	C16968	5
23/64	.3594	3-1/2	4-7/8	C13047	5
3/8	.3750	3-5/8	5	C16969	5
25/64	.3906	3-3/4	5-1/8	C13048	5
13/32	.4062	3-7/8	5-1/4	C13049	5
27/64	.4219	3-15/16	5-3/8	C13051	5
7/16	.4375	4-1/16	5-1/2	C16970	5
29/64	.4531	4-3/16	5-5/8	C13052	5
15/32	.4688	4-5/16	5-3/4	C13054	5
31/64	.4844	4-3/8	5-7/8	C13055	5
1/2	.5000	4-1/2	6	C16971	5
Wire					
52	.0635	7/8	1-7/8	C13175	10
51	.0670	1	2	C13099	10
50	.0700	1	2	C13098	10
49	.0730	1	2	C13097	10
48	.0760	1	2	C13096	10
47	.0785	1	2	C13095	10
46	.0810	1-1/8	2-1/8	C13094	10
45	.0820	1-1/8	2-1/8	C13093	10
44	.0860	1-1/8	2-1/8	C13091	10
43	.0890	1-1/4	2-1/4	C16944	10
42	.0935	1-1/4	2-1/4	C13090	10
41	.0960	1-3/8	2-3/8	C16946	10
40	.0980	1-3/8	2-3/8	C16947	10
39	.0995	1-3/8	2-3/8	C16948	10
38	.1015	1-7/16	2-1/2	C13089	10
37	.1040	1-7/16	2-1/2	C13088	10
36	.1065	1-7/16	2-1/2	C16949	10
35	.1100	1-1/2	2-5/8	C13087	10
34	.1110	1-1/2	2-5/8	C13086	10
33	.1130	1-1/2	2-5/8	C13085	10
32	.1160	1-5/8	2-3/4	C13084	10
31	.1200	1-5/8	2-3/4	C13083	10
30	.1285	1-5/8	2-3/4	C16952	10
29	.1360	1-3/4	2-7/8	C16953	10
28	.1405	1-3/4	2-7/8	C13082	10

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
27	.1440	1-7/8	3	C13081	10
26	.1470	1-7/8	3	C13080	10
25	.1495	1-7/8	3	C13079	10
24	.1520	2	3-1/8	C13078	10
23	.1540	2	3-1/8	C13076	10
22	.1570	2	3-1/8	C13075	10
21	.1590	2-5/16	3-1/2	C16955	10
20	.1610	2-1/8	3-1/4	C13074	10
19	.1660	2-1/8	3-1/4	C13073	10
18	.1695	2-1/8	3-1/4	C13072	10
17	.1730	2-3/16	3-3/8	C13071	10
16	.1770	2-3/16	3-3/8	C13070	10
15	.1800	2-3/16	3-3/8	C13069	10
14	.1820	2-3/16	3-3/8	C13067	10
13	.1850	2-5/16	3-1/2	C13066	10
12	.1890	2-5/16	3-1/2	C13065	10
11	.1910	2-5/16	3-1/2	C13063	10
10	.1935	2-7/16	3-5/8	C13062	10
9	.1960	2-7/16	3-5/8	C13061	10
8	.1990	2-7/16	3-5/8	C13060	10
7	.2010	2-7/16	3-5/8	C16957	10
6	.2040	2-1/2	3-3/4	C16959	10
5	.2055	2-1/2	3-3/4	C13059	10
4	.2090	2-1/2	3-3/4	C16960	10
3	.2130	2-1/2	3-3/4	C13058	10
2	.2210	2-5/8	3-7/8	C13057	10
1	.2280	2-5/8	3-7/8	C13056	10
Letter					
A	.2340	2-5/8	3-7/8	C16430	10
B	.2380	2-3/4	4	C16431	10
C	.2420	2-3/4	4	C16432	10
D	.2460	2-3/4	4	C16433	10
E	.2500	2-3/4	4	C16963	10
F	.2570	2-7/8	4-1/8	C16434	10
G	.2610	2-7/8	4-1/8	C16435	10
H	.2660	2-7/8	4-1/8	C16436	10
I	.2720	2-7/8	4-1/8	C16437	10
J	.2770	2-7/8	4-1/8	C16438	10
K	.2810	2-15/16	4-1/4	C16439	10
L	.2900	2-15/16	4-1/4	C16440	10
M	.2950	3-1/16	4-3/8	C16441	5
N	.3020	3-1/16	4-3/8	C16442	5
O	.3160	3-3/16	4-1/2	C16443	5
P	.3230	3-5/16	4-5/8	C16444	5
Q	.3320	3-7/16	4-3/4	C16445	5
R	.3390	3-7/16	4-3/4	C16446	5
S	.3480	3-1/2	4-7/8	C16447	5
T	.3580	3-1/2	4-7/8	C16448	5
U	.3680	3-5/8	5	C16449	5
V	.3770	3-5/8	5	C16450	5
W	.3860	3-3/4	5-1/8	C16451	5
X	.3970	3-3/4	5-1/8	C16452	5
Y	.4040	3-7/8	5-1/4	C16453	5
Z	.4130	3-7/8	5-1/4	C16454	5

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PARABOLIC JOBBER LENGTH DRILLS

2075-TA SERIES

PARABOLIC Q-COBALT™

135° Split Point / Round Shank / High Helix / TiAlN



Best Material Application



Drill Specifications



01
DRILLS

CLEVELAND
WALTER

Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C16972	10
5/64	.0781	1	2	C16973	10
3/32	.0938	1-1/4	2-1/4	C16975	10
7/64	.1094	1-1/2	2-5/8	C16980	10
1/8	.1250	1-5/8	2-3/4	C16981	10
9/64	.1406	1-3/4	2-7/8	C11400	10
5/32	.1562	2	3-1/8	C16984	10
11/64	.1719	2-1/8	3-1/4	C11404	10
3/16	.1875	2-5/16	3-1/2	C16986	10
13/64	.2031	2-7/16	3-5/8	C16988	10
7/32	.2188	2-1/2	3-3/4	C16991	10
15/64	.2344	2-5/8	3-7/8	C16992	10
1/4	.2500	2-3/4	4	C16993	10
17/64	.2656	2-7/8	4-1/8	C16994	10
9/32	.2812	2-15/16	4-1/4	C16996	10
19/64	.2969	3-1/16	4-3/8	C13205	5
5/16	.3125	3-3/16	4-1/2	C16997	5
21/64	.3281	3-5/16	4-5/8	C13206	5
11/32	.3438	3-7/16	4-3/4	C16998	5
23/64	.3594	3-1/2	4-7/8	C13207	5
3/8	.3750	3-5/8	5	C16999	5
25/64	.3906	3-3/4	5-1/8	C13208	5
13/32	.4062	3-7/8	5-1/4	C13209	5
27/64	.4219	3-15/16	5-3/8	C13210	5
7/16	.4375	4-1/16	5-1/2	C17000	5
29/64	.4531	4-3/16	5-5/8	C13212	5
15/32	.4688	4-5/16	5-3/4	C13213	5
31/64	.4844	4-3/8	5-7/8	C13214	5
1/2	.5000	4-1/2	6	C17001	5
Wire					
52	.0635	7/8	1-7/8	C11452	10
51	.0670	1	2	C11451	10
50	.0700	1	2	C11450	10
49	.0730	1	2	C11449	10
48	.0760	1	2	C11448	10
47	.0785	1	2	C11447	10
46	.0810	1-1/8	2-1/8	C11446	10
45	.0820	1-1/8	2-1/8	C11445	10
44	.0860	1-1/8	2-1/8	C11444	10
43	.0890	1-1/4	2-1/4	C16974	10
42	.0935	1-1/4	2-1/4	C11442	10
41	.0960	1-3/8	2-3/8	C16976	10
40	.0980	1-3/8	2-3/8	C16977	10
39	.0995	1-3/8	2-3/8	C16978	10
38	.1015	1-7/16	2-1/2	C11438	10
37	.1040	1-7/16	2-1/2	C11437	10
36	.1065	1-7/16	2-1/2	C16979	10
35	.1100	1-1/2	2-5/8	C11435	10
34	.1110	1-1/2	2-5/8	C11434	10

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
33	.1130	1-1/2	2-5/8	C11433	10
32	.1160	1-5/8	2-3/4	C11432	10
31	.1200	1-5/8	2-3/4	C11431	10
30	.1285	1-5/8	2-3/4	C16982	10
29	.1360	1-3/4	2-7/8	C16983	10
28	.1405	1-3/4	2-7/8	C11428	10
27	.1440	1-7/8	3	C11427	10
26	.1470	1-7/8	3	C11426	10
25	.1495	1-7/8	3	C11425	10
24	.1520	2	3-1/8	C11424	10
23	.1540	2	3-1/8	C11423	10
22	.1570	2	3-1/8	C11422	10
21	.1590	2-5/16	3-1/2	C16985	10
20	.1610	2-1/8	3-1/4	C11420	10
19	.1660	2-1/8	3-1/4	C11419	10
18	.1695	2-1/8	3-1/4	C11418	10
17	.1730	2-3/16	3-3/8	C11417	10
16	.1770	2-3/16	3-3/8	C11416	10
15	.1800	2-3/16	3-3/8	C11415	10
14	.1820	2-3/16	3-3/8	C11414	10
13	.1850	2-5/16	3-1/2	C11413	10
12	.1890	2-5/16	3-1/2	C11412	10
11	.1910	2-5/16	3-1/2	C11411	10
10	.1935	2-7/16	3-5/8	C11410	10
9	.1960	2-7/16	3-5/8	C11409	10
8	.1990	2-7/16	3-5/8	C11408	10
7	.2010	2-7/16	3-5/8	C16987	10
6	.2040	2-1/2	3-3/4	C16989	10
5	.2055	2-1/2	3-3/4	C11405	10
4	.2090	2-1/2	3-3/4	C16990	10
3	.2130	2-1/2	3-3/4	C11403	10
2	.2210	2-5/8	3-7/8	C11402	10
1	.2280	2-5/8	3-7/8	C11401	10
Letter					
E	.2500	2.750	4.000	C16993	10
Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.50	.0591	18.00	40.00	C11360	10
1.60	.0630	20.00	43.00	C11361	10
2.00	.0787	24.00	49.00	C11362	10
2.50	.0984	30.00	57.00	C11363	10
2.90	.1142	33.00	61.00	C11365	10
3.00	.1181	33.00	61.00	C11366	10
3.30	.1299	36.00	65.00	C11367	10
3.50	.1378	39.00	70.00	C11368	10
4.00	.1575	43.00	75.00	C11370	10
4.20	.1654	43.00	75.00	C11371	10
4.50	.1772	47.00	80.00	C11373	10

*Not split point

continued on next page

PARABOLIC JOBBER LENGTH DRILLS

2075-TA SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
5.00	.1969	52.00	86.00	C11374	10
5.50	.2165	57.00	93.00	C11375	10
6.00	.2362	57.00	93.00	C11377	10
6.50	.2559	63.00	101.00	C11378	10
6.80	.2677	69.00	109.00	C11379	10
7.00	.2756	69.00	109.00	C16995	5
8.00	.3150	75.00	117.00	C11381	5
8.70	.3425	81.00	125.00	C13215	5

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
9.00	.3543	81.00	125.00	C11383	5
10.00	.3937	87.00	133.00	C11384	5
10.20	.4016	87.00	133.00	C13216	5
10.80	.4252	94.00	142.00	C13217	5
11.00	.4331	94.00	142.00	C11385	5
12.00	.4724	101.00	151.00	C11386	5
12.25	.4823	101.00	151.00	C13250	5
12.50	.4921	101.00	151.00	C13251	5
13.00	.5118	101.00	151.00	C11387	1

HEAVY DUTY JOBBER LENGTH DRILLS

01

DRILLS

01A SST SERIES

HEAVY DUTY COBALT

118° Split Point / 6-Flatted Shank / Bronze Oxide

The proven original SST™ drill bit, made with HSCo, is designed with an exclusive quick shank that ensures fast and secure tightening inside any keyed or keyless chucks. Ideal for cordless drills, allowing you to drill more holes per charge. Recommended for drilling on any type of thin gauge metal or sheet metal where a jobber's length bit is required. Ability to drill through multiple layers of metal quickly and easily.



Fractional									
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.	Pack Qty.	Std. Carton	Order Number Carded	Card Qty.
*1/16"	.0625	3/16"	1-3/16"	01A004	1	10	100	01A004A	1
*5/64"	.0781	15/16"	1-15/16"	01A005	1	10	100	01A005A	1
*3/32"	.0938	1-3/16"	2-1/4"	01A006	1	10	100	01A006A	1
*7/64"	.1094	1-5/16"	2-3/8"	01A007	1	10	100	01A007A	1
*1/8"	.1250	1-7/16"	2-9/16"	01A008	1	10	100	01A008A	1
*9/64"	.1406	1-9/16"	2-3/4"	01A009	1	10	100	01A009A	1
*5/32"	.1562	1-11/16"	2-15/16"	01A010	1	10	100	01A010A	1
*11/64"	.1719	1-7/8"	3-1/8"	01A011	1	10	100	01A011A	1
3/16"	.1875	2-1/16"	3-3/8"	01A012	1	10	100	01A012A	1
13/64"	.2031	2-1/16"	3-3/8"	01A013	1	10	100	01A013A	1
7/32"	.2188	2-1/4"	3-11/16"	01A014	1	10	100	01A014A	1
15/64"	.2344	2-1/4"	3-11/16"	01A015	1	10	100	01A015A	1
1/4"	.2500	2-1/2"	4"	01A016	1	10	100	01A016A	1
17/64"	.2656	2-11/16"	4-5/16"	01A017	1	10	100	01A017A	1
9/32"	.2812	2-11/16"	4-5/16"	01A018	1	10	100	01A018A	1
19/64"	.2969	2-15/16"	4-5/8"	01A019	1	10	100	01A019A	1
5/16"	.3125	2-15/16"	4-5/8"	01A020	1	10	100	01A020A	1
21/64"	.3281	2-15/16"	4-5/8"	01A021	1	10	100	01A021A	1
11/32"	.3438	3-3/16"	4-15/16"	01A022	1	10	100	01A022A	1
23/64"	.3594	3-3/16"	4-15/16"	01A023	1	10	100	01A023A	1
3/8"	.3750	3-7/16"	5-1/4"	01A024	1	10	100	01A024A	1
25/64"	.3906	3-7/16"	5-1/4"	01A025	1	5	50	01A025A	1
13/32"	.4062	3-7/16"	5-1/4"	01A026	1	5	50	01A026A	1
27/64"	.4219	3-11/16"	5-9/16"	01A027	1	5	50	01A027A	1
7/16"	.4375	3-11/16"	5-9/16"	01A028	1	5	50	01A028A	1
29/64"	.4531	3-11/16"	5-9/16"	01A029	1	5	50	01A029A	1
15/32"	.4688	4"	5-15/16"	01A030	1	5	50	01A030A	1
31/64"	.4844	4"	5-15/16"	01A031	1	5	50	01A031A	1
1/2"	.5000	4"	5-15/16"	01A032	1	5	50	01A032A	1

*Sizes 11/64" and smaller have a round shank.

SST Corresponding Sets						
No. of Pieces	Type	Sizes	Order No.	Std. Pkg.	Std. Ctn.	
15	SST+ 135° Jobbers length round shank, fractional	1/16" to 1/2" by 32 ^{nds}	01E606	1	10	
21	SST+ 135° Jobbers length round shank, fractional	1/16" to 3/8" by 64 ^{ths}	01E621	1	10	
29	SST 118° Jobbers length quick shank, fractional/polymer case	1/16" to 1/2" by 64 ^{ths}	01E178	1	10	
29	SST+ 135° Stub length quick shank, fractional/polymer case	1/16" to 1/2" by 64 ^{ths}	01E239	1	10	
29	SST 118° Jobbers length quick shank, fractional/round case	1/16" to 1/2" by 64 ^{ths}	01E118	1	10	
60	SST+ 135° Jobbers length round shank, wire gauge	No. 1 to 60	01E619	1	10	
8	SST+ 135° Prentice three flats, fractional	9/16" to 1" by 16 ^{ths}	01E708	1	10	
25	SST+ 135° Jobbers length round shank, metric	1 to 13 mm by 0.5 mm	01E625	1	10	

Best Material Application



Drill Specifications



NOW AVAILABLE
IN BLISTER PACKS
SOLD IN BOXES



For increased cutting
efficiency and tool
life, use COOLCUT solid
stick lubricant.
Order No.: 53B013



Shock-Resistant, Extra Thick
Polyethylene Drill Bit Carrying
Case

WALTER

HEAVY DUTY JOBBER LENGTH DRILLS

SST+ 01A / 01B / 01D SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze Oxide

For high tensile steel WALTER SST+™ drill bits are made from HSCo to drill even more holes faster on any type of material.



Best Material Application



Drill Specifications



Fractional					
Size	Flute Length (Inch)	Overall Length (Inch)	Order Number Pkg.	Std. Pkg. Qty.	Std. Carton
*1/64"	3/16"	13/16"	01A501	10	100
*1/32"	3/8"	1-3/16"	01A502	10	100
*3/64"	5/8"	1-1/2"	01A503	10	100
1/16"	13/16"	1-11/16"	01A504	10	100
5/64"	15/16"	1-15/16"	01A505	10	100
3/32"	1-3/16"	2-1/4"	01A506	10	100
7/64"	1-5/16"	2-3/8"	01A507	10	100
1/8"	1-7/16"	2-9/16"	01A508	10	100
9/64"	1-9/16"	2-3/4"	01A509	10	100
5/32"	1-11/16"	2-15/16"	01A510	10	100
11/64"	1-7/8"	3-1/8"	01A511	10	100
3/16"	2-1/16"	3-3/8"	01A512	10	100
13/64"	2-1/16"	3-3/8"	01A513	10	100
7/32"	2-1/4"	3-11/16"	01A514	10	100
15/64"	2-1/4"	3-11/16"	01A515	10	100
1/4"	2-1/2"	4"	01A516	10	100
17/64"	2-11/16"	4-5/16"	01A517	10	100
9/32"	2-11/16"	4-5/16"	01A518	10	100
19/64"	2-15/16"	4-5/8"	01A519	10	100
5/16"	2-15/16"	4-5/8"	01A520	10	100
21/64"	2-15/16"	4-5/8"	01A521	10	100
11/32"	3-3/16"	4-15/16"	01A522	10	100
23/64"	3-3/16"	4-15/16"	01A523	10	100
3/8"	3-7/16"	5-1/4"	01A524	10	100
25/64"	3-7/16"	5-1/4"	01A525	5	50
13/32"	3-7/16"	5-1/4"	01A526	5	50
27/64"	3-11/16"	5-9/16"	01A527	5	50
7/16"	3-11/16"	5-9/16"	01A528	5	50
29/64"	3-11/16"	5-9/16"	01A529	5	50
15/32"	4"	5-15/16"	01A530	5	50
31/64"	4"	5-15/16"	01A531	5	50
1/2"	4"	5-15/16"	01A532	5	50
Wire					
*60	1/2"	1-5/16"	01B560	10	100
*59	1/2"	1-5/16"	01B559	10	100
*58	1/2"	1-5/16"	01B558	10	100
*57	9/16"	1-7/16"	01B557	10	100
*56	5/8"	1-1/2"	01B556	10	100
*55	5/8"	1-1/2"	01B555	10	100
*54	11/16"	1-9/16"	01B554	10	100
*53	11/16"	1-9/16"	01B553	10	100
52	13/16"	1-11/16"	01B552	10	100
51	13/16"	1-11/16"	01B551	10	100
50	7/8"	1-13/16"	01B550	10	100
49	7/8"	1-13/16"	01B549	10	100
48	7/8"	1-13/16"	01B548	10	100
47	15/16"	1-15/16"	01B547	10	100
46	15/16"	1-15/16"	01B546	10	100
45	15/16"	1-15/16"	01B545	10	100

Size	Flute Length (Inch)	Overall Length (Inch)	Order Number Pkg.	Std. Pkg. Qty.	Std. Carton
44	1-1/16"	1-15/16"	01B544	10	100
43	1-1/16"	2-1/16"	01B543	10	100
42	1-3/16"	2-1/4"	01B542	10	100
41	1-3/16"	2-1/4"	01B541	10	100
40	1-3/16"	2-1/4"	01B540	10	100
39	1-3/16"	2-1/4"	01B539	10	100
38	1-3/16"	2-1/4"	01B538	10	100
37	1-3/16"	2-1/4"	01B537	10	100
36	1-5/16"	2-3/8"	01B536	10	100
35	1-5/16"	2-3/8"	01B535	10	100
34	1-5/16"	2-3/8"	01B534	10	100
33	1-5/16"	2-3/8"	01B533	10	100
32	1-5/16"	2-3/8"	01B532	10	100
31	1-5/16"	2-3/8"	01B531	10	100
30	1-7/16"	2-9/16"	01B530	10	100
29	1-9/16"	2-3/4"	01B529	10	100
28	1-9/16"	2-3/4"	01B528	10	100
27	1-9/16"	2-3/4"	01B527	10	100
26	1-9/16"	2-3/4"	01B526	10	100
25	1-11/16"	2-15/16"	01B525	10	100
24	1-11/16"	2-15/16"	01B524	10	100
23	1-11/16"	2-15/16"	01B523	10	100
22	1-11/16"	2-15/16"	01B522	10	100
21	1-11/16"	2-15/16"	01B521	10	100
20	1-11/16"	2-15/16"	01B520	10	100
19	1-11/16"	2-15/16"	01B519	10	100
18	1-7/8"	3-1/8"	01B518	10	100
17	1-7/8"	3-1/8"	01B517	10	100
16	1-7/8"	3-1/8"	01B516	10	100
15	1-7/8"	3-1/8"	01B515	10	100
14	1-7/8"	3-1/8"	01B514	10	100
13	1-7/8"	3-1/8"	01B513	10	100
12	2-1/16"	3-3/8"	01B512	10	100
11	2-1/16"	3-3/8"	01B511	10	100
10	2-1/16"	3-3/8"	01B510	10	100
9	2-1/16"	3-3/8"	01B509	10	100
8	2-1/16"	3-3/8"	01B508	10	100
7	2-1/16"	3-3/8"	01B507	10	100
6	2-1/16"	3-3/8"	01B506	10	100
5	2-1/16"	3-3/8"	01B505	10	100
4	2-1/16"	3-3/8"	01B504	10	100
3	2-1/4"	3-11/16"	01B503	10	100
2	2-1/4"	3-11/16"	01B502	10	100
1	2-1/4"	3-11/16"	01B501	10	100

*Sizes 3/64" and smaller, #60 to #53 are not split point.

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HEAVY DUTY JOBBER LENGTH DRILLS

SST+ 01A / 01B / 01D SERIES continued



Letter					
Size	Flute Length (Inch)	Overall Length (Inch)	Order Number Pkg.	Std. Pkg. Qty.	Std. Carton
F	21/2"	4"	01C506	10	100
I	2 3/4"	4-1/4"	01C509	10	100
Q	3"	4-5/8"	01C517	10	100
U	3 3/16"	4-15/16"	01C521	10	100
Metric					
Size	Flute Length (mm)	Overall Length (mm)	Order Number Pkg.	Std. Pkg. Qty.	Std. Carton
1.00	12	34	01D510	10	100
1.50	20	43	01D515	10	100
2.00	24	49	01D520	10	100
2.50	30	57	01D525	10	100
3.00	33	61	01D530	10	100
3.30	36	65	01D533	10	100
3.50	39	70	01D535	10	100
4.00	43	75	01D540	10	100
4.20	43	75	01D542	10	100
4.50	47	80	01D545	10	100
5.00	52	86	01D550	10	100
5.50	57	93	01D555	10	100
6.00	57	93	01D560	10	100
6.50	63	101	01D565	10	100
6.70	63	101	01D567	10	100
7.00	69	109	01D570	10	100
7.50	69	109	01D575	10	100
8.00	75	117	01D580	10	100
8.50	75	117	01D585	10	100
9.00	81	125	01D590	10	100
9.50	81	125	01D595	10	100
10.00	87	133	01D600	5	50
10.20	87	133	01D602	5	50
10.50	87	133	01D605	5	50
11.00	94	142	01D610	5	50
11.50	94	142	01D615	5	50
12.00	101	151	01D620	5	50
12.50	101	151	01D625	5	50
13.00	101	151	01D630	5	50



Shock-Resistant,
Extra Thick
Polyethylene Drill
Bit Carrying Case

SST+ Corresponding Sets		
Number of Pieces	Sizes	Order Number
29	1/16" through 1/2" x 1/64" Bit Barrel	01E618
29	1/16" through 1/2" x 1/64"	01E678

PARABOLIC JOBBER LENGTH DRILLS

T1HD+ / T2HD+ / T3HD+ / MM1HD+ SERIES

HEAVY DUTY HIGH SPEED STEEL

Heavy Duty / 135° Split Point / Black & Gold

WALTER Thunderbit drills have a special heavy duty core that guarantees increased strength and reduced breakage. Unique spiral flute design improves chip ejection and coolant flow to the point. 3-flat shank reduces slippage in the drill chuck, 135 split point.



Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



3 FLAT SHANK

Fractional							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.	Order Number Carded	Card Qty.
**1/16	.0625	7/8	1-7/8	014504	12	014804	1
**5/64	.0781	1	2	014505	12	014805	1
**3/32	.0938	1-1/4	2-1/4	014506	12	014806	1
**7/64	.1094	1-1/2	2-5/8	014507	12	014807	1
**1/8	.1250	1-5/8	2-3/4	014508	12	014808	1
**9/64	.1406	1-3/4	2-7/8	014509	12	014809	1
**5/32	.1562	2	3-1/8	014510	12	014810	1
**11/64	.1719	2-1/8	3-1/4	014511	12	014811	1
3/16	.1875	2-5/16	3-1/2	014512	12	—	—
13/64	.2031	2-7/16	3-5/8	014513	12	—	—
7/32	.2188	2-1/2	3-3/4	014514	12	—	—
15/64	.2344	2-5/8	3-7/8	014515	12	—	—
1/4	.2500	2-3/4	4	014516	12	—	—
17/64	.2656	2-7/8	4-1/8	014517	12	—	—
9/32	.2812	2-15/16	4-1/4	014518	12	—	—
19/64	.2969	3-1/16	4-3/8	014519	12	—	—
5/16	.30125	3-3/16	4-1/2	014520	6	—	—
21/64	.3281	3-5/16	4-5/8	014521	6	—	—
11/32	.3438	3-7/16	4-3/4	014522	6	—	—
23/64	.3594	3-1/2	4-7/8	014523	6	—	—
3/8	.3750	3-5/8	5	014524	6	—	—
25/64	.3906	3-3/4	5-1/8	014525	6	—	—
13/32	.4062	3-7/8	5-1/4	014526	6	—	—
27/64	.4219	3-15/16	5-3/8	014527	6	—	—
7/16	.4375	4-1/16	5-1/2	014528	6	—	—
29/64	.4531	4-3/16	5-5/8	014529	6	—	—
15/32	.4688	4-5/16	5-3/4	014530	6	—	—
31/64	.4844	4-3/8	5-7/8	014531	6	—	—
1/2	.5000	4-1/2	6	014532	6	—	—

*Not split point **No flats on shank

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PARABOLIC JOBBER LENGTH DRILLS

T1HD+ / T2HD+ / T3HD+ / MM1HD+ SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
30	.1285	1-5/8	2-3/4	014630	12
26	.1470	1-7/8	3	014626	12
10**	.1935	2-7/16	3-5/8	014610	12
7**	.2010	2-7/16	3-5/8	014607	12

**3-flats on shank

Corresponding Sets			
Number of Pieces	Style	Sizes	Order Number
29	*T17HDDC+	1/16"-1/2" x 1/64	099504
29	T17HD+	1/16"-1/2" x 1/64	099505

Metal case unless noted otherwise *Clip-On case



HEAVY DUTY JOBBER LENGTH DRILLS

T1HD / T2HD / T3HD / MM1HD SERIES

HEAVY DUTY HIGH SPEED STEEL

Heavy Duty / 135° Split Point / Black & Gold

WALTER Thunderbit drills have a special heavy duty core that guarantees increased strength and reduced breakage. Unique spiral flute design improves chip ejection and coolant flow to the point. 135 degree self-centering split point, black & gold.



Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK

Fractional									
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.	Order Number Bulk	Bulk Qty.	Order Number Carded	Card Qty.
1/16	.0625	7/8	1-7/8	012504	12	012504.20	288	014004	1
5/64	.0781	1	2	012505	12	012505.20	288	014005	1
3/32	.0938	1-1/4	2-1/4	012506	12	012506.20	288	014006	1
7/64	.1094	1-1/2	2-5/8	012507	12	012507.20	288	014007	1
1/8	.1250	1-5/8	2-3/4	012508	12	012508.20	288	014008	1
9/64	.1406	1-3/4	2-7/8	012509	12	012509.20	288	014009	1
5/32	.1562	2	3-1/8	012510	12	012510.20	288	014010	1
11/64	.1719	2-1/8	3-1/4	012511	12	012511.20	288	014011	1
3/16	.1875	2-5/16	3-1/2	012512	12	012512.20	288	014012	1
13/64	.2031	2-7/16	3-5/8	012513	12	012513.20	288	014013	1
7/32	.2188	2-1/2	3-3/4	012514	12	012514.20	288	014014	1
15/64	.2344	2-5/8	3-7/8	012515	12	012515.20	288	014015	1
1/4	.2500	2-3/4	4	012516	12	012516.20	288	014016	1
17/64	.2656	2-7/8	4-1/8	012517	12	012517.20	144	014017	1
9/32	.2812	2-15/16	4-1/4	012518	12	012518.20	144	014018	1
19/64	.2969	3-1/16	4-3/8	012519	12	012519.20	144	014019	1
5/16	.30125	3-3/16	4-1/2	012520	6	012520.20	144	014020	1
21/64	.3281	3-5/16	4-5/8	012521	6	012521.20	144	014021	1
11/32	.3438	3-7/16	4-3/4	012522	6	012522.20	144	014022	1
23/64	.3594	3-1/2	4-7/8	012523	6	012523.20	144	014023	1
3/8	.3750	3-5/8	5	012524	6	012524.20	144	014024	1
25/64	.3906	3-3/4	5-1/8	012525	6	012525.20	144	014025	1
13/32	.4062	3-7/8	5-1/4	012526	6	012526.20	144	014026	1
27/64	.4219	3-15/16	5-3/8	012527	6	012527.20	144	014027	1
7/16	.4375	4-1/16	5-1/2	012528	6	012528.20	144	014028	1
29/64	.4531	4-3/16	5-5/8	012529	6	012529.20	144	014029	1
15/32	.4688	4-5/16	5-3/4	012530	6	012530.20	144	014030	1
31/64	.4844	4-3/8	5-7/8	012531	6	012531.20	144	014031	1
1/2	.5000	4-1/2	6	012532	6	012532.20	144	014032	1
Wire									
*60	.0400	11/16	1-5/8	012660	12				
*59	.0410	11/16	1-5/8	012659	12				
*58	.0420	11/16	1-5/8	012658	12				
*57	.0430	3/4	1-3/4	012657	12				
*56	.0465	3/4	1-3/4	012656	12				
*55	.0520	7/8	1-7/8	012655	12				
*54	.0550	7/8	1-7/8	012654	12				
*53	.0595	7/8	1-7/8	012653	12				
52	.0635	7/8	1-7/8	012652	12				
51	.0670	1	2	012651	12				
50	.0700	1	2	012650	12				

*Not split point

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HEAVY DUTY JOBBER LENGTH DRILLS

T1HD / T2HD / T3HD / MM1HD SERIES continued



Size	Wire				Tube Qty.
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	
49	.0730	1	2	012649	12
48	.0760	1	2	012648	12
47	.0785	1	2	012647	12
46	.0810	1-1/8	2-1/8	012646	12
45	.0820	1-1/8	2-1/8	012645	12
44	.0860	1-1/8	2-1/8	012644	12
43	.0890	1-1/4	2-1/4	012643	12
42	.0935	1-1/4	2-1/4	012642	12
41	.0960	1-3/8	2-3/8	012641	12
40	.0980	1-3/8	2-3/8	012640	12
39	.0995	1-3/8	2-3/8	012639	12
38	.1015	1-7/16	2-1/2	012638	12
37	.1040	1-7/16	2-1/2	012637	12
36	.1065	1-7/16	2-1/2	012636	12
35	.1100	1-1/2	2-5/8	012635	12
34	.1110	1-1/2	2-5/8	012634	12
33	.1130	1-1/2	2-5/8	012633	12
32	.1160	1-5/8	2-3/4	012632	12
31	.1200	1-5/8	2-3/4	012631	12
30	.1285	1-5/8	2-3/4	**012630	12
29	.1360	1-3/4	2-7/8	012629	12
28	.1405	1-3/4	2-7/8	012628	12
27	.1440	1-7/8	3	012627	12
26	.1470	1-7/8	3	012626	12
25	.1495	1-7/8	3	012625	12
24	.1520	2	3-1/8	012624	12
23	.1540	2	3-1/8	012623	12
22	.1570	2	3-1/8	012622	12
21	.1590	2-1/8	3-1/4	012621	12
20	.1610	2-1/8	3-1/4	012620	12
19	.1660	2-1/8	3-1/4	012619	12
18	.1695	2-1/8	3-1/4	012618	12
17	.1730	2-3/16	3-3/8	012617	12
16	.1770	2-3/16	3-3/8	012616	12
15	.1800	2-3/16	3-3/8	012615	12
14	.1820	2-3/16	3-3/8	012614	12
13	.1850	2-5/16	3-1/2	012613	12
12	.1890	2-5/16	3-1/2	012612	12
11	.1910	2-5/16	3-1/2	*012611	12
10	.1935	2-7/16	3-5/8	012610	12
9	.1960	2-7/16	3-5/8	012609	12
8	.1990	2-7/16	3-5/8	012608	12
7	.2010	2-7/16	3-5/8	012607	12
6	.2040	2-1/2	3-3/4	012606	12
5	.2055	2-1/2	3-3/4	012605	12
4	.2090	2-1/2	3-3/4	012604	12
3	.2130	2-1/2	3-3/4	012603	12
2	.2210	2-5/8	3-7/8	012602	12
1	.2280	2-5/8	3-7/8	012601	12
Letter					
A	.2340	2-5/8	3-7/8	012701	
B	.2380	2-3/4	4	012702	
C	.2420	2-3/4	4	012703	
D	.2460	2-3/4	4	012704	
E	.2500	2-3/4	4	012705	
F	.2570	2-7/8	4-1/8	012706	
G	.2610	2-7/8	4-1/8	012707	

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
H	.2660	2-7/8	4-1/8	012708	12
I	.2720	2-7/8	4-1/8	012709	12
J	.2770	2-7/8	4-1/8	012710	12
K	.2810	2-15/16	4-1/4	012711	12
L	.2900	2-15/16	4-1/4	012712	12
M	.2950	3-1/16	4-3/8	012713	12
N	.3020	3-1/16	4-3/8	012714	12
O	.3160	3-3/16	4-1/2	012715	6
P	.3230	3-5/16	4-5/8	012716	6
Q	.3320	3-7/16	4-3/4	012717	6
R	.3390	3-7/16	4-3/4	012718	6
S	.3480	3-1/2	4-7/8	012719	6
T	.3580	3-1/2	4-7/8	012720	6
U	.3680	3-5/8	5	012721	6
V	.3770	3-5/8	5	012722	6
W	.3860	3-3/4	5-1/8	012723	6
X	.3970	3-3/4	5-1/8	012724	6
Y	.4040	3-7/8	5-1/4	012725	6
Z	.4130	3-7/8	5-1/4	012726	6
Metric					
1.00	.0394	17	41	014310	12
1.50	.0591	22	48	014315	12
2.00	.0787	25	51	014320	12
2.50	.0984	35	60	014325	12
3.00	.1181	41	70	014330	12
3.50	.1378	44	73	014335	12
4.00	.1575	54	83	014340	12
4.50	.1772	56	86	014345	12
5.00	.1969	62	92	014350	12
5.50	.2165	64	95	014355	12
6.00	.2362	70	102	014360	12
6.50	.2559	73	105	014365	12
7.00	.2756	73	105	014370	6
7.50	.2953	78	111	014375	6
8.00	.3150	81	114	014380	6
8.50	.3346	87	121	014385	6
9.00	.3543	89	124	014390	6
9.50	.3740	92	127	014395	6
10.00	.3937	95	130	014400	6
10.50	.4134	98	133	014405	6
11.00	.4331	103	140	014410	6
11.50	.4528	106	143	014415	6
12.00	.4724	111	149	014420	6
12.50	.4921	114	152	014425	6
13.00	.5118	114	152	014430	1

Corresponding Sets			
Number of Pieces	Style	Sizes	Order Number
13	**SAD13HD	1/16"-1/4" x 1/64	090495
13	T19HD	1/16"-1/4" x 1/64	099858
15	T18HD	1/16"-1/2" x 1/32	099857
19	MM19HD	1mm-10mm x .5	099866
21	—	1/16"- 3/8" x 1/64	099861
21	**SAD21HD	1/16"-3/8" x 1/64	090496
25	MM25HD	1mm-13mm x .5	099867
26	T25HD	A -Z	099860
29	*T17HDDC	1/16"-1/2" x 1/64	099855
29	T17HD	1/16"-1/2" x 1/64	099856
60	T22HD	#1-#60	099859
115	T123HD	1/16"-1/2" x 1/64, #1-#60, A-Z	099862

Metal case unless noted otherwise *Clip-On case **Bit Barrel

HEAVY DUTY JOBBER LENGTH DRILLS

T1HDG SERIES

HEAVY DUTY HIGH SPEED STEEL

Heavy Duty / 135° Split Point / TiN

WALTER Thunderbit drills have a special heavy duty core that guarantees increased strength and reduced breakage. Unique spiral flute design improves chip ejection and coolant flow to the point. 135 degree self-centering split point, TiN coated.

THUNDERBIT®
TiN



Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
1/16	.0625	7/8	1-7/8	012804	12
5/64	.0781	1	2	012805	12
3/32	.0938	1-1/4	2-1/4	012806	12
7/64	.1094	1-1/2	2-5/8	012807	12
1/8	.1250	1-5/8	2-3/4	012808	12
9/64	.1406	1-3/4	2-7/8	012809	12
5/32	.1562	2	3-1/8	012810	12
11/64	.1719	2-1/8	3-1/4	012811	12
3/16	.1875	2-5/16	3-1/2	012812	12
13/64	.2031	2-7/16	3-5/8	012813	12
7/32	.2188	2-1/2	3-3/4	012814	12
15/64	.2344	2-5/8	3-7/8	012815	12
1/4	.2500	2-3/4	4	012816	12
17/64	.2656	2-7/8	4-1/8	012817	12
9/32	.2812	2-15/16	4-1/4	012818	12
19/64	.2969	3-1/16	4-3/8	012819	12
5/16	.3125	3-3/16	4-1/2	012820	6
21/64	.3281	3-5/16	4-5/8	012821	6
11/32	.3438	3-7/16	4-3/4	012822	6
23/64	.3594	3-1/2	4-7/8	012823	6

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
3/8	.3750	3-5/8	5	012824	6
25/64	.3906	3-3/4	5-1/8	012825	6
13/32	.4062	3-7/8	5-1/4	012826	6
27/64	.4219	3-15/16	5-3/8	012827	6
7/16	.4375	4-1/16	5-1/2	012828	6
29/64	.4531	4-3/16	5-5/8	012829	6
15/32	.4688	4-5/16	5-3/4	012830	6
31/64	.4844	4-3/8	5-7/8	012831	6
1/2	.5000	4-1/2	6	012832	6

Corresponding Sets			
Number of Pieces	Style	Sizes	Order Number
29	T17HDG	1/16"-1/2" x 1/64	093700
29	*T17HDCG	1/16"-1/2" x 1/64	093754

Metal case unless noted otherwise *Clip-On case

T8HD SERIES

HEAVY DUTY HIGH SPEED STEEL

Heavy Duty / 135° Split Point / Black & Gold / 3/8" Reduced Shank



Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
25/64	.3906	3-3/4	5-1/8	092125	6
13/32	.4062	3-7/8	5-1/4	092126	6
27/64	.4219	3-15/16	5-3/8	092127	6
7/16	.4375	4-1/16	5-1/2	092128	6
29/64	.4531	4-3/16	5-5/8	092129	6
15/32	.4688	4-5/16	5-3/4	092130	6
31/64	.4844	4-3/8	5-7/8	092131	6
1/2	.5000	4-1/2	6	092132	6

Corresponding Sets			
Number of Pieces	Style	Sizes	Order Number
15	T815HD	1/16"-1/2" x 1/32	099104
29	T829HD	1/16"-1/2" x 1/64	099101

Metal case

HEAVY DUTY JOBBER LENGTH DRILLS

T1HDC SERIES

PREMIUM GRADE COBALT

Heavy Duty / 135° Split Point / Bronze Oxide

WALTER Thunderbit drills have a special heavy duty core that guarantees increased strength and reduced breakage. Unique spiral flute design improves chip ejection and coolant flow to the point. M42 Cobalt steel for use in harder, more abrasive materials.



Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
1/16	.0625	7/8	1-7/8	013504	12
5/64	.0781	1	2	013505	12
3/32	.0938	1-1/4	2-1/4	013506	12
7/64	.1094	1-1/2	2-5/8	013507	12
1/8	.1250	1-5/8	2-3/4	013508	12
9/64	.1406	1-3/4	2-7/8	013509	12
5/32	.1562	2	3-1/8	013510	12
11/64	.1719	2-1/8	3-1/4	013511	12
3/16	.1875	2-5/16	3-1/2	013512	12
13/64	.2031	2-7/16	3-5/8	013513	12
7/32	.2188	2-1/2	3-3/4	013514	12
15/64	.2344	2-5/8	3-7/8	013515	12
1/4	.2500	2-3/4	4	013516	12
17/64	.2656	2-7/8	4-1/8	013517	12
9/32	.2812	2-15/16	4-1/4	013518	12
19/64	.2969	3-1/16	4-3/8	013519	12
5/16	.3125	3-3/16	4-1/2	013520	6
21/64	.3281	3-5/16	4-5/8	013521	6
11/32	.3438	3-7/16	4-3/4	013522	6
23/64	.3594	3-1/2	4-7/8	013523	6

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
3/8	.3750	3-5/8	5	013524	6
25/64	.3906	3-3/4	5-1/8	013525	6
13/32	.4062	3-7/8	5-1/4	013526	6
27/64	.4219	3-15/16	5-3/8	013527	6
7/16	.4375	4-1/16	5-1/2	013528	6
29/64	.4531	4-3/16	5-5/8	013529	6
15/32	.4688	4-5/16	5-3/4	013530	6
31/64	.4844	4-3/8	5-7/8	013531	6
1/2	.5000	4-1/2	6	013532	6

Corresponding Sets			
Number of Pieces	Style	Sizes	Order Number
13	T19HDC	1/16"-1/4" x 1/64	099813
15	T18HDC	1/16"-1/2" x 1/32	099816
21	T180HDC	1/16"-3/8" x 1/64	099819
29	T17HDC	1/16"-1/2" x 1/64	099821
29	T17HDCDC	1/16"-1/2" x 1/64	099854

Metal case unless noted otherwise *Clip-On case

GENERAL PURPOSE JOBBER LENGTH DRILLS

1600 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Black Oxide

CLE-FORCE 1600 is a maintenance jobber drill made from HSS, has a black oxide finish, and 118° point to ensure effective straight shank drilling in steel, cast iron, and aluminum.



Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT ROUND SHANK

Fractional					
Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C68000	12
5/64	.0781	1	2	C68001	12
3/32	.0938	1-1/4	2-1/4	C68002	12
7/64	.1094	1-1/2	2-5/8	C68003	12
1/8	.1250	1-5/8	2-3/4	C68004	12
9/64	.1406	1-3/4	2-7/8	C68005	12
5/32	.1562	2	3-1/8	C68006	12
11/64	.1719	2-1/8	3-1/4	C68007	12
3/16	.1875	2-5/16	3-1/2	C68008	12
13/64	.2031	2-7/16	3-5/8	C68009	12
7/32	.2188	2-1/2	3-3/4	C68010	12
15/64	.2344	2-5/8	3-7/8	C68011	12
1/4	.2500	2-3/4	4	C68012	12
17/64	.2656	2-7/8	4-1/8	C68013	12
9/32	.2812	2-15/16	4-1/4	C68014	12
19/64	.2969	3-1/16	4-3/8	C68015	6
5/16	.3125	3-3/16	4-1/2	C68016	6
21/64	.3281	3-5/16	4-5/8	C68017	6
11/32	.3438	3-7/16	4-3/4	C68018	6
23/64	.3594	3-1/2	4-7/8	C68019	6
3/8	.3750	3-5/8	5	C68020	6
25/64	.3906	3-3/4	5-1/8	C68021	6
13/32	.4062	3-7/8	5-1/4	C68022	6
27/64	.4219	3-15/16	5-3/8	C68023	6
7/16	.4375	4-1/16	5-1/2	C68024	6
29/64	.4531	4-3/16	5-5/8	C68025	6
15/32	.4688	4-5/16	5-3/4	C68026	6
31/64	.4844	4-3/8	5-7/8	C68027	6
1/2	.5000	4-1/2	6	C68028	6

Letter					
Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
E	.2500	2-3/4	4	C68012	12
Metric					
Size (mm)	Decimal Equiv.	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
1.00	.0394	12	34	C68606	12
1.50	.0591	18	40	C68607	12
2.00	.0787	24	49	C68608	12
2.50	.0984	30	57	C68609	12
3.00	.1181	33	61	C68610	12
3.50	.1378	39	70	C68611	12
4.00	.1575	43	75	C68612	12
4.50	.1772	47	80	C68613	12
5.00	.1969	52	86	C68614	12
5.50	.2165	57	93	C68615	12
6.00	.2362	57	93	C68616	12
6.50	.2559	63	101	C68617	12
7.00	.2756	69	109	C68618	12
7.50	.2953	69	109	C68619	6
8.00	.3150	75	117	C68620	6
8.50	.3346	75	117	C68621	6
9.00	.3543	81	125	C68622	6
9.50	.3740	81	125	C68623	6
10.00	.3937	87	133	C68624	6
10.50	.4134	87	133	C68625	6
11.00	.4331	94	142	C68626	6
11.50	.4528	94	142	C68627	6
12.00	.4724	101	151	C68628	6
12.50	.4921	101	151	C68629	6
13.00	.5118	101	151	C68630	1

Corresponding Sets		
No. of Pcs.	Description	Order No.
1600 Series Jobber Drill Sets		
13	1/16"– 1/4" x 1/64"	C69034
15	1/16"– 1/2" x 1/32"	*C69035
21	1/16"– 3/8" x 1/64"	C69036
29	1/16"– 1/2" x 1/64"	*C69037
25	1mm – 13mm x 0.5mm	*C69038

Metal Case unless noted otherwise. *Plastic Case

GENERAL PURPOSE JOBBER LENGTH DRILLS

1601 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Bright

CLE-FORCE 1601 is a maintenance jobber drill with HSS and a bright finish that offers dependable straight shank drilling for steel, cast iron, and aluminum.



Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



118° POINT

ROUND SHANK

Fractional					
Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C68114	12
5/64	.0781	1	2	C68115	12
3/32	.0938	1-1/4	2-1/4	C68116	12
7/64	.1094	1-1/2	2-5/8	C68117	12
1/8	.1250	1-5/8	2-3/4	C68118	12
9/64	.1406	1-3/4	2-7/8	C68119	12
5/32	.1562	2	3-1/8	C68120	12
11/64	.1719	2-1/8	3-1/4	C68121	12
3/16	.1875	2-5/16	3-1/2	C68122	12
13/64	.2031	2-7/16	3-5/8	C68123	12
7/32	.2188	2-1/2	3-3/4	C68124	12
15/64	.2344	2-5/8	3-7/8	C68125	12
1/4, E	.2500	2-3/4	4	C68126	12
17/64	.2656	2-7/8	4-1/8	C68127	12
9/32	.2812	2-15/16	4-1/4	C68128	12

Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
19/64	.2969	3-1/16	4-3/8	C68129	6
5/16	.3125	3-3/16	4-1/2	C68130	6
21/64	.3281	3-5/16	4-5/8	C68131	6
11/32	.3438	3-7/16	4-3/4	C68132	6
23/64	.3594	3-1/2	4-7/8	C68133	6
3/8	.3750	3-5/8	5	C68134	6
25/64	.3906	3-3/4	5-1/8	C68135	6
13/32	.4062	3-7/8	5-1/4	C68136	6
27/64	.4219	3-15/16	5-3/8	C68137	6
7/16	.4375	4-1/16	5-1/2	C68138	6
29/64	.4531	4-3/16	5-5/8	C68139	6
15/32	.4688	4-5/16	5-3/4	C68140	6
31/64	.4844	4-3/8	5-7/8	C68141	6
1/2	.5000	4-1/2	6	C68142	6
Letter					
E	.2500	2-3/4	4	C68126	12

HEAVY DUTY JOBBER LENGTH DRILLS

1602 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Black Oxide

CLE-FORCE 1602 is a heavy duty jobber drill with HSS and black oxide finish that ensures tighter chucking and efficiency for steel and cast iron.



Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT

ROUND SHANK

Fractional					
Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C68229	12
5/64	.0781	1	2	C68230	12
3/32	.0938	1-1/4	2-1/4	C68231	12
7/64	.1094	1-1/2	2-5/8	C68232	12
1/8	.1250	1-5/8	2-3/4	C68233	12
9/64	.1406	1-3/4	2-7/8	C68234	12
5/32	.1562	2	3-1/8	C68235	12
11/64	.1719	2-1/8	3-1/4	C68236	12
3/16	.1875	2-5/16	3-1/2	C68237	12
13/64	.2031	2-7/16	3-5/8	C68238	12

Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
7/32	.2188	2-1/2	3-3/4	C68239	6
15/64	.2344	2-5/8	3-7/8	C68240	6
1/4	.2500	2-3/4	4	C68241	6
17/64	.2656	2-7/8	4-1/8	C68242	6
9/32	.2812	2-15/16	4-1/4	C68243	6
19/64	.2969	3-1/16	4-3/8	C68244	6
5/16	.3125	3-3/16	4-1/2	C68245	6
21/64	.3281	3-5/16	4-5/8	C68246	6
11/32	.3438	3-7/16	4-3/4	C68247	6
23/64	.3594	3-1/2	4-7/8	C68248	6
3/8	.3750	3-5/8	5	C68249	6

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HEAVY DUTY JOBBER LENGTH DRILLS

1602 SERIES continued



Fractional					
Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
25/64	.3906	3-3/4	5-1/8	C68250	6
13/32	.4062	3-7/8	5-1/4	C68251	6
27/64	.4219	3-15/16	5-3/8	C68252	6
7/16	.4375	4-1/16	5-1/2	C68253	6
29/64	.4531	4-3/16	5-5/8	C68254	6
15/32	.4688	4-5/16	5-3/4	C68255	6
31/64	.4844	4-3/8	5-7/8	C68256	6
1/2	.5000	4-1/2	6	C68257	6
Wire					
*60	.0400	11/16	1-5/8	C68342	12
*59	.0410	11/16	1-5/8	C68341	12
*58	.0420	11/16	1-5/8	C68340	12
*57	.0430	3/4	1-3/4	C68339	12
*56	.0465	3/4	1-3/4	C68338	12
*55	.0520	7/8	1-7/8	C68337	12
*54	.0550	7/8	1-7/8	C68336	12
*53	.0595	7/8	1-7/8	C68335	12
52	.0635	7/8	1-7/8	C68334	12
51	.0670	1	2	C68333	12
50	.0700	1	2	C68332	12
49	.0730	1	2	C68331	12
48	.0760	1	2	C68330	12
47	.0785	1	2	C68329	12
46	.0810	1-1/8	2-1/8	C68328	12
45	.0820	1-1/8	2-1/8	C68327	12
44	.0860	1-1/8	2-1/8	C68326	12
43	.0890	1-1/4	2-1/4	C68325	12
42	.0935	1-1/4	2-1/4	C68324	12
41	.0960	1-3/8	2-3/8	C68323	12
40	.0980	1-3/8	2-3/8	C68322	12
39	.0995	1-3/8	2-3/8	C68321	12
38	.1015	1-7/16	2-1/2	C68320	12
37	.1040	1-7/16	2-1/2	C68319	12
36	.1065	1-7/16	2-1/2	C68318	12
35	.1100	1-1/2	2-5/8	C68317	12
34	.1110	1-1/2	2-5/8	C68316	12
33	.1130	1-1/2	2-5/8	C68315	12
32	.1160	1-5/8	2-3/4	C68314	12
31	.1200	1-5/8	2-3/4	C68313	12
30	.1285	1-5/8	2-3/4	C68312	12
29	.1360	1-3/4	2-7/8	C68311	12
28	.1405	1-3/4	2-7/8	C68310	12
27	.1440	1-7/8	3	C68309	12
26	.1470	1-7/8	3	C68308	12
25	.1495	1-7/8	3	C68307	12
24	.1520	2	3-1/8	C68306	12
23	.1540	2	3-1/8	C68305	12
22	.1570	2	3-1/8	C68304	12
21	.1590	2-1/8	3-1/4	C68303	12
20	.1610	2-1/8	3-1/4	C68302	12
19	.1660	2-1/8	3-1/4	C68301	12

*Not split point

Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
18	.1695	2-1/8	3-1/4	C68300	12
17	.1730	2-3/16	3-3/8	C68299	12
16	.1770	2-3/16	3-3/8	C68298	12
15	.1800	2-3/16	3-3/8	C68297	12
14	.1820	2-3/16	3-3/8	C68296	12
13	.1850	2-5/16	3-1/2	C68295	12
12	.1890	2-5/16	3-1/2	C68294	12
11	.1910	2-5/16	3-1/2	C68293	12
10	.1935	2-7/16	3-5/8	C68292	12
9	.1960	2-7/16	3-5/8	C68291	12
8	.1990	2-7/16	3-5/8	C68290	12
7	.2010	2-7/16	3-5/8	C68289	12
6	.2040	2-1/2	3-3/4	C68288	12
5	.2055	2-1/2	3-3/4	C68287	12
4	.2090	2-1/2	3-3/4	C68286	12
3	.2130	2-1/2	3-3/4	C68285	12
2	.2210	2-5/8	3-7/8	C68284	12
1	.2280	2-5/8	3-7/8	C68283	12

Letter					
A	.2340	2-5/8	3-7/8	C68258	12
B	.2380	2-3/4	4	C68259	12
C	.2420	2-3/4	4	C68260	12
D	.2460	2-3/4	4	C68261	12
E	.2500	2-3/4	4	C68241	12
F	.2570	2-7/8	4-1/8	C68262	12
G	.2610	2-7/8	4-1/8	C68263	12
H	.2660	2-7/8	4-1/8	C68264	12
I	.2720	2-7/8	4-1/8	C68265	12
J	.2770	2-7/8	4-1/8	C68266	12
K	.2810	2-15/16	4-1/4	C68267	12
L	.2900	2-15/16	4-1/4	C68268	12
M	.2950	3-1/16	4-3/8	C68269	6
N	.3020	3-1/16	4-3/8	C68270	6
O	.3160	3-3/16	4-1/2	C68271	6
P	.3230	3-5/16	4-5/8	C68272	6
Q	.3320	3-7/16	4-3/4	C68273	6
R	.3390	3-7/16	4-3/4	C68274	6
S	.3480	3-1/2	4-7/8	C68275	6
T	.3580	3-1/2	4-7/8	C68276	6
U	.3680	3-5/8	5	C68277	6
V	.3770	3-5/8	5	C68278	6
W	.3860	3-3/4	5-1/8	C68279	6
X	.3970	3-3/4	5-1/8	C68280	6
Y	.4040	3-7/8	5-1/4	C68281	6
Z	.4130	3-7/8	5-1/4	C68282	6

Corresponding Sets		
No. of Pcs.	Description	Order No.
1602 Series Jobber Drill Sets		
13	1/16" - 1/4" x 1/64"	C69381
15	1/16" - 1/2" x 1/32"	C69382
29	1/16" - 1/2" x 1/64"	*C69383

Metal Case unless noted otherwise. *Plastic Case

HEAVY DUTY JOBBER LENGTH DRILLS

1604 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Black & Gold

CLE-FORCE 1604 heavy duty jobber drill with black and gold finish features a 135° split point for enhanced efficiency.

Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT

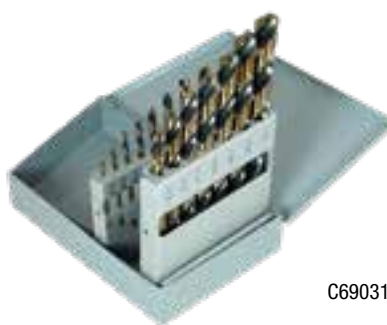


ROUND SHANK



Fractional					
Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C69042	12
5/64	.0781	1	2	C69043	12
3/32	.0938	1-1/4	2-1/4	C69044	12
7/64	.1094	1-1/2	2-5/8	C69045	12
1/8	.1250	1-5/8	2-3/4	C69046	12
9/64	.1406	1-3/4	2-7/8	C69047	12
5/32	.1562	2	3-1/8	C69048	12
11/64	.1719	2-1/8	3-1/4	C69049	12
3/16	.1875	2-5/16	3-1/2	C69050	12
13/64	.2031	2-7/16	3-5/8	C69051	12
7/32	.2188	2-1/2	3-3/4	C69052	12
15/64	.2344	2-5/8	3-7/8	C69053	12
1/4, E	.2500	2-3/4	4	C69054	12
17/64	.2656	2-7/8	4-1/8	C69055	12
9/32	.2812	2-15/16	4-1/4	C69056	12

Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
19/64	.2969	3-1/16	4-3/8	C69057	6
5/16	.3125	3-3/16	4-1/2	C69058	6
21/64	.3281	3-5/16	4-5/8	C69059	6
11/32	.3438	3-7/16	4-3/4	C69060	6
23/64	.3594	3-1/2	4-7/8	C69061	6
3/8	.3750	3-5/8	5	C69062	6
25/64	.3906	3-3/4	5-1/8	C69063	6
13/32	.4062	3-7/8	5-1/4	C69064	6
27/64	.4219	3-15/16	5-3/8	C69065	6
7/16	.4375	4-1/16	5-1/2	C69066	6
29/64	.4531	4-3/16	5-5/8	C69067	6
15/32	.4688	4-5/16	5-3/4	C69068	6
31/64	.4844	4-3/8	5-7/8	C69069	6
1/2	.5000	4-1/2	6	C69070	6
Letter					
E	.2500	2-3/4	4	C69054	12



C69031

Corresponding Sets		
No. of Pcs.	Description	Order No.
1604 Series Jobber Drill Sets		
13	1/16" – 1/4" x 1/64"	C69030
15	1/16" – 1/2" x 1/32"	C69031
29	1/16" – 1/2" x 1/64"	*C69032

Metal case unless noted otherwise **Plastic Case

HEAVY DUTY JOBBER LENGTH DRILLS

1607 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Flatted Shank / Black & Gold

CLE-FORCE 1607 Heavy duty jobber drill with HSS and black & gold finish includes flats for precise drilling in steel and cast iron.

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C69339	12
5/64	.0781	1	2	C69340	12
3/32	.0938	1-1/4	2-1/4	C69341	12
7/64	.1094	1-1/2	2-5/8	C69342	12
1/8	.1250	1-5/8	2-3/4	C69343	12
9/64	.1406	1-3/4	2-7/8	C69344	12
5/32	.1562	2	3-1/8	C69345	12
11/64	.1719	2-1/8	3-1/4	C69346	12
3/16	.1875	2-5/16	3-1/2	C69347	12
13/64	.2031	2-7/16	3-5/8	C69348	12
7/32	.2188	2-1/2	3-3/4	C69349	12
15/64	.2344	2-5/8	3-7/8	C69350	12
1/4	.2500	2-3/4	4	C69351	12
17/64	.2656	2-7/8	4-1/8	C69352	12
9/32	.2812	2-15/16	4-1/4	C69353	12

Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
19/64	.2969	3-1/16	4-3/8	C69354	6
5/16	.3125	3-3/16	4-1/2	C69355	6
21/64	.3281	3-5/16	4-5/8	C69356	6
11/32	.3438	3-7/16	4-3/4	C69357	6
23/64	.3594	3-1/2	4-7/8	C69358	6
3/8	.3750	3-5/8	5	C69359	6
25/64	.3906	3-3/4	5-1/8	C69360	6
13/32	.4062	3-7/8	5-1/4	C69361	6
27/64	.4219	3-15/16	5-3/8	C69362	6
7/16	.4375	4-1/16	5-1/2	C69363	6
29/64	.4531	4-3/16	5-5/8	C69364	6
15/32	.4688	4-5/16	5-3/4	C69365	6
31/64	.4844	4-3/8	5-7/8	C69366	6
1/2	.5000	4-1/2	6	C69367	6
Letter					
E	.2500	2-3/4	4	C69351	12

Corresponding Sets		
No. of Pcs.	Description	Order No.
1607 Series Jobber Drill Sets		
13	1/16" – 1/4" x 1/64"	C68343
15	1/16" – 1/2" x 1/32"	C68461
29	1/16" – 1/2" x 1/64"	*C69368
29	Bit Barrel™ 1/16" – 1/2" x 1/64"	*C69385

Metal Case unless noted otherwise. *Plastic Case

1605 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / 3/8" Reduced Shank / Black & Gold

CLE-FORCE 1605 Heavy duty Jobber Drill with 3/8" reduced flatted shank and black and gold finish delivers precision drilling in steel and cast iron with a 118° split point.



Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
27/64	.4219	3-15/16	5-3/8	C69073	6
7/16	.4375	4-1/16	5-1/2	C69074	6
29/64	.4531	4-3/16	5-5/8	C69075	6
15/32	.4688	4-5/16	5-3/4	C69076	6
31/64	.4844	4-3/8	5-7/8	C69077	6
1/2	.5000	4-1/2	6	C69078	6

Corresponding Sets		
No. of Pcs.	Description	Order No.
1605 Series Jobber Drill Sets		
29	1/16" – 1/2" x 1/64"	*C69033

*Plastic Case

HEAVY DUTY JOBBER LENGTH DRILLS

01

DRILLS

1603 SERIES

HEAVY DUTY COBALT

135° Split Point / Bronze Finish

CLE-FORCE 1603 jobber drill with cobalt and bronze finish ensures superior performance for high-tensile materials like stainless steel, titanium, and hardened steel.

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
1/16	.0625	7/8	1-7/8	C68344	12
5/64	.0781	1	2	C68345	12
3/32	.0938	1-1/4	2-1/4	C68346	12
7/64	.1094	1-1/2	2-5/8	C68347	12
1/8	.1250	1-5/8	2-3/4	C68351	12
9/64	.1406	1-3/4	2-7/8	C68352	12
5/32	.1562	2	3-1/8	C68353	12
11/64	.1719	2-1/8	3-1/4	C68354	12
3/16	.1875	2-5/16	3-1/2	C68355	12
13/64	.2031	2-7/16	3-5/8	C68356	12
7/32	.2188	2-1/2	3-3/4	C68357	12
15/64	.2344	2-5/8	3-7/8	C68358	12
1/4	.2500	2-3/4	4	C68359	12
17/64	.2656	2-7/8	4-1/8	C68360	12
9/32	.2812	2-15/16	4-1/4	C68361	12
19/64	.2969	3-1/16	4-3/8	C68362	6
5/16	.3125	3-3/16	4-1/2	C68363	6
21/64	.3281	3-5/16	4-5/8	C68364	6
11/32	.3438	3-7/16	4-3/4	C68365	6
23/64	.3594	3-1/2	4-7/8	C68366	6
3/8	.3750	3-5/8	5	C68367	6
25/64	.3906	3-3/4	5-1/8	C68368	6
13/32	.4062	3-7/8	5-1/4	C68369	6
27/64	.4219	3-15/16	5-3/8	C68370	6
7/16	.4375	4-1/16	5-1/2	C68371	6
29/64	.4531	4-3/16	5-5/8	C68372	6
15/32	.4688	4-5/16	5-3/4	C68373	6
31/64	.4844	4-3/8	5-7/8	C68374	6
1/2	.5000	4-1/2	6	C68375	6
Wire					
*60	.0400	11/16	1-5/8	C68460	12
*59	.0410	11/16	1-5/8	C68459	12
*58	.0420	11/16	1-5/8	C68458	12
*57	.0430	3/4	1-3/4	C68457	12
*56	.0465	3/4	1-3/4	C68456	12
*55	.0520	7/8	1-7/8	C68455	12
*54	.0550	7/8	1-7/8	C68454	12
*53	.0595	7/8	1-7/8	C68453	12
52	.0635	7/8	1-7/8	C68452	12
51	.0670	1	2	C68451	12
50	.0700	1	2	C68450	12
49	.0730	1	2	C68449	12
48	.0760	1	2	C68448	12
47	.0785	1	2	C68447	12
46	.0810	1-1/8	2-1/8	C68446	12

Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
45	.0820	1-1/8	2-1/8	C68445	12
44	.0860	1-1/8	2-1/8	C68444	12
43	.0890	1-1/4	2-1/4	C68443	12
42	.0935	1-1/4	2-1/4	C68442	12
41	.0960	1-3/8	2-3/8	C68441	12
40	.0980	1-3/8	2-3/8	C68440	12
39	.0995	1-3/8	2-3/8	C68439	12
38	.1015	1-7/16	2-1/2	C68438	12
37	.1040	1-7/16	2-1/2	C68437	12
36	.1065	1-7/16	2-1/2	C68436	12
35	.1100	1-1/2	2-5/8	C68435	12
34	.1110	1-1/2	2-5/8	C68434	12
33	.1130	1-1/2	2-5/8	C68433	12
32	.1160	1-5/8	2-3/4	C68432	12
31	.1200	1-5/8	2-3/4	C68431	12
30	.1285	1-5/8	2-3/4	C68430	12
29	.1360	1-3/4	2-7/8	C68429	12
28	.1405	1-3/4	2-7/8	C68428	12
27	.1440	1-7/8	3	C68427	12
26	.1470	1-7/8	3	C68426	12
25	.1495	1-7/8	3	C68425	12
24	.1520	2	3-1/8	C68424	12
23	.1540	2	3-1/8	C68423	12
22	.1570	2	3-1/8	C68422	12
21	.1590	2-1/8	3-1/4	C68421	12
20	.1610	2-1/8	3-1/4	C68420	12
19	.1660	2-1/8	3-1/4	C68419	12
18	.1695	2-1/8	3-1/4	C68418	12
17	.1730	2-3/16	3-3/8	C68417	12
16	.1770	2-3/16	3-3/8	C68416	12
15	.1800	2-3/16	3-3/8	C68415	12
14	.1820	2-3/16	3-3/8	C68414	12
13	.1850	2-5/16	3-1/2	C68413	12
12	.1890	2-5/16	3-1/2	C68412	12
11	.1910	2-5/16	3-1/2	C68411	12
10	.1935	2-7/16	3-5/8	C68410	12
9	.1960	2-7/16	3-5/8	C68409	12
8	.1990	2-7/16	3-5/8	C68408	12
7	.2010	2-7/16	3-5/8	C68407	12
6	.2040	2-1/2	3-3/4	C68406	12
5	.2055	2-1/2	3-3/4	C68405	12
4	.2090	2-1/2	3-3/4	C68404	12
3	.2130	2-1/2	3-3/4	C68403	12
2	.2210	2-5/8	3-7/8	C68402	12
1	.2280	2-5/8	3-7/8	C68401	12

CLE-FORCE

*Not split point

continued on next page

HEAVY DUTY JOBBER LENGTH DRILLS

1603 SERIES continued



Letter					
Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
A	.2340	2-5/8	3-7/8	C68376	12
B	.2380	2-3/4	4	C68377	12
C	.2420	2-3/4	4	C68378	12
D	.2460	2-3/4	4	C68379	12
E	.2500	2-3/4	4	C68359	12
F	.2570	2-7/8	4-1/8	C68380	12
G	.2610	2-7/8	4-1/8	C68381	12
H	.2660	2-7/8	4-1/8	C68382	12
I	.2720	2-7/8	4-1/8	C68383	12
J	.2770	2-7/8	4-1/8	C68384	12
K	.2810	2-15/16	4-1/4	C68385	12
L	.2900	2-15/16	4-1/4	C68386	12
M	.2950	3-1/16	4-3/8	C68387	6

Size	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
N	.3020	3-1/16	4-3/8	C68388	6
O	.3160	3-3/16	4-1/2	C68389	6
P	.3230	3-5/16	4-5/8	C68390	6
Q	.3320	3-7/16	4-3/4	C68391	6
R	.3390	3-7/16	4-3/4	C68392	6
S	.3480	3-1/2	4-7/8	C68393	6
T	.3580	3-1/2	4-7/8	C68394	6
U	.3680	3-5/8	5	C68395	6
V	.3770	3-5/8	5	C68396	6
W	.3860	3-3/4	5-1/8	C68397	6
X	.3970	3-3/4	5-1/8	C68398	6
Y	.4040	3-3/4	5-1/4	C68399	6
Z	.4130	3-7/8	5-1/4	C68400	6

Corresponding Sets		
No. of Pcs.	Description	Order No.
1603 Series Jobber Drill Sets		
13	1/16"– 1/4" x 1/64"	C69377
15	1/16"– 1/2" x 1/32"	C69378
29	1/16"– 1/2" x 1/64"	*C69379
60	#1 – #60	C69380

Metal Case unless noted otherwise. *Plastic Case

GENERAL PURPOSE JOBBER LENGTH DRILLS

100SE / 180SE SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Black Oxide

100SE/180SE series drills are designed for general purpose drilling under a wide range of conditions. For low to medium tensile strength materials. The surface treatment prevents chip welding, improves chip flow and increases abrasion resistance.



Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT ROUND SHANK

Fractional				
Size	Flute Length	Overall Length	Order Number	Pack Qty.
1/16"	7/8"	1-7/8"	100SE104	12
5/64"	1"	2"	100SE105	12
3/32"	1-1/4"	2-1/4"	100SE106	12
7/64"	1-1/2"	2-5/8"	100SE107	12
1/8"	1-5/8"	2-3/4"	100SE108	12
9/64"	1-3/4"	2-7/8"	100SE109	12
5/32"	2"	3-1/8"	100SE110	12
11/64"	2-1/8"	3-1/4"	100SE111	12
3/16"	2-5/16"	3-1/2"	100SE112	12
13/64"	2-7/16"	3-5/8"	100SE113	12
7/32"	2-1/2"	3-3/4"	100SE114	12
15/64"	2-5/8"	3-7/8"	100SE115	12
1/4"	2-3/4"	4"	100SE116	12
17/64"	2-7/8"	4-1/8"	100SE117	12
9/32"	2-15/16"	4-1/4"	100SE118	12
19/64"	3-1/16"	4-3/8"	100SE119	12
5/16"	3-3/16"	4-1/2"	100SE120	6
21/64"	3-5/16"	4-5/8"	100SE121	6
11/32"	3-7/16"	4-3/4"	100SE122	6
23/64"	3-1/2"	4-7/8"	100SE123	6
3/8"	3-5/8"	5"	100SE124	6
25/64"	3-3/4"	5-1/8"	100SE125	6
13/32"	3-7/8"	5-1/4"	100SE126	6
27/64"	3-15/16"	5-3/8"	100SE127	6
7/16"	4-1/16"	5-1/2"	100SE128	6
29/64"	4-3/16"	5-5/8"	100SE129	6
15/32"	4-5/16"	5-3/4"	100SE130	6
31/64"	4-3/8"	5-7/8"	100SE131	6
1/2"	4-1/2"	6"	100SE132	6
Wire				
Size	Flute Length	Overall Length	Order Number	Pack Qty.
40	1-3/8"	2-3/8"	180SE040	12
39	1-3/8"	2-3/8"	180SE039	12
38	1-7/16"	2-1/2"	180SE038	12
37	1-7/16"	2-1/2"	180SE037	12
36	1-7/16"	2-1/2"	180SE036	12
35	1-1/2"	2-5/8"	180SE035	12
34	1-1/2"	2-5/8"	180SE034	12
33	1-1/2"	2-5/8"	180SE033	12
32	1-5/8"	2-3/4"	180SE032	12
31	1-5/8"	2-3/4"	180SE031	12
30	1-5/8"	2-3/4"	180SE030	12
29	1-3/4"	2-7/8"	180SE029	12
28	1-3/4"	2-7/8"	180SE028	12
27	1-7/8"	3"	180SE027	12
26	1-7/8"	3"	180SE026	12

Size	Flute Length	Overall Length	Order Number	Pack Qty.
25	1-7/8"	3"	180SE025	12
24	2"	3-1/8"	180SE024	12
23	2"	3-1/8"	180SE023	12
22	2"	3-1/8"	180SE022	12
21	2-1/8"	3-1/4"	180SE021	12
20	2-1/8"	3-1/4"	180SE020	12
19	2-1/8"	3-1/4"	180SE019	12
18	2-1/8"	3-1/4"	180SE018	12
17	2-3/16"	3-3/8"	180SE017	12
16	2-3/16"	3-3/8"	180SE016	12
15	2-3/16"	3-3/8"	180SE015	12
14	2-3/16"	3-3/8"	180SE014	12
13	2-5/16"	3-1/2"	180SE013	12
12	2-5/16"	3-1/2"	180SE012	12
11	2-5/16"	3-1/2"	180SE011	12
10	2-7/16"	3-5/8"	180SE010	12
9	2-7/16"	3-5/8"	180SE009	12
8	2-7/16"	3-5/8"	180SE008	12
7	2-7/16"	3-5/8"	180SE007	12
6	2-1/2"	3-3/4"	180SE006	12
5	2-1/2"	3-3/4"	180SE005	12
4	2-1/2"	3-3/4"	180SE004	12
3	2-1/2"	3-3/4"	180SE003	12
2	2-1/2"	3-7/8"	180SE002	12
1	2-5/8"	3-7/8"	180SE001	12



100SE15

Corresponding Sets		
No. of Pcs.	Description	Order No.
100SE Series Jobber Drill Sets		
13	1/16" - 1/4" x 1/64	100SE13
15	1/16" - 1/2" x 1/32	100SE15
21	1/16" - 3/8" x 1/64	100SE21
29	**Bit Barrel 1/16" - 1/2 x 1/64	100SEW29
29	1/16" - 1/2" x 1/64	100SE29

Metal case unless noted otherwise **Plastic Case

HEAVY DUTY JOBBER LENGTH DRILLS

400E / 480E / 800 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Black & Gold

The heavy construction affords efficient portable drilling in medium strength alloy materials. The split point reduces the thrust requirements and minimizes "walking." This is a suitable drill for the construction industry.

- ▷ Heavy duty 135° Split Point minimizes "walking"
- ▷ Black & Gold surface treatment for high wear resistance and lubricity
- ▷ A multi-purpose heavy duty drill bit



Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK

Fractional				
Size	Flute Length	Overall Length	Order Number	Pack Qty.
1/16"	7/8"	1-7/8"	400E104	12
5/64"	1"	2"	400E105	12
3/32"	1-1/4"	2-1/4"	400E106	12
7/64"	1-1/2"	2-5/8"	400E107	12
1/8"	1-5/8"	2-3/4"	400E108	12
9/64"	1-3/4"	2-7/8"	400E109	12
5/32"	2"	3-1/8"	400E110	12
11/64"	2-1/8"	3-1/4"	400E111	12
3/16"	2-5/16"	3-1/2"	400E112	12
13/64"	2-7/16"	3-5/8"	400E113	12
7/32"	2-1/2"	3-3/4"	400E114	12
15/64"	2-5/8"	3-7/8"	400E115	12
1/4"	2-3/4"	4"	400E116	12
17/64"	2-7/8"	4-1/8"	400E117	12
9/32"	2-15/16"	4-1/4"	400E118	12
19/64"	3-1/16"	4-3/8"	400E119	12
5/16"	3-3/16"	4-1/2"	400E120	6
21/64"	3-5/16"	4-5/8"	400E121	6
11/32"	3-7/16"	4-3/4"	400E122	6
23/64"	3-1/2"	4-7/8"	400E123	6
3/8"	3-5/8"	5"	400E124	6
25/64"	3-3/4"	5-1/8"	400E125	6
13/32"	3-7/8"	5-1/4"	400E126	6
27/64"	3-15/16"	5-3/8"	400E127	6
7/16"	4-1/16"	5-1/2"	400E128	6
29/64"	4-3/16"	5-5/8"	400E129	6
15/32"	4-5/16"	5-3/4"	400E130	6
31/64"	4-3/8"	5-7/8"	400E131	6
1/2"	4-1/2"	6"	400E132	6
Wire				
Size	Flute Length	Overall Length	Order Number	Pack Qty.
60*	11/16"	1-5/8"	480E060	12
59*	11/16"	1-5/8"	480E059	12
58*	11/16"	1-5/8"	480E058	12
57*	3/4"	1-3/4"	480E057	12
56*	3/4"	1-3/4"	480E056	12
55*	7/8"	1-7/8"	480E055	12
54*	7/8"	1-7/8"	480E054	12
53*	7/8"	1-7/8"	480E053	12
52	7/8"	1-7/8"	480E052	12
51	1"	2"	480E051	12
50	1"	2"	480E050	12
49	1"	2"	480E049	12
48	1"	2"	480E048	12
47	1"	2"	480E047	12

Size	Flute Length	Overall Length	Order Number	Pack Qty.
46	1-1/8"	2-1/8"	480E046	12
45	1-1/8"	2-1/8"	480E045	12
44	1-1/8"	2-1/8"	480E044	12
43	1-1/4"	2-1/4"	480E043	12
42	1-1/4"	2-1/4"	480E042	12
41	1-3/8"	2-3/8"	480E041	12
40	1-3/8"	2-3/8"	480E040	12
39	1-3/8"	2-3/8"	480E039	12
38	1-7/16"	2-1/2"	480E038	12
37	1-7/16"	2-1/2"	480E037	12
36	1-7/16"	2-1/2"	480E036	12
35	1-1/2"	2-5/8"	480E035	12
34	1-1/2"	2-5/8"	480E034	12
33	1-1/2"	2-5/8"	480E033	12
32	1-5/8"	2-3/4"	480E032	12
31	1-5/8"	2-3/4"	480E031	12
30	1-5/8"	2-3/4"	480E030	12
29	1-3/4"	2-7/8"	480E029	12
28	1-3/4"	2-7/8"	480E028	12
27	1-7/8"	3"	480E027	12
26	1-7/8"	3"	480E026	12
25	1-7/8"	3"	480E025	12
24	2"	3-1/8"	480E024	12
23	2"	3-1/8"	480E023	12
22	2"	3-1/8"	480E022	12
21	2-1/8"	3-1/4"	480E021	12
20	2-1/8"	3-1/4"	480E020	12
19	2-1/8"	3-1/4"	480E019	12
18	2-1/8"	3-1/4"	480E018	12
17	2-3/16"	3-3/8"	480E017	12
16	2-3/16"	3-3/8"	480E016	12
15	2-3/16"	3-3/8"	480E015	12
14	2-3/16"	3-3/8"	480E014	12
13	2-5/16"	3-1/2"	480E013	12
12	2-5/16"	3-1/2"	480E012	12
11	2-5/16"	3-1/2"	480E011	12
10	2-7/16"	3-5/8"	480E010	12
9	2-7/16"	3-5/8"	480E009	12
8	2-7/16"	3-5/8"	480E008	12
7	2-7/16"	3-5/8"	480E007	12
6	2-1/2"	3-3/4"	480E006	12
5	2-1/2"	3-3/4"	480E005	12
4	2-1/2"	3-3/4"	480E004	12
3	2-1/2"	3-3/4"	480E003	12
2	2-1/2"	3-7/8"	480E002	12
1	2-5/8"	3-7/8"	480E001	12

*Not split point

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HEAVY DUTY JOBBER LENGTH DRILLS

400E / 480E / 800 SERIES continued



Metric				
Size (mm)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
.35	3	19	800A0035	12
.40	5	19	800A0040	12
.45	5	22	800A0045	12
.50	5	22	800A0050	12
.55	6	25	800A0055	12
.60	8	29	800A0060	12
.65	10	32	800A0065	12
.70	10	32	800A0070	12
.75	13	35	800A0075	12
.80	13	35	800A0080	12
.85	16	38	800A0085	12
.90	16	38	800A0090	12
.95	16	38	800A0095	12
1.00	17	41	800A0100	12
1.05	17	41	800A0105	12
1.10	19	44	800A0110	12
1.15	19	44	800A0115	12
1.20	22	48	800A0120	12
1.25	22	48	800A0125	12
1.30	22	48	800A0130	12
1.35	22	49	800A0135	12
1.40	22	48	800A0140	12
1.45	22	48	800A0145	12
1.50	22	48	800A0150	12
1.55	22	48	800A0155	12
1.60	22	48	800A0160	12
1.65	25	51	800A0165	12
1.70	25	51	800A0170	12
1.75	25	51	800A0175	12
1.80	25	51	800A0180	12
1.85	25	51	800A0185	12
1.90	25	51	800A0190	12
1.95	25	51	800A0195	12
2.00	25	51	800A0200	12
2.05	29	54	800A0205	12
2.10	29	54	800A0210	12
2.15	29	54	800A0215	12
2.20	32	57	800A0220	12
2.25	32	57	800A0225	12
2.30	32	57	800A0230	12
2.35	32	57	800A0235	12
2.40	35	60	800A0240	12
2.45	35	60	800A0245	12
2.50	35	60	800A0250	12
2.60	37	64	800A0260	12
2.70	37	64	800A0270	12
2.75	37	64	800A0275	12
2.80	38	67	800A0280	12
2.90	41	70	800A0290	12
3.00	41	70	800A0300	12
3.10	41	70	800A0310	12
3.20	41	70	800A0320	12
3.25	41	70	800A0325	12
3.30	44	73	800A0330	12
3.40	44	73	800A0340	12

Size (mm)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
3.50	44	73	800A0350	12
3.60	48	76	800A0360	12
3.70	48	76	800A0370	12
3.75	48	76	800A0375	12
3.80	48	76	800A0380	12
3.90	51	79	800A0390	12
4.00	54	83	800A0400	12
4.10	54	83	800A0410	12
4.20	54	83	800A0420	12
4.25	54	83	800A0425	12
4.30	54	83	800A0430	12
4.40	56	86	800A0440	12
4.50	56	86	800A0450	12
4.60	56	86	800A0460	12
4.70	59	89	800A0470	12
4.75	59	89	800A0475	12
4.80	59	89	800A0480	12
4.90	62	92	800A0490	12
5.00	62	92	800A0500	12
5.10	62	92	800A0510	12
5.20	64	95	800A0520	12
5.25	64	95	800A0525	12
5.30	64	95	800A0530	12
5.40	64	95	800A0540	12
5.50	64	95	800A0550	12
5.60	67	98	800A0560	12
5.70	67	98	800A0570	12
5.75	67	98	800A0575	12
5.80	67	98	800A0580	12
5.90	67	98	800A0590	12
6.00	70	102	800A0600	12
6.10	70	102	800A0610	12
6.20	70	102	800A0620	12
6.25	70	102	800A0625	12
6.30	70	102	800A0630	12
6.40	73	105	800A0640	12
6.50	73	105	800A0650	12
6.60	73	105	800A0660	12
6.70	73	105	800A0670	6
6.75	73	105	800A0675	6
6.80	73	105	800A0680	6
6.90	73	105	800A0690	6
7.00	73	105	800A0700	6
7.10	75	108	800A0710	6
7.20	75	108	800A0720	6
7.25	75	108	800A0725	6
7.30	75	108	800A0730	6
7.40	78	111	800A0740	6
7.50	78	111	800A0750	6
7.60	78	111	800A0760	6
7.70	81	114	800A0770	6
7.75	81	114	800A0775	6
7.80	81	114	800A0780	6
7.90	81	114	800A0790	6
8.00	81	114	800A0800	6

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HEAVY DUTY JOBBER LENGTH DRILLS

400E / 480E / 800 SERIES continued



Metric				
Size (mm)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
8.10	84	117	800A0810	6
8.20	84	117	800A0820	6
8.25	84	117	800A0825	6
8.30	84	117	800A0830	6
8.40	87	121	800A0840	6
8.50	87	121	800A0850	6
8.60	87	121	800A0860	6
8.70	87	121	800A0870	6
8.75	87	121	800A0875	6
8.80	89	124	800A0880	6
8.90	89	124	800A0890	6
9.00	89	124	800A0900	6
9.10	89	124	800A0910	6
9.20	92	127	800A0920	6
9.25	92	127	800A0925	6

Size (mm)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
9.30	92	127	800A0930	6
9.40	92	127	800A0940	6
9.50	92	127	800A0950	6
9.60	95	130	800A0960	6
9.70	95	130	800A0970	6
9.75	95	130	800A0975	6
9.80	95	130	800A0980	6
9.90	95	130	800A0990	6
10.00	95	130	800A1000	6
10.50	98	133	800A1050	6
11.00	103	140	800A1100	6
11.50	106	143	800A1150	6
12.00	111	149	800A1200	6
12.50	114	152	800A1250	6
13.00	114	152	800A1300	1



Corresponding Sets		
No. of Pcs.	Description	Order No.
800 Series Metric Jobber Drill Sets		
13	1mm - 7mm by 0.5mm	800A13
25	1mm - 13mm by 0.5mm	800A25

Metal case unless noted otherwise **Plastic Case

HEAVY DUTY JOBBER LENGTH DRILLS

400F SERIES

HEAVY DUTY HIGH SPEED STEEL

140° Split Point / 3 Flatted Shank / Black & Gold

140° Split Point reduces “walking” at the drill point and makes these drills ideal for handheld operations. Usable in a wide range of materials.

- ▷ Black & Gold surface treatment for maximum lubricity
- ▷ Jobber length for extra reach
- ▷ 3-flat shank helps reduce slippage in the drill chuck



Best Material Application



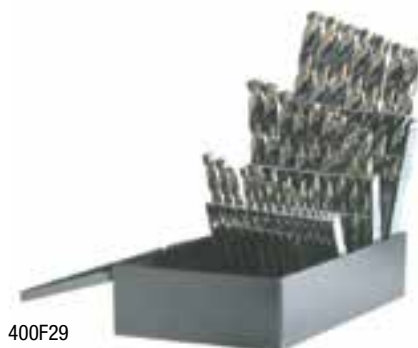
Drill Specifications



Fractional				
Size	Flute Length	Overall Length	Order Number	Pack Qty.
*1/16"	7/8"	1-7/8"	400F104	12
*5/64"	1"	2"	400F105	12
*3/32"	1-1/4"	2-1/4"	400F106	12
*7/64"	1-1/2"	2-5/8"	400F107	12
*1/8"	1-5/8"	2-3/4"	400F108	12
*9/64"	1-3/4"	2-7/8"	400F109	12
*5/32"	2"	3-1/8"	400F110	12
*11/64"	2-1/8"	3-1/4"	400F111	12
3/16"	2-5/16"	3-1/2"	400F112	12
13/64"	2-7/16"	3-5/8"	400F113	12
7/32"	2-1/2"	3-3/4"	400F114	12
15/64"	2-5/8"	3-7/8"	400F115	12
1/4"	2-3/4"	4"	400F116	12
17/64"	2-7/8"	4-1/8"	400F117	12
9/32"	2-15/16"	4-1/4"	400F118	12
19/64"	3-1/16"	4-3/8"	400F119	12
5/16"	3-3/16"	4-1/2"	400F120	6
21/64"	3-5/16"	4-5/8"	400F121	6
11/32"	3-7/16"	4-3/4"	400F122	6

Size	Flute Length	Overall Length	Order Number	Pack Qty.
23/64"	3-1/2"	4-7/8"	400F123	6
3/8"	3-5/8"	5"	400F124	6
25/64"	3-3/4"	5-1/8"	400F125	6
13/32"	3-7/8"	5-1/4"	400F126	6
27/64"	3-15/16"	5-3/8"	400F127	6
7/16"	4-1/16"	5-1/2"	400F128	6
29/64"	4-3/16"	5-5/8"	400F129	6
15/32"	4-5/16"	5-3/4"	400F130	6
31/64"	4-3/8"	5-7/8"	400F131	6
1/2"	4-1/2"	6"	400F132	6

*No Flats



400F29

Corresponding Sets		
No. of Pcs.	Description	Order No.
400F Series Jobber Drill Sets		
21	1/16" - 3/8" x 1/64	400F21
29	1/16" - 1/2" x 1/64	400F29
29	Bit Barrel 1/16" - 1/2" x 1/64	400FW29

HEAVY DUTY JOBBER LENGTH DRILLS

500E / 580E SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze

The high red hardness of Drillco's cobalt drills permit speeds 30% greater than HSS drills. Heavy duty construction made to Type J aircraft specs. For drilling holes in hard, tough materials such as stainless steel, titanium, and high strength alloys.



Best Material Application



Drill Specifications



Fractional				
Size	Flute Length	Overall Length	Order Number	Pack Qty.
1/16"	7/8"	1-7/8"	500E104	12
5/64"	1"	2"	500E105	12
3/32"	1-1/4"	2-1/4"	500E106	12
7/64"	1-1/2"	2-5/8"	500E107	12
1/8"	1-5/8"	2-3/4"	500E108	12
9/64"	1-3/4"	2-7/8"	500E109	12
5/32"	2"	3-1/8"	500E110	12
11/64"	2-1/8"	3-1/4"	500E111	12
3/16"	2-5/16"	3-1/2"	500E112	12
13/64"	2-7/16"	3-5/8"	500E113	12
7/32"	2-1/2"	3-3/4"	500E114	12
15/64"	2-5/8"	3-7/8"	500E115	12
1/4"	2-3/4"	4"	500E116	12
17/64"	2-7/8"	4-1/8"	500E117	12
9/32"	2-15/16"	4-1/4"	500E118	12
19/64"	3-1/16"	4-3/8"	500E119	12
5/16"	3-3/16"	4-1/2"	500E120	6
21/64"	3-5/16"	4-5/8"	500E121	6
11/32"	3-7/16"	4-3/4"	500E122	6
23/64"	3-1/2"	4-7/8"	500E123	6
3/8"	3-5/8"	5"	500E124	6
25/64"	3-3/4"	5-1/8"	500E125	6
13/32"	3-7/8"	5-1/4"	500E126	6
27/64"	3-15/16"	5-3/8"	500E127	6
7/16"	4-1/16"	5-1/2"	500E128	6
29/64"	4-3/16"	5-5/8"	500E129	6
15/32"	4-5/16"	5-3/4"	500E130	6
31/64"	4-3/8"	5-7/8"	500E131	6
1/2"	4-1/2"	6"	500E132	6

Wire				
Size	Flute Length	Overall Length	Order Number	Pack Qty.
60*	11/16"	1-5/8"	580E060	12
59*	11/16"	1-5/8"	580E059	12
58*	11/16"	1-5/8"	580E058	12
57*	3/4"	1-3/4"	580E057	12
56*	3/4"	1-3/4"	580E056	12
55*	7/8"	1-7/8"	580E055	12
54*	7/8"	1-7/8"	580E054	12
53*	7/8"	1-7/8"	580E053	12
52	7/8"	1-7/8"	580E052	12
51	1"	2"	580E051	12
50	1"	2"	580E050	12
49	1"	2"	580E049	12
48	1"	2"	580E048	12
47	1"	2"	580E047	12
46	1-1/8"	2-1/8"	580E046	12
45	1-1/8"	2-1/8"	580E045	12
44	1-1/8"	2-1/8"	580E044	12
43	1-1/4"	2-1/4"	580E043	12
42	1-1/4"	2-1/4"	580E042	12
41	1-3/8"	2-3/8"	580E041	12
40	1-3/8"	2-3/8"	580E040	12
39	1-3/8"	2-3/8"	580E039	12
38	1-7/16"	2-1/2"	580E038	12
37	1-7/16"	2-1/2"	580E037	12
36	1-7/16"	2-1/2"	580E036	12
35	1-1/2"	2-5/8"	580E035	12
34	1-1/2"	2-5/8"	580E034	12
33	1-1/2"	2-5/8"	580E033	12
32	1-5/8"	2-3/4"	580E032	12
31	1-5/8"	2-3/4"	580E031	12
30	1-5/8"	2-3/4"	580E030	12
29	1-3/4"	2-7/8"	580E029	12
28	1-3/4"	2-7/8"	580E028	12
27	1-7/8"	3"	580E027	12
26	1-7/8"	3"	580E026	12
25	1-7/8"	3"	580E025	12
24	2"	3-1/8"	580E024	12
23	2"	3-1/8"	580E023	12
22	2"	3-1/8"	580E022	12
21	2-1/8"	3-1/4"	580E021	12
20	2-1/8"	3-1/4"	580E020	12
19	2-1/8"	3-1/4"	580E019	12
18	2-1/8"	3-1/4"	580E018	12
17	2-3/16"	3-1/4"	580E017	12
16	2-3/16"	3-1/4"	580E016	12
15	2-3/16"	3-3/8"	580E015	12

*Not split point

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HEAVY DUTY JOBBER LENGTH DRILLS

500E / 580E SERIES continued



Wire				
Size	Flute Length	Overall Length	Order Number	Pack Qty.
14	2-3/16"	3-3/8"	580E014	12
13	2-5/16"	3-1/2"	580E013	12
12	2-5/16"	3-1/2"	580E012	12
11	2-5/16"	3-1/2"	580E011	12
10	2-7/16"	3-5/8"	580E010	12
9	2-7/16"	3-5/8"	580E009	12
8	2-7/16"	3-5/8"	580E008	12
7	2-7/16"	3-5/8"	580E007	12
6	2-1/2"	3-3/4"	580E006	12
5	2-1/2"	3-3/4"	580E005	12
4	2-1/2"	3-3/4"	580E004	12
3	2-1/2"	3-3/4"	580E003	12
2	2-1/2"	3-7/8"	580E002	12
1	2-5/8"	3-7/8"	580E001	12



500E29

Corresponding Sets		
No. of Pcs.	Description	Order No.
500E/580E Series Cobalt Heavy Duty Jobber Drill Sets		
13	1/16" - 1/4" x 1/64	500E13
15	1/16" - 1/2" x 1/32	500E15
21	1/16" - 3/8" x 1/64	500E21
29	1/16" - 1/2" x 1/64	500E29
29	Bit Barrel 1/16" - 1/2" x 1/64	500EW29
60	#1 - #60	500E60

Metal case unless noted otherwise **Plastic Case

HEAVY DUTY MECHANICS LENGTH DRILLS

1875R SERIES

HEAVY DUTY HIGH SPEED STEEL
135° Split Point / Flatted Shank / Black & Gold

Best Material Application


CAST IRON STEEL

Drill Specifications


135° SPLIT POINT 3 FLAT SHANK

Fractional								Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number Hanger	Pack Qty.
*1/16	.0625	7/8	1-7/8	C23830	12	C23830HT	12	9/32	.2812	2-1/4	3-3/4	C23844	6	C23844HT	6
*5/64	.0781	1	2	C23831	12	C23831HT	12	19/64	.2969	2-3/8	3-7/8	C23845	6	C23845HT	6
*3/32	.0938	1-1/4	2-1/4	C23832	12	C23832HT	12	5/16	.3125	2-1/2	4	C23846	6	C23846HT	6
*7/64	.1094	1-5/16	2-3/8	C23833	12	C23833HT	12	21/64	.3281	2-9/16	4-1/16	C23847	6	C23847HT	6
*1/8	.1250	1-7/16	2-1/2	C23834	12	C23834HT	12	11/32	.3438	2-5/8	4-1/8	C23848	6	C23848HT	6
*9/64	.1406	1-9/16	2-5/8	C23835	12	C23835HT	12	23/64	.3594	2-11/16	4-3/16	C23849	6	C23849HT	6
*5/32	.1562	1-11/16	2-3/4	C23836	12	C23836HT	12	3/8	.3750	2-11/16	4-1/4	C23850	6	C23850HT	6
*11/64	.1719	1-13/16	2-7/8	C23837	12	C23837HT	12	**25/64	.3906	2-3/4	4-5/16	C23851	6	C23851HT	6
3/16	.1875	1-7/8	3	C23838	12	C23838HT	12	**13/32	.4062	2-13/16	4-3/8	C23852	6	C23852HT	6
13/64	.2031	1-15/16	3-1/8	C23839	12	C23839HT	12	27/64	.4219	2-7/8	4-7/16	C23853	6	C23853HT	6
7/32	.2188	2	3-1/4	C23840	12	C23840HT	12	7/16	.4375	2-15/16	4-1/2	C23854	6	C23854HT	6
15/64	.2344	2-1/16	3-3/8	C23841	12	C23841HT	12	29/64	.4531	3	4-5/8	C23855	6	C23855HT	6
1/4	.2500	2	3-1/2	C23842	12	C23842HT	12	15/32	.4688	3-1/8	4-3/4	C23856	6	C23856HT	6
17/64	.2656	2-1/8	3-5/8	C23843	12	C23843HT	12	31/64	.4844	3-1/4	4-7/8	C23857	6	C23857HT	6
								1/2	.5000	3-3/8	5	C23859	6	C23859HT	6

*No flats **Style #1875 sizes 25/64" and 13/32" drills with flats will fit in 3/8" shank drill chucks without having reduced shanks.

C21165



C21162



Corresponding Sets				
Number of Pieces	Sizes	Metal	Order Number	
			Bit Barrel	Tube 3/8" Shank
13	1/16" - 1/4" x 1/64"	C18126		
21	1/16" - 3/8" x 1/64"	C21161		
29	1/16" - 1/2" x 1/64"	C21162	**C21165	C21163
15	1/16" - 1/2" x 1/32"	C21160		
4	1/16" - 1/4" x 1/16"			C22310
6	1/16" - 3/8" x 1/16"			C22309

*Includes Style #1875 in sizes 25/64" and 13/32" which will fit in 3/8" shank drill chucks without having reduced shanks.

Metal case unless noted otherwise **Plastic Case

HEAVY DUTY MECHANICS LENGTH DRILLS

1876 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / 3/8" Reduced Shank / Black & Gold

CLE-LINE 1876 Mechanics-length drill with 3/8" reduced shank with HSS, black & gold finish and 135° split point.



Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number Hanger	Pack Qty.
27/64	.4219	2-7/8	4-7/16	C23860	6	C23860HT	6
7/16	.4375	2-15/16	4-1/2	C23861	6	C23861HT	6
29/64	.4531	3	4-5/8	C23862	6	C23862HT	6
15/32	.4688	3-1/8	4-3/4	C23863	6	C23863HT	6
31/64	.4844	3-1/4	4-7/8	C23864	6	C23864HT	6
1/2	.5000	3-3/8	5	C23865	6	C23865HT	6

Best Material Application



Drill Specifications



1880 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze Finish

The CLE-LINE 1880 Left-hand mechanic-length drill with cobalt and bronze finish offers superior rigidity for stainless steel, titanium, and hardened steel. Offers superior rigidity in portable drilling.



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
5/64	.0781	1	2	C30505	12
7/64	.1094	1	2-3/16	C30507	12
1/8	.1250	1-1/16	2-1/4	C30508	12
5/32	.1562	1-1/4	2-9/16	C30510	12
3/16	.1875	1-1/2	2-7/8	C30512	12
7/32	.2188	1-5/8	3-1/8	C30514	12
1/4	.2500	1-3/4	3-5/16	C30516	12
9/32	.2812	2	3-9/16	C30518	12
19/64	.2969	2-1/16	3-5/8	C30519	6
5/16	.3125	2-1/8	3-3/4	C30520	6
11/32	.3438	2-1/4	3-15/16	C30522	6
3/8	.3750	2-3/8	4-1/8	C30524	6
13/32	.4063	2-1/2	4-3/8	C30526	6
7/16	.4375	2-5/8	4-9/16	C30528	6
15/32	.4688	2-3/4	4-3/4	C30530	6
1/2	.5000	2-7/8	5	C30532	6

Best Material Application



Drill Specifications



HEAVY DUTY MECHANICS LENGTH DRILLS

350N SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Flatted Shank / Black & Gold

Nitro® drills (NAS Type B) offer superior performance over standard HSS drills. Heavy duty design increases tool life and performance. 135° Split Point reduces walking at the point. Ideal for both hand held and CNC Operations. Black & Gold. 3-flats.

NITRO®

Best Material Application



Drill Specifications



Fractional											
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number Skin Card	Skin Card Qty.	Order Number (Hanger)	Hanger Qty.	Order Number Bulk	Bulk Qty.
*1/16	.0625	7/8	1-7/8	350N104	12	350N104BP	2	033304	12	033304.20	144
*5/64	.0781	1	2	350N105	12	350N105BP	2	033305	12	033305.20	144
*3/32	.0938	1-1/4	2-1/4	350N106	12	350N106BP	2	033306	12	033306.20	144
*7/64	.1094	1-5/16	2-3/8	350N107	12	350N107BP	2	033307	12	033307.20	144
*1/8	.1250	1-7/16	2-1/2	350N108	12	350N108BP	2	033308	12	033308.20	144
*9/64	.1406	1-9/16	2-5/8	350N109	12	350N109BP	2	033309	12	033309.20	144
*5/32	.1562	1-11/16	2-3/4	350N110	12	350N110BP	2	033310	12	033310.20	144
*11/64	.1719	1-13/16	2-7/8	350N111	12	350N111BP	1	033311	12	033311.20	144
3/16	.1875	1-7/8	3	350N112	12	350N112BP	1	033312	12	033312.20	144
13/64	.2031	1-15/16	3-1/8	350N113	12	350N113BP	1	033313	12	033313.20	144
7/32	.2188	2	3-1/4	350N114	12	350N114BP	1	033314	12	033314.20	144
15/64	.2344	2-1/16	3-3/8	350N115	12	350N115BP	1	033315	12	033315.20	144
1/4	.2500	2-3/32	3-1/2	350N116	12	350N116BP	1	033316	12	033316.20	144
17/64	.2656	2-1/8	3-5/8	350N117	12	350N117BP	1	033317	12	033317.20	144
9/32	.2812	2-1/4	3-3/4	350N118	12	350N118BP	1	033318	12	033318.20	144
19/64	.2969	2-3/8	3-7/8	350N119	12	350N119BP	1	033319	12	033319.20	144
5/16	.3125	2-1/2	4	350N120	6	350N120BP	1	033320	6	033320.20	144
21/64	.3281	2-9/16	4-1/16	350N121	6	350N121BP	1	033321	6	033321.20	144
11/32	.3438	2-5/8	4-1/8	350N122	6	350N122BP	1	033322	6	033322.20	144
23/64	.3594	2-11/16	4-3/16	350N123	6	350N123BP	1	033323	6	033323.20	144
3/8	.3750	2-11/16	4-1/4	350N124	6	350N124BP	1	033324	6	033324.20	144
25/64	.3906	2-3/4	4-5/16	350N125	6	350N125BP	1	033325	6	033325.20	144
13/32	.4062	2-13/16	4-3/8	350N126	6	350N126BP	1	033326	6	033326.20	144
27/64	.4219	2-7/8	4-7/16	350N127	6	350N127BP	1	033327	6	033327.20	144
7/16	.4375	2-15/16	4-1/2	350N128	6	350N128BP	1	033328	6	033328.20	144
29/64	.4531	3	4-5/8	350N129	6	350N129BP	1	033329	6	033329.20	144
15/32	.4688	3-1/8	4-3/4	350N130	6	350N130BP	1	033330	6	033330.20	144
31/64	.4844	3-1/4	4-7/8	350N131	6	350N131BP	1	033331	6	033331.20	144
1/2	.5000	3-3/8	5	350N132	6	350N132BP	1	033332	6	033332.20	144

*No flats

Corresponding Sets		
Number of Pieces	Sizes	Order Number
13	1/16" - 1/4" x 1/64	350N13
15	1/16" - 1/2" x 1/32	350N15
21	1/16" - 3/8" x 1/64	350N21
29	1/16" - 1/2" x 1/64	350N29
29	Bit Barrel 1/16" - 1/2" x 1/64	350NW29

Metal case unless noted otherwise **Plastic Case

Skin Card



350N21

Corresponding Blister Packs	
Sizes	Bulk Qty.
1/16" - 1/8" & #60 - #30	504
9/64" - 13/64" & #29 - #6	252
7/32" - 5/16" & #5 - #1 & A - N	132
21/64" - 1/2" & O - Z	72

HEAVY DUTY MECHANICS LENGTH DRILLS

1045N SERIES

NITRO®

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / 3/8" Reduced Shank / Black & Gold

Nitro® mechanic's drills offer superior performance over standard HSS drills. Heavy duty design increases tool life and performance. 135° Split Point reduces walking at the point. Ideal for hand held or CNC Operations. Black & Gold. 3/8" Shank.



Best Material Application



Drill Specifications



Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Pack	Pack Qty.	Order Number (Hanger)	Hanger Qty.
25/64	.3910	2-3/4	4-5/16	1045N125	6	—	—
13/32	.4060	2-13/16	4-3/8	1045N126	6	—	—
27/64	.4219	2-7/8	4-7/16	1045N127	6	092627	6
7/16	.4375	2-15/16	4-1/2	1045N128	6	092628	6
29/64	.4531	3	4-5/8	1045N129	6	092629	6
15/32	.4688	3-1/8	4-3/4	1045N130	6	092630	6
31/64	.4844	3-1/4	4-7/8	1045N131	6	092631	6
1/2	.5000	3-3/8	5	1045N132	6	092632	6

Corresponding Sets			
Number of Pieces	Sizes		Order Number
13	T19M	1/16"-1/4" x 1/64	090547
15	—	1/16" - 1/2" x 1/32	1045N15
15	T18M	1/16"-1/2" x 1/32	090551
21	T180M	1/16"-3/8" x 1/64	090549
29	—	1/16" - 1/2" x 1/64	1045N29
29	T17MDC	1/16"-1/2" x 1/64	090553
29	T17M	1/16"-1/2" x 1/64	090552
29	T829M	1/16"-1/2" x 1/64	090550
		3/8" Reduced Shank	

Metal case unless noted otherwise **Plastic Case

HEAVY DUTY MECHANICS LENGTH DRILLS

1620 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Flatted Shank / Black & Gold

CLE-FORCE 1620 Mechanic-length drill with HSS and black & gold finish ensures tighter chucking and reliable drilling in steel and cast iron.

Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT 3 FLAT SHANK



Fractional					
Size (Inch)	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
*1/16	.0625	7/8	1-7/8	C68462	12
*5/64	.0781	1	2	C68463	12
*3/32	.0938	1-1/4	2-1/4	C68464	12
*7/64	.1094	1-5/16	2-3/8	C68465	12
*1/8	.1250	1-7/16	2-1/2	C68466	12
*9/64	.1406	1-9/16	2-5/8	C68467	12
*5/32	.1562	1-11/16	2-3/4	C68468	12
*11/64	.1719	1-13/16	2-7/8	C68469	12
3/16	.1875	1-7/8	3	C68470	12
13/64	.2031	1-15/16	3-1/8	C68471	12
7/32	.2188	2	3-1/4	C68472	12
15/64	.2344	2-1/16	3-3/8	C68473	12
1/4	.2500	2	3-1/2	C68474	12
17/64	.2656	2-1/8	3-5/8	C68475	12
9/32	.2812	2-1/4	3-3/4	C68476	12

Size (Inch)	Decimal Equiv.	Flute Length	Overall Length	Order Number	Pack Qty.
19/64	.2969	2-3/8	3-7/8	C68477	6
5/16	.3125	2-1/2	4	C68478	6
21/64	.3281	2-9/16	4-1/16	C68479	6
11/32	.3438	2-5/8	4-1/8	C68480	6
23/64	.3594	2-11/16	4-3/16	C68481	6
3/8	.3750	2-11/16	4-1/4	C68482	6
**25/64	.3906	2-3/4	4-5/16	C68483	6
**13/32	.4062	2-13/16	4-3/8	C68484	6
27/64	.4219	2-7/8	4-7/16	C68485	6
7/16	.4375	2-15/16	4-1/2	C68486	6
29/64	.4531	3	4-5/8	C68487	6
15/32	.4688	3-1/8	4-3/4	C68488	6
31/64	.4844	3-1/4	4-7/8	C68489	6
1/2	.5000	3-3/8	5	C68490	6

*No flats on shank.



Corresponding Sets		
Number of Pieces	Sizes	Order Number
13	1/16"– 1/4" x 1/64"	C69029
29	1/16"– 1/2" x 1/64"	**C69041
29	Bit Barrel 1/16"– 1/2" x 1/64"	**C69384

Metal case unless noted otherwise **Plastic Case

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

01

DRILLS

1896 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Black Oxide

The CLE-LINE 1896 Screw machine-length drill with HSS and black oxide finish provides excellent rigidity in hand or machine drilling in steel and cast iron.

Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	C23460	12
5/64	.0781	11/16	1-11/16	C23461	12
3/32	.0938	3/4	1-3/4	C23462	12
7/64	.1094	13/16	1-13/16	C23463	12
1/8	.1250	7/8	1-7/8	C23464	12
9/64	.1406	15/16	1-15/16	C23465	12
5/32	.1562	1	2-1/16	C23466	12
11/64	.1719	1-1/16	2-1/8	C23467	12
3/16	.1875	1-1/8	2-3/16	C23468	12
13/64	.2031	1-3/16	2-1/4	C23469	12
7/32	.2188	1-1/4	2-3/8	C23470	12
15/64	.2344	1-5/16	2-7/16	C23471	12
1/4	.2500	1-3/8	2-1/2	C23472	12
17/64	.2656	1-7/16	2-5/8	C23473	12
9/32	.2812	1-1/2	2-11/16	C23474	12
19/64	.2969	1-9/16	2-3/4	C23475	6
5/16	.3125	1-5/8	2-13/16	C23476	6
21/64	.3281	1-11/16	2-15/16	C23477	6
11/32	.3438	1-11/16	3	C23478	6
23/64	.3594	1-3/4	3-1/16	C23479	6
3/8	.3750	1-13/16	3-1/8	C23480	6
25/64	.3906	1-7/8	3-1/4	C23481	6
13/32	.4062	1-15/16	3-5/16	C23482	6
27/64	.4219	2	3-3/8	C23483	6
7/16	.4375	2-1/16	3-7/16	C23484	6
29/64	.4531	2-1/8	3-9/16	C23485	6
15/32	.4688	2-1/8	3-5/8	C23486	6
31/64	.4844	2-3/16	3-11/16	C23487	6
1/2	.5000	2-1/4	3-3/4	C23488	6
Wire					
*60	.0400	1/2	1-3/8	C23500	12
*59	.0410	1/2	1-3/8	C23501	12
*58	.0420	1/2	1-3/8	C23502	12
*57	.0430	1/2	1-3/8	C23503	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*56	.0465	1/2	1-3/8	C23504	12
*55	.0520	5/8	1-5/8	C23505	12
*54	.0550	5/8	1-5/8	C23506	12
*53	.0595	5/8	1-5/8	C23507	12
52	.0635	11/16	1-11/16	C23508	12
51	.0670	11/16	1-11/16	C23509	12
50	.0700	11/16	1-11/16	C23510	12
49	.0730	11/16	1-11/16	C23511	12
48	.0760	11/16	1-11/16	C23512	12
47	.0785	3/4	1-3/4	C23513	12
46	.0810	3/4	1-3/4	C23514	12
45	.0820	3/4	1-3/4	C23515	12
44	.0860	3/4	1-3/4	C23516	12
43	.0890	3/4	1-3/4	C23517	12
42	.0935	3/4	1-3/4	C23518	12
41	.0960	13/16	1-13/16	C23519	12
40	.0980	13/16	1-13/16	C23520	12
39	.0995	13/16	1-13/16	C23521	12
38	.1015	13/16	1-13/16	C23522	12
37	.1040	13/16	1-13/16	C23523	12
36	.1065	13/16	1-13/16	C23524	12
35	.1100	7/8	1-7/8	C23525	12
34	.1110	7/8	1-7/8	C23526	12
33	.1130	7/8	1-7/8	C23527	12
32	.1160	7/8	1-7/8	C23528	12
31	.1200	7/8	1-7/8	C23529	12
30	.1285	15/16	1-15/16	C23530	12
29	.1360	15/16	1-15/16	C23531	12
28	.1405	15/16	1-15/16	C23532	12
27	.1440	1	2-1/16	C23533	12
26	.1470	1	2-1/16	C23534	12
25	.1495	1	2-1/16	C23535	12
24	.1520	1	2-1/16	C23536	12
23	.1540	1	2-1/16	C23537	12
22	.1570	1-1/16	2-1/8	C23538	12

CLE-LINE | WALTER

* Not split point

continued on next page

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

1896 SERIES continued



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
21	.1590	1-1/16	2-1/8	C23539	12
20	.1610	1-1/16	2-1/8	C23540	12
19	.1660	1-1/16	2-1/8	C23541	12
18	.1695	1-1/16	2-1/8	C23542	12
17	.1730	1-1/8	2-3/16	C23543	12
16	.1770	1-1/8	2-3/16	C23544	12
15	.1800	1-1/8	2-3/16	C23545	12
14	.1820	1-1/8	2-3/16	C23546	12
13	.1850	1-1/8	2-3/16	C23547	12
12	.1890	1-3/16	2-1/4	C23548	12
11	.1910	1-3/16	2-1/4	C23549	12
10	.1935	1-3/16	2-1/4	C23550	12
9	.1960	1-3/16	2-1/4	C23551	12
8	.1990	1-3/16	2-1/4	C23552	12
7	.2010	1-3/16	2-1/4	C23553	12
6	.2040	1-1/4	2-3/8	C23554	12
5	.2055	1-1/4	2-3/8	C23555	12
4	.2090	1-1/4	2-3/8	C23556	12
3	.2130	1-1/4	2-3/8	C23557	12
2	.2210	1-5/16	2-7/16	C23558	12
1	.2280	1-5/16	2-7/16	C23559	12

Letter					
A	.2340	1-5/16	2-7/16	C24060	12
B	.2380	1-3/8	2-1/2	C24061	12
C	.2420	1-3/8	2-1/2	C24062	12
D	.2460	1-3/8	2-1/2	C24063	12
E	.2500	1-3/8	2-1/2	C23472	12
F	.2570	1-7/16	2-5/8	C24064	12
G	.2610	1-7/16	2-5/8	C24065	12
H	.2660	1-1/2	2-11/16	C24066	12
I	.2720	1-1/2	2-11/16	C24067	12
J	.2770	1-1/2	2-11/16	C24068	12
K	.2810	1-1/2	2-11/16	C24069	12
L	.2900	1-9/16	2-3/4	C24070	12
M	.2950	1-9/16	2-3/4	C24071	6
N	.3020	1-5/8	2-13/16	C24072	6
O	.3160	1-11/16	2-15/16	C24073	6
P	.3230	1-11/16	2-15/16	C24074	6
Q	.3320	1-11/16	3	C24075	6
R	.3390	1-11/16	3	C24076	6
S	.3480	1-3/4	3-1/16	C24077	6
T	.3580	1-3/4	3-1/16	C24078	6
U	.3680	1-13/16	3-1/8	C24079	6
V	.3770	1-7/8	3-1/4	C24080	6
W	.3860	1-7/8	3-1/4	C24081	6
X	.3970	1-15/16	3-5/16	C24082	6
Y	.4040	1-15/16	3-5/16	C24083	6
Z	.4130	2	3-3/8	C24084	6



Corresponding Sets		
Number of Pieces	Sizes	Order Number
29	1/16" – 1/2" x 1/64"	C21133
60	#1 – #60	C21947

Metal case unless noted otherwise

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

300N SERIES

HEAVY DUTY HIGH SPEED STEEL

NITRO[®]

135° Split Point / Round Shank / Black & Gold

NITRO™ drills (NAS Type C) offer superior performance over conventional HSS drills. 135° Split Point reduces “walking” at the drill point and makes these drills ideal for both handheld and CNC Operations. Black & Gold surface treatment for maximum lubricity. Usable in a wide range of materials.

Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	300N104	12
5/64	.0781	11/16	1-11/16	300N105	12
3/32	.0938	3/4	1-3/4	300N106	12
7/64	.1094	13/16	1-13/16	300N107	12
1/8	.1250	7/8	1-7/8	300N108	12
9/64	.1406	15/16	1-15/16	300N109	12
5/32	.1562	1	2-1/16	300N110	12
11/64	.1719	1-1/16	2-1/8	300N111	12
3/16	.1875	1-1/8	2-3/16	300N112	12
13/64	.2031	1-3/16	2-1/4	300N113	12
7/32	.2188	1-1/4	2-3/8	300N114	12
15/64	.2344	1-5/16	2-7/16	300N115	12
1/4	.2500	1-3/8	2-1/2	300N116	12
17/64	.2656	1-7/16	2-5/8	300N117	12

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
9/32	.2812	1-1/2	2-11/16	300N118	12
19/64	.2969	1-9/16	2-3/4	300N119	12
5/16	.3125	1-5/8	2-13/16	300N120	6
21/64	.3281	1-11/16	2-15/16	300N121	6
11/32	.3438	1-11/16	3	300N122	6
23/64	.3594	1-3/4	3-1/16	300N123	6
3/8	.3750	1-13/16	3-1/8	300N124	6
25/64	.3906	1-7/8	3-1/4	300N125	6
13/32	.4062	1-15/16	3-5/16	300N126	6
27/64	.4219	2	3-3/8	300N127	6
7/16	.4375	2-1/16	3-7/16	300N128	6
29/64	.4531	2-1/8	3-9/16	300N129	6
15/32	.4688	2-1/8	3-5/8	300N130	6
31/64	.4844	2-3/16	3-11/16	300N131	6
1/2	.5000	2-1/4	3-3/4	300N132	6



Corresponding Sets		
Number of Pieces	Sizes	Order Number
29	1/16"– 1/2" x 1/64"	300N29

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

300A / 380A / 340A SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Black Oxide

Screw machine drills (NAS Type C) are shorter than jobbers length drills and are designed for use in drill presses and CNC applications. They can also be used in portable drills when drilling sheet metal.

- ▷ Shorter length increases rigidity
- ▷ Improved drilling in hard metals
- ▷ 135° Split Point reduces “walking” and improves ease of penetration
- ▷ NAS Type C

Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK



Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
3/64	.0469	1/2	1-3/8	—	—	044403	1
1/16	.0625	5/8	1-5/8	300A104	12	044404	1
5/64	.0781	11/16	1-11/16	300A105	12	044405	1
3/32	.0938	3/4	1-3/4	300A106	12	044406	1
7/64	.1094	13/16	1-13/16	300A107	12	044407	1
1/8	.1250	7/8	1-7/8	300A108	12	044408	1
9/64	.1406	15/16	1-15/16	300A109	12	044409	1
5/32	.1562	1	2-1/16	300A110	12	044410	1
11/64	.1719	1-1/16	2-1/8	300A111	12	044411	1
3/16	.1875	1-1/8	2-3/16	300A112	12	044412	1
13/64	.2031	1-3/16	2-1/4	300A113	12	044413	1
7/32	.2188	1-1/4	2-3/8	300A114	12	044414	1
15/64	.2344	1-5/16	2-7/16	300A115	12	044415	1
1/4	.2500	1-3/8	2-1/2	300A116	12	044416	1
17/64	.2656	1-7/16	2-5/8	300A117	12	044417	1
9/32	.2812	1-1/2	2-11/16	300A118	12	044418	1
19/64	.2969	1-9/16	2-3/4	300A119	12	044419	1
5/16	.3125	1-5/8	2-13/16	300A120	6	044420	1
21/64	.3281	1-11/16	2-15/16	300A121	6	044421	1
11/32	.3438	1-11/16	3	300A122	6	044422	1
23/64	.3594	1-3/4	3-1/16	300A123	6	044423	1
3/8	.3750	1-13/16	3-1/8	300A124	6	044424	1
25/64	.3906	1-7/8	3-1/4	300A125	6	044425	1
13/32	.4062	1-15/16	3-5/16	300A126	6	044426	1
27/64	.4219	2	3-3/8	300A127	6	044427	1
7/16	.4375	2-1/16	3-7/16	300A128	6	044428	1
29/64	.4531	2-1/8	3-9/16	300A129	6	044429	1
15/32	.4688	2-1/8	3-5/8	300A130	6	044430	1
31/64	.4844	2-3/16	3-11/16	300A131	6	044431	1
1/2	.5000	2-1/4	3-3/4	300A132	6	044432	1

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HEAVY DUTY SCREW MACHINE LENGTH DRILLS

01

DRILLS

300A / 380A / 340A SERIES continued



Wire							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number Tube	Tube Qty.
60*	.0400	1/2	1-3/8	380A060	12	044560	12
59*	.0410	1/2	1-3/8	380A059	12	044559	12
58*	.0420	1/2	1-3/8	380A058	12	044558	12
57*	.0430	1/2	1-3/8	380A057	12	044557	12
56*	.0465	1/2	1-3/8	380A056	12	044556	12
55*	.0520	5/8	1-5/8	380A055	12	044555	12
54*	.0550	5/8	1-5/8	380A054	12	044554	12
53*	.0595	5/8	1-5/8	380A053	12	044553	12
52	.0635	11/16	1-11/16	380A052	12	044552	12
51	.0670	11/16	1-11/16	380A051	12	044551	12
50	.0700	11/16	1-11/16	380A050	12	044550	12
49	.0730	11/16	1-11/16	380A049	12	044549	12
48	.0760	11/16	1-11/16	380A048	12	044548	12
47	.0785	11/16	1-11/16	380A047	12	044547	12
46	.0810	3/4	1-3/4	380A046	12	044546	12
45	.0820	3/4	1-3/4	380A045	12	044545	12
44	.0860	3/4	1-3/4	380A044	12	044544	12
43	.0890	3/4	1-3/4	380A043	12	044543	12
42	.0935	3/4	1-3/4	380A042	12	044542	12
41	.0960	13/16	1-13/16	380A041	12	044541	12
40	.0980	13/16	1-13/16	380A040	12	044540	12
39	.0995	13/16	1-13/16	380A039	12	044539	12
38	.1015	13/16	1-13/16	380A038	12	044538	12
37	.1040	13/16	1-13/16	380A037	12	044537	12
36	.1065	13/16	1-13/16	380A036	12	044536	12
35	.1100	7/8	1-7/8	380A035	12	044535	12
34	.1110	7/8	1-7/8	380A034	12	044534	12
33	.1130	7/8	1-7/8	380A033	12	044533	12
32	.1160	7/8	1-7/8	380A032	12	044532	12
31	.1200	7/8	1-7/8	380A031	12	044531	12
30	.1285	15/16	1-15/16	380A030	12	044530	12
29	.1360	15/16	1-15/16	380A029	12	044529	12
28	.1405	15/16	1-15/16	380A028	12	044528	12
27	.1440	1	2-1/16	380A027	12	044527	12
26	.1470	1	2-1/16	380A026	12	044526	12
25	.1495	1	2-1/16	380A025	12	044525	12
24	.1520	1	2-1/16	380A024	12	044524	12
23	.1540	1	2-1/16	380A023	12	044523	12
22	.1570	1-1/16	2-1/8	380A022	12	044522	12
21	.1590	1-1/16	2-1/8	380A021	12	044521	12
20	.1610	1-1/16	2-1/8	380A020	12	044520	12
19	.1660	1-1/16	2-1/8	380A019	12	044519	12
18	.1695	1-1/16	2-1/8	380A018	12	044518	12
17	.1730	1-1/8	2-3/16	380A017	12	044517	12
16	.1770	1-1/8	2-3/16	380A016	12	044516	12
15	.1800	1-1/8	2-3/16	380A015	12	044515	12
14	.1820	1-1/8	2-3/16	380A014	12	044514	12
13	.1850	1-1/8	2-3/16	380A013	12	044513	12
12	.1890	1-3/16	2-1/4	380A012	12	044512	12
11	.1910	1-3/16	2-1/4	380A011	12	044511	12
10	.1935	1-3/16	2-1/4	380A010	12	044510	12
9	.1960	1-3/16	2-1/4	380A009	12	044509	12
8	.1990	1-3/16	2-1/4	380A008	12	044508	12

* Not split point

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DRILCO

WALTER

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

300A / 380A / 340A SERIES continued



Wire							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (Hanger)	Hanger Qty.
7	.2010	1-3/16	2-1/4	380A007	12	044507	12
6	.2040	1-1/4	2-3/8	380A006	12	044506	12
5	.2055	1-1/4	2-3/8	380A005	12	044505	12
4	.2090	1-1/4	2-3/8	380A004	12	044504	12
3	.2130	1-1/4	2-3/8	380A003	12	044503	12
2	.2210	1-5/16	2-7/16	380A002	12	044502	12
1	.2280	1-5/16	2-7/16	380A001	12	044501	12
Letter							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number Tube	Tube Qty.
A	.2340	1-5/16	2-7/16	340A501	12	013401	12
B	.2380	1-3/8	2-1/2	340A502	12	013402	12
C	.2420	1-3/8	2-1/2	340A503	12	013403	12
D	.2460	1-3/8	2-1/2	340A504	12	013404	12
E	.2500	1-3/8	2-1/2	340A505	12	013405	12
F	.2570	1-7/16	2-5/8	340A506	12	013406	12
G	.2610	1-7/16	2-5/8	340A507	12	013407	12
H	.2660	1-1/2	2-11/16	340A508	12	013408	12
I	.2720	1-1/2	2-11/16	340A509	12	013409	12
J	.2770	1-1/2	2-11/16	340A510	12	013410	12
K	.2812	1-1/2	2-11/16	340A511	12	013411	12
L	.2900	1-9/16	2-3/4	340A512	12	013412	12
M	.2950	1-9/16	2-3/4	340A513	12	013413	12
N	.3020	1-5/8	2-13/16	340A514	12	013414	12
O	.3160	1-11/16	2-15/16	340A515	12	013415	12
P	.3230	1-11/16	2-15/16	340A516	12	013416	12
Q	.3320	1-11/16	3	340A517	12	013417	12
R	.3390	1-11/16	3	340A518	12	013418	12
S	.3480	1-3/4	3-1/16	340A519	12	013419	12
T	.3580	1-3/4	3-1/16	340A520	12	013420	12
U	.3680	1-13/16	3-1/8	340A521	12	013421	12
V	.3770	1-7/8	3-1/4	340A522	12	013422	12
W	.3860	1-7/8	3-1/4	340A523	12	013423	12
X	.3970	1-15/16	3-5/16	340A524	12	013424	12
Y	.4040	1-15/16	3-5/16	340A525	12	013425	12
Z	.4130	2	3-3/8	340A526	12	013426	12

Corresponding Sets		
Number of Pieces	Sizes	Order Number
29	1/16"– 1/2" x 1/64"	300A29
29	1/16"– 1/2" x 1/64"	090569

Metal case

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

01

DRILLS

300C SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze

These drill bits have short flutes as well as a short overall length for maximum rigidity when drilling in sheet metal. They are made with a cobalt blend to provide a long service life in hard materials such as stainless steel.

- ▷ Shorter length increases rigidity
- ▷ Improved drilling in hard sheet metal like stainless
- ▷ 135° Split Point reduces "walking" and improves ease of penetration



Best Material Application



Drill Specifications



Fractional							
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number Bulk	Bulk Qty.
1/16	.0625	5/8	1-5/8	300C104	12	—	—
5/64	.0781	11/16	1-11/16	300C105	12	—	—
3/32	.0938	3/4	1-3/4	300C106	12	—	—
7/64	.1094	13/16	1-13/16	300C107	12	—	—
1/8	.1250	7/8	1-7/8	300C108	12	—	—
9/64	.1406	15/16	1-15/16	300C109	12	—	—
5/32	.1562	1	2-1/16	300C110	12	—	—
11/64	.1719	1-1/16	2-1/8	300C111	12	—	—
3/16	.1875	1-1/8	2-3/16	300C112	12	046612.20	144
13/64	.2031	1-3/16	2-1/4	300C113	12	—	—
7/32	.2188	1-1/4	2-3/8	300C114	12	—	—
15/64	.2344	1-5/16	2-7/16	300C115	12	—	—
1/4	.2500	1-3/8	2-1/2	300C116	12	—	—
17/64	.2656	1-7/16	2-5/8	300C117	12	—	—
9/32	.2812	1-1/2	2-11/16	300C118	12	—	—
19/64	.2969	1-9/16	2-3/4	300C119	12	—	—
5/16	.3125	1-5/8	2-13/16	300C120	6	—	—
21/64	.3281	1-11/16	2-15/16	300C121	6	—	—
11/32	.3438	1-11/16	3	300C122	6	—	—
23/64	.3594	1-3/4	3-1/16	300C123	6	—	—
3/8	.3750	1-13/16	3-1/8	300C124	6	—	—
25/64	.3906	1-7/8	3-1/4	300C125	6	—	—
13/32	.4062	1-15/16	3-5/16	300C126	6	—	—
27/64	.4219	2	3-3/8	300C127	6	—	—
7/16	.4375	2-1/16	3-7/16	300C128	6	—	—
29/64	.4531	2-1/8	3-9/16	300C129	6	—	—
15/32	.4688	2-1/8	3-5/8	300C130	6	—	—
31/64	.4844	2-3/16	3-11/16	300C131	6	—	—
1/2	.5000	2-1/4	3-3/4	300C132	6	—	—
Wire							
40	.0980	13/16	1-13/16	380C040	12	—	—
39	.0995	13/16	1-13/16	380C039	12	—	—
38	.1015	13/16	1-13/16	380C038	12	—	—
37	.1040	13/16	1-13/16	380C037	12	—	—
36	.1065	13/16	1-13/16	380C036	12	—	—
35	.1100	7/8	1-7/8	380C035	12	—	—
34	.1110	7/8	1-7/8	380C034	12	—	—

DRILCO | WALTER

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HEAVY DUTY SCREW MACHINE LENGTH DRILLS

300C SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
33	.1130	7/8	1-7/8	380C033	12
32	.1160	7/8	1-7/8	380C032	12
31	.1200	7/8	1-7/8	380C031	12
30	.1285	15/16	1-15/16	380C030	12
29	.1360	15/16	1-15/16	380C029	12
28	.1405	15/16	1-15/16	380C028	12
27	.1440	1	2-1/16	380C027	12
26	.1470	1	2-1/16	380C026	12
25	.1495	1	2-1/16	380C025	12
24	.1520	1	2-1/16	380C024	12
23	.1540	1	2-1/16	380C023	12
22	.1570	1-1/16	2-1/8	380C022	12
21	.1590	1-1/16	2-1/8	380C021	12
20	.1610	1-1/16	2-1/8	380C020	12
19	.1660	1-1/16	2-1/8	380C019	12
18	.1695	1-1/16	2-1/8	380C018	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
17	.1730	1-1/8	2-3/16	380C017	12
16	.1770	1-1/8	2-3/16	380C016	12
15	.1800	1-1/8	2-3/16	380C015	12
14	.1820	1-1/8	2-3/16	380C014	12
13	.1850	1-1/8	2-3/16	380C013	12
12	.1890	1-3/16	2-1/4	380C012	12
11	.1910	1-3/16	2-1/4	380C011	12
10	.1935	1-3/16	2-1/4	380C010	12
9	.1960	1-3/16	2-1/4	380C009	12
8	.1990	1-3/16	2-1/4	380C008	12
7	.2010	1-3/16	2-1/4	380C007	12
6	.2040	1-1/4	2-3/8	380C006	12
5	.2055	1-1/4	2-3/8	380C005	12
4	.2090	1-1/4	2-3/8	380C004	12
3	.2130	1-1/4	2-3/8	380C003	12
2	.2210	1-5/16	2-7/16	380C002	12
1	.2280	1-5/16	2-7/16	380C001	12

Corresponding Sets		
Number of Pieces	Sizes	Order Number
29	1/16"– 1/2" x 1/64"	300C29

Metal case

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

300LH SERIES

HEAVY DUTY COBALT

135° Split Point / Flatted Shank / Left Hand / Bronze

Constructed of M-42 Cobalt High Speed Steel for super abrasive resistance in tough metals. They are used in left hand screw machines and with screw extractors. Can be used to drill out broken bolts and other hardened fasteners. Sizes 3/16" and above have a 3-flat shank which reduces slippage in the drill chuck.

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	300LH104	12
3/32	.0938	3/4	1-3/4	300LH106	12
1/8	.1250	7/8	1-7/8	300LH108	12
5/32	.1562	1	2-1/16	300LH110	12
3/16	.1875	1-1/8	2-3/16	300LH112	12
7/32	.2188	1-1/4	2-3/8	300LH114	12
1/4	.2500	1-3/8	2-1/2	300LH116	12
9/32	.2812	1-1/2	2-11/16	300LH118	12
5/16	.3125	1-5/8	2-13/16	300LH120	6
11/32	.3438	1-11/16	3	300LH122	6
3/8	.3750	1-13/16	3-1/8	300LH124	6

Corresponding Sets		
Number of Pieces	Sizes	Order Number
11	1/16" – 3/8" x 1/32"	300LH11

Metal case

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

159 SERIES

HIGH SPEED STEEL

135° Split Point / Round Shank / Black Oxide

The CHICAGO-LATROBE 159 Heavy duty Drill features a rigid, short flute design and 135° P3 split point for tough materials like steel and cast iron. Built from premium high-speed steel with a black oxide finish for wear resistance and improved chip flow. Manufactured to NAS 907 Type C aerospace specs for high-performance hand or machine drilling.

NOTE: Black oxide and titanium nitride (TiN) finishes standard from stock (Style 159-TN); alternate coatings available as stock modifications.

Sizes under .0625" do not have split points.



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*1/32	.0312	1/2	1-3/8	49202	12
*3/64	.0469	1/2	1-3/8	49203	12
1/16	.0625	5/8	1-5/8	49204	12
5/64	.0781	11/16	1-11/16	49205	12
3/32	.0938	3/4	1-3/4	49206	12
7/64	.1094	13/16	1-13/16	49207	12
1/8	.1250	7/8	1-7/8	49208	12
9/64	.1406	15/16	1-15/16	49209	12
5/32	.1562	1	2-1/16	49210	12
11/64	.1719	1-1/16	2-1/8	49211	12
3/16	.1875	1-1/4	2-3/16	49212	12
13/64	.2031	1-3/16	2-1/4	49213	12
7/32	.2188	1-1/4	2-3/8	49214	12
15/64	.2344	1-5/16	2-7/16	49215	12
1/4	.2500	1-3/8	2-1/2	49216	12
17/64	.2656	1-7/16	2-5/8	49217	12
9/32	.2812	1-1/2	2-11/16	49218	12
19/64	.2969	1-9/16	2-3/4	49219	6
5/16	.3125	1-5/8	2-13/16	49220	6
21/64	.3281	1-11/16	2-15/16	49221	6
11/32	.3438	1-11/16	3	49222	6
23/64	.3594	1-3/4	3-1/16	49223	6
3/8	.3750	1-13/16	3-1/8	49224	6
25/64	.3906	1-7/8	3-1/4	49225	6
13/32	.4062	1-15/16	3-5/16	49226	6
27/64	.4219	2	3-3/8	49227	6
7/16	.4375	2-1/16	3-7/16	49228	6
29/64	.4531	2-1/8	3-9/16	49229	6
15/32	.4688	2-1/8	3-5/8	49230	6
31/64	.4844	2-3/16	3-11/16	49231	6
1/2	.5000	2-1/4	3-3/4	49232	6
Wire					
*60	.0400	1/2	1-3/8	49430	12
*59	.0410	1/2	1-3/8	49429	12
*58	.0420	1/2	1-3/8	49428	12
*57	.0430	1/2	1-3/8	49427	12
*56	.0465	1/2	1-3/8	49426	12
*55	.0520	5/8	1-5/8	49425	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*54	.0550	5/8	1-5/8	49424	12
*53	.0595	5/8	1-5/8	49423	12
52	.0635	11/16	1-11/16	49422	12
51	.0670	11/16	1-11/16	49421	12
50	.0700	11/16	1-11/16	49420	12
49	.0730	11/16	1-11/16	49419	12
48	.0760	11/16	1-11/16	49418	12
47	.0785	3/4	1-3/4	49417	12
46	.0810	3/4	1-3/4	49416	12
45	.0820	3/4	1-3/4	49415	12
44	.0860	3/4	1-3/4	49414	12
43	.0890	3/4	1-3/4	49413	12
42	.0935	3/4	1-3/4	49412	12
41	.0960	13/16	1-13/16	49411	12
40	.0980	13/16	1-13/16	49410	12
39	.0995	13/16	1-13/16	49409	12
38	.1015	13/16	1-13/16	49408	12
37	.1040	13/16	1-13/16	49407	12
36	.1065	13/16	1-13/16	49406	12
35	.1100	7/8	1-7/8	49405	12
34	.1110	7/8	1-7/8	49404	12
33	.1130	7/8	1-7/8	49403	12
32	.1160	7/8	1-7/8	49402	12
31	.1200	7/8	1-7/8	49401	12
30	.1285	15/16	1-15/16	49400	12
29	.1360	15/16	1-15/16	49399	12
28	.1405	15/16	1-15/16	49398	12
27	.1440	1	2-1/16	49397	12
26	.1470	1	2-1/16	49396	12
25	.1495	1	2-1/16	49395	12
24	.1520	1	2-1/16	49394	12
23	.1540	1	2-1/16	49393	12
22	.1570	1-1/16	2-1/8	49392	12
21	.1590	1-1/16	2-1/8	49391	12
20	.1610	1-1/16	2-1/8	49390	12
19	.1660	1-1/16	2-1/8	49389	12
18	.1695	1-1/16	2-1/8	49388	12
17	.1730	1-1/4	2-3/16	49387	12
16	.1770	1-1/4	2-3/16	49386	12

*Not split point

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HEAVY DUTY SCREW MACHINE LENGTH DRILLS

01

DRILLS

159 SERIES continued



Wire					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
15	.1800	1-1/4	2-3/16	49385	12
14	.1820	1-1/4	2-3/16	49384	12
13	.1850	1-1/4	2-3/16	49383	12
12	.1890	1-3/16	2-1/4	49382	12
11	.1910	1-3/16	2-1/4	49381	12
10	.1935	1-3/16	2-1/4	49380	12
9	.1960	1-3/16	2-1/4	49379	12
8	.1990	1-3/16	2-1/4	49378	12
7	.2010	1-3/16	2-1/4	49377	12
6	.2040	1-1/4	2-3/8	49376	12
5	.2055	1-1/4	2-3/8	49375	12
4	.2090	1-1/4	2-3/8	49374	12
3	.2130	1-1/4	2-3/8	49373	12
2	.2210	1-5/16	2-7/16	49372	12
1	.2280	1-5/16	2-7/16	49371	12
Letter					
A	.2340	1-5/16	2-7/16	49233	12
B	.2380	1-3/8	2-1/2	49234	12
C	.2420	1-3/8	2-1/2	49235	12
D	.2460	1-3/8	2-1/2	49236	12
E	.2500	1-3/8	2-1/2	49216	12

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
F	.2570	1-7/16	2-5/8	49237	12
G	.2610	1-7/16	2-5/8	49238	12
H	.2660	1-1/2	2-11/16	49239	12
I	.2720	1-1/2	2-11/16	49240	12
J	.2770	1-1/2	2-11/16	49241	12
K	.2812	1-1/2	2-11/16	49242	12
L	.2900	1-9/16	2-3/4	49243	12
M	.2950	1-9/16	2-3/4	49244	6
N	.3020	1-5/8	2-13/16	49245	6
O	.3160	1-11/16	2-15/16	49246	6
P	.3230	1-11/16	2-15/16	49247	6
Q	.3320	1-11/16	3	49248	6
R	.3390	1-11/16	3	49249	6
S	.3480	1-3/4	3-1/16	49250	6
T	.3580	1-3/4	3-1/16	49251	6
U	.3680	1-13/16	3-1/8	49252	6
V	.3770	1-7/8	3-1/4	49253	6
W	.3860	1-7/8	3-1/4	49254	6
X	.3970	1-15/16	3-5/16	49255	6
Y	.4040	1-15/16	3-5/16	49256	6
Z	.4130	2	3-3/8	49257	6

159-TN SERIES

HIGH SPEED STEEL

135° Split Point / Round Shank / TiN



Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*1/32	.0312	1/2	1-3/8	48202	12
*3/64	.0469	1/2	1-3/8	48203	12
1/16	.0625	5/8	1-5/8	48204	12
5/64	.0781	11/16	1-11/16	48205	12
3/32	.0938	3/4	1-3/4	48206	12
7/64	.1094	13/16	1-13/16	48207	12
1/8	.1250	7/8	1-7/8	48208	12
9/64	.1406	15/16	1-15/16	48209	12
5/32	.1562	1	2-1/16	48210	12
11/64	.1719	1-1/16	2-1/8	48211	12
3/16	.1875	1-1/4	2-3/16	48212	12
13/64	.2031	1-3/16	2-1/4	48213	12
7/32	.2188	1-1/4	2-3/8	48214	12
15/64	.2344	1-5/16	2-7/16	48215	12
1/4	.2500	1-3/8	2-1/2	48216	12
17/64	.2656	1-7/16	2-5/8	48217	12
9/32	.2812	1-1/2	2-11/16	48218	12
19/64	.2969	1-9/16	2-3/4	48219	6
5/16	.3125	1-5/8	2-13/16	48220	6
21/64	.3281	1-11/16	2-15/16	48221	6
11/32	.3438	1-11/16	3	48222	6
23/64	.3594	1-3/4	3-1/16	48223	6
3/8	.3750	1-13/16	3-1/8	48224	6
25/64	.3906	1-7/8	3-1/4	48225	6

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
13/32	.4062	1-15/16	3-5/16	48226	6
27/64	.4219	2	3-3/8	48227	6
7/16	.4375	2-1/16	3-7/16	48228	6
29/64	.4531	2-1/8	3-9/16	48229	6
15/32	.4688	2-1/8	3-5/8	48230	6
31/64	.4844	2-3/16	3-11/16	48231	6
1/2	.5000	2-1/4	3-3/4	48232	6
Wire					
*60	.0400	1/2	1-3/8	48430	12
*59	.0410	1/2	1-3/8	48429	12
*58	.0420	1/2	1-3/8	48428	12
*57	.0430	1/2	1-3/8	48427	12
*56	.0465	1/2	1-3/8	48426	12
*55	.0520	5/8	1-5/8	48425	12
*54	.0550	5/8	1-5/8	48424	12
*53	.0595	5/8	1-5/8	48423	12
52	.0635	11/16	1-11/16	48422	12
51	.0670	11/16	1-11/16	48421	12
50	.0700	11/16	1-11/16	48420	12
49	.0730	11/16	1-11/16	48419	12
48	.0760	11/16	1-11/16	48418	12
47	.0785	3/4	1-3/4	48417	12
46	.0810	3/4	1-3/4	48416	12
45	.0820	3/4	1-3/4	48415	12

*Not split point

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HEAVY DUTY SCREW MACHINE LENGTH DRILLS

159-TN SERIES



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
44	.0860	3/4	1-3/4	48414	12
43	.0890	3/4	1-3/4	48413	12
42	.0935	3/4	1-3/4	48412	12
41	.0960	13/16	1-13/16	48411	12
40	.0980	13/16	1-13/16	48410	12
39	.0995	13/16	1-13/16	48409	12
38	.1015	13/16	1-13/16	48408	12
37	.1040	13/16	1-13/16	48407	12
36	.1065	13/16	1-13/16	48406	12
35	.1100	7/8	1-7/8	48405	12
34	.1110	7/8	1-7/8	48404	12
33	.1130	7/8	1-7/8	48403	12
32	.1160	7/8	1-7/8	48402	12
31	.1200	7/8	1-7/8	48401	12
30	.1285	15/16	1-15/16	48400	12
29	.1360	15/16	1-15/16	48399	12
28	.1405	15/16	1-15/16	48398	12
27	.1440	1	2-1/16	48397	12
26	.1470	1	2-1/16	48396	12
25	.1495	1	2-1/16	48395	12
24	.1520	1	2-1/16	48394	12
23	.1540	1	2-1/16	48393	12
22	.1570	1-1/16	2-1/8	48392	12
21	.1590	1-1/16	2-1/8	48391	12
20	.1610	1-1/16	2-1/8	48390	12
19	.1660	1-1/16	2-1/8	48389	12
18	.1695	1-1/16	2-1/8	48388	12
17	.1730	1-1/4	2-3/16	48387	12
16	.1770	1-1/4	2-3/16	48386	12
15	.1800	1-1/4	2-3/16	48385	12
14	.1820	1-1/4	2-3/16	48384	12
13	.1850	1-1/4	2-3/16	48383	12
12	.1890	1-3/16	2-1/4	48382	12
11	.1910	1-3/16	2-1/4	48381	12
10	.1935	1-3/16	2-1/4	48380	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
9	.1960	1-3/16	2-1/4	48379	12
8	.1990	1-3/16	2-1/4	48378	12
7	.2010	1-3/16	2-1/4	48377	12
6	.2040	1-1/4	2-3/8	48376	12
5	.2055	1-1/4	2-3/8	48375	12
4	.2090	1-1/4	2-3/8	48374	12
3	.2130	1-1/4	2-3/8	48373	12
2	.2210	1-5/16	2-7/16	48372	12
1	.2280	1-5/16	2-7/16	48371	12
Letter					
A	.2340	1-5/16	2-7/16	48233	12
B	.2380	1-3/8	2-1/2	48234	12
C	.2420	1-3/8	2-1/2	48235	12
D	.2460	1-3/8	2-1/2	48236	12
E	.2500	1-3/8	2-1/2	48216	12
F	.2570	1-7/16	2-5/8	48237	12
G	.2610	1-7/16	2-5/8	48238	12
H	.2660	1-1/2	2-11/16	48239	12
I	.2720	1-1/2	2-11/16	48240	12
J	.2770	1-1/2	2-11/16	48241	12
K	.2812	1-1/2	2-11/16	48242	12
L	.2900	1-9/16	2-3/4	48243	12
M	.2950	1-9/16	2-3/4	48244	6
N	.3020	1-5/8	2-13/16	48245	6
O	.3160	1-11/16	2-15/16	48246	6
P	.3230	1-11/16	2-15/16	48247	6
Q	.3320	1-11/16	3	48248	6
R	.3390	1-11/16	3	48249	6
S	.3480	1-3/4	3-1/16	48250	6
T	.3580	1-3/4	3-1/16	48251	6
U	.3680	1-13/16	3-1/8	48252	6
V	.3770	1-7/8	3-1/4	48253	6
W	.3860	1-7/8	3-1/4	48254	6
X	.3970	1-15/16	3-5/16	48255	6
Y	.4040	1-15/16	3-5/16	48256	6
Z	.4130	2	3-3/8	48257	6

Corresponding Sets			
Number of Pieces	Sizes	Order Number	
15	1/16 -1/2 X 1/32	69889	—
21	1/16 -3/8 X 1/64	69852	—
29	1/16 -1/2 X 1/64	57719	54128
60	#1 -#60	69885	—

Metal cases



Set 57719

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

01

DRILLS

559 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze Finish

Cobalt heavy duty drills with 135° split points for reduced thrust and shorter flutes and overall length for increased rigidity. TiAIN, TiN, and bronze finishes ensure durability, ideal for tough materials and high-temperature drilling.

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	50801	12
5/64	.0781	11/16	1-11/16	50802	12
3/32	.0938	3/4	1-3/4	50803	12
7/64	.1094	13/16	1-13/16	50804	12
1/8	.1250	7/8	1-7/8	50805	12
9/64	.1406	15/16	1-15/16	50806	12
5/32	.1562	1	2-1/16	50807	12
11/64	.1719	1-1/16	2-1/8	50808	12
3/16	.1875	1-1/8	2-3/16	50809	12
13/64	.2031	1-3/16	2-1/4	50810	12
7/32	.2188	1-1/4	2-3/8	50811	12
15/64	.2344	1-5/16	2-7/16	50812	12
1/4	.2500	1-3/8	2-1/2	50813	12
17/64	.2656	1-7/16	2-5/8	50814	12
9/32	.2812	1-1/2	2-11/16	50815	12
19/64	.2969	1-9/16	2-3/4	50816	6
5/16	.3125	1-5/8	2-13/16	50817	6
21/64	.3281	1-11/16	2-15/16	50818	6
11/32	.3438	1-11/16	3	50819	6
23/64	.3594	1-3/4	3-1/16	50820	6
3/8	.3750	1-13/16	3-1/8	50821	6
25/64	.3906	1-7/8	3-1/4	50822	6
13/32	.4062	1-15/16	3-5/16	50823	6
27/64	.4219	2	3-3/8	50824	6
7/16	.4375	2-1/16	3-7/16	50825	6
29/64	.4531	2-1/8	3-9/16	50826	6
15/32	.4688	2-1/8	3-5/8	50827	6
31/64	.4844	2-3/16	3-11/16	50828	6
1/2	.5000	2-1/4	3-3/4	50829	6
Wire					
*60	.0400	1/2	1-3/8	50915	12
*59	.0410	1/2	1-3/8	50914	12
*58	.0420	1/2	1-3/8	50913	12
*57	.0430	1/2	1-3/8	50912	12
*56	.0465	1/2	1-3/8	50911	12
*55	.0520	5/8	1-5/8	50910	12
*54	.0550	5/8	1-5/8	50909	12
*53	.0595	5/8	1-5/8	50908	12
52	.0635	11/16	1-11/16	50907	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
51	.0670	11/16	1-11/16	50906	12
50	.0700	11/16	1-11/16	50905	12
49	.0730	11/16	1-11/16	50904	12
48	.0760	11/16	1-11/16	50903	12
47	.0785	3/4	1-3/4	50902	12
46	.0810	3/4	1-3/4	50901	12
45	.0820	3/4	1-3/4	50900	12
44	.0860	3/4	1-3/4	50899	12
43	.0890	3/4	1-3/4	50898	12
42	.0935	3/4	1-3/4	50897	12
41	.0960	13/16	1-13/16	50896	12
40	.0980	13/16	1-13/16	50895	12
39	.0995	13/16	1-13/16	50894	12
38	.1015	13/16	1-13/16	50893	12
37	.1040	13/16	1-13/16	50892	12
36	.1065	13/16	1-13/16	50891	12
35	.1100	7/8	1-7/8	50890	12
34	.1110	7/8	1-7/8	50889	12
33	.1130	7/8	1-7/8	50888	12
32	.1160	7/8	1-7/8	50887	12
31	.1200	7/8	1-7/8	50886	12
30	.1285	15/16	1-15/16	50885	12
29	.1360	15/16	1-15/16	50884	12
28	.1405	15/16	1-15/16	50883	12
27	.1440	1	2-1/16	50882	12
26	.1470	1	2-1/16	50881	12
25	.1495	1	2-1/16	50880	12
24	.1520	1	2-1/16	50879	12
23	.1540	1	2-1/16	50878	12
22	.1570	1-1/16	2-1/8	50877	12
21	.1590	1-1/16	2-1/8	50876	12
20	.1610	1-1/16	2-1/8	50875	12
19	.1660	1-1/16	2-1/8	50874	12
18	.1695	1-1/16	2-1/8	50873	12
17	.1730	1-1/8	2-3/16	50872	12
16	.1770	1-1/8	2-3/16	50871	12
15	.1800	1-1/8	2-3/16	50870	12
14	.1820	1-1/8	2-3/16	50869	12
13	.1850	1-1/8	2-3/16	50868	12

Chicago-Latrobe | WALTER

*Not split point

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HEAVY DUTY
SCREW MACHINE LENGTH DRILLS

559 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
12	.1890	1-3/16	2-1/4	50867	12
11	.1910	1-3/16	2-1/4	50866	12
10	.1935	1-3/16	2-1/4	50865	12
9	.1960	1-3/16	2-1/4	50864	12
8	.1990	1-3/16	2-1/4	50863	12
7	.2010	1-3/16	2-1/4	50862	12
6	.2040	1-1/4	2-3/8	50861	12
5	.2055	1-1/4	2-3/8	50860	12
4	.2090	1-1/4	2-3/8	50859	12
3	.2130	1-1/4	2-3/8	50858	12
2	.2210	1-5/16	2-7/16	50857	12
1	.2280	1-5/16	2-7/16	50856	12
Letter					
A	.2340	1-5/16	2-7/16	50830	12
B	.2380	1-3/8	2-1/2	50831	12
C	.2420	1-3/8	2-1/2	50832	12
D	.2460	1-3/8	2-1/2	50833	12
E	.2500	1-3/8	2-1/2	50813	12
F	.2570	1-7/16	2-5/8	50835	12
G	.2610	1-7/16	2-5/8	50836	12
H	.2660	1-1/2	2-11/16	50837	12
I	.2720	1-1/2	2-11/16	50838	12
J	.2770	1-1/2	2-11/16	50839	12
K	.2812	1-1/2	2-11/16	50840	12
L	.2900	1-9/16	2-3/4	50841	12
M	.2950	1-9/16	2-3/4	50842	6
N	.3020	1-5/8	2-13/16	50843	6
O	.3160	1-11/16	2-15/16	50844	6
P	.3230	1-11/16	2-15/16	50845	6
Q	.3320	1-11/16	3	50846	6
R	.3390	1-11/16	3	50847	6
S	.3480	1-3/4	3-1/16	50848	6
T	.3580	1-3/4	3-1/16	50849	6
U	.3680	1-13/16	3-1/8	50850	6
V	.3770	1-7/8	3-1/4	50851	6
W	.3860	1-7/8	3-1/4	50852	6
X	.3970	1-15/16	3-5/16	50853	6
Y	.4040	1-15/16	3-5/16	50854	6
Z	.4130	2	3-3/8	50855	6
Metric					

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.0	.0472	8	30	49000	12
*1.5	.0591	9	32	49001	12
1.6	.0630	10	34	49002	12
2	.0787	12	38	49003	12
2.05	.0807	12	38	49004	12
2.5	.0984	14	43	49005	12
2.6	.1024	14	43	49006	12
3.3	.1299	18	49	49007	12
3.5	.1378	20	52	49008	12
4	.1575	22	55	49009	12
4.2	.1654	22	55	49010	12
4.5	.1772	24	58	49011	12
5	.1969	26	62	49012	12
5.5	.2165	28	66	49013	12
6	.2362	28	66	49014	12
6.4	.2520	31	70	49015	12
6.7	.2638	34	74	49016	12
7	.2756	34	74	49017	12
8	.3150	37	79	49018	6
8.5	.3346	37	79	49019	6
9	.3543	40	84	49020	6
10	.3937	43	89	49021	6
10.2	.4016	43	89	49022	6
11	.4331	47	95	49023	6
12	.4724	51	102	49024	6
13	.5118	51	102	49025	1

*Not split point

Corresponding Sets		
Number of Pieces	Sizes	Order Number
15	1/16 -1/2 X 1/32	69856
29	1/16 -1/2 X 1/64	69853
26	Letter A -Z	69855
60	#1 -#60 wire gauge	69854

Metal cases



Set 69855

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

559-TN SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / TiN



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	51801	12
5/64	.0781	11/16	1-11/16	51802	12
3/32	.0938	3/4	1-3/4	51803	12
7/64	.1094	13/16	1-13/16	51804	12
1/8	.1250	7/8	1-7/8	51805	12
9/64	.1406	15/16	1-15/16	51806	12
5/32	.1562	1	2-1/16	51807	12
11/64	.1719	1-1/16	2-1/8	51808	12
3/16	.1875	1-1/8	2-3/16	51809	12
13/64	.2031	1-3/16	2-1/4	51810	12
7/32	.2188	1-1/4	2-3/8	51811	12
15/64	.2344	1-5/16	2-7/16	51812	12
1/4	.2500	1-3/8	2-1/2	51813	12
17/64	.2656	1-7/16	2-5/8	51814	12
9/32	.2812	1-1/2	2-11/16	51815	12
19/64	.2969	1-9/16	2-3/4	51816	6

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
5/16	.3125	1-5/8	2-13/16	51817	6
21/64	.3281	1-11/16	2-15/16	51818	6
11/32	.3438	1-11/16	3	51819	6
23/64	.3594	1-3/4	3-1/16	51820	6
3/8	.3750	1-13/16	3-1/8	51821	6
25/64	.3906	1-7/8	3-1/4	51822	6
13/32	.4062	1-15/16	3-5/16	51823	6
27/64	.4219	2	3-3/8	51824	6
7/16	.4375	2-1/16	3-7/16	51825	6
29/64	.4531	2-1/8	3-9/16	51826	6
15/32	.4688	2-1/8	3-5/8	51827	6
31/64	.4844	2-3/16	3-11/16	51828	6
1/2	.5000	2-1/4	3-3/4	51829	6
Letter					
E	.2500	1-3/8	2-1/2	51813	12

559-TA SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / TiAlN



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	52804	12
5/64	.0781	11/16	1-11/16	52805	12
3/32	.0938	3/4	1-3/4	52806	12
7/64	.1094	13/16	1-13/16	52807	12
1/8	.1250	7/8	1-7/8	52808	12
9/64	.1406	15/16	1-15/16	52809	12
5/32	.1562	1	2-1/16	52810	12
11/64	.1719	1-1/16	2-1/8	52811	12
3/16	.1875	1-1/8	2-3/16	52812	12
13/64	.2031	1-3/16	2-1/4	52813	12
7/32	.2188	1-1/4	2-3/8	52814	12
15/64	.2344	1-5/16	2-7/16	52815	12
1/4	.2500	1-3/8	2-1/2	52816	12
17/64	.2656	1-7/16	2-5/8	52817	12
9/32	.2812	1-1/2	2-11/16	52818	12
19/64	.2969	1-9/16	2-3/4	52819	6

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
5/16	.3125	1-5/8	2-13/16	52820	6
21/64	.3281	1-11/16	2-15/16	52821	6
11/32	.3438	1-11/16	3	52822	6
23/64	.3594	1-3/4	3-1/16	52823	6
3/8	.3750	1-13/16	3-1/8	52824	6
25/64	.3906	1-7/8	3-1/4	52825	6
13/32	.4062	1-15/16	3-5/16	52826	6
27/64	.4219	2	3-3/8	52827	6
7/16	.4375	2-1/16	3-7/16	52828	6
29/64	.4531	2-1/8	3-9/16	52829	6
15/32	.4688	2-1/8	3-5/8	52830	6
31/64	.4844	2-3/16	3-11/16	52831	6
1/2	.5000	2-1/4	3-3/4	52832	6
Letter					
E	.2500	1-3/8	2-1/2	52816	12

GENERAL PURPOSE SCREW MACHINE LENGTH DRILLS

157 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Bright

The CHICAGO-LATROBE 157 Screw Machine Drill features a rigid, shorter flute design with a 118° point, ideal for portable drilling and reduced deflection under heavy feed. Made from premium high-speed steel with bright finish, suitable for a wide range of materials including carbon steel.

NOTE: Also available with a Titanium nitride (TiN) PVD coating for added lubricity and hardness which enhances chip flow, finish hole quality, and drill life. (Style: 157-TN)

Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



118° POINT ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/64	.0469	1/2	1-3/8	48503	12
1/16	.0625	5/8	1-5/8	48504	12
5/64	.0781	11/16	1-11/16	48505	12
3/32	.0938	3/4	1-3/4	48506	12
7/64	.1094	13/16	1-13/16	48507	12
1/8	.1250	7/8	1-7/8	48508	12
9/64	.1406	15/16	1-15/16	48509	12
5/32	.1562	1	2-1/16	48510	12
11/64	.1719	1-1/16	2-1/8	48511	12
3/16	.1875	1-1/4	2-3/16	48512	12
13/64	.2031	1-3/16	2-1/4	48513	12
7/32	.2188	1-1/4	2-3/8	48514	12
15/64	.2344	1-5/16	2-7/16	48515	12
1/4	.2500	1-3/8	2-1/2	48516	12
17/64	.2656	1-7/16	2-5/8	48517	12
9/32	.2812	1-1/2	2-11/16	48518	12
19/64	.2969	1-9/16	2-3/4	48519	6
5/16	.3125	1-5/8	2-13/16	48520	6
21/64	.3281	1-11/16	2-15/16	48521	6
11/32	.3438	1-11/16	3	48522	6
23/64	.3594	1-3/4	3-1/16	48523	6
3/8	.3750	1-13/16	3-1/8	48524	6
25/64	.3906	1-7/8	3-1/4	48525	6
13/32	.4062	1-15/16	3-5/16	48526	6
27/64	.4219	2	3-3/8	48527	6
7/16	.4375	2-1/16	3-7/16	48528	6
29/64	.4531	2-1/8	3-9/16	48529	6
15/32	.4688	2-1/8	3-5/8	48530	6
31/64	.4844	2-3/16	3-11/16	48531	6
1/2	.5000	2-1/4	3-3/4	48532	6
33/64	.5156	2-3/8	3-7/8	48533	1
17/32	.5312	2-3/8	3-7/8	48534	1
35/64	.5469	2-1/2	4	48535	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
9/16	.5625	2-1/2	4	48536	1
37/64	.5781	2-5/8	4-1/8	48537	1
19/32	.5938	2-5/8	4-1/8	48538	1
39/64	.6094	2-3/4	4-1/4	48539	1
5/8	.6250	2-3/4	4-1/4	48540	1
41/64	.6406	2-7/8	4-1/2	48541	1
21/32	.6562	2-7/8	4-1/2	48542	1
43/64	.6719	2-7/8	4-5/8	48543	1
11/16	.6875	2-7/8	4-5/8	48544	1
45/64	.7031	3	4-3/4	48545	1
23/32	.7188	3	4-3/4	48546	1
47/64	.7344	3-1/8	5	48547	1
3/4	.7500	3-1/8	5	48548	1
49/64	.7656	3-1/4	5-1/8	48549	1
25/32	.7812	3-1/4	5-1/8	48550	1
51/64	.7969	3-3/8	5-1/4	48551	1
13/16	.8125	3-3/8	5-1/4	48552	1
53/64	.8281	3-1/2	5-3/8	48553	1
27/32	.8438	3-1/2	5-3/8	48554	1
55/64	.8594	3-1/2	5-1/2	48555	1
7/8	.8750	3-1/2	5-1/2	48556	1
57/64	.8906	3-5/8	5-5/8	48557	1
29/32	.9062	3-5/8	5-5/8	48558	1
59/64	.9219	3-3/4	5-3/4	48559	1
15/16	.9375	3-3/4	5-3/4	48560	1
61/64	.9531	3-7/8	5-7/8	48561	1
31/32	.9688	3-7/8	5-7/8	48562	1
63/64	.9844	4	6	48563	1
1	1.0000	4	6	48564	1
1-1/16*	1.0625	4	6-1/4	48568	1
1-1/8*	1.1250	4	6-3/8	48572	1
1-3/16*	1.1875	4-1/4	6-5/8	48576	1
1-1/4*	1.2500	4-3/8	6-3/4	48580	1

*Sizes over 1" have a 1.0" diameter shank

continued on next page

GENERAL PURPOSE SCREW MACHINE LENGTH DRILLS

157 SERIES continued



01

DRILLS

Chicago-Latrobe

WALTER

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
60	.0400	1/2	1-3/8	48760	12
59	.0410	1/2	1-3/8	48759	12
58	.0420	1/2	1-3/8	48758	12
57	.0430	1/2	1-3/8	48757	12
56	.0465	1/2	1-3/8	48756	12
55	.0520	5/8	1-5/8	48755	12
54	.0550	5/8	1-5/8	48754	12
53	.0595	5/8	1-5/8	48753	12
52	.0635	11/16	1-11/16	48752	12
51	.0670	11/16	1-11/16	48751	12
50	.0700	11/16	1-11/16	48750	12
49	.0730	11/16	1-11/16	48749	12
48	.0760	11/16	1-11/16	48748	12
47	.0785	3/4	1-3/4	48747	12
46	.0810	3/4	1-3/4	48746	12
45	.0820	3/4	1-3/4	48745	12
44	.0860	3/4	1-3/4	48744	12
43	.0890	3/4	1-3/4	48743	12
42	.0935	3/4	1-3/4	48742	12
41	.0960	13/16	1-13/16	48741	12
40	.0980	13/16	1-13/16	48740	12
39	.0995	13/16	1-13/16	48739	12
38	.1015	13/16	1-13/16	48738	12
37	.1040	13/16	1-13/16	48737	12
36	.1065	13/16	1-13/16	48736	12
35	.1100	7/8	1-7/8	48735	12
34	.1110	7/8	1-7/8	48734	12
33	.1130	7/8	1-7/8	48733	12
32	.1160	7/8	1-7/8	48732	12
31	.1200	7/8	1-7/8	48731	12
30	.1285	15/16	1-15/16	48730	12
29	.1360	15/16	1-15/16	48729	12
28	.1405	15/16	1-15/16	48728	12
27	.1440	1	2-1/16	48727	12
26	.1470	1	2-1/16	48726	12
25	.1495	1	2-1/16	48725	12
24	.1520	1	2-1/16	48724	12
23	.1540	1	2-1/16	48723	12
22	.1570	1-1/16	2-1/8	48722	12
21	.1590	1-1/16	2-1/8	48721	12
20	.1610	1-1/16	2-1/8	48720	12
19	.1660	1-1/16	2-1/8	48719	12
18	.1695	1-1/16	2-1/8	48718	12
17	.1730	1-1/4	2-3/16	48717	12
16	.1770	1-1/4	2-3/16	48716	12
15	.1800	1-1/4	2-3/16	48715	12
14	.1820	1-1/4	2-3/16	48714	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
13	.1850	1-1/4	2-3/16	48713	12
12	.1890	1-3/16	2-1/4	48712	12
11	.1910	1-3/16	2-1/4	48711	12
10	.1935	1-3/16	2-1/4	48710	12
9	.1960	1-3/16	2-1/4	48709	12
8	.1990	1-3/16	2-1/4	48708	12
7	.2010	1-3/16	2-1/4	48707	12
6	.2040	1-1/4	2-3/8	48706	12
5	.2055	1-1/4	2-3/8	48705	12
4	.2090	1-1/4	2-3/8	48704	12
3	.2130	1-1/4	2-3/8	48703	12
2	.2210	1-5/16	2-7/16	48702	12
1	.2280	1-5/16	2-7/16	48701	12

Letter					
A	.2340	1-5/16	2-7/16	48801	12
B	.2380	1-3/8	2-1/2	48802	12
C	.2420	1-3/8	2-1/2	48803	12
D	.2460	1-3/8	2-1/2	48804	12
E	.2500	1-3/8	2-1/2	48816	12
F	.2570	1-7/16	2-5/8	48806	12
G	.2610	1-7/16	2-5/8	48807	12
H	.2660	1-1/2	2-11/16	48808	12
I	.2720	1-1/2	2-11/16	48809	12
J	.2770	1-1/2	2-11/16	48810	12
K	.2812	1-1/2	2-11/16	48811	12
L	.2900	1-9/16	2-3/4	48812	12
M	.2950	1-9/16	2-3/4	48813	6
N	.3020	1-5/8	2-13/16	48814	6
O	.3160	1-11/16	2-15/16	48815	6
P	.3230	1-11/16	2-15/16	48816	6
Q	.3320	1-11/16	3	48817	6
R	.3390	1-11/16	3	48818	6
S	.3480	1-3/4	3-1/16	48819	6
T	.3580	1-3/4	3-1/16	48820	6
U	.3680	1-13/16	3-1/8	48821	6
V	.3770	1-7/8	3-1/4	48822	6
W	.3860	1-7/8	3-1/4	48823	6
X	.3970	1-15/16	3-5/16	48824	6
Y	.4040	1-15/16	3-5/16	48825	6
Z	.4130	2	3-3/8	48826	6



69901

Corresponding Sets		
Number of Pieces	Sizes	Order Number
29	1/16 - 1/2 X 1/64	69900
26	Letters A - Z	69901
60	#1 - #60 wire gauge	69902

GENERAL PURPOSE SCREW MACHINE LENGTH DRILLS

157-TN SERIES

HIGH SPEED STEEL

118° Point / Round Shank / TiN



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	55096	12
5/64	.0781	11/16	1-11/16	55097	12
3/32	.0938	3/4	1-3/4	55098	12
7/64	.1094	13/16	1-13/16	55099	12
1/8	.1250	7/8	1-7/8	55100	12
9/64	.1406	15/16	1-15/16	55101	12
5/32	.1562	1	2-1/16	55102	12
11/64	.1719	1-1/16	2-1/8	55103	12
3/16	.1875	1-1/4	2-3/16	55104	12
13/64	.2031	1-3/16	2-1/4	55105	12
7/32	.2188	1-1/4	2-3/8	55106	12
15/64	.2344	1-5/16	2-7/16	55107	12
1/4	.2500	1-3/8	2-1/2	55108	12
17/64	.2656	1-7/16	2-5/8	55109	12
9/32	.2812	1-1/2	2-11/16	55110	12
19/64	.2969	1-9/16	2-3/4	55111	12

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
5/16	.3125	1-5/8	2-13/16	55112	6
21/64	.3281	1-11/16	2-15/16	55113	6
11/32	.3438	1-11/16	3	55114	6
23/64	.3594	1-3/4	3-1/16	55115	6
3/8	.3750	1-13/16	3-1/8	55116	6
25/64	.3906	1-7/8	3-1/4	55117	6
13/32	.4062	1-15/16	3-5/16	55118	6
27/64	.4219	2	3-3/8	55119	6
7/16	.4375	2-1/16	3-7/16	55120	6
29/64	.4531	2-1/8	3-9/16	55121	6
15/32	.4688	2-1/8	3-5/8	55122	6
31/64	.4844	2-3/16	3-11/16	55123	6
1/2	.5000	2-1/4	3-3/4	55124	6
Letter					
E	.2500	1-3/8	2-1/2	55108	12

157L SERIES

HIGH SPEED STEEL

118° Point / Round Shank / Left Hand/ Bright

The CHICAGO-LATROBE 157L Left-Hand Drill features a 118° point and bright finish lifts chips efficiently, reducing clogging. Made from premium high-speed steel, ideal for in low-tensile materials like aluminum, magnesium, wood, and plastics.

NOTE: Alternate coatings available as stock modifications.



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/64	.0469	1/2	1-3/8	48903	12
1/16	.0625	5/8	1-5/8	48904	12
5/64	.0781	11/16	1-11/16	48905	12
3/32	.0938	3/4	1-3/4	48906	12
7/64	.1094	13/16	1-13/16	48907	12
1/8	.1250	7/8	1-7/8	48908	12
9/64	.1406	15/16	1-15/16	48909	12
5/32	.1562	1	2-1/16	48910	12
11/64	.1719	1-1/16	2-1/8	48911	12
3/16	.1875	1-1/4	2-3/16	48912	12

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
13/64	.2031	1-3/16	2-1/4	48913	12
7/32	.2188	1-1/4	2-3/8	48914	12
15/64	.2344	1-5/16	2-7/16	48915	12
1/4	.2500	1-3/8	2-1/2	48916	12
17/64	.2656	1-7/16	2-5/8	48917	12
9/32	.2812	1-1/2	2-11/16	48918	12
19/64	.2969	1-9/16	2-3/4	48919	6
5/16	.3125	1-5/8	2-13/16	48920	6
21/64	.3281	1-11/16	2-15/16	48921	6
11/32	.3438	1-11/16	3	48922	6

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GENERAL PURPOSE SCREW MACHINE LENGTH DRILLS

157L SERIES continued



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
23/64	.3594	1-3/4	3-1/16	48923	6
3/8	.3750	1-13/16	3-1/8	48924	6
25/64	.3906	1-7/8	3-1/4	48925	6
13/32	.4062	1-15/16	3-5/16	48926	6
27/64	.4219	2	3-3/8	48927	6
7/16	.4375	2-1/16	3-7/16	48928	6
29/64	.4531	2-1/8	3-9/16	48929	6
15/32	.4688	2-1/8	3-5/8	48930	6
31/64	.4844	2-3/16	3-11/16	48931	6
1/2	.5000	2-1/4	3-3/4	48932	6
Wire					
60	.0400	1/2	1-3/8	49130	12
59	.0410	1/2	1-3/8	49129	12
58	.0420	1/2	1-3/8	49128	12
57	.0430	1/2	1-3/8	49127	12
56	.0465	1/2	1-3/8	49126	12
55	.0520	5/8	1-5/8	49125	12
54	.0550	5/8	1-5/8	49124	12
53	.0595	5/8	1-5/8	49123	12
52	.0635	11/16	1-11/16	49122	12
51	.0670	11/16	1-11/16	49121	12
50	.0700	11/16	1-11/16	49120	12
49	.0730	11/16	1-11/16	49119	12
48	.0760	11/16	1-11/16	49118	12
47	.0785	3/4	1-3/4	49117	12
46	.0810	3/4	1-3/4	49116	12
45	.0820	3/4	1-3/4	49115	12
44	.0860	3/4	1-3/4	49114	12
43	.0890	3/4	1-3/4	49113	12
42	.0935	3/4	1-3/4	49112	12
41	.0960	13/16	1-13/16	49111	12
40	.0980	13/16	1-13/16	49110	12
39	.0995	13/16	1-13/16	49109	12
38	.1015	13/16	1-13/16	49108	12
37	.1040	13/16	1-13/16	49107	12
36	.1065	13/16	1-13/16	49106	12
35	.1100	7/8	1-7/8	49105	12
34	.1110	7/8	1-7/8	49104	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
33	.1130	7/8	1-7/8	49103	12
32	.1160	7/8	1-7/8	49102	12
31	.1200	7/8	1-7/8	49101	12
30	.1285	15/16	1-15/16	49100	12
29	.1360	15/16	1-15/16	49099	12
28	.1405	15/16	1-15/16	49098	12
27	.1440	1	2-1/16	49097	12
26	.1470	1	2-1/16	49096	12
25	.1495	1	2-1/16	49095	12
24	.1520	1	2-1/16	49094	12
23	.1540	1	2-1/16	49093	12
22	.1570	1-1/16	2-1/8	49092	12
21	.1590	1-1/16	2-1/8	49091	12
20	.1610	1-1/16	2-1/8	49090	12
19	.1660	1-1/16	2-1/8	49089	12
18	.1695	1-1/16	2-1/8	49088	12
17	.1730	1-1/4	2-3/16	49087	12
16	.1770	1-1/4	2-3/16	49086	12
15	.1800	1-1/4	2-3/16	49085	12
14	.1820	1-1/4	2-3/16	49084	12
13	.1850	1-1/4	2-3/16	49083	12
12	.1890	1-3/16	2-1/4	49082	12
11	.1910	1-3/16	2-1/4	49081	12
10	.1935	1-3/16	2-1/4	49080	12
9	.1960	1-3/16	2-1/4	49079	12
8	.1990	1-3/16	2-1/4	49078	12
7	.2010	1-3/16	2-1/4	49077	12
6	.2040	1-1/4	2-3/8	49076	12
5	.2055	1-1/4	2-3/8	49075	12
4	.2090	1-1/4	2-3/8	49074	12
3	.2130	1-1/4	2-3/8	49073	12
2	.2210	1-5/16	2-7/16	49072	12
1	.2280	1-5/16	2-7/16	49071	12
Letter					
E	.2500	1-3/8	2-1/2	48916	12

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

2330 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Bright

CLEVELAND 2230 Aircraft NAS 907 Type C heavy duty drill with HSS and bright finish offers outstanding performance in tough materials and non-ferrous metals.

Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*3/64	.0469	1/2	1-3/8	C70250	12
1/16	.0625	5/8	1-5/8	C70251	12
5/64	.0781	11/16	1-11/16	C70252	12
3/32	.0938	3/4	1-3/4	C70253	12
7/64	.1094	13/16	1-13/16	C70254	12
1/8	.1250	7/8	1-7/8	C70255	12
9/64	.1406	15/16	1-15/16	C70256	12
5/32	.1562	1	2-1/16	C70257	12
11/64	.1719	1-1/16	2-1/8	C70258	12
3/16	.1875	1-1/8	2-3/16	C70259	12
13/64	.2031	1-3/16	2-1/4	C70260	12
7/32	.2188	1-1/4	2-3/8	C70261	12
15/64	.2344	1-5/16	2-7/16	C70262	12
1/4	.2500	1-3/8	2-1/2	C70263	12
17/64	.2656	1-7/16	2-5/8	C70264	12
9/32	.2812	1-1/2	2-11/16	C70265	12
19/64	.2969	1-9/16	2-3/4	C70266	6
5/16	.3125	1-5/8	2-13/16	C70267	6
21/64	.3281	1-11/16	2-13/16	C70268	6
11/32	.3438	1-11/16	3	C70269	6
23/64	.3594	1-3/4	3-1/16	C70270	6
3/8	.3750	1-13/16	3-1/8	C70271	6
25/64	.3906	1-7/8	3-1/4	C70272	6
13/32	.4062	1-15/16	3-5/16	C70273	6
27/64	.4219	2	3-3/8	C70274	6
7/16	.4375	2-1/16	3-7/16	C70275	6
29/64	.4531	2-1/8	3-9/16	C70276	6
15/32	.4688	2-1/8	2-5/8	C70277	6
31/64	.4844	2-3/16	3-11/16	C70278	6
1/2	.5000	2-1/4	3-3/4	C70279	6
Wire					
52	.0635	11/16	1-11/16	C70356	12
51	.0670	11/16	1-11/16	C70355	12
50	.0700	11/16	1-11/16	C70354	12
49	.0730	11/16	1-11/16	C70353	12
48	.0760	11/16	1-11/16	C70352	12
47	.0785	3/4	1-3/4	C70351	12
46	.0810	3/4	1-3/4	C70350	12
45	.0820	3/4	1-3/4	C70349	12
44	.0860	3/4	1-3/4	C70348	12
43	.0890	3/4	1-3/4	C70347	12
42	.0935	3/4	1-3/4	C70346	12
41	.0960	13/16	1-13/16	C70345	12
40	.0980	13/16	1-13/16	C70344	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
39	.0995	13/16	1-13/16	C70343	12
38	.1015	13/16	1-13/16	C70342	12
37	.1040	13/16	1-13/16	C70341	12
36	.1065	13/16	1-13/16	C70340	12
35	.1100	7/8	1-7/8	C70339	12
34	.1110	7/8	1-7/8	C70338	12
33	.1130	7/8	1-7/8	C70337	12
32	.1160	7/8	1-7/8	C70336	12
31	.1200	7/8	1-7/8	C70335	12
30	.1285	15/16	1-15/16	C70334	12
29	.1360	15/16	1-15/16	C70333	12
28	.1405	15/16	1-15/16	C70332	12
27	.1440	1	2-1/16	C70331	12
26	.1470	1	2-1/16	C70330	12
25	.1495	1	2-1/16	C70329	12
24	.1520	1	2-1/16	C70328	12
23	.1540	1	2-1/16	C70327	12
22	.1570	1-1/16	2-1/8	C70326	12
21	.1590	1-1/16	2-1/8	C70325	12
20	.1610	1-1/16	2-1/8	C70324	12
19	.1660	1-1/16	2-1/8	C70323	12
18	.1695	1-1/16	2-1/8	C70322	12
17	.1730	1-1/8	2-3/16	C70321	12
16	.1770	1-1/8	2-3/16	C70320	12
15	.1800	1-1/8	2-3/16	C70319	12
14	.1820	1-1/8	2-3/16	C70318	12
13	.1850	1-1/8	2-3/16	C70317	12
12	.1890	1-3/16	2-1/4	C70316	12
11	.1910	1-3/16	2-1/4	C70315	12
10	.1935	1-3/16	2-1/4	C70314	12
9	.1960	1-3/16	2-1/4	C70313	12
8	.1990	1-3/16	2-1/4	C70312	12
7	.2010	1-3/16	2-1/4	C70311	12
6	.2040	1-1/4	2-3/8	C70310	12
5	.2055	1-1/4	2-3/8	C70309	12
4	.2090	1-1/4	2-3/8	C70308	12
3	.2130	1-1/4	2-3/8	C70307	12
2	.2210	1-5/16	2-7/16	C70306	12
1	.2280	1-5/16	2-7/16	C70305	12
Letter					
A	.2340	1-5/16	2-7/16	C70280	12
B	.2380	1-3/8	2-1/2	C70281	12
C	.2420	1-3/8	2-1/2	C70282	12
D	.2460	1-3/8	2-1/2	C70283	12
E	.2500	1-3/8	2-1/2	C70263	12

*Not split point

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HEAVY DUTY SCREW MACHINE LENGTH DRILLS

2330 SERIES continued



Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
F	.2570	1-7/16	2-5/8	C70284	12
G	.2610	1-7/16	2-5/8	C70285	12
H	.2660	1-1/2	2-11/16	C70286	12
I	.2720	1-1/2	2-11/16	C70287	12
J	.2770	1-1/2	2-11/16	C70288	12
K	.2812	1-1/2	2-11/16	C70289	12
L	.2900	1-9/16	2-3/4	C70290	12
M	.2950	1-9/16	2-3/4	C70291	6
N	.3020	1-5/8	2-13/16	C70292	6
O	.3160	1-11/16	2-13/16	C70293	6
P	.3230	1-11/16	2-13/16	C70294	6
Q	.3320	1-11/16	3	C70295	6
R	.3390	1-11/16	3	C70296	6
S	.3480	1-3/4	3-1/16	C70297	6
T	.3580	1-3/4	3-1/16	C70298	6

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
U	.3680	1-13/16	3-1/8	C70299	6
V	.3770	1-7/8	3-1/4	C70300	6
W	.3860	1-7/8	3-1/4	C70301	6
X	.3970	1-15/16	3-5/16	C70302	6
Y	.4040	1-15/16	3-5/16	C70303	6
Z	.4130	2	3-3/8	C70304	6



Corresponding Sets		
Number of Pieces	Sizes	Order Number
15	1/16" through 1/2" x 1/32"	C70370
21	1/16" through 3/8" x 1/64"	C70369
29	1/16" through 1/2" x 1/64"	C70368

2133 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze Finish

CLEVELAND 2133 Aircraft NAS 907 Type K cobalt drill with bronze finish features short flutes for enhanced rigidity and accurate drilling in tough materials. Highly heat resistant for tough to machine materials.



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*3/64	.0469	.500	1.375	C14509	
1/16	.0625	.625	1.625	C14521	
5/64	.0781	.688	1.688	C14535	
3/32	.0938	.750	1.750	C14550	
7/64	.1094	.813	1.813	C14562	
1/8	.1250	.875	1.875	C14572	
9/64	.1406	.938	1.938	C14580	
5/32	.1562	1.000	2.063	C14590	
11/64	.1719	1.063	2.125	C14600	
3/16	.1875	1.125	2.188	C14610	
13/64	.2031	1.188	2.250	C14621	
7/32	.2188	1.250	2.375	C14630	
15/64	.2344	1.313	2.438	C14638	
1/4	.2500	1.375	2.500	C14646	
17/64	.2656	1.438	2.625	C14653	

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
9/32	.2812	1-1/2	2-11/16	C14664	
19/64	.2969	1-9/16	2-3/4	C14669	
5/16	.3125	1-5/8	2-13/16	C14675	
21/64	.3281	1-11/16	2-15/16	C14682	
11/32	.3438	1-11/16	3	C14689	
23/64	.3594	1-3/4	3-1/16	C14696	
3/8	.3750	1-13/16	3-1/8	C14702	
25/64	.3906	1-7/8	3-1/4	C14709	
13/32	.4062	1-15/16	3-5/16	C14715	
27/64	.4219	2	3-3/8	C14718	
7/16	.4375	2-1/16	3-7/16	C14721	
29/64	.4531	2-1/8	3-9/16	C14724	
15/32	.4688	2-1/8	3-5/8	C14726	
31/64	.4844	2-3/16	3-11/16	C14729	
1/2	.5000	2-1/4	3-3/4	C14731	

*Not split point

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HEAVY DUTY
SCREW MACHINE LENGTH DRILLS

2133 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*60	.0400	1/2	1-3/8	C14501	10
*59	.0410	1/2	1-3/8	C14502	10
*58	.0420	1/2	1-3/8	C14504	10
*57	.0430	1/2	1-3/8	C14505	10
*56	.0465	1/2	1-3/8	C14508	10
*55	.0520	5/8	1-5/8	C14513	10
*54	.0550	5/8	1-5/8	C14515	10
*53	.0595	5/8	1-5/8	C14519	10
52	.0635	11/16	1-11/16	C14523	10
51	.0670	11/16	1-11/16	C14526	10
50	.0700	11/16	1-11/16	C14528	10
49	.0730	11/16	1-11/16	C14531	10
48	.0760	11/16	1-11/16	C14533	10
47	.0785	3/4	1-3/4	C14536	10
46	.0810	3/4	1-3/4	C14539	10
45	.0820	3/4	1-3/4	C14540	10
44	.0860	3/4	1-3/4	C14543	10
43	.0890	3/4	1-3/4	C14546	10
42	.0935	3/4	1-3/4	C14549	10
41	.0960	13/16	1-13/16	C14552	10
40	.0980	13/16	1-13/16	C14554	10
39	.0995	13/16	1-13/16	C14556	10
38	.1015	13/16	1-13/16	C14557	10
37	.1040	13/16	1-13/16	C14559	10
36	.1065	13/16	1-13/16	C14561	10
35	.1100	7/8	1-7/8	C14563	10
34	.1110	7/8	1-7/8	C14565	10
33	.1130	7/8	1-7/8	C14566	10
32	.1160	7/8	1-7/8	C14568	10
31	.1200	7/8	1-7/8	C14570	10
30	.1285	15/16	1-15/16	C14574	10
29	.1360	15/16	1-15/16	C14577	10
28	.1405	15/16	1-15/16	C14579	10
27	.1440	1	2-1/16	C14582	10
26	.1470	1	2-1/16	C14584	10
25	.1495	1	2-1/16	C14585	10
24	.1520	1	2-1/16	C14587	10
23	.1540	1	2-1/16	C14589	10
22	.1570	1-1/16	2-1/8	C14591	10
21	.1590	1-1/16	2-1/8	C14593	10
20	.1610	1-1/16	2-1/8	C14594	10
19	.1660	1-1/16	2-1/8	C14597	10
18	.1695	1-1/16	2-1/8	C14599	10
17	.1730	1-1/8	2-3/16	C14601	10
16	.1770	1-1/8	2-3/16	C14603	10
15	.1800	1-1/8	2-3/16	C14605	10
14	.1820	1-1/8	2-3/16	C14607	10
13	.1850	1-1/8	2-3/16	C14608	10
12	.1890	1-3/16	2-1/4	C14611	10
11	.1910	1-3/16	2-1/4	C14613	10
10	.1935	1-3/16	2-1/4	C14615	10
9	.1960	1-3/16	2-1/4	C14616	10
8	.1990	1-3/16	2-1/4	C14618	10
7	.2010	1-3/16	2-1/4	C14620	10
6	.2040	1-1/4	2-3/8	C14622	10

*Not split point

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
5	.2055	1-1/4	2-3/8	C14624	10
4	.2090	1-1/4	2-3/8	C14626	10
3	.2130	1-1/4	2-3/8	C14628	10
2	.2210	1-5/16	2-7/16	C14632	10
1	.2280	1-5/16	2-7/16	C14634	10
Letter					
A	.2340	1-5/16	2-7/16	C14637	10
B	.2380	1-3/8	2-1/2	C14640	10
C	.2420	1-3/8	2-1/2	C14642	10
D	.2460	1-3/8	2-1/2	C14644	10
E	.2500	1-3/8	2-1/2	C14646	10
F	.2570	1-7/16	2-5/8	C14649	10
G	.2610	1-7/16	2-5/8	C14651	10
H	.2660	1-1/2	2-11/16	C14654	10
I	.2720	1-1/2	2-11/16	C14657	10
J	.2770	1-1/2	2-11/16	C14659	10
K	.2810	1-1/2	2-11/16	C14661	10
L	.2900	1-9/16	2-3/4	C14665	10
M	.2950	1-9/16	2-3/4	C14667	5
N	.3020	1-5/8	2-13/16	C14671	5
O	.3160	1-11/16	2-15/16	C14677	5
P	.3230	1-11/16	2-15/16	C14680	5
Q	.3320	1-11/16	3	C14684	5
R	.3390	1-11/16	3	C14687	5
S	.3480	1-3/4	3-1/16	C14691	5
T	.3580	1-3/4	3-1/16	C14694	5
U	.3680	1-13/16	3-1/8	C14699	5
V	.3770	1-7/8	3-1/4	C14703	5
W	.3860	1-7/8	3-1/4	C14707	5
X	.3970	1-15/16	3-5/16	C14711	5
Y	.4040	1-15/16	3-5/16	C14713	5
Z	.4130	2	3-3/8	C14716	5
Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.2	.0472	8.00	30.00	C14835	12
*1.5	.0591	9.00	32.00	C14838	12
1.6	.0630	10.00	34.00	C14748	12
2.0	.0787	12.00	38.00	C14800	12
2.4	.0945	14.00	43.00	C14790	12
2.45	.0965	14.00	43.00	C14789	12
2.5	.0984	14.00	43.00	C14820	12
2.6	.1024	14.00	43.00	C14840	12
2.8	.1102	16.00	46.00	C14841	12
3.0	.1181	16.00	46.00	C14821	12
3.1	.1220	18.00	49.00	C14822	12
3.2	.1260	18.00	49.00	C14801	12
3.3	.1299	18.00	49.00	C14802	12
3.5	.1378	20.00	52.00	C14803	12
3.7	.1457	20.00	52.00	C14823	12
4.0	.1575	22.00	55.00	C14824	12
4.1	.1614	22.00	55.00	C14825	12
4.2	.1654	22.00	55.00	C14804	12
4.5	.1772	24.00	58.00	C14805	12

*Not split point

continued on next page

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

2133 SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
4.6	.1811	24.00	58.00	C14842	12
4.8	.1890	26.00	62.00	C14806	12
4.9	.1929	26.00	62.00	C14826	12
5.0	.1969	26.00	62.00	C14827	12
5.1	.2008	26.00	62.00	C14807	12
5.3	.2087	26.00	62.00	C14625	12
5.5	.2165	28.00	66.00	C14828	12
5.6	.2205	28.00	66.00	C14843	12
5.7	.2244	28.00	66.00	C14844	12
6.0	.2362	28.00	66.00	C14829	12
6.1	.2402	31.00	70.00	C14869	12
6.5	.2559	31.00	70.00	C14808	12
6.6	.2598	31.00	70.00	C14809	12
6.8	.2677	34.00	74.00	C14810	12

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
7.0	.2756	34.00	74.00	C14830	12
7.3	.2874	34.00	74.00	C14663	12
7.4	.2913	34.00	74.00	C14811	12
7.5	.2953	34.00	74.00	C14831	6
8.0	.3150	37.00	79.00	C14812	6
8.1	.3189	37.00	79.00	C14670	6
8.5	.3346	37.00	79.00	C14813	6
9.0	.3543	40.00	84.00	C14814	6
9.3	.3661	50.80	85.72	C14871	6
9.5	.3740	40.00	84.00	C14872	6
10.0	.3937	43.00	89.00	C14815	6
10.5	.4134	43.00	89.00	C14816	6
11.0	.4331	47.00	95.00	C14817	6
11.5	.4528	47.00	95.00	C14832	6
12.0	.4724	51.00	102.00	C14818	6
12.5	.4921	51.00	102.00	C14819	6

2133-TC SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / TiCN



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	C14846	12
5/64	.0781	11/16	1-11/16	C14847	12
3/32	.0938	3/4	1-3/4	C14848	12
7/64	.1094	13/16	1-13/16	C14849	12
1/8	.1250	7/8	1-7/8	C14850	12
9/64	.1406	15/16	1-15/16	C14851	12
5/32	.1562	1	2-1/16	C14852	12
11/64	.1719	1-1/16	2-1/8	C14853	12
3/16	.1875	1-1/8	2-3/16	C14854	12
13/64	.2031	1-3/16	2-1/4	C14855	12
7/32	.2188	1-1/4	2-3/8	C14856	12
15/64	.2344	1-5/16	2-7/16	C14857	12
1/4, E	.2500	1-3/8	2-1/2	C14858	12
17/64	.2656	1-7/16	2-5/8	C14859	12
9/32	.2812	1-1/2	2-11/16	C14860	12
5/16	.3125	1-5/8	2-13/16	C14861	6
11/32	.3438	1-11/16	3	C14862	6
3/8	.3750	1-13/16	3-1/8	C14863	6
13/32	.4062	1-15/16	3-5/16	C14864	6
7/16	.4375	2-1/16	3-7/16	C14865	6
15/32	.4688	2-1/8	3-5/8	C14867	6
1/2	.5000	2-1/4	3-3/4	C14866	6
Letter					
E	.2500	1-3/8	2-1/2	C14858	12

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
2.0	.0787	12.00	38.00	C14749	12
2.5	.0984	14.00	43.00	C14750	12
2.6	.1024	14.00	43.00	C14730	12
3.0	.1181	16.00	46.00	C14751	12
3.1	.1220	18.00	49.00	C14752	12
3.2	.1260	18.00	49.00	C14753	12
3.3	.1299	18.00	49.00	C14754	12
3.5	.1378	20.00	52.00	C14755	12
4.0	.1575	22.00	55.00	C14756	12
4.1	.1614	22.00	55.00	C14757	12
4.2	.1654	22.00	55.00	C14758	12
4.5	.1772	24.00	58.00	C14759	12
4.6	.1811	24.00	58.00	C14728	12
4.8	.1890	26.00	62.00	C14760	12
5.0	.1969	26.00	62.00	C14761	12
5.1	.2008	26.00	62.00	C14762	12
5.5	.2165	28.00	66.00	C14786	12
6.0	.2362	28.00	66.00	C14763	12
6.5	.2559	31.00	70.00	C14764	12
6.8	.2677	34.00	74.00	C14765	12
7.0	.2756	34.00	74.00	C14766	12
7.5	.2953	34.00	74.00	C14787	6
8.0	.3150	37.00	79.00	C14767	6
8.5	.3346	37.00	79.00	C14768	6
9.0	.3543	40.00	84.00	C14769	6
9.5	.3740	40.00	84.00	C14770	6
10.0	.3937	43.00	89.00	C14771	6
10.5	.4134	43.00	89.00	C14788	6
11.0	.4331	47.00	95.00	C14772	6
11.5	.4528	47.00	95.00	C14773	6
12.0	.4724	51.00	102.00	C14774	6
12.5	.4921	51.00	102.00	C14775	6

GENERAL PURPOSE SCREW MACHINE LENGTH DRILLS

2120 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Bright

CLEVELAND 2120 General purpose drill with HSS, bright finish and 118° point. Short length design for improved accuracy and rigidity.

NOTE: 1-1/16" through 1-1/4" drills have 1" diameter reduced shank.



Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



118° POINT ROUND SHANK

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/64	.0469	1/2	1-3/8	C04364	10
1/16	.0625	5/8	1-5/8	C04376	10
5/64	.0781	11/16	1-11/16	C04390	10
3/32	.0938	3/4	1-3/4	C04405	10
7/64	.1094	13/16	1-13/16	C04418	10
1/8	.1250	7/8	1-7/8	C04428	10
9/64	.1406	15/16	1-15/16	C04437	10
5/32	.1562	1	2-1/16	C04448	10
11/64	.1719	1-1/16	2-1/8	C04459	10
3/16	.1875	1-1/8	2-3/16	C04470	10
13/64	.2031	1-3/16	2-1/4	C04481	10
7/32	.2188	1-1/4	2-3/8	C04491	10
15/64	.2344	1-5/16	2-7/16	C04500	10
1/4	.2500	1-3/8	2-1/2	C04509	10
17/64	.2656	1-7/16	2-5/8	C04517	10
9/32	.2812	1-1/2	2-11/16	C04531	1
19/64	.2969	1-9/16	2-3/4	C04535	1
5/16	.3125	1-5/8	2-13/16	C04542	1
21/64	.3281	1-11/16	2-15/16	C04550	1
11/32	.3438	1-11/16	3	C04557	1
23/64	.3594	1-3/4	3-1/16	C04565	1
3/8	.3750	1-13/16	3-1/8	C04572	1
25/64	.3906	1-7/8	3-1/4	C04580	1
13/32	.4062	1-15/16	3-5/16	C04585	1
27/64	.4219	2	3-3/8	C04588	1
7/16	.4375	2-1/16	3-7/16	C04591	1
29/64	.4531	2-1/8	3-9/16	C04594	1
15/32	.4688	2-1/8	3-5/8	C04596	1
31/64	.4844	2-3/16	3-11/16	C04599	1
1/2	.5000	2-1/4	3-3/4	C04601	1
33/64	.5156	2-3/8	3-7/8	C04604	1
17/32	.5312	2-3/8	3-7/8	C04606	1
35/64	.5469	2-1/2	4	C04609	1
9/16	.5625	2-1/2	4	C04612	1
37/64	.5781	2-5/8	4-1/8	C04614	1
19/32	.5938	2-5/8	4-1/8	C04617	1
39/64	.6094	2-3/4	4-1/4	C04619	1
5/8	.6250	2-3/4	4-1/4	C04622	1
41/64	.6406	2-7/8	4-1/2	C04625	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
21/32	.6562	2-7/8	4-1/2	C04627	1
43/64	.6719	2-7/8	4-5/8	C04630	1
11/16	.6875	2-7/8	4-5/8	C04632	1
45/64	.7031	3	4-3/4	C04634	1
23/32	.7188	3	4-3/4	C04636	1
47/64	.7344	3-1/8	5	C04638	1
3/4	.7500	3-1/8	5	C04640	1
49/64	.7656	3-1/4	5-1/8	C04641	1
25/32	.7812	3-1/4	5-1/8	C04643	1
51/64	.7969	3-3/8	5-1/4	C04645	1
13/16	.8125	3-3/8	5-1/4	C04647	1
53/64	.8281	3-1/2	5-3/8	C04649	1
27/32	.8438	3-1/2	5-3/8	C04650	1
55/64	.8594	3-1/2	5-1/2	C04652	1
7/8	.8750	3-1/2	5-1/2	C04654	1
57/64	.8906	3-5/8	5-5/8	C04656	1
29/32	.9062	3-5/8	5-5/8	C04658	1
59/64	.9219	3-3/4	5-3/4	C04659	1
15/16	.9375	3-3/4	5-3/4	C04661	1
61/64	.9531	3-7/8	5-7/8	C04663	1
31/32	.9688	3-7/8	5-7/8	C04665	1
63/64	.9844	4	6	C04667	1
1	1.0000	4	6	C04668	1
1-1/16*	1.0625	4	6-1/4	C04675	1
1-1/8*	1.1250	4	6-3/8	C04683	1
1-3/16*	1.1875	4-1/4	6-5/8	C04690	1
1-1/4*	1.2500	4-3/8	6-3/4	C04697	1
Wire					
60	.0400	1/2	1-3/8	C04356	10
59	.0410	1/2	1-3/8	C04357	10
58	.0420	1/2	1-3/8	C04359	10
57	.0430	1/2	1-3/8	C04360	10
56	.0465	1/2	1-3/8	C04363	10
55	.0520	5/8	1-5/8	C04368	10
54	.0550	5/8	1-5/8	C04370	10
53	.0595	5/8	1-5/8	C04374	10
52	.0635	11/16	1-11/16	C04378	10
51	.0670	11/16	1-11/16	C04381	10
50	.0700	11/16	1-11/16	C04383	10
49	.0730	11/16	1-11/16	C04386	10

* Sizes over 1" have 1.0" diameter shank

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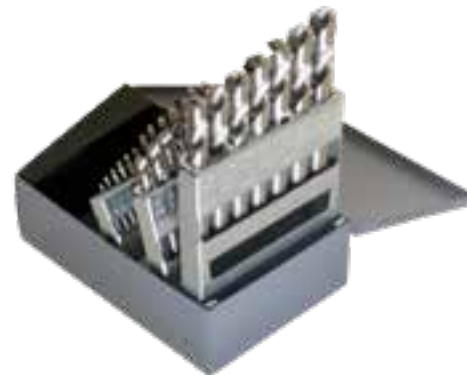
GENERAL PURPOSE SCREW MACHINE LENGTH DRILLS

2120 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
48	.0760	11/16	1-11/16	C04388	10
47	.0785	3/4	1-3/4	C04391	10
46	.0810	3/4	1-3/4	C04394	10
45	.0820	3/4	1-3/4	C04395	10
44	.0860	3/4	1-3/4	C04398	10
43	.0890	3/4	1-3/4	C04401	10
42	.0935	3/4	1-3/4	C04404	10
41	.0960	13/16	1-13/16	C04407	10
40	.0980	13/16	1-13/16	C04409	10
39	.0995	13/16	1-13/16	C04411	10
38	.1015	13/16	1-13/16	C04412	10
37	.1040	13/16	1-13/16	C04414	10
36	.1065	13/16	1-13/16	C04416	10
35	.1100	7/8	1-7/8	C04419	10
34	.1110	7/8	1-7/8	C04421	10
33	.1130	7/8	1-7/8	C04422	10
32	.1160	7/8	1-7/8	C04424	10
31	.1200	7/8	1-7/8	C04426	10
30	.1285	15/16	1-15/16	C04431	10
29	.1360	15/16	1-15/16	C04434	10
28	.1405	15/16	1-15/16	C04436	10
27	.1440	1	2-1/16	C04439	10
26	.1470	1	2-1/16	C04441	10
25	.1495	1	2-1/16	C04443	10
24	.1520	1	2-1/16	C04445	10
23	.1540	1	2-1/16	C04447	10
22	.1570	1-1/16	2-1/8	C04449	10
21	.1590	1-1/16	2-1/8	C04451	10
20	.1610	1-1/16	2-1/8	C04452	10
19	.1660	1-1/16	2-1/8	C04455	10
18	.1695	1-1/16	2-1/8	C04458	10
17	.1730	1-1/8	2-3/16	C04460	10
16	.1770	1-1/8	2-3/16	C04462	10
15	.1800	1-1/8	2-3/16	C04464	10
14	.1820	1-1/8	2-3/16	C04466	10
13	.1850	1-1/8	2-3/16	C04467	10
12	.1890	1-3/16	2-1/4	C04471	10
11	.1910	1-3/16	2-1/4	C04473	10
10	.1935	1-3/16	2-1/4	C04475	10
9	.1960	1-3/16	2-1/4	C04476	10
8	.1990	1-3/16	2-1/4	C04478	10
7	.2010	1-3/16	2-1/4	C04480	10
6	.2040	1-1/4	2-3/8	C04482	10
5	.2055	1-1/4	2-3/8	C04484	10
4	.2090	1-1/4	2-3/8	C04487	10
3	.2130	1-1/4	2-3/8	C04489	10
2	.2210	1-5/16	2-7/16	C04493	10
1	.2280	1-5/16	2-7/16	C04496	10

Letter					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
A	.2340	1-5/16	2-7/16	C04499	10
B	.2380	1-3/8	2-1/2	C04502	10
C	.2420	1-3/8	2-1/2	C04504	10
D	.2460	1-3/8	2-1/2	C04506	10
F	.2570	1-7/16	2-5/8	C04513	10
G	.2610	1-7/16	2-5/8	C04515	10
H	.2660	1-1/2	2-11/16	C04519	10
I	.2720	1-1/2	2-11/16	C04522	10
J	.2770	1-1/2	2-11/16	C04524	10
K	.2810	1-1/2	2-11/16	C04526	10
L	.2900	1-9/16	2-3/4	C04530	10
M	.2950	1-9/16	2-3/4	C04533	5
N	.3020	1-5/8	2-13/16	C04537	5
O	.3160	1-11/16	2-15/16	C04544	5
P	.3230	1-11/16	2-15/16	C04547	5
Q	.3320	1-11/16	3	C04552	5
R	.3390	1-11/16	3	C04555	5
S	.3480	1-3/4	3-1/16	C04560	5
T	.3580	1-3/4	3-1/16	C04563	5
U	.3680	1-13/16	3-1/8	C04569	5
V	.3770	1-7/8	3-1/4	C04573	5
W	.3860	1-7/8	3-1/4	C04578	5
X	.3970	1-15/16	3-5/16	C04582	5
Y	.4040	1-15/16	3-5/16	C04584	5
Z	.4130	2	3-3/8	C04586	5



Corresponding Sets		
Number of Pieces	Sizes	Order Number
29	1/16" through 1/2" x 1/64"	C00980
26	A through Z	C01332

Metal case

PARABOLIC SCREW MACHINE LENGTH DRILLS

2175 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / High Helix / Bronze Finish

CLEVELAND 2175 Wide land Q-Cobalt™ parabolic drill and bronze finish offers a shorter design for enhanced accuracy and rigidity. Effective deep hole drilling in a wide array of materials.

Best Material Application

Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	C14200	10
5/64	.0781	11/16	1-11/16	C14201	10
3/32	.0938	3/4	1-3/4	C14202	10
7/64	.1094	13/16	1-13/16	C14203	10
1/8	.1250	7/8	1-7/8	C14204	10
9/64	.1406	15/16	1-15/16	C14205	10
5/32	.1562	1	2-1/16	C14206	10
11/64	.1719	1-1/16	2-1/8	C14207	10
3/16	.1875	1-1/8	2-3/16	C14208	10
13/64	.2031	1-3/16	2-1/4	C14209	10
7/32	.2188	1-1/4	2-3/8	C14210	10
15/64	.2344	1-5/16	2-7/16	C14211	10
1/4	.2500	1-3/8	2-1/2	C14212	10
17/64	.2656	1-7/16	2-5/8	C14213	10
9/32	.2812	1-1/2	2-11/16	C14214	10
19/64	.2969	1-9/16	2-3/4	C14215	5
5/16	.3125	1-5/8	2-13/16	C14216	5
21/64	.3281	1-11/16	2-15/16	C14217	5
11/32	.3438	1-11/16	3	C14218	5
23/64	.3594	1-3/4	3-1/16	C14219	5
3/8	.3750	1-13/16	3-1/8	C14220	5
25/64	.3906	1-7/8	3-1/4	C14221	5
13/32	.4062	1-15/16	3-5/16	C14222	5
27/64	.4219	2	3-3/8	C14223	5
7/16	.4375	2-1/16	3-7/16	C14224	5
29/64	.4531	2-1/8	3-9/16	C14225	5
15/32	.4688	2-1/8	3-5/8	C14226	5
31/64	.4844	2-3/16	3-11/16	C14227	5
1/2	.5000	2-1/4	3-3/4	C14228	5
33/64	.5156	2-3/8	3-7/8	C14229	1
17/32	.5312	2-3/8	3-7/8	C14230	1
35/64	.5469	2-1/2	4	C14231	1
9/16	.5625	2-1/2	4	C14232	1
37/64	.5781	2-5/8	4-1/8	C14233	1
19/32	.5938	2-5/8	4-1/8	C14234	1
39/64	.6094	2-3/4	4-1/4	C14235	1
5/8	.6250	2-3/4	4-1/4	C14236	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
41/64	.6406	2-7/8	4-1/2	C14237	1
21/32	.6562	2-7/8	4-1/2	C14238	1
43/64	.6719	2-7/8	4-5/8	C14239	1
11/16	.6875	2-7/8	4-5/8	C14240	1
Wire					
40	.0980	13/16	1-13/16	C14280	10
39	.0995	13/16	1-13/16	C14279	10
38	.1015	13/16	1-13/16	C14278	10
37	.1040	13/16	1-13/16	C14277	10
36	.1065	13/16	1-13/16	C14276	10
35	.1100	7/8	1-7/8	C14275	10
34	.1110	7/8	1-7/8	C14274	10
33	.1130	7/8	1-7/8	C14273	10
32	.1160	7/8	1-7/8	C14272	10
31	.1200	7/8	1-7/8	C14271	10
30	.1285	15/16	1-15/16	C14270	10
29	.1360	15/16	1-15/16	C14269	10
28	.1405	15/16	1-15/16	C14268	10
27	.1440	1	2-1/16	C14267	10
26	.1470	1	2-1/16	C14266	10
25	.1495	1	2-1/16	C14265	10
24	.1520	1	2-1/16	C14264	10
23	.1540	1	2-1/16	C14263	10
22	.1570	1-1/16	2-1/8	C14262	10
21	.1590	1-1/16	2-1/8	C14261	10
20	.1610	1-1/16	2-1/8	C14260	10
19	.1660	1-1/16	2-1/8	C14259	10
18	.1695	1-1/16	2-1/8	C14258	10
17	.1730	1-1/8	2-3/16	C14257	10
16	.1770	1-1/8	2-3/16	C14256	10
15	.1800	1-1/8	2-3/16	C14255	10
14	.1820	1-1/8	2-3/16	C14254	10
13	.1850	1-1/8	2-3/16	C14253	10
12	.1890	1-3/16	2-1/4	C14252	10
11	.1910	1-3/16	2-1/4	C14251	10
10	.1935	1-3/16	2-1/4	C14250	10
9	.1960	1-3/16	2-1/4	C14249	10

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PARABOLIC SCREW MACHINE LENGTH DRILLS

2175 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
8	.1990	1-3/16	2-1/4	C14248	10
7	.2010	1-3/16	2-1/4	C14247	10
6	.2040	1-1/4	2-3/8	C14246	10
5	.2055	1-1/4	2-3/8	C14245	10
4	.2090	1-1/4	2-3/8	C14244	10
3	.2130	1-1/4	2-3/8	C14243	10
2	.2210	1-5/16	2-7/16	C14242	10
1	.2280	1-5/16	2-7/16	C14241	10
Letter					
D	.2460	1-3/8	2-1/2	C14284	10
E	.2500	1-3/8	2-1/2	C14212	10
F	.2570	1-7/16	2-5/8	C14286	10
G	.2610	1-7/16	2-5/8	C14287	10

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
H	.2660	1-1/2	2-11/16	C14288	10
K	.2810	1-1/2	2-11/16	C14291	10
L	.2900	1-9/16	2-3/4	C14292	10
P	.3230	1-11/16	2-15/16	C14296	5
Q	.3320	1-11/16	3	C14297	5
R	.3390	1-11/16	3	C14298	5
S	.3480	1-3/4	3-1/16	C14299	5
U	.3680	1-13/16	3-1/8	C14301	5
V	.3770	1-7/8	3-1/4	C14302	5
Z	.4130	2	3-3/8	C14306	5

2175-TN SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / High Helix / TiN



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	C14321	10
5/64	.0781	11/16	1-11/16	C14322	10
3/32	.0938	3/4	1-3/4	C14323	10
7/64	.1094	13/16	1-13/16	C14324	10
1/8	.1250	7/8	1-7/8	C14325	10
9/64	.1406	15/16	1-15/16	C14326	10
5/32	.1562	1	2-1/16	C14327	10
11/64	.1719	1-1/16	2-1/8	C14328	10
3/16	.1875	1-1/8	2-3/16	C14329	10
13/64	.2031	1-3/16	2-1/4	C14330	10
7/32	.2188	1-1/4	2-3/8	C14331	10
15/64	.2344	1-5/16	2-7/16	C14332	10
1/4	.2500	1-3/8	2-1/2	C14333	10
17/64	.2656	1-7/16	2-5/8	C14334	10
9/32	.2812	1-1/2	2-11/16	C14335	10
19/64	.2969	1-9/16	2-3/4	C14336	5
5/16	.3125	1-5/8	2-13/16	C14337	5
21/64	.3281	1-11/16	2-15/16	C14338	5
11/32	.3438	1-11/16	3	C14339	5
23/64	.3594	1-3/4	3-1/16	C14340	5
3/8	.3750	1-13/16	3-1/8	C14341	5
25/64	.3906	1-7/8	3-1/4	C14342	5
13/32	.4062	1-15/16	3-5/16	C14343	5
27/64	.4219	2	3-3/8	C14344	5
7/16	.4375	2-1/16	3-7/16	C14345	5

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
29/64	.4531	2-1/8	3-9/16	C14346	5
15/32	.4688	2-1/8	3-5/8	C14347	5
31/64	.4844	2-3/16	3-11/16	C14348	5
1/2	.5000	2-1/4	3-3/4	C14349	5
33/64	.5156	2-3/8	3-7/8	C14350	1
17/32	.5312	2-3/8	3-7/8	C14351	1
35/64	.5469	2-1/2	4	C14352	1
9/16	.5625	2-1/2	4	C14353	1
37/64	.5781	2-5/8	4-1/8	C14354	1
19/32	.5938	2-5/8	4-1/8	C14355	1
39/64	.6094	2-3/4	4-1/4	C14356	1
5/8	.6250	2-3/4	4-1/4	C14357	1
41/64	.6406	2-7/8	4-1/2	C14358	1
21/32	.6562	2-7/8	4-1/2	C14359	1
43/64	.6719	2-7/8	4-5/8	C14360	1
11/16	.6875	2-7/8	4-5/8	C14361	1
Wire					
52	.0635	11/16	1-11/16	C14439	10
48	.0760	11/16	1-11/16	C14435	10
47	.0785	3/4	1-3/4	C14434	10
45	.0820	3/4	1-3/4	C14432	5
44	.0860	3/4	1-3/4	C14431	5
43	.0890	3/4	1-3/4	C14430	5
42	.0935	3/4	1-3/4	C14429	1
40	.0980	13/16	1-13/16	C14402	1

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PARABOLIC SCREW MACHINE LENGTH DRILLS

2175-TN SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
39	.0995	13/16	1-13/16	C14401	10
38	.1015	13/16	1-13/16	C14400	10
37	.1040	13/16	1-13/16	C14399	10
36	.1065	13/16	1-13/16	C14398	10
35	.1100	7/8	1-7/8	C14397	10
34	.1110	7/8	1-7/8	C14396	10
33	.1130	7/8	1-7/8	C14395	10
32	.1160	7/8	1-7/8	C14393	10
31	.1200	7/8	1-7/8	C14392	10
30	.1285	15/16	1-15/16	C14391	10
29	.1360	15/16	1-15/16	C14390	10
28	.1405	15/16	1-15/16	C14389	10
27	.1440	1	2-1/16	C14388	10
26	.1470	1	2-1/16	C14387	10
25	.1495	1	2-1/16	C14386	10
24	.1520	1	2-1/16	C14385	10
23	.1540	1	2-1/16	C14384	10
22	.1570	1-1/16	2-1/8	C14383	10
21	.1590	1-1/16	2-1/8	C14382	10
20	.1610	1-1/16	2-1/8	C14381	10
19	.1660	1-1/16	2-1/8	C14380	10
18	.1695	1-1/16	2-1/8	C14379	10
17	.1730	1-1/8	2-3/16	C14378	10
16	.1770	1-1/8	2-3/16	C14377	10
15	.1800	1-1/8	2-3/16	C14376	10
14	.1820	1-1/8	2-3/16	C14375	10
13	.1850	1-1/8	2-3/16	C14374	10
12	.1890	1-3/16	2-1/4	C14373	10

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
11	.1910	1-3/16	2-1/4	C14372	10
10	.1935	1-3/16	2-1/4	C14371	10
9	.1960	1-3/16	2-1/4	C14370	10
8	.1990	1-3/16	2-1/4	C14369	10
7	.2010	1-3/16	2-1/4	C14368	10
6	.2040	1-1/4	2-3/8	C14367	10
5	.2055	1-1/4	2-3/8	C14366	10
4	.2090	1-1/4	2-3/8	C14365	10
3	.2130	1-1/4	2-3/8	C14364	10
2	.2210	1-5/16	2-7/16	C14363	10
1	.2280	1-5/16	2-7/16	C14362	10
Letter					
E	.2500	1-3/8	2-1/2	C14333	10
Q	.3320	1-11/16	3	C14418	5
R	.3390	1-11/16	3	C14419	5
S	.3480	1-3/4	3-1/16	C14420	5
T	.3580	1-3/4	3-1/16	C14421	5
W	.3860	1-7/8	3-1/4	C14424	5
X	.3970	1-15/16	3-5/16	C14425	5

2175-TC SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / High Helix / TiCN



Best Material Application

Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	C15250	10
5/64	.0781	11/16	1-11/16	C15251	10
3/32	.0938	3/4	1-3/4	C15252	10
7/64	.1094	13/16	1-13/16	C15253	10
1/8	.1250	7/8	1-7/8	C15254	10
9/64	.1406	15/16	1-15/16	C15255	10
5/32	.1562	1	2-1/16	C15256	10
11/64	.1719	1-1/16	2-1/8	C15257	10
3/16	.1875	1-1/8	2-3/16	C15258	10
13/64	.2031	1-3/16	2-1/4	C15259	10

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
7/32	.2188	1-1/4	2-3/8	C15260	10
15/64	.2344	1-5/16	2-7/16	C15261	10
1/4	.2500	1-3/8	2-1/2	C15262	10
17/64	.2656	1-7/16	2-5/8	C15263	10
9/32	.2812	1-1/2	2-11/16	C15264	10
19/64	.2969	1-9/16	2-3/4	C15265	5
5/16	.3125	1-5/8	2-13/16	C15266	5
21/64	.3281	1-11/16	2-15/16	C15267	5
11/32	.3438	1-11/16	3	C15268	5
23/64	.3594	1-3/4	3-1/16	C15269	5

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PARABOLIC SCREW MACHINE LENGTH DRILLS

2175-TC SERIES continued



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/8	.3750	1-13/16	3-1/8	C15270	5
25/64	.3906	1-7/8	3-1/4	C15271	5
13/32	.4062	1-15/16	3-5/16	C15272	5
27/64	.4219	2	3-3/8	C15273	5
7/16	.4375	2-1/16	3-7/16	C15274	5
29/64	.4531	2-1/8	3-9/16	C15275	5
15/32	.4688	2-1/8	3-5/8	C15276	5
31/64	.4844	2-3/16	3-11/16	C15277	5
1/2	.5000	2-1/4	3-3/4	C15278	5
33/64	.5156	2-3/8	3-7/8	C15279	1
17/32	.5312	2-3/8	3-7/8	C15280	1
35/64	.5469	2-1/2	4	C15281	1
9/16	.5625	2-1/2	4	C15282	1
37/64	.5781	2-5/8	4-1/8	C15283	1
19/32	.5938	2-5/8	4-1/8	C15284	1
39/64	.6094	2-3/4	4-1/4	C15285	1
5/8	.6250	2-3/4	4-1/4	C15286	1
41/64	.6406	2-7/8	4-1/2	C15287	1
21/32	.6562	2-7/8	4-1/2	C15288	1
43/64	.6719	2-7/8	4-5/8	C15289	1
11/16	.6875	2-7/8	4-5/8	C15290	1
Wire					
40	.0980	13/16	1-13/16	C15330	10
39	.0995	13/16	1-13/16	C15329	10
38	.1015	13/16	1-13/16	C15328	10
37	.1040	13/16	1-13/16	C15327	10
36	.1065	13/16	1-13/16	C15326	10
35	.1100	7/8	1-7/8	C15325	10
34	.1110	7/8	1-7/8	C15324	10
33	.1130	7/8	1-7/8	C15323	10
32	.1160	7/8	1-7/8	C15322	10
31	.1200	7/8	1-7/8	C15321	10
30	.1285	15/16	1-15/16	C15320	10
29	.1360	15/16	1-15/16	C15319	10
28	.1405	15/16	1-15/16	C15318	10
27	.1440	1	2-1/16	C15317	10
26	.1470	1	2-1/16	C15316	10
25	.1495	1	2-1/16	C15315	10
24	.1520	1	2-1/16	C15314	10
23	.1540	1	2-1/16	C15313	10
22	.1570	1-1/16	2-1/8	C15312	10

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
21	.1590	1-1/16	2-1/8	C15311	10
20	.1610	1-1/16	2-1/8	C15310	10
19	.1660	1-1/16	2-1/8	C15309	10
18	.1695	1-1/16	2-1/8	C15308	10
17	.1730	1-1/8	2-3/16	C15307	10
16	.1770	1-1/8	2-3/16	C15306	10
15	.1800	1-1/8	2-3/16	C15305	10
14	.1820	1-1/8	2-3/16	C15304	10
13	.1850	1-1/8	2-3/16	C15303	10
12	.1890	1-3/16	2-1/4	C15302	10
11	.1910	1-3/16	2-1/4	C15301	10
10	.1935	1-3/16	2-1/4	C15300	10
9	.1960	1-3/16	2-1/4	C15299	10
8	.1990	1-3/16	2-1/4	C15298	10
7	.2010	1-3/16	2-1/4	C15297	10
6	.2040	1-1/4	2-3/8	C15296	10
5	.2055	1-1/4	2-3/8	C15295	10
4	.2090	1-1/4	2-3/8	C15294	10
3	.2130	1-1/4	2-3/8	C15293	10
2	.2210	1-5/16	2-7/16	C15292	10
1	.2280	1-5/16	2-7/16	C15291	10
Letter					
D	.2460	1-3/8	2-1/2	C15334	10
E	.2500	1-3/8	2-1/2	C15262	10
F	.2570	1-7/16	2-5/8	C15335	10
G	.2610	1-7/16	2-5/8	C15336	10
H	.2660	1-1/2	2-11/16	C15337	10
K	.2810	1-1/2	2-11/16	C15340	10
L	.2900	1-9/16	2-3/4	C15341	10
P	.3230	1-11/16	2-15/16	C15345	5
Q	.3320	1-11/16	3	C15346	5
R	.3390	1-11/16	3	C15347	5
S	.3480	1-3/4	3-1/16	C15348	5
U	.3680	1-13/16	3-1/8	C15350	5
V	.3770	1-7/8	3-1/4	C15351	5
Z	.4130	2	3-3/8	C15355	5

PARABOLIC SCREW MACHINE LENGTH DRILLS

2175-TA SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / High Helix / TiAlN



HARDENED STEEL



HIGH TEMP. ALLOYS



STAINLESS



CAST IRON



STEEL

Best Material Application

Drill Specifications



135° SPLIT POINT



ROUND SHANK

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	C15050	10
5/64	.0781	11/16	1-11/16	C15051	10
3/32	.0938	3/4	1-3/4	C15052	10
7/64	.1094	13/16	1-13/16	C15053	10
1/8	.1250	7/8	1-7/8	C15054	10
9/64	.1406	15/16	1-15/16	C15055	10
5/32	.1562	1	2-1/16	C15056	10
11/64	.1719	1-1/16	2-1/8	C15057	10
3/16	.1875	1-1/8	2-3/16	C15058	10
13/64	.2031	1-3/16	2-1/4	C15059	10
7/32	.2188	1-1/4	2-3/8	C15060	10
15/64	.2344	1-5/16	2-7/16	C15061	10
1/4	.2500	1-3/8	2-1/2	C15062	10
17/64	.2656	1-7/16	2-5/8	C15063	10
9/32	.2812	1-1/2	2-11/16	C15064	10
19/64	.2969	1-9/16	2-3/4	C15065	5
5/16	.3125	1-5/8	2-13/16	C15066	5
21/64	.3281	1-11/16	2-15/16	C15067	5
11/32	.3438	1-11/16	3	C15068	5
23/64	.3594	1-3/4	3-1/16	C15069	5
3/8	.3750	1-13/16	3-1/8	C15070	5
25/64	.3906	1-7/8	3-1/4	C15071	5
13/32	.4062	1-15/16	3-5/16	C15072	5
27/64	.4219	2	3-3/8	C15073	5
7/16	.4375	2-1/16	3-7/16	C15074	5
29/64	.4531	2-1/8	3-9/16	C15075	5
15/32	.4688	2-1/8	3-5/8	C15076	5
31/64	.4844	2-3/16	3-11/16	C15077	5
1/2	.5000	2-1/4	3-3/4	C15078	5
33/64	.5156	2-3/8	3-7/8	C15079	1
17/32	.5312	2-3/8	3-7/8	C15080	1
35/64	.5469	2-1/2	4	C15081	1
9/16	.5625	2-1/2	4	C15082	1
37/64	.5781	2-5/8	4-1/8	C15083	1
19/32	.5938	2-5/8	4-1/8	C15084	1
39/64	.6094	2-3/4	4-1/4	C15085	1
5/8	.6250	2-3/4	4-1/4	C15086	1
41/64	.6406	2-7/8	4-1/2	C15087	1
21/32	.6562	2-7/8	4-1/2	C15088	1
43/64	.6719	2-7/8	4-5/8	C15089	1
11/16	.6875	2-7/8	4-5/8	C15090	1
Wire					
40	.0980	13/16	1-13/16	C15130	10
39	.0995	13/16	1-13/16	C15129	10
38	.1015	13/16	1-13/16	C15128	10
37	.1040	13/16	1-13/16	C15127	10
36	.1065	13/16	1-13/16	C15126	10
35	.1100	7/8	1-7/8	C15125	10

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
34	.1110	7/8	1-7/8	C15124	10
33	.1130	7/8	1-7/8	C15123	10
32	.1160	7/8	1-7/8	C15122	10
31	.1200	7/8	1-7/8	C15121	10
30	.1285	15/16	1-15/16	C15120	10
29	.1360	15/16	1-15/16	C15119	10
28	.1405	15/16	1-15/16	C15118	10
27	.1440	1	2-1/16	C15117	10
26	.1470	1	2-1/16	C15116	10
25	.1495	1	2-1/16	C15115	10
24	.1520	1	2-1/16	C15114	10
23	.1540	1	2-1/16	C15113	10
22	.1570	1-1/16	2-1/8	C15112	10
21	.1590	1-1/16	2-1/8	C15111	10
20	.1610	1-1/16	2-1/8	C15110	10
19	.1660	1-1/16	2-1/8	C15109	10
18	.1695	1-1/16	2-1/8	C15108	10
17	.1730	1-1/8	2-3/16	C15107	10
16	.1770	1-1/8	2-3/16	C15106	10
15	.1800	1-1/8	2-3/16	C15105	10
14	.1820	1-1/8	2-3/16	C15104	10
13	.1850	1-1/8	2-3/16	C15103	10
12	.1890	1-3/16	2-1/4	C15102	10
11	.1910	1-3/16	2-1/4	C15101	10
10	.1935	1-3/16	2-1/4	C15100	10
9	.1960	1-3/16	2-1/4	C15099	10
8	.1990	1-3/16	2-1/4	C15098	10
7	.2010	1-3/16	2-1/4	C15097	10
6	.2040	1-1/4	2-3/8	C15096	10
5	.2055	1-1/4	2-3/8	C15095	10
4	.2090	1-1/4	2-3/8	C15094	10
3	.2130	1-1/4	2-3/8	C15093	10
2	.2210	1-5/16	2-7/16	C15092	10
1	.2280	1-5/16	2-7/16	C15091	10
Letter					
D	.2460	1-3/8	2-1/2	C15134	10
E	.2500	1-3/8	2-1/2	C15062	10
F	.2570	1-7/16	2-5/8	C15135	10
G	.2610	1-7/16	2-5/8	C15136	10
H	.2660	1-1/2	2-11/16	C15137	10
K	.2810	1-1/2	2-11/16	C15140	10
L	.2900	1-9/16	2-3/4	C15141	10
P	.3230	1-11/16	2-15/16	C15145	5
Q	.3320	1-11/16	3	C15146	5
R	.3390	1-11/16	3	C15147	5
S	.3480	1-3/4	3-1/16	C15148	5
U	.3680	1-13/16	3-1/8	C15150	5
V	.3770	1-7/8	3-1/4	C15151	5
Z	.4130	2	3-3/8	C15155	5

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

01

DRILLS

WALTER

T4HD SERIES

PREMIUM GRADE HIGH SPEED STEEL

135° Split Point / Round Shank / High Helix / Black & Gold

These drill bits (NAS Type C) have short flutes as well as a short overall length for maximum rigidity when drilling in sheet metal. They are made with a cobalt blend to provide a long service life in hard materials such as stainless steel.

- ▷ Shorter length increases rigidity
- ▷ Improved drilling in hard metal like stainless
- ▷ 135° Split Point reduces "walking" and improves ease of penetration
- ▷ NAS Type C

Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK



Size	Decimal Equiv. (Inch)	Fractional		Order Number Tube	Tube Qty.
		Flute Length (Inch)	Overall Length (Inch)		
1/16	.0625	5/8	1-5/8	060404	12
5/64	.0781	11/16	1-11/16	060405	12
3/32	.0938	3/4	1-3/4	060406	12
7/64	.1094	13/16	1-13/16	060407	12
1/8	.1250	7/8	1-7/8	060408	12
9/64	.1406	15/16	1-15/16	060409	12
5/32	.1562	1	2-1/16	060410	12
11/64	.1719	1-1/16	2-1/8	060411	12
3/16	.1875	1-1/8	2-3/16	060412	12
13/64	.2031	1-3/16	2-1/4	060413	12
7/32	.2188	1-1/4	2-3/8	060414	12
15/64	.2344	1-5/16	2-7/16	060415	12
1/4	.2500	1-3/8	2-1/2	060416	12
17/64	.2656	1-7/16	2-5/8	060417	12
9/32	.2812	1-1/2	2-11/16	060418	12
19/64	.2969	1-9/16	2-3/4	060419	12
5/16	.3125	1-5/8	2-13/16	060420	6
21/64	.3281	1-11/16	2-15/16	060421	6
11/32	.3438	1-11/16	3	060422	6
23/64	.3594	1-3/4	3-1/16	060423	6
3/8	.3750	1-13/16	3-1/8	060424	6
25/64	.3906	1-7/8	3-1/4	060425	6
13/32	.4062	1-15/16	3-5/16	060426	6
27/64	.4219	2	3-3/8	060427	6
7/16	.4375	2-1/16	3-7/16	060428	6
29/64	.4531	2-1/8	3-9/16	060429	6
15/32	.4688	2-1/8	3-5/8	060430	6
31/64	.4844	2-3/16	3-11/16	060431	6
1/2	.5000	2-1/4	3-3/4	060432	6

Corresponding Sets

Number of Pieces	Style	Sizes	Order Number
29	T29HD	1/16"-1/2" x 1/64	090568

Metal case

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

01H / 01J SST+ SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze

Excellent for drilling into sheet metal and other thin-walled material. The 135° split point prevents center-punching and its short length helps prevent breakage, making it an ideal option for drilling in confined spaces.

- ▷ Self-centering 135° split point geometry
- ▷ Special bronze SST surface treatment
- ▷ Heavy duty fully ground body construction
- ▷ High flow flute design
- ▷ Unique shank design with six long flats to provide a better grip for cordless and corded power tools
- ▷ Packaged in reusable plastic packaging

Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK HEX SHANK



Fractional - Hex Shank						
Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Order Number	Std. Pkg. Qty.	Std. Carton
*1/16"	.0625	3/8"	1-5/16"	01H104	10	100
*5/64"	.0781	1/2"	1-1/2"	01H105	10	100
*3/32"	.0938	9/16"	1-11/16"	01H106	10	100
*7/64"	.1094	5/8"	1-13/16"	01H107	10	100
*1/8"	.1250	11/16"	1-15/16"	01H108	10	100
*9/64"	.1406	13/16"	2-1/16"	01H109	10	100
*5/32"	.1562	7/8"	2-3/16"	01H110	10	100
*11/64"	.1719	15/16"	2-5/16"	01H111	10	100
3/16"	.1875	1"	2-7/16"	01H112	10	100
13/64"	.2031	1"	2-7/16"	01H113	10	100
7/32"	.2188	1-1/8"	2-5/8"	01H114	10	100
15/64"	.2344	1-1/8"	2-5/8"	01H115	10	100
1/4"	.2500	1-1/4"	2-3/4"	01H116	10	100
17/64"	.2656	1-5/16"	2-15/16"	01H117	10	100
9/32"	.2812	1-5/16"	2-15/16"	01H118	10	100
19/64"	.2969	1-5/16"	2-15/16"	01H119	10	100
5/16"	.3125	1-7/16"	3-1/8"	01H120	10	100
21/64"	.3281	1-7/16"	3-1/8"	01H121	10	100
11/32"	.3438	1-9/16"	3-5/16"	01H122	10	100
23/64"	.3594	1-9/16"	3-5/16"	01H123	10	100
3/8"	.3750	1-11/16"	3-1/2"	01H124	10	100
25/64"	.3906	1-11/16"	3-1/2"	01H125	5	50
13/32"	.4062	1-11/16"	3-1/2"	01H126	5	50
27/64"	.4219	1-7/8"	3-3/4"	01H127	5	50
7/16"	.4375	1-7/8"	3-3/4"	01H128	5	50
29/64"	.4531	1-7/8"	3-3/4"	01H129	5	50
15/32"	.4688	2"	4"	01H130	5	50
31/64"	.4844	2"	4"	01H131	5	50
1/2"	.5000	2"	4"	01H132	5	50

*Sizes 11/64" and smaller have a round shank.

Fractional - Round Shank						
Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Order Number	Std. Pkg. Qty.	Std. Carton
1/16"	.0625	3/8"	1-5/16"	01H004	10	100
5/64"	.0781	1/2"	1-1/2"	01H005	10	100
3/32"	.0938	9/16"	1-11/16"	01H006	10	100
7/64"	.1094	5/8"	1-13/16"	01H007	10	100
1/8"	.1250	11/16"	1-15/16"	01H008	10	100
9/64"	.1406	13/16"	2-1/16"	01H009	10	100
5/32"	.1562	7/8"	2-3/16"	01H010	10	100
11/64"	.1719	15/16"	2-5/16"	01H011	10	100
3/16"	.1875	1"	2-7/16"	01H012	10	100
13/64"	.2031	1"	2-7/16"	01H013	10	100
7/32"	.2188	1-1/8"	2-5/8"	01H014	10	100
15/64"	.2344	1-1/8"	2-5/8"	01H015	10	100
1/4"	.2500	1-1/4"	2-3/4"	01H016	10	100
17/64"	.2656	1-5/16"	2-15/16"	01H017	10	100
9/32"	.2812	1-5/16"	2-15/16"	01H018	10	100
19/64"	.2969	1-5/16"	2-15/16"	01H019	10	100
5/16"	.3125	1-7/16"	3-1/8"	01H020	10	100
21/64"	.3281	1-7/16"	3-1/8"	01H021	10	100
11/32"	.3438	1-9/16"	3-5/16"	01H022	10	100
23/64"	.3594	1-9/16"	3-5/16"	01H023	10	100
3/8"	.3750	1-11/16"	3-1/2"	01H024	10	100
25/64"	.3906	1-11/16"	3-1/2"	01H025	5	50
13/32"	.4062	1-11/16"	3-1/2"	01H026	5	50
27/64"	.4219	1-7/8"	3-3/4"	01H027	5	50
7/16"	.4375	1-7/8"	3-3/4"	01H028	5	50
29/64"	.4531	1-7/8"	3-3/4"	01H029	5	50
15/32"	.4688	2"	4"	01H030	5	50
31/64"	.4844	2"	4"	01H031	5	50
1/2"	.5000	2"	4"	01H032	5	50

continued on next page

HEAVY DUTY SCREW MACHINE LENGTH DRILLS

01H / 01J SST+ SERIES continued

Size	Decimal Equiv.	Flute Length (Inch)	Wire			
			Overall Length (Inch)	Order Number	Std. Pkg. Qty.	Std. Carton
40	.0980	9/16"	1-11/16"	01J040	10	100
39	.0995	9/16"	1-11/16"	01J039	10	100
38	.1015	9/16"	1-11/16"	01J038	10	100
37	.1040	9/16"	1-11/16"	01J037	10	100
36	.1065	5/8"	1-13/16"	01J036	10	100
35	.1100	5/8"	1-13/16"	01J035	10	100
34	.1110	5/8"	1-13/16"	01J034	10	100
33	.1130	5/8"	1-13/16"	01J033	10	100
32	.1160	5/8"	1-13/16"	01J032	10	100
31	.1200	5/8"	1-13/16"	01J031	10	100
30	.1285	11/16"	1-15/16"	01J030	10	100
29	.1360	13/16"	2-1/16"	01J029	10	100
28	.1405	13/16"	2-1/16"	01J028	10	100
27	.1440	13/16"	2-1/16"	01J027	10	100
26	.1470	7/8"	2-3/16"	01J026	10	100
25	.1495	7/8"	2-3/16"	01J025	10	100
24	.1520	7/8"	2-3/16"	01J024	10	100
23	.1540	7/8"	2-3/16"	01J023	10	100
22	.1570	7/8"	2-3/16"	01J022	10	100
21	.1590	7/8"	2-3/16"	01J021	10	100
20	.1610	7/8"	2-3/16"	01J020	10	100
19	.1660	7/8"	2-3/16"	01J019	10	100
18	.1695	15/16"	2-5/16"	01J018	10	100
17	.1730	15/16"	2-5/16"	01J017	10	100
16	.1770	15/16"	2-5/16"	01J016	10	100
15	.1800	15/16"	2-5/16"	01J015	10	100
14	.1820	15/16"	2-5/16"	01J014	10	100
13	.1850	15/16"	2-5/16"	01J013	10	100
12	.1890	1"	2-7/16"	01J012	10	100
11	.1910	1"	2-7/16"	01J011	10	100
10	.1935	1"	2-7/16"	01J010	10	100
9	.1960	1"	2-7/16"	01J009	10	100
8	.1990	1"	2-7/16"	01J008	10	100
7	.2010	1"	2-7/16"	01J007	10	100
6	.2040	1"	2-7/16"	01J006	10	100
5	.2055	1"	2-7/16"	01J005	10	100
4	.2090	1"	2-7/16"	01J004	10	100
3	.2130	1-1/8"	2-5/8"	01J003	10	100
2	.2210	1-1/8"	2-5/8"	01J002	10	100
1	.2280	1-1/8"	2-5/8"	01J001	10	100

GENERAL PURPOSE SCREW MACHINE LENGTH DRILLS

1621 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

135° Split Point / Round Shank / Black Oxide

CLE-FORCE 1621 Heavy duty Screw Machine Drill with black oxide and 135° split point ensures precise, efficient drilling in steel and cast iron. ASME B94.11M compliant.

Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	5/8	1-5/8	C68491	12
5/64	.0781	11/16	1-11/16	C68492	12
3/32	.0938	3/4	1-3/4	C68493	12
7/64	.1094	13/16	1-13/16	C68494	12
1/8	.1250	7/8	1-7/8	C68495	12
9/64	.1406	15/16	1-15/16	C68496	12
5/32	.1562	1	2-1/16	C68497	12
11/64	.1719	1-1/16	2-1/8	C68498	12
3/16	.1875	1-1/8	2-3/16	C68499	12
13/64	.2031	1-3/16	2-1/4	C68500	12
7/32	.2188	1-1/4	2-3/8	C68501	12
15/64	.2344	1-5/16	2-7/16	C68502	12
1/4	.2500	1-3/8	2-1/2	C68503	12
17/64	.2656	1-7/16	2-5/8	C68504	12
9/32	.2812	1-1/2	2-11/16	C68505	12

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
19/64	.2969	1-9/16	2-3/4	C68506	6
5/16	.3125	1-5/8	2-13/16	C68507	6
21/64	.3281	1-11/16	2-15/16	C68508	6
11/32	.3438	1-11/16	3	C68509	6
23/64	.3594	1-3/4	3-1/16	C68510	6
3/8	.3750	1-13/16	3-1/8	C68511	6
25/64	.3906	1-7/8	3-1/4	C68512	6
13/32	.4062	1-15/16	3-5/16	C68513	6
27/64	.4219	2	3-3/8	C68514	6
7/16	.4375	2-1/16	3-7/16	C68515	6
29/64	.4531	2-1/8	3-9/16	C68516	6
15/32	.4688	2-1/8	3-5/8	C68517	6
31/64	.4844	2-3/16	3-11/16	C68518	6
1/2	.5000	2-1/4	3-3/4	C68519	6
Letter					
E	.2500	1-3/8	2-1/2	C68503	12

GENERAL PURPOSE SCREW MACHINE LENGTH DRILLS

300E SERIES

HIGH SPEED STEEL

135° Split Point / Round Shank / Black Oxide

Screw Machine (Stub) length drills offering greater stability than longer drills. Heavy duty design increases tool life and performance. 135° Split Point reduces walking at the point.

Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16"	.0625	5/8"	1-5/8"	300E104	12
5/64"	.0781	11/16"	1-11/16"	300E105	12
3/32"	.0938	3/4"	1-3/4"	300E106	12
7/64"	.1094	13/16"	1-13/16"	300E107	12
1/8"	.1250	7/8"	1-7/8"	300E108	12
9/64"	.1406	15/16"	1-15/16"	300E109	12
5/32"	.1562	1"	2-1/16"	300E110	12
11/64"	.1719	1-1/16"	2-1/8"	300E111	12
3/16"	.1875	1-1/8"	2-3/16"	300E112	12
13/64"	.2031	1-3/16"	2-1/4"	300E113	12
7/32"	.2188	1-1/4"	2-3/8"	300E114	12
15/64"	.2344	1-5/16"	2-7/16"	300E115	12
1/4"	.2500	1-3/8"	2-1/2"	300E116	12
17/64"	.2656	1-7/16"	2-5/8"	300E117	12
9/32"	.2812	1-1/2"	2-11/16"	300E118	12
19/64"	.2969	1-9/16"	2-3/4"	300E119	12
5/16"	.3125	1-5/8"	2-13/16"	300E120	6
21/64"	.3281	1-11/16"	2-15/16"	300E121	6
11/32"	.3438	1-11/16"	3"	300E122	6
23/64"	.3594	1-3/4"	3-1/16"	300E123	6
3/8"	.3750	1-13/16"	3-1/8"	300E124	6
25/64"	.3906	1-7/8"	3-1/4"	300E125	6
13/32"	.4062	1-15/16"	3-5/16"	300E126	6
27/64"	.4219	2"	3-3/8"	300E127	6
7/16"	.4375	2-1/16"	3-7/16"	300E128	6
29/64"	.4531	2-1/8"	3-9/16"	300E129	6
15/32"	.4688	2-1/8"	3-5/8"	300E130	6
31/64"	.4844	2-3/16"	3-11/16"	300E131	6
1/2"	.5000	2-1/4"	3-3/4"	300E132	6

GENERAL PURPOSE SILVER & DEMING (S&D) DRILLS

1892 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / 1/2" Reduced Shank / Flatted Shank / Black Oxide

The CLE-LINE 1892 Silver & Deming Drill with black oxide finish and 118° point offers efficient steel and cast iron drilling with a reduced flatted shank.

Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT REDUCED SHANK WITH FLATS



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/2	.5000	3-1/8	6	C20670	1
33/64	.5156	3-1/8	6	C20671	1
17/32	.5312	3-1/8	6	C20672	1
35/64	.5469	3-1/8	6	C20673	1
9/16	.5625	3-1/8	6	C20674	1
37/64	.5781	3-1/8	6	C20675	1
19/32	.5938	3-1/8	6	C20676	1
39/64	.6094	3-1/8	6	C20677	1
5/8	.6250	3-1/8	6	C20678	1
41/64	.6406	3-1/8	6	C20679	1
21/32	.6562	3-1/8	6	C20680	1
43/64	.6719	3-1/8	6	C20681	1
11/16	.6875	3-1/8	6	C20682	1
45/64	.7031	3-1/8	6	C20683	1
23/32	.7188	3-1/8	6	C20684	1
47/64	.7344	3-1/8	6	C20685	1
3/4	.7500	3-1/8	6	C20686	1
49/64	.7656	3-1/8	6	C20687	1
25/32	.7812	3-1/8	6	C20688	1
51/64	.7969	3-1/8	6	C28415	1
13/16	.8125	3-1/8	6	C20689	1
53/64	.8281	3-1/8	6	C28416	1
27/32	.8438	3-1/8	6	C20690	1
55/64	.8594	3-1/8	6	C28417	1
7/8	.8750	3-1/8	6	C20691	1
57/64	.8906	3-1/8	6	C28418	1
29/32	.9062	3-1/8	6	C20692	1
59/64	.9219	3-1/8	6	C28419	1
15/16	.9375	3-1/8	6	C20693	1
61/64	.9531	3-1/8	6	C28420	1
31/32	.9688	3-1/8	6	C20694	1
63/64	.9844	3-1/8	6	C28421	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1	1.0000	3-1/8	6	C20695	1
1-1/64	1.0156	3-1/8	6	C28422	1
1-1/32	1.0312	3-1/8	6	C28423	1
1-3/64	1.0469	3-1/8	6	C28424	1
1-1/16	1.0625	3-1/8	6	C20696	1
1-5/64	1.0781	3-1/8	6	C28425	1
1-3/32	1.0938	3-1/8	6	C28426	1
1-7/64	1.1094	3-1/8	6	C28427	1
1-1/8	1.1250	3-1/8	6	C20697	1
1-9/64	1.1406	3-1/8	6	C28428	1
1-5/32	1.1562	3-1/8	6	C28429	1
1-11/64	1.1719	3-1/8	6	C28430	1
1-3/16	1.1875	3-1/8	6	C20698	1
1-13/64	1.2031	3-1/8	6	C28431	1
1-7/32	1.2188	3-1/8	6	C28432	1
1-15/64	1.2344	3-1/8	6	C28433	1
*1-1/4	1.2500	3-1/8	6	C20699	1
*1-17/64	1.2656	3-1/8	6	C28434	1
*1-9/32	1.2812	3-1/8	6	C28435	1
*1-19/64	1.2969	3-1/8	6	C28436	1
*1-5/16	1.3125	3-1/8	6	C28437	1
*1-21/64	1.3281	3-1/8	6	C28438	1
*1-11/32	1.3438	3-1/8	6	C28439	1
*1-23/64	1.3594	3-1/8	6	C28440	1
*1-3/8	1.3750	3-1/8	6	C28441	1
*1-25/64	1.3906	3-1/8	6	C28442	1
*1-13/32	1.4062	3-1/8	6	C28443	1
*1-27/64	1.4219	3-1/8	6	C28444	1
*1-7/16	1.4375	3-1/8	6	C28445	1
*1-29/64	1.4531	3-1/8	6	C28446	1
*1-15/32	1.4688	3-1/8	6	C28447	1
*1-31/64	1.4844	3-1/8	6	C28448	1
*1-1/2	1.5000	3-1/8	6	C28449	1

*Split Point

Corresponding Sets		
Number of Pieces	Sizes	Order Number
8	9/16" – 1" x 1/16"	C22761

Metal case

GENERAL PURPOSE SILVER & DEMING (S&D) DRILLS

1877 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Split Point / 1/2" Reduced Shank / Flatted Shank / Black & Gold

The CLE-LINE 1877 Silver & Deming Drill combines black and gold finish, 118° split point, and reduced flatted shank for efficient steel and cast iron drilling. Metric sizes available.



Best Material Application



STEEL

Drill Specifications



118° SPLIT POINT



REDUCED SHANK
WITH FLATS

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/2	.5000	3-1/8	6	C27600	1
33/64	.5156	3-1/8	6	C17031	1
17/32	.5312	3-1/8	6	C17032	1
35/64	.5469	3-1/8	6	C17033	1
9/16	.5625	3-1/8	6	C17034	1
37/64	.5781	3-1/8	6	C17035	1
19/32	.5938	3-1/8	6	C17036	1
39/64	.6094	3-1/8	6	C17037	1
5/8	.6250	3-1/8	6	C17038	1
41/64	.6406	3-1/8	6	C17039	1
21/32	.6562	3-1/8	6	C17040	1
43/64	.6719	3-1/8	6	C17041	1
11/16	.6875	3-1/8	6	C17042	1
45/64	.7031	3-1/8	6	C17043	1
23/32	.7188	3-1/8	6	C17044	1
47/64	.7344	3-1/8	6	C17045	1
3/4	.7500	3-1/8	6	C17046	1
49/64	.7656	3-1/8	6	C17047	1
25/32	.7812	3-1/8	6	C17048	1
51/64	.7969	3-1/8	6	C17049	1
13/16	.8125	3-1/8	6	C17050	1
53/64	.8281	3-1/8	6	C17051	1
27/32	.8438	3-1/8	6	C17052	1
55/64	.8594	3-1/8	6	C17053	1
7/8	.8750	3-1/8	6	C17054	1
57/64	.8906	3-1/8	6	C17055	1
29/32	.9062	3-1/8	6	C17056	1
59/64	.9219	3-1/8	6	C17057	1
15/16	.9375	3-1/8	6	C17058	1
61/64	.9531	3-1/8	6	C17059	1
31/32	.9688	3-1/8	6	C17060	1
63/64	.9844	3-1/8	6	C17061	1
1	1.0000	3-1/8	6	C17062	1
1-1/64	1.0156	3-1/8	6	C27601	1
1-1/32	1.0312	3-1/8	6	C27602	1
1-3/64	1.0469	3-1/8	6	C27603	1
1-1/16	1.0625	3-1/8	6	C17066	1
1-5/64	1.0781	3-1/8	6	C27604	1
1-3/32	1.0938	3-1/8	6	C27605	1
1-7/64	1.1094	3-1/8	6	C27606	1
1-1/8	1.1250	3-1/8	6	C17070	1
1-9/64	1.1406	3-1/8	6	C27607	1
1-5/32	1.1562	3-1/8	6	C27608	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1-11/64	1.1719	3-1/8	6	C27609	1
1-3/16	1.1875	3-1/8	6	C17074	1
1-13/64	1.2031	3-1/8	6	C27610	1
1-7/32	1.2188	3-1/8	6	C27611	1
1-15/64	1.2344	3-1/8	6	C27612	1
1-1/4	1.2500	3-1/8	6	C17078	1
1-17/64	1.2656	3-1/8	6	C27613	1
1-9/32	1.2812	3-1/8	6	C27614	1
1-19/64	1.2969	3-1/8	6	C27615	1
1-5/16	1.3125	3-1/8	6	C17082	1
1-21/64	1.3281	3-1/8	6	C27616	1
1-11/32	1.3438	3-1/8	6	C27617	1
1-23/64	1.3594	3-1/8	6	C27618	1
1-3/8	1.3750	3-1/8	6	C17086	1
1-25/64	1.3906	3-1/8	6	C27619	1
1-13/32	1.4062	3-1/8	6	C27620	1
1-27/64	1.4219	3-1/8	6	C27621	1
1-7/16	1.4375	3-1/8	6	C17090	1
1-29/64	1.4531	3-1/8	6	C27622	1
1-15/32	1.4688	3-1/8	6	C27623	1
1-31/64	1.4844	3-1/8	6	C27624	1
1-1/2	1.5000	3-1/8	6	C17094	1

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
13.0	.5118	79	152	C21170	1
13.5	.5315	79	152	C21171	1
14.0	.5512	79	152	C21172	1
14.5	.5709	79	152	C21173	1
15.0	.5906	79	152	C21174	1
15.5	.6102	79	152	C21175	1
16.0	.6299	79	152	C21176	1
16.5	.6496	79	152	C21177	1
17.0	.6693	79	152	C21178	1
17.5	.6890	79	152	C21179	1
18.0	.7087	79	152	C21180	1
18.5	.7283	79	152	C21181	1
19.0	.7480	79	152	C21182	1
19.5	.7677	79	152	C21183	1
20.0	.7874	79	152	C21184	1
21.0	.8268	79	152	C21185	1
22.0	.8661	79	152	C21186	1
23.0	.9055	79	152	C21187	1
24.0	.9449	79	152	C21188	1
25.0	.9843	79	152	C21189	1

Corresponding Sets		
Number of Pieces	Sizes	Order Number
8	9/16" – 1" x 1/16"	*C21164

*Plastic case



GENERAL PURPOSE SILVER & DEMING (S&D) DRILLS

1813 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / 1/2" Reduced Shank / Round Shank / Black Oxide

The CLE-LINE 1813 Silver & Deming Drill with black oxide finish and reduced shank combines efficient performance with 118° point precision for steel and cast iron.

Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT REDUCED SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/2	.5000	3-1/8	6	C20732	1
33/64	.5156	3-1/8	6	C20733	1
17/32	.5312	3-1/8	6	C20734	1
35/64	.5469	3-1/8	6	C20735	1
9/16	.5625	3-1/8	6	C20736	1
37/64	.5781	3-1/8	6	C20737	1
19/32	.5938	3-1/8	6	C20738	1
39/64	.6094	3-1/8	6	C20739	1
5/8	.6250	3-1/8	6	C20740	1
41/64	.6406	3-1/8	6	C20741	1
21/32	.6562	3-1/8	6	C20742	1
43/64	.6719	3-1/8	6	C20743	1
11/16	.6875	3-1/8	6	C20744	1
45/64	.7031	3-1/8	6	C20745	1
23/32	.7188	3-1/8	6	C20746	1
47/64	.7344	3-1/8	6	C20747	1
3/4	.7500	3-1/8	6	C20748	1
49/64	.7656	3-1/8	6	C20749	1
25/32	.7812	3-1/8	6	C20750	1
51/64	.7969	3-1/8	6	C20669	1
13/16	.8125	3-1/8	6	C20751	1
53/64	.8281	3-1/8	6	C20724	1
27/32	.8438	3-1/8	6	C20752	1
55/64	.8594	3-1/8	6	C20725	1
7/8	.8750	3-1/8	6	C20753	1
57/64	.8906	3-1/8	6	C20726	1
29/32	.9062	3-1/8	6	C20754	1
59/64	.9219	3-1/8	6	C20727	1
15/16	.9375	3-1/8	6	C20755	1
61/64	.9531	3-1/8	6	C20728	1
31/32	.9688	3-1/8	6	C20756	1
63/64	.9844	3-1/8	6	C20729	1
1	1.0000	3-1/8	6	C20757	1
1-1/64	1.0156	3-1/8	6	C27100	1
1-1/32	1.0312	3-1/8	6	C20730	1
1-3/64	1.0469	3-1/8	6	C27101	1
1-1/16	1.0625	3-1/8	6	C20758	1
1-5/64	1.0781	3-1/8	6	C27102	1
1-3/32	1.0938	3-1/8	6	C27103	1
1-7/64	1.1094	3-1/8	6	C27104	1
1-1/8	1.1250	3-1/8	6	C20759	1
1-9/64	1.1406	3-1/8	6	C27105	1
1-5/32	1.1562	3-1/8	6	C20731	1
1-11/64	1.1719	3-1/8	6	C27106	1
1-3/16	1.1875	3-1/8	6	C20760	1
1-13/64	1.2031	3-1/8	6	C27107	1
1-7/32	1.2188	3-1/8	6	C27108	1
1-15/64	1.2344	3-1/8	6	C27109	1
1-1/4	1.2500	3-1/8	6	C20761	1
1-17/64	1.2656	3-1/8	6	C27110	1
1-9/32	1.2812	3-1/8	6	C27111	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1-19/64	1.2969	3-1/8	6	C27112	1
1-5/16	1.3125	3-1/8	6	C20762	1
1-21/64	1.3281	3-1/8	6	C27113	1
1-11/32	1.3438	3-1/8	6	C27114	1
1-23/64	1.3594	3-1/8	6	C27115	1
1-3/8	1.3750	3-1/8	6	C20763	1
1-25/64	1.3906	3-1/8	6	C27116	1
1-13/32	1.4062	3-1/8	6	C27117	1
1-27/64	1.4219	3-1/8	6	C27118	1
1-7/16	1.4375	3-1/8	6	C20764	1
1-29/64	1.4531	3-1/8	6	C27119	1
1-15/32	1.4688	3-1/8	6	C27120	1
1-31/64	1.4844	3-1/8	6	C27121	1
1-1/2	1.5000	3-1/8	6	C20765	1

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
13.0	.5118	79	152	C21070	1
13.5	.5315	79	152	C21071	1
14.0	.5512	79	152	C21072	1
14.5	.5709	79	152	C21073	1
15.0	.5906	79	152	C21074	1
15.5	.6102	79	152	C21075	1
16.0	.6299	79	152	C21076	1
16.5	.6496	79	152	C21077	1
17.0	.6693	79	152	C21078	1
17.5	.6890	79	152	C21079	1
18.0	.7087	79	152	C21080	1
18.5	.7283	79	152	C21081	1
19.0	.7480	79	152	C21082	1
19.5	.7677	79	152	C21083	1
20.0	.7874	79	152	C21084	1
21.0	.8268	79	152	C21085	1
22.0	.8661	79	152	C21086	1
23.0	.9055	79	152	C21087	1
24.0	.9449	79	152	C21088	1
25.0	.9843	79	152	C21089	1



C21134

Corresponding Sets		
Number of Pieces	Sizes	Order Number
8	9/16" – 1" x 1/16"	C21135
33	Stand 1/2" – 1" x 1/64" with Drills	C21134

Metal case

HEAVY DUTY SILVER & DEMING (S&D) DRILLS

1000N SERIES

HEAVY DUTY HIGH SPEED STEEL

NITRO®
118° Split Point / 1/2" Reduced Shank / Flatted Shank / Black & Gold

Nitro® S&D drills offer superior performance over conventional HSS drills. All drills have 1/2" shanks, and 6" overall length. Their heavy duty construction increases tool life and performance. 118° Split Point reduces walking at the drill point.

Best Material Application


CAST IRON STEEL

Drill Specifications


118° SPLIT POINT REDUCED SHANK WITH FLATS



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
33/64	.5156	3	6	1000N133	1
17/32	.5312	3	6	1000N134	1
35/64	.5469	3	6	1000N135	1
9/16	.5625	3	6	1000N136	1
37/64	.5781	3	6	1000N137	1
19/32	.5938	3	6	1000N138	1
39/64	.6094	3	6	1000N139	1
5/8	.6250	3	6	1000N140	1
41/64	.6406	3	6	1000N141	1
21/32	.6562	3	6	1000N142	1
43/64	.6719	3	6	1000N143	1
11/16	.6875	3	6	1000N144	1
45/64	.7031	3	6	1000N145	1
23/32	.7188	3	6	1000N146	1
47/64	.7344	3	6	1000N147	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/4	.7500	3	6	1000N148	1
49/64	.7656	3	6	1000N149	1
25/32	.7812	3	6	1000N150	1
51/64	.7969	3	6	1000N151	1
13/16	.8125	3	6	1000N152	1
53/64	.8281	3	6	1000N153	1
27/32	.8438	3	6	1000N154	1
55/64	.8594	3	6	1000N155	1
7/8	.8750	3	6	1000N156	1
57/64	.8906	3	6	1000N157	1
29/32	.9062	3	6	1000N158	1
59/64	.9219	3	6	1000N159	1
15/16	.9375	3	6	1000N160	1
61/64	.9531	3	6	1000N161	1
31/32	.9688	3	6	1000N162	1
63/64	.9844	3	6	1000N163	1
1	1.0000	3	6	1000N164	1

Corresponding Sets		
Number of Pieces	Sizes	Order Number
5	9/16" - 1" x 1/8	1000N5
8	9/16" - 1" x 1/16	1000N8
32	Stand 1/2" - 1" x 1/64 with Drills	1000N32

Metal cases

HEAVY DUTY SILVER & DEMING (S&D) DRILLS

1000C / T9C SERIES

HEAVY DUTY COBALT

118° Split Point / 1/2" Reduced Shank / Round Shank / Bronze Oxide

1000C series S&D Drills expand the size range capacity of a 1/2" portable drill chuck. Common flute and overall length for minimal adjustment during tool changes. Cobalt steel for drilling harder materials.

Best Material Application



Drill Specifications



Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Order Number (Hanger)	Hanger Qty.
33/64	.5156	3	6	1000C133	092033	1
17/32	.5312	3	6	1000C134	092034	1
35/64	.5469	3	6	1000C135	092035	1
9/16	.5625	3	6	1000C136	092036	1
37/64	.5781	3	6	1000C137	092037	1
19/32	.5938	3	6	1000C138	092038	1
39/64	.6094	3	6	1000C139	092039	1
5/8	.6250	3	6	1000C140	092040	1
41/64	.6406	3	6	1000C141	092041	1
21/32	.6562	3	6	1000C142	092042	1
43/64	.6719	3	6	1000C143	092043	1
11/16	.6875	3	6	1000C144	092044	1
45/64	.7031	3	6	1000C145	092045	1
23/32	.7188	3	6	1000C146	092046	1
47/64	.7344	3	6	1000C147	092047	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Order Number (Hanger)	Hanger Qty.
3/4	.7500	3	6	1000C148	092048	1
49/64	.7656	3	6	1000C149	092049	1
25/32	.7812	3	6	1000C150	092050	1
51/64	.7969	3	6	1000C151	092051	1
13/16	.8125	3	6	1000C152	092052	1
53/64	.8281	3	6	1000C153	092053	1
27/32	.8438	3	6	1000C154	092054	1
55/64	.8594	3	6	1000C155	092055	1
7/8	.8750	3	6	1000C156	092056	1
57/64	.8906	3	6	1000C157	092057	1
29/32	.9062	3	6	1000C158	092058	1
59/64	.9219	3	6	1000C159	092059	1
15/16	.9375	3	6	1000C160	092060	1
61/64	.9531	3	6	1000C161	092061	1
31/32	.9688	3	6	1000C162	092062	1
63/64	.9844	3	6	1000C163	092063	1
1	1.0000	3	6	1000C164	092064	1

Corresponding Sets			
Number of Pieces	Sizes	Order Number	
5	9/16" - 1" x 1/8	1000C5	—
8	9/16" - 1" x 1/16	1000C8	090909
32	Stand 1/2" - 1" x 1/64 with Drills	1000C32	—

Metal cases

GENERAL PURPOSE SILVER & DEMING (S&D) DRILLS

01

DRILLS

1000A / T9 SERIES

HIGH SPEED STEEL

118° Point / 1/2" Reduced Shank / Round Shank / Black & Bright

These 1000 series S&D Drills expand the size range capacity of a 1/2" portable drill chuck. Common flute and overall length for minimal adjustment during tool changes. Ideal for drilling low and medium tensile strength materials.

Best Material Application



Drill Specifications



Fractional								
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Order Number (Hanger)	Hanger Qty.	Order Number Bulk	Bulk Qty.
33/64	.5156	3	6	1000A133	091733	1	091733.20	25
17/32	.5312	3	6	1000A134	091734	1	091734.20	25
35/64	.5469	3	6	1000A135	091735	1	091735.20	25
9/16	.5625	3	6	1000A136	091736	1	091736.20	25
37/64	.5781	3	6	1000A137	091737	1	091737.20	25
19/32	.5938	3	6	1000A138	091738	1	091738.20	25
39/64	.6094	3	6	1000A139	091739	1	091739.20	25
5/8	.6250	3	6	1000A140	091740	1	091740.20	25
41/64	.6406	3	6	1000A141	091741	1	091741.20	25
21/32	.6562	3	6	1000A142	091742	1	091742.20	25
43/64	.6719	3	6	1000A143	091743	1	091743.20	25
11/16	.6875	3	6	1000A144	091744	1	091744.20	25
45/64	.7031	3	6	1000A145	091745	1	091745.20	25
23/32	.7188	3	6	1000A146	091746	1	091746.20	25
47/64	.7344	3	6	1000A147	091747	1	091747.20	25
3/4	.7500	3	6	1000A148	091748	1	091748.20	25
49/64	.7656	3	6	1000A149	091749	1	091749.20	25
25/32	.7812	3	6	1000A150	091750	1	091750.20	25
51/64	.7969	3	6	1000A151	091751	1	091751.20	25
13/16	.8125	3	6	1000A152	091752	1	091752.20	25
53/64	.8281	3	6	1000A153	091753	1	091753.20	25
27/32	.8438	3	6	1000A154	091754	1	091754.20	25
55/64	.8594	3	6	1000A155	091755	1	091755.20	25
7/8	.8750	3	6	1000A156	091756	1	091756.20	25
57/64	.8906	3	6	1000A157	091757	1	091757.20	25
29/32	.9062	3	6	1000A158	091758	1	091758.20	25
59/64	.9219	3	6	1000A159	091759	1	091759.20	25
15/16	.9375	3	6	1000A160	091760	1	091760.20	25
61/64	.9531	3	6	1000A161	091761	1	091761.20	25
31/32	.9688	3	6	1000A162	091762	1	091762.20	25
63/64	.9844	3	6	1000A163	091763	1	091763.20	25
1	1.0000	3	6	1000A164	091764	1	091764.20	25
1-1/64	1.0156	3	6	1000A201	091765	1	091765.20	25
1-1/32	1.0312	3	6	1000A202	091766	1	091766.20	25
1-3/64	1.0469	3	6	1000A203	091767	1	091767.20	25

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GENERAL PURPOSE SILVER & DEMING (S&D) DRILLS

1000A / T9 SERIES continued



Fractional								
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Order Number Tube	Tube Qty.	Order Number Bulk	Bulk Qty.
1-1/16	1.0625	3	6	1000A204	091768	1	091768.20	25
1-5/64	1.0781	3	6	1000A205	—	—	—	—
1-3/32	1.0938	3	6	1000A206	091770	1	091770.20	25
1-7/64	1.1094	3	6	1000A207	—	—	—	—
1-1/8	1.1250	3	6	1000A208	091772	1	091772.20	25
1-9/64	1.1406	3	6	1000A209	—	—	—	—
1-5/32	1.1562	3	6	1000A210	091774	1	091774.20	25
1-11/64	1.1719	3	6	1000A211	—	—	—	—
1-3/16	1.1875	3	6	1000A212	091776	1	091776.20	25
1-13/64	1.2031	3	6	1000A213	—	—	—	—
1-7/32	1.2188	3	6	1000A214	091778	1	091778.20	25
1-15/64	1.2344	3	6	1000A215	—	—	—	—
1-1/4	1.2500	3	6	1000A216	091780	1	091780.20	25
1-9/32	1.2812	3	6	1000A218	091782	1	091782.20	25
1-5/16	1.3125	3	6	1000A220	091784	1	091784.20	25
1-3/8	1.3750	3	6	1000A224	091788	1	091788.20	25
1-7/16	1.4375	3	6	1000A228	091792	1	091792.20	25
1-1/2	1.5000	3	6	1000A232	091796	1	091796.20	25



1000A8

Corresponding Sets			
Number of Pieces	Sizes	Order Number	
		1000A	T9
5	9/16" - 1" x 1/8	1000A5	—
8	9/16" - 1" x 1/16	1000A8	090598
32	Stand 1/2" - 1" x 1/64 with Drills	1000A32	090599

Metal cases

GENERAL PURPOSE SILVER & DEMING (S&D) DRILLS

1000F / T9F SERIES

HIGH SPEED STEEL

118° Point / 1/2" Reduced Shank / Flatted Shank / Black & Bright

1000F series S&D Drills with 3-flute shanks expand the size range capacity of a 1/2" portable drill chuck. Common flute and overall length for minimal adjustment during tool changes. Ideal for drilling low and medium tensile strength materials.

Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT REDUCED SHANK WITH FLATS



Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Order Number (Hanger)	Hanger Qty.
33/64	.5156	3	6	1000F133	092833	1
17/32	.5312	3	6	1000F134	092834	1
35/64	.5469	3	6	1000F135	092835	1
9/16	.5625	3	6	1000F136	092836	1
37/64	.5781	3	6	1000F137	092837	1
19/32	.5938	3	6	1000F138	092838	1
39/64	.6094	3	6	1000F139	092839	1
5/8	.6250	3	6	1000F140	092840	1
41/64	.6406	3	6	1000F141	092841	1
21/32	.6562	3	6	1000F142	092842	1
43/64	.6719	3	6	1000F143	092843	1
11/16	.6875	3	6	1000F144	092844	1
45/64	.7031	3	6	1000F145	092845	1
23/32	.7188	3	6	1000F146	092846	1
47/64	.7344	3	6	1000F147	092847	1
3/4	.7500	3	6	1000F148	092848	1
49/64	.7656	3	6	1000F149	092849	1
25/32	.7812	3	6	1000F150	092850	1
51/64	.7969	3	6	1000F151	092851	1
13/16	.8125	3	6	1000F152	092852	1
53/64	.8281	3	6	1000F153	092853	1
27/32	.8438	3	6	1000F154	092854	1
55/64	.8594	3	6	1000F155	092855	1
7/8	.8750	3	6	1000F156	092856	1
57/64	.8906	3	6	1000F157	092857	1
29/32	.9062	3	6	1000F158	092858	1
59/64	.9219	3	6	1000F159	092859	1
15/16	.9375	3	6	1000F160	092860	1
61/64	.9531	3	6	1000F161	092861	1
31/32	.9688	3	6	1000F162	092862	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Order Number (Hanger)	Hanger Qty.
63/64	.9844	3	6	1000F163	092863	1
1	1.0000	3	6	1000F164	092864	1
1-1/32	1.0312	3	6	1000F202	092866	1
1-1/16	1.0625	3	6	1000F204	092868	1
1-3/32	1.0781	3	6	1000F206	092870	1
1-1/8	1.1250	3	6	1000F208	092872	1
1-5/32	1.1562	3	6	1000F210	092874	1
1-3/16	1.1875	3	6	1000F212	092876	1
1-7/32	1.2188	3	6	1000F214	092878	1
1-1/4	1.2500	3	6	1000F216	092880	1
1-5/16	1.3125	3	6	1000F220	092884	1
1-3/8	1.3750	3	6	1000F224	092888	1
1-7/16	1.4375	3	6	1000F228	092892	1
1-1/2	1.5000	3	6	1000F232	092896	1

Corresponding Sets			
Number of Pieces	Sizes	Order Number	
		1000F	T9F
5	9/16" - 1" x 1/8	1000F5	—
8	9/16" - 1" x 1/16	1000F8	090596
32	Stand 1/2" - 1" x 1/64 with Drills	1000F32	090593

Metal cases

HEAVY DUTY SILVER & DEMING (S&D) DRILLS

190F SERIES

HEAVY DUTY HIGH SPEED STEEL

118° Split Point / 1/2" Reduced Shank / Flatted Shank / Black Oxide

Silver & Deming drills with 1/2" reduced shanks, 118° split point, and 6" overall length for rigidity and accuracy. Made from premium high-speed steel with black oxide finish, ideal for portable and machine drilling.

Best Material Application



CAST IRON



STEEL

Drill Specifications



118° SPLIT POINT



REDUCED SHANK
WITH FLATS



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/2	.5000	3.1250	6.0000	52432	1
33/64	.5156	3.1250	6.0000	52433	1
17/32	.5312	3.1250	6.0000	52434	1
35/64	.5469	3.1250	6.0000	52435	1
9/16	.5625	3.1250	6.0000	52436	1
37/64	.5781	3.1250	6.0000	52437	1
19/32	.5938	3.1250	6.0000	52438	1
39/64	.6094	3.1250	6.0000	52439	1
5/8	.6250	3.1250	6.0000	52440	1
41/64	.6406	3.1250	6.0000	52441	1
21/32	.6562	3.1250	6.0000	52442	1
43/64	.6719	3.1250	6.0000	52443	1
11/16	.6875	3.1250	6.0000	52444	1
45/64	.7031	3.1250	6.0000	52445	1
23/32	.7188	3.1250	6.0000	52446	1
47/64	.7344	3.1250	6.0000	52447	1
3/4	.7500	3.1250	6.0000	52448	1
49/64	.7656	3.1250	6.0000	52449	1
25/32	.7812	3.1250	6.0000	52450	1
51/64	.7969	3.1250	6.0000	52451	1
13/16	.8125	3.1250	6.0000	52452	1
53/64	.8281	3.1250	6.0000	52453	1
27/32	.8438	3.1250	6.0000	52454	1
55/64	.8594	3.1250	6.0000	52455	1
7/8	.8750	3.1250	6.0000	52456	1
57/64	.8906	3.1250	6.0000	52457	1
29/32	.9062	3.1250	6.0000	52458	1
59/64	.9219	3.1250	6.0000	52459	1
15/16	.9375	3.1250	6.0000	52460	1
61/64	.9531	3.1250	6.0000	52461	1
31/32	.9688	3.1250	6.0000	52462	1
63/64	.9844	3.1250	6.0000	52463	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1	1.0000	3.1250	6.0000	52464	1
1-1/64	1.0156	3.1250	6.0000	52465	1
1-1/32	1.0312	3.1250	6.0000	52466	1
1-3/64	1.0469	3.1250	6.0000	52467	1
1-1/16	1.0625	3.1250	6.0000	52468	1
1-5/64	1.0781	3.1250	6.0000	52469	1
1-3/32	1.0938	3.1250	6.0000	52470	1
1-7/64	1.1094	3.1250	6.0000	52471	1
1-1/8	1.1250	3.1250	6.0000	52472	1
1-9/64	1.1406	3.1250	6.0000	52473	1
1-5/32	1.1562	3.1250	6.0000	52474	1
1-11/64	1.1719	3.1250	6.0000	52475	1
1-3/16	1.1875	3.1250	6.0000	52476	1
1-13/64	1.2031	3.1250	6.0000	52477	1
1-7/32	1.2188	3.1250	6.0000	52478	1
1-15/64	1.2344	3.1250	6.0000	52479	1
1-1/4	1.2500	3.1250	6.0000	52480	1
1-17/64	1.2656	3.1250	6.0000	52481	1
1-9/32	1.2812	3.1250	6.0000	52482	1
1-19/64	1.2969	3.1250	6.0000	52483	1
1-5/16	1.3125	3.1250	6.0000	52484	1
1-21/64	1.3281	3.1250	6.0000	52485	1
1-11/32	1.3438	3.1250	6.0000	52486	1
1-23/64	1.3594	3.1250	6.0000	52487	1
1-3/8	1.3750	3.1250	6.0000	52488	1
1-25/64	1.3906	3.1250	6.0000	52489	1
1-13/32	1.4062	3.1250	6.0000	52490	1
1-27/64	1.4219	3.1250	6.0000	52491	1
1-7/16	1.4375	3.1250	6.0000	52492	1
1-29/64	1.4531	3.1250	6.0000	52493	1
1-15/32	1.4688	3.1250	6.0000	52494	1
1-31/64	1.4844	3.1250	6.0000	52495	1
1-1/2	1.5000	3.1250	6.0000	52496	1

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HEAVY DUTY SILVER & DEMING (S&D) DRILLS

190F SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
13.0	.5118	79.38	152.40	52500	1
13.5	.5315	79.38	152.40	52501	1
14.0	.5512	79.38	152.40	52502	1
14.5	.5709	79.38	152.40	52503	1
15.0	.5906	79.38	152.40	52504	1
15.50	.6102	79.38	152.40	52505	1
16.0	.6299	79.38	152.40	52506	1
16.5	.6496	79.38	152.40	52507	1
17.0	.6693	79.38	152.40	52508	1
17.5	.6890	79.38	152.40	52509	1

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
18.0	.7087	79.38	152.40	52510	1
18.5	.7283	79.38	152.40	52511	1
19.0	.7480	79.38	152.40	52512	1
19.5	.7677	79.38	152.40	52513	1
20.0	.7874	79.38	152.40	52514	1
21.0	.8268	79.38	152.40	52515	1
22.0	.8661	79.38	152.40	52516	1
23.0	.9055	79.38	152.40	52517	1
24.0	.9449	79.38	152.40	52518	1
25.0	.9843	79.38	152.40	52519	1

Corresponding Sets			
Number of Pieces	Sizes	Order Number	
8	9/16 - 1 X 1/16	plastic	69860
8	9/16 - 1 X 1/16	metal	69859
16	17/32 - 1 X 1/32	pouch	69849
33	Stand 1/2" - 1" x 1/64 with Drills	metal stand	69848

HEAVY DUTY SILVER & DEMING (S&D) DRILLS

195F SERIES

HEAVY DUTY HIGH SPEED STEEL

118° Split Point / 1/2" Reduced Shank / Flatted Shank / Black & Bright

Manufactured from high speed steel (HSS) and finished black & bright, the 195F Series features a 118° split point and 2-flute, right-hand spiral design for reliable everyday holmaking. A 1/2" reduced shank with 3 flats provides secure chuck grip, and the series uses consistent flute and overall lengths to minimize adjustment during tool changes.

Best Material Application



CAST IRON

STEEL

Drill Specifications



118° SPLIT POINT

REDUCED SHANK
WITH FLATS

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
33/64	.5156	3.1250	6.0000	52300	1
17/32	.5312	3.1250	6.0000	52301	1
35/64	.5469	3.1250	6.0000	52302	1
9/16	.5625	3.1250	6.0000	52303	1
37/64	.5781	3.1250	6.0000	52304	1
19/32	.5938	3.1250	6.0000	52305	1
39/64	.6094	3.1250	6.0000	52306	1
5/8	.6250	3.1250	6.0000	52307	1
41/64	.6406	3.1250	6.0000	52308	1
21/32	.6562	3.1250	6.0000	52309	1
43/64	.6719	3.1250	6.0000	52310	1
11/16	.6875	3.1250	6.0000	52311	1
45/64	.7031	3.1250	6.0000	52312	1
23/32	.7188	3.1250	6.0000	52313	1
47/64	.7344	3.1250	6.0000	52314	1
3/4	.7500	3.1250	6.0000	52315	1
49/64	.7656	3.1250	6.0000	52316	1
25/32	.7812	3.1250	6.0000	52317	1
51/64	.7969	3.1250	6.0000	52318	1
13/16	.8125	3.1250	6.0000	52319	1
53/64	.8281	3.1250	6.0000	52320	1
27/32	.8438	3.1250	6.0000	52321	1
55/64	.8594	3.1250	6.0000	52322	1
7/8	.8750	3.1250	6.0000	52323	1
57/64	.8906	3.1250	6.0000	52324	1
29/32	.9062	3.1250	6.0000	52325	1
59/64	.9219	3.1250	6.0000	52326	1
15/16	.9375	3.1250	6.0000	52327	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
61/64	.9531	3.1250	6.0000	52328	1
31/32	.9688	3.1250	6.0000	52329	1
63/64	.9844	3.1250	6.0000	52330	1
1	1.0000	3.1250	6.0000	52331	1
1-1/64	1.0156	3.1250	6.0000	52332	1
1-1/32	1.0312	3.1250	6.0000	52333	1
1-3/64	1.0469	3.1250	6.0000	52334	1
1-1/16	1.0625	3.1250	6.0000	52335	1
1-5/64	1.0781	3.1250	6.0000	52336	1
1-3/32	1.0938	3.1250	6.0000	52337	1
1-7/64	1.1094	3.1250	6.0000	52338	1
1-1/8	1.1250	3.1250	6.0000	52339	1
1-9/64	1.1406	3.1250	6.0000	52340	1
1-5/32	1.1562	3.1250	6.0000	52341	1
1-11/64	1.1719	3.1250	6.0000	52342	1
1-3/16	1.1875	3.1250	6.0000	52343	1
1-13/64	1.2031	3.1250	6.0000	52344	1
1-7/32	1.2188	3.1250	6.0000	52345	1
1-15/64	1.2344	3.1250	6.0000	52346	1
1-1/4	1.2500	3.1250	6.0000	52347	1
1-9/32"	1.2812	3.1250	6.0000	52348	1
1-5/16	1.3125	3.1250	6.0000	52351	1
1-11/32"	1.3438	3.1250	6.0000	52349	1
1-3/8	1.3750	3.1250	6.0000	52354	1
1-13/32"	1.4062	3.1250	6.0000	52350	1
1-7/16	1.4375	3.1250	6.0000	52352	1
1-15/32	1.4688	3.1250	6.0000	52353	1
1-1/2	1.5000	3.1250	6.0000	52355	1

HEAVY DUTY SILVER & DEMING (S&D) DRILLS

190C SERIES

HEAVY DUTY COBALT

118° Split Point / 1/2" Reduced Shank / Round Shank / Bronze

Cobalt Silver & Deming drills with 1/2" shank, 118° split points, and bronze or TiN finish for durability in abrasive materials. Standardized 6" length ensures rigidity, accuracy, and easy tool changes.

Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



118° SPLIT POINT REDUCED SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/2	.5000	3.1250	6.0000	53432	1
33/64	.5156	3.1250	6.0000	53433	1
17/32	.5312	3.1250	6.0000	53434	1
35/64	.5469	3.1250	6.0000	53435	1
9/16	.5625	3.1250	6.0000	53436	1
37/64	.5781	3.1250	6.0000	53437	1
19/32	.5938	3.1250	6.0000	53438	1
39/64	.6094	3.1250	6.0000	53439	1
5/8	.6250	3.1250	6.0000	53440	1
41/64	.6406	3.1250	6.0000	53441	1
21/32	.6562	3.1250	6.0000	53442	1
43/64	.6719	3.1250	6.0000	53443	1
11/16	.6875	3.1250	6.0000	53444	1
45/64	.7031	3.1250	6.0000	53445	1
23/32	.7188	3.1250	6.0000	53446	1
47/64	.7344	3.1250	6.0000	53447	1
3/4	.7500	3.1250	6.0000	53448	1
49/64	.7656	3.1250	6.0000	53449	1
25/32	.7812	3.1250	6.0000	53450	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
51/64	.7969	3.1250	6.0000	53451	1
13/16	.8125	3.1250	6.0000	53452	1
53/64	.8281	3.1250	6.0000	53453	1
27/32	.8438	3.1250	6.0000	53454	1
55/64	.8594	3.1250	6.0000	53455	1
7/8	.8750	3.1250	6.0000	53456	1
57/64	.8906	3.1250	6.0000	53457	1
29/32	.9062	3.1250	6.0000	53458	1
59/64	.9219	3.1250	6.0000	53459	1
15/16	.9375	3.1250	6.0000	53460	1
61/64	.9531	3.1250	6.0000	53461	1
31/32	.9688	3.1250	6.0000	53462	1
63/64	.9844	3.1250	6.0000	53463	1
1	1.0000	3.1250	6.0000	53464	1
1-1/16	1.0625	3.1250	6.0000	53468	1
1-1/8	1.1250	3.1250	6.0000	53472	1
1-3/16	1.1875	3.1250	6.0000	53475	1
1-1/4	1.2500	3.1250	6.0000	53480	1
1-3/8	1.3750	3.1250	6.0000	53488	1
1-1/2	1.5000	3.1250	6.0000	53496	1

Corresponding Sets		
Number of Pieces	Sizes	Order Number
8	9/16 - 1 X 1/16	69868

Metal cases



Chicago-Latrobe

WALTER

HEAVY DUTY SILVER & DEMING (S&D) DRILLS

190C-TN SERIES

HEAVY DUTY COBALT

118° Split Point / 1/2" Reduced Shank / Round Shank / TiN

Designed with a 118° split point, the 190C-TN Series provides fast penetration with minimal walking and reduced thrust requirements. The precision-ground flute geometry ensures efficient chip evacuation, making these drills ideal for drilling in steel, stainless steel, cast iron, and non-ferrous materials.



Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



118° SPLIT POINT REDUCED SHANK

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/2	.5000	6.0000	3.1250	53400	1
33/64	.5156	6.0000	3.1250	53401	1
17/32	.5312	6.0000	3.1250	53634	1
35/64	.5469	6.0000	3.1250	53402	1
9/16	.5625	6.0000	3.1250	53636	1
37/64	.5781	6.0000	3.1250	53403	1
19/32	.5938	6.0000	3.1250	53638	1
39/64	.6094	6.0000	3.1250	53404	1
5/8	.6250	6.0000	3.1250	53640	1
41/64	.6406	6.0000	3.1250	53405	1
21/32	.6562	6.0000	3.1250	53642	1
43/64	.6719	6.0000	3.1250	53406	1
11/16	.6875	6.0000	3.1250	53644	1
45/64	.7031	6.0000	3.1250	53407	1
23/32	.7188	6.0000	3.1250	53646	1
47/64	.7344	6.0000	3.1250	53408	1
3/4	.7500	6.0000	3.1250	53648	1
49/64	.7656	6.0000	3.1250	53409	1
25/32	.7812	6.0000	3.1250	53650	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
51/64	.7969	6.0000	3.1250	53410	1
13/16	.8125	6.0000	3.1250	53652	1
53/64	.8281	6.0000	3.1250	53411	1
27/32	.8438	6.0000	3.1250	53654	1
55/64	.8594	6.0000	3.1250	53412	1
7/8	.8750	6.0000	3.1250	53656	1
57/64	.8906	6.0000	3.1250	53413	1
29/32	.9062	6.0000	3.1250	53658	1
59/64	.9219	6.0000	3.1250	53414	1
15/16	.9375	6.0000	3.1250	53660	1
61/64	.9531	6.0000	3.1250	53415	1
31/32	.9688	6.0000	3.1250	53662	1
63/64	.9844	6.0000	3.1250	53416	1
1	1.0000	6.0000	3.1250	53664	1
1-1/16	1.0625	6.0000	3.1250	53417	1
1-1/8	1.1250	6.0000	3.1250	53418	1
1-3/16	1.1875	6.0000	3.1250	53419	1
1-1/4	1.2500	6.0000	3.1250	53420	1
1-3/8	1.3750	6.0000	3.1250	53421	1
1-1/2	1.5000	6.0000	3.1250	53422	1

GENERAL PURPOSE SILVER & DEMING (S&D) DRILLS

01

DRILLS

190 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / 1/2" Reduced Shank / Round Shank / Black Oxide

Silver & Deming drills with 1/2" reduced shanks, 118° points, and 6" overall length for rigidity and accuracy. Made from premium high-speed steel with black oxide finish, ideal for portable and machine drilling.

Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT REDUCED SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/2	.5000	3.1250	6.0000	55432	1
33/64	.5156	3.1250	6.0000	55433	1
17/32	.5312	3.1250	6.0000	55434	1
35/64	.5469	3.1250	6.0000	55435	1
9/16	.5625	3.1250	6.0000	55436	1
37/64	.5781	3.1250	6.0000	55437	1
19/32	.5938	3.1250	6.0000	55438	1
39/64	.6094	3.1250	6.0000	55439	1
5/8	.6250	3.1250	6.0000	55440	1
41/64	.6406	3.1250	6.0000	55441	1
21/32	.6562	3.1250	6.0000	55442	1
43/64	.6719	3.1250	6.0000	55443	1
11/16	.6875	3.1250	6.0000	55444	1
45/64	.7031	3.1250	6.0000	55445	1
23/32	.7188	3.1250	6.0000	55446	1
47/64	.7344	3.1250	6.0000	55447	1
3/4	.7500	3.1250	6.0000	55448	1
49/64	.7656	3.1250	6.0000	55449	1
25/32	.7812	3.1250	6.0000	55450	1
51/64	.7969	3.1250	6.0000	55451	1
13/16	.8125	3.1250	6.0000	55452	1
53/64	.8281	3.1250	6.0000	55453	1
27/32	.8438	3.1250	6.0000	55454	1
55/64	.8594	3.1250	6.0000	55455	1
7/8	.8750	3.1250	6.0000	55456	1
57/64	.8906	3.1250	6.0000	55457	1
29/32	.9062	3.1250	6.0000	55458	1
59/64	.9219	3.1250	6.0000	55459	1
15/16	.9375	3.1250	6.0000	55460	1
61/64	.9531	3.1250	6.0000	55461	1
31/32	.9688	3.1250	6.0000	55462	1
63/64	.9844	3.1250	6.0000	55463	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1	1.0000	3.1250	6.0000	55464	1
1-1/64	1.0156	3.1250	6.0000	55465	1
1-1/32	1.0312	3.1250	6.0000	55466	1
1-3/64	1.0469	3.1250	6.0000	55467	1
1-1/16	1.0625	3.1250	6.0000	55468	1
1-5/64	1.0781	3.1250	6.0000	55469	1
1-3/32	1.0938	3.1250	6.0000	55470	1
1-7/64	1.1094	3.1250	6.0000	55471	1
1-1/8	1.1250	3.1250	6.0000	55472	1
1-9/64	1.1406	3.1250	6.0000	55473	1
1-5/32	1.1562	3.1250	6.0000	55474	1
1-11/64	1.1719	3.1250	6.0000	55475	1
1-3/16	1.1875	3.1250	6.0000	55476	1
1-13/64	1.2031	3.1250	6.0000	55477	1
1-7/32	1.2188	3.1250	6.0000	55478	1
1-15/64	1.2344	3.1250	6.0000	55479	1
1-1/4	1.2500	3.1250	6.0000	55480	1
1-17/64	1.2656	3.1250	6.0000	55481	1
1-9/32	1.2812	3.1250	6.0000	55482	1
1-19/64	1.2969	3.1250	6.0000	55483	1
1-5/16	1.3125	3.1250	6.0000	55484	1
1-21/64	1.3281	3.1250	6.0000	55485	1
1-11/32	1.3438	3.1250	6.0000	55486	1
1-23/64	1.3594	3.1250	6.0000	55487	1
1-3/8	1.3750	3.1250	6.0000	55488	1
1-25/64	1.3906	3.1250	6.0000	55489	1
1-13/32	1.4062	3.1250	6.0000	55490	1
1-27/64	1.4219	3.1250	6.0000	55491	1
1-7/16	1.4375	3.1250	6.0000	55492	1
1-29/64	1.4531	3.1250	6.0000	55493	1
1-15/32	1.4688	3.1250	6.0000	55494	1
1-31/64	1.4844	3.1250	6.0000	55495	1
1-1/2	1.5000	3.1250	6.0000	55496	1

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continued on next page

GENERAL PURPOSE SILVER & DEMING (S&D) DRILLS

190 SERIES continued



Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
13.0	.5118	79.38	152.40	55500	1
13.5	.5315	79.38	152.40	55501	1
14.0	.5512	79.38	152.40	55502	1
14.5	.5709	79.38	152.40	55503	1
15.0	.5906	79.38	152.40	55504	1
15.50	.6102	79.38	152.40	55505	1
16.0	.6299	79.38	152.40	55506	1
16.5	.6496	79.38	152.40	55507	1
17.0	.6693	79.38	152.40	55508	1
17.5	.6890	79.38	152.40	55509	1

Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
18.0	.7087	79.38	152.40	55510	1
18.5	.7283	79.38	152.40	55511	1
19.0	.7480	79.38	152.40	55512	1
19.5	.7677	79.38	152.40	55513	1
20.0	.7874	79.38	152.40	55514	1
21.0	.8268	79.38	152.40	55515	1
22.0	.8661	79.38	152.40	55516	1
23.0	.9055	79.38	152.40	55517	1
24.0	.9449	79.38	152.40	55518	1
25.0	.9843	79.38	152.40	55519	1



69859

Corresponding Sets			
Number of Pieces	Sizes	Case Style	Order Number
8	9/16 - 1 X 1/16	plastic	57840
8	9/16 - 1 X 1/16	metal	69857
16	17/32 - 1 X 1/32	pouch	69890
33	1/2 - 1 X 1/64	metal stand	69858

195 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / 1/2" Reduced Shank / Round Shank / Black & Bright



Best Material Application



CAST IRON



STEEL

Drill Specifications



118° POINT



REDUCED SHANK

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
33/64	.5156	3.1250	6.0000	55125	1
17/32	.5312	3.1250	6.0000	55126	1
35/64	.5469	3.1250	6.0000	55127	1
9/16	.5625	3.1250	6.0000	55128	1
37/64	.5781	3.1250	6.0000	55129	1
19/32	.5938	3.1250	6.0000	55130	1
39/64	.6094	3.1250	6.0000	55131	1
5/8	.6250	3.1250	6.0000	55133	1
41/64	.6406	3.1250	6.0000	55134	1
21/32	.6562	3.1250	6.0000	55135	1
43/64	.6719	3.1250	6.0000	55136	1
11/16	.6875	3.1250	6.0000	55137	1
45/64	.7031	3.1250	6.0000	55138	1
23/32	.7188	3.1250	6.0000	55139	1
47/64	.7344	3.1250	6.0000	55140	1
3/4	.7500	3.1250	6.0000	55141	1
49/64	.7656	3.1250	6.0000	55142	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
25/32	.7812	3.1250	6.0000	55143	1
51/64	.7969	3.1250	6.0000	55144	1
13/16	.8125	3.1250	6.0000	55145	1
53/64	.8281	3.1250	6.0000	55146	1
27/32	.8438	3.1250	6.0000	55147	1
55/64	.8594	3.1250	6.0000	55148	1
7/8	.8750	3.1250	6.0000	55149	1
57/64	.8906	3.1250	6.0000	55150	1
29/32	.9062	3.1250	6.0000	55151	1
59/64	.9219	3.1250	6.0000	55153	1
15/16	.9375	3.1250	6.0000	55154	1
61/64	.9531	3.1250	6.0000	55161	1
31/32	.9688	3.1250	6.0000	55162	1
63/64	.9844	3.1250	6.0000	55163	1
1	1.0000	3.1250	6.0000	55164	1
1-1/64	1.0156	3.1250	6.0000	55165	1

GENERAL PURPOSE SILVER & DEMING (S&D) DRILLS

195 SERIES continued



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1-1/32	1.0312	3.1250	6.0000	55166	1
1-3/64	1.0469	3.1250	6.0000	55167	1
1-1/16	1.0625	3.1250	6.0000	55168	1
1-5/64	1.0781	3.1250	6.0000	55169	1
1-3/32	1.0938	3.1250	6.0000	55170	1
1-7/64	1.1094	3.1250	6.0000	55171	1
1-1/8	1.1250	3.1250	6.0000	55172	1
1-9/64	1.1406	3.1250	6.0000	55173	1
1-5/32	1.1562	3.1250	6.0000	55174	1
1-11/64	1.1719	3.1250	6.0000	55175	1
1-3/16	1.1875	3.1250	6.0000	55177	1
1-13/64	1.2031	3.1250	6.0000	55178	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1-7/32	1.2188	3.1250	6.0000	55179	1
1-15/64	1.2344	3.1250	6.0000	55180	1
1-1/4	1.2500	3.1250	6.0000	55181	1
1-9/32"	1.2812	3.1250	6.0000	55182	1
1-5/16	1.3125	3.1250	6.0000	55183	1
1-11/32"	1.3438	3.1250	6.0000	55184	1
1-3/8	1.3750	3.1250	6.0000	55185	1
1-13/32"	1.4062	3.1250	6.0000	55186	1
1-7/16	1.4375	3.1250	6.0000	55187	1
1-15/32	1.4688	3.1250	6.0000	55188	1
1-1/2	1.5000	3.1250	6.0000	55189	1

Corresponding Sets		
Number of Pieces	Sizes	Order Number
33	1/2 - 1 X 1/64	55190

Metal cases

239 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / 1/4" Reduced Shank / Round Shank / Black Oxide

Silver & Deming drills with 1/4" reduced shanks and 118° points for increased rigidity. Made from high-speed steel, perfect for use in portable electric drills with 1/4" chuck capacity.



Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT REDUCED SHANK

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/4	.2500	1.3750	2.5000	56316	1
5/16	.3125	1.3750	2.8125	56320	1
3/8	.3750	1.6875	3.1250	56324	1
7/16	.4375	2.0000	3.4375	56328	1
1/2	.5000	2.2500	3.7500	56332	1

Corresponding Sets		
Number of Pieces	Sizes	Order Number
5	1/4 - 1/2 X 1/16	56340

Metal cases

HEAVY DUTY SILVER & DEMING (S&D) DRILLS

01R SST+ SERIES

HEAVY DUTY COBALT

135° Split Point / 3/8" Reduced Shank / Bronze Oxide

Our SST+ 3/8" reduced shank drill bits allow for the drilling of larger holes with drills that have a 3/8" chuck capacity. Their 135° self-centering split point allows for outstanding performance with much less pressure.

Packaged in reusable plastic packaging.



Fractional					
Size	Flute Length (Inch)	Overall Length (Inch)	Order Number	Std. Pkg. Qty	Std. Ctn. Qty
25/64"	3-7/16"	5-1/4"	01R225	5	50
13/32"	3-7/16"	5-1/4"	01R226	5	50
27/64"	3-11/16"	5-1/2"	01R227	5	50
7/16"	3-11/16"	5-9/16"	01R228	5	50
29/64"	3-11/16"	5-9/16"	01R229	5	50

For sizes smaller than 33/64", use our jobber's length drill bits.

Size	Flute Length (Inch)	Overall Length (Inch)	Order Number	Std. Pkg. Qty	Std. Ctn. Qty
15/32"	4"	5-15/16"	01R230	5	50
31/64"	4"	5-15/16"	01R231	5	50
1/2"	4"	5-15/16"	01R232	5	50
17/32"	4-13/16"	6-5/8"	01R234	5	50
9/16"	4-13/16"	6-5/8"	01R236	5	50
5/8"	5-3/16"	7-1/8"	01R240	5	50

Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



135° SPLIT POINT REDUCED SHANK

01M SST+ SERIES

HEAVY DUTY COBALT

135° Split Point / 1/2" Reduced Shank / Flatted Shank / Bronze Oxide

SST+ 1/2" S&D are heavy duty large diameter drill bits for use in portable power drills, drill presses and magnetic base drills with 1/2" chuck capacity. Their extra hard tips allow for the drilling of many more holes between re-sharpenings. They are made with a cobalt blend for unmatched life and durability.



Fractional					
Size	Flute Length (Inch)	Overall Length (Inch)	Order Number	Std. Pkg. Qty	Std. Ctn. Qty
33/64"	3-1/8"	6"	01M533	1	10
17/32"	3-1/8"	6"	01M534	1	10
35/64"	3-1/8"	6"	01M535	1	10
9/16"	3-1/8"	6"	01M536	1	10
37/64"	3-1/8"	6"	01M537	1	10
19/32"	3-1/8"	6"	01M538	1	10
39/64"	3-1/8"	6"	01M539	1	10
5/8"	3-1/8"	6"	01M540	1	10
41/64"	3-1/8"	6"	01M541	1	10
21/32"	3-1/8"	6"	01M542	1	10
43/64"	3-1/8"	6"	01M543	1	10
11/16"	3-1/8"	6"	01M544	1	10
45/64"	3-1/8"	6"	01M545	1	10
23/32"	3-1/8"	6"	01M546	1	10
47/64"	3-1/8"	6"	01M547	1	10
3/4"	3-1/8"	6"	01M548	1	10
49/64"	3-1/8"	6"	01M549	1	10
25/32"	3-1/8"	6"	01M550	1	10
51/64"	3-1/8"	6"	01M551	1	10
13/16"	3-1/8"	6"	01M552	1	10

Size	Flute Length (Inch)	Overall Length (Inch)	Order Number	Std. Pkg. Qty	Std. Ctn. Qty
53/64"	3-1/8"	6"	01M553	1	10
27/32"	3-1/8"	6"	01M554	1	10
55/64"	3-1/8"	6"	01M555	1	10
7/8"	3-1/8"	6"	01M556	1	10
57/64"	3-1/8"	6"	01M557	1	10
29/32"	3-1/8"	6"	01M558	1	10
59/64"	3-1/8"	6"	01M559	1	10
15/16"	3-1/8"	6"	01M560	1	10
61/64"	3-1/8"	6"	01M561	1	10
31/32"	3-1/8"	6"	01M562	1	10
63/64"	3-1/8"	6"	01M563	1	10
1"	3-1/8"	6"	01M600	1	10
1-1/16"	3-1/8"	6"	01M604	1	10
1-1/8"	3-1/8"	6"	01M608	1	10
1-3/16"	3-1/8"	6"	01M612	1	10
1-1/4"	3-1/8"	6"	01M616	1	10
1-5/16"	3-1/8"	6"	01M617	1	10
1-3/8"	3-1/8"	6"	01M618	1	10
1-7/16"	3-1/8"	6"	01M619	1	10
1-1/2"	3-1/8"	6"	01M620	1	10

For sizes smaller than 33/64", use our jobber's length drill bits.

Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



135° SPLIT POINT REDUCED SHANK WITH FLATS

HEAVY DUTY SILVER & DEMING (S&D) DRILLS

T9FHD SERIES

PREMIUM GRADE HIGH SPEED STEEL

118° Split Point / 1/2" Reduced Shank / Flatted Shank / Black & Gold

Thunderbit by WALTER S&D drills offer superior performance over standard HSS drills. All drills have a 1/2" shank, and are 6" overall length. Their heavy duty construction increases tool life and performance. 118° Split Point reduces walking at the drill point.



Best Material Application



Drill Specifications



Size	Fractional				Tube Qty.
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	
33/64	.5156	3	6	094133	1
17/32	.5312	3	6	094134	1
35/64	.5469	3	6	094135	1
9/16	.5625	3	6	094136	1
37/64	.5781	3	6	094137	1
19/32	.5938	3	6	094138	1
39/64	.6094	3	6	094139	1
5/8	.6250	3	6	094140	1
41/64	.6406	3	6	094141	1
21/32	.6562	3	6	094142	1
43/64	.6719	3	6	094143	1
11/16	.6875	3	6	094144	1
45/64	.7031	3	6	094145	1
23/32	.7188	3	6	094146	1
47/64	.7344	3	6	094147	1
3/4	.7500	3	6	094148	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
49/64	.7656	3	6	094149	1
25/32	.7812	3	6	094150	1
51/64	.7969	3	6	094151	1
13/16	.8125	3	6	094152	1
53/64	.8281	3	6	094153	1
27/32	.8438	3	6	094154	1
55/64	.8594	3	6	094155	1
7/8	.8750	3	6	094156	1
57/64	.8906	3	6	094157	1
29/32	.9062	3	6	094158	1
59/64	.9219	3	6	094159	1
15/16	.9375	3	6	094160	1
61/64	.9531	3	6	094161	1
31/32	.9688	3	6	094162	1
63/64	.9844	3	6	094163	1
1"	1.0000	3	6	094164	1

Corresponding Sets			
Number of Pieces	Style	Sizes	Order Number
*8	T98F	9/16"-1" x 1/16	090596
*8	T98FHD	9/16"-1" x 1/16	090595
**33	T933FHD	1/2"-1" x 1/64	090593

*Molded case **Metal Stand

GENERAL PURPOSE SILVER & DEMING (S&D) DRILLS

1680 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / 1/2" Reduced Shank / Round Shank / Black Oxide

CLE-FORCE 1680 Silver & Deming Drill with black oxide finish and 118° point offers reliable, efficient drilling in steel and cast iron with a reduced shank design.

Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT REDUCED SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
1/2	.5000	3-1/8	6	C68631	1
33/64	.5156	3-1/8	6	C68632	1
17/32	.5312	3-1/8	6	C68633	1
35/64	.5469	3-1/8	6	C68634	1
9/16	.5625	3-1/8	6	C68635	1
37/64	.5781	3-1/8	6	C68636	1
19/32	.5938	3-1/8	6	C68637	1
39/64	.6094	3-1/8	6	C68638	1
5/8	.6250	3-1/8	6	C68639	1
41/64	.6406	3-1/8	6	C68640	1
21/32	.6562	3-1/8	6	C68641	1
43/64	.6719	3-1/8	6	C68642	1
11/16	.6875	3-1/8	6	C68643	1
45/64	.7031	3-1/8	6	C68644	1
23/32	.7188	3-1/8	6	C68645	1
47/64	.7344	3-1/8	6	C68646	1
3/4	.7500	3-1/8	6	C68647	1
49/64	.7656	3-1/8	6	C68648	1
25/32	.7812	3-1/8	6	C68649	1
51/64	.7969	3-1/8	6	C68650	1
13/16	.8125	3-1/8	6	C68651	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
53/64	.8281	3-1/8	6	C68652	1
27/32	.8438	3-1/8	6	C68653	1
55/64	.8594	3-1/8	6	C68654	1
7/8	.8750	3-1/8	6	C68655	1
57/64	.8906	3-1/8	6	C68656	1
29/32	.9062	3-1/8	6	C68657	1
59/64	.9219	3-1/8	6	C68658	1
15/16	.9375	3-1/8	6	C68659	1
61/64	.9531	3-1/8	6	C68660	1
31/32	.9688	3-1/8	6	C68661	1
63/64	.9844	3-1/8	6	C68662	1
1	1.0000	3-1/8	6	C68663	1
1-1/32	1.0312	3-1/8	6	C68664	1
1-1/16	1.0625	3-1/8	6	C68665	1
1-1/8	1.1250	3-1/8	6	C68666	1
1-5/32	1.1562	3-1/8	6	C68667	1
1-3/16	1.1875	3-1/8	6	C68668	1
1-1/4	1.2500	3-1/8	6	C68669	1
1-5/16	1.3125	3-1/8	6	C68670	1
1-3/8	1.3750	3-1/8	6	C68671	1
1-7/16	1.4375	3-1/8	6	C68672	1
1-1/2	1.5000	3-1/8	6	C68673	1



Corresponding Sets		
Number of Pieces	Sizes	Order Number
8	9/16" – 1" x 1/16"	C69039

Metal Case

GENERAL PURPOSE SILVER & DEMING (S&D) DRILLS

1681 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / 1/2" Reduced Shank / Flatted Shank / Black Oxide

CLE-FORCE 1681 Silver & Deming Drill with black oxide finish and 118° point ensures precision steel and cast iron drilling. Features reduced flatted shank for stability.

Best Material Application



CAST IRON



STEEL

Drill Specifications



118° POINT



REDUCED SHANK
WITH FLATS



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
1/2	.5000	3-1/8	6	C68674	1
33/64	.5156	3-1/8	6	C68675	1
17/32	.5312	3-1/8	6	C68676	1
35/64	.5469	3-1/8	6	C68677	1
9/16	.5625	3-1/8	6	C68678	1
37/64	.5781	3-1/8	6	C68679	1
19/32	.5938	3-1/8	6	C68680	1
39/64	.6094	3-1/8	6	C68681	1
5/8	.6250	3-1/8	6	C68682	1
41/64	.6406	3-1/8	6	C68683	1
21/32	.6562	3-1/8	6	C68684	1
43/64	.6719	3-1/8	6	C68685	1
11/16	.6875	3-1/8	6	C68686	1
45/64	.7031	3-1/8	6	C68687	1
23/32	.7188	3-1/8	6	C68688	1
47/64	.7344	3-1/8	6	C68689	1
3/4	.7500	3-1/8	6	C68690	1
49/64	.7656	3-1/8	6	C68691	1
25/32	.7812	3-1/8	6	C68692	1
51/64	.7969	3-1/8	6	C68693	1
13/16	.8125	3-1/8	6	C68694	1
53/64	.8281	3-1/8	6	C68695	1
27/32	.8438	3-1/8	6	C68696	1
55/64	.8594	3-1/8	6	C68697	1
7/8	.8750	3-1/8	6	C68698	1
57/64	.8906	3-1/8	6	C68699	1
29/32	.9062	3-1/8	6	C68700	1
59/64	.9219	3-1/8	6	C68701	1
15/16	.9375	3-1/8	6	C68702	1
61/64	.9531	3-1/8	6	C68703	1
31/32	.9688	3-1/8	6	C68704	1
63/64	.9844	3-1/8	6	C68705	1
1	1.0000	3-1/8	6	C68706	1
1-1/64	1.0156	3-1/8	6	C68707	1
1-1/32	1.0312	3-1/8	6	C68708	1
1-3/64	1.0469	3-1/8	6	C68709	1
1-1/16	1.0625	3-1/8	6	C68710	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
1-5/64	1.0781	3-1/8	6	C68711	1
1-3/32	1.0938	3-1/8	6	C68712	1
1-7/64	1.1094	3-1/8	6	C68713	1
1-1/8	1.1250	3-1/8	6	C68714	1
1-9/64	1.1406	3-1/8	6	C68715	1
1-5/32	1.1562	3-1/8	6	C68716	1
1-11/64	1.1719	3-1/8	6	C68717	1
1-3/16	1.1875	3-1/8	6	C68718	1
1-13/64	1.2031	3-1/8	6	C68719	1
1-7/32	1.2188	3-1/8	6	C68720	1
1-15/64	1.2344	3-1/8	6	C68721	1
1-1/4	1.2500	3-1/8	6	C68722	1
1-17/64	1.2656	3-1/8	6	C68723	1
1-9/32	1.2812	3-1/8	6	C68724	1
1-19/64	1.2969	3-1/8	6	C68725	1
1-5/16	1.3125	3-1/8	6	C68726	1
1-21/64	1.3281	3-1/8	6	C68727	1
1-11/32	1.3438	3-1/8	6	C68728	1
1-23/64	1.3594	3-1/8	6	C68729	1
1-3/8	1.3750	3-1/8	6	C68730	1
1-25/64	1.3906	3-1/8	6	C68731	1
1-13/32	1.4062	3-1/8	6	C68732	1
1-27/64	1.4219	3-1/8	6	C68733	1
1-7/16	1.4375	3-1/8	6	C68734	1
1-29/64	1.4531	3-1/8	6	C68735	1
1-31/64	1.4844	3-1/8	6	C68736	1
1-1/2	1.5000	3-1/8	6	C68737	1



Corresponding Sets		
Number of Pieces	Sizes	Order Number
8	9/16" – 1" x 1/16"	C69040

Metal Case

GENERAL PURPOSE SILVER & DEMING (S&D) DRILLS

1000E SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / 1/2" Reduced Shank / Flatted Shank / Black Oxide

1000E series S&D Drills expand the size range capacity of a 1/2" portable drill chuck. Common flute and overall length for minimal adjustment during tool changes. Ideal for drilling low and medium tensile strength materials.

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
33/64"	.5156	3"	6"	1000E133	1
17/32"	.5312	3"	6"	1000E134	1
35/64"	.5469	3"	6"	1000E135	1
9/16"	.5625	3"	6"	1000E136	1
37/64"	.5781	3"	6"	1000E137	1
19/32"	.5938	3"	6"	1000E138	1
39/64"	.6094	3"	6"	1000E139	1
5/8"	.6250	3"	6"	1000E140	1
41/64"	.6406	3"	6"	1000E141	1
21/32"	.6562	3"	6"	1000E142	1
43/64"	.6719	3"	6"	1000E143	1
11/16"	.6875	3"	6"	1000E144	1
45/64"	.7031	3"	6"	1000E145	1
23/32"	.7188	3"	6"	1000E146	1
47/64"	.7344	3"	6"	1000E147	1
3/4"	.7500	3"	6"	1000E148	1
49/64"	.7656	3"	6"	1000E149	1
25/32"	.7812	3"	6"	1000E150	1
51/64"	.7969	3"	6"	1000E151	1
13/16"	.8125	3"	6"	1000E152	1
53/64"	.8281	3"	6"	1000E153	1
27/32"	.8438	3"	6"	1000E154	1
55/64"	.8594	3"	6"	1000E155	1
7/8"	.8750	3"	6"	1000E156	1
57/64"	.8906	3"	6"	1000E157	1
29/32"	.9062	3"	6"	1000E158	1
59/64"	.9219	3"	6"	1000E159	1
15/16"	.9375	3"	6"	1000E160	1
61/64"	.9531	3"	6"	1000E161	1
31/32"	.9688	3"	6"	1000E162	1
63/64"	.9844	3"	6"	1000E163	1
1"	1.0000	3"	6"	1000E164	1
1-1/64"	1.0156	3"	6"	1000E201	1
1-1/32"	1.0312	3"	6"	1000E202	1
1-3/64"	1.0469	3"	6"	1000E203	1
1-1/16"	1.0625	3"	6"	1000E204	1
1-5/64"	1.0781	3"	6"	1000E205	1
1-3/32"	1.0938	3"	6"	1000E206	1
1-7/64"	1.1094	3"	6"	1000E207	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
1-1/8"	1.1250	3"	6"	1000E208	1
1-9/64"	1.1406	3"	6"	1000E209	1
1-5/32"	1.1562	3"	6"	1000E210	1
1-11/64"	1.1719	3"	6"	1000E211	1
1-3/16"	1.1875	3"	6"	1000E212	1
1-13/64"	1.2031	3"	6"	1000E213	1
1-7/32"	1.2188	3"	6"	1000E214	1
1-15/64"	1.2344	3"	6"	1000E215	1
1-1/4"	1.2500	3"	6"	1000E216	1
1-17/64"	1.2656	3"	6"	1000E217	1
1-9/32"	1.2812	3"	6"	1000E218	1
1-19/64"	1.2969	3"	6"	1000E219	1
1-5/16"	1.3125	3"	6"	1000E220	1
1-21/64"	1.3281	3"	6"	1000E221	1
1-11/32"	1.3438	3"	6"	1000E222	1
1-23/64"	1.3594	3"	6"	1000E223	1
1-3/8"	1.3750	3"	6"	1000E224	1
1-25/64"	1.3906	3"	6"	1000E225	1
1-13/32"	1.4062	3"	6"	1000E226	1
1-27/64"	1.4219	3"	6"	1000E227	1
1-7/16"	1.4375	3"	6"	1000E228	1
1-29/64"	1.4531	3"	6"	1000E229	1
1-15/32"	1.4688	3"	6"	1000E230	1
1-31/64"	1.4844	3"	6"	1000E231	1
1-1/2"	1.5000	3"	6"	1000E232	1

1000E8



Corresponding Sets		
Number of Pieces	Sizes	Order Number
8	9/16" - 1" x 1/16	1000E8
32	STAND 1/2" - 1" x 1/64 W/DRILLS	1000E32

Metal Case

HEAVY DUTY SILVER & DEMING (S&D) DRILLS

1000EF SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / 1/2" Reduced Shank / Flatted Shank / Black & Gold

All sizes have a 1/2" by 2-1/4" long shank. The maximum overall length is 6" and the flute length is 3". This makes them short drills in the larger sizes and thus well suited to use in portable electric drills equipped with 1/2" chucks. They are highly effective in tough, high tensile strength materials. The 135° split point reduces thrust and eliminates "walking" at the drill point.

All sizes are individually packaged



Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT REDUCED SHANK WITH FLATS

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
33/64"	.5156	3"	6"	1000EF133	1
17/32"	.5312	3"	6"	1000EF134	1
35/64"	.5469	3"	6"	1000EF135	1
9/16"	.5625	3"	6"	1000EF136	1
37/64"	.5781	3"	6"	1000EF137	1
19/32"	.5938	3"	6"	1000EF138	1
39/64"	.6094	3"	6"	1000EF139	1
5/8"	.6250	3"	6"	1000EF140	1
41/64"	.6406	3"	6"	1000EF141	1
21/32"	.6562	3"	6"	1000EF142	1
43/64"	.6719	3"	6"	1000EF143	1
11/16"	.6875	3"	6"	1000EF144	1
45/64"	.7031	3"	6"	1000EF145	1
23/32"	.7188	3"	6"	1000EF146	1
47/64"	.7344	3"	6"	1000EF147	1
3/4"	.7500	3"	6"	1000EF148	1
49/64"	.7656	3"	6"	1000EF149	1
25/32"	.7812	3"	6"	1000EF150	1
51/64"	.7969	3"	6"	1000EF151	1
13/16"	.8125	3"	6"	1000EF152	1
53/64"	.8281	3"	6"	1000EF153	1
27/32"	.8438	3"	6"	1000EF154	1
55/64"	.8594	3"	6"	1000EF155	1
7/8"	.8750	3"	6"	1000EF156	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
57/64"	.8906	3"	6"	1000EF157	1
29/32"	.9062	3"	6"	1000EF158	1
59/64"	.9219	3"	6"	1000EF159	1
15/16"	.9375	3"	6"	1000EF160	1
61/64"	.9531	3"	6"	1000EF161	1
31/32"	.9688	3"	6"	1000EF162	1
63/64"	.9844	3"	6"	1000EF163	1
1"	1.0000	3"	6"	1000EF164	1
1-1/32"	1.0312	3"	6"	1000EF202	1
1-1/16"	1.0625	3"	6"	1000EF204	1
1-3/32"	1.0938	3"	6"	1000EF206	1
1-1/8"	1.1250	3"	6"	1000EF208	1
1-5/32"	1.1562	3"	6"	1000EF210	1
1-3/16"	1.1875	3"	6"	1000EF212	1
1-7/32"	1.2188	3"	6"	1000EF214	1
1-1/4"	1.2500	3"	6"	1000EF216	1
1-9/32"	1.2812	3"	6"	1000EF218	1
1-5/16"	1.3125	3"	6"	1000EF220	1
1-11/32"	1.3438	3"	6"	1000EF222	1
1-3/8"	1.3750	3"	6"	1000EF224	1
1-13/32"	1.4062	3"	6"	1000EF226	1
1-7/16"	1.4375	3"	6"	1000EF228	1
1-15/32"	1.4688	3"	6"	1000EF230	1
1-1/2"	1.5000	3"	6"	1000EF232	1



1000EF8

Corresponding Sets		
Number of Pieces	Sizes	Order Number
5	9/16" - 1" x 1/8	1000EF5
8	9/16" - 1" x 1/16	1000EF8
32	STAND 1/2" - 1" x 1/64 W/DRILLS	1000EF32

Metal Case

HEAVY DUTY SILVER & DEMING (S&D) DRILLS

1000EC SERIES

HEAVY DUTY COBALT

135° Split Point / 1/2" Reduced Shank / Flatted Shank / Bronze

Expands the size range capacity of a 1/2" portable drill chuck. Common flute and overall length for minimal adjustment during tool changes. Precision ground for high degree of concentricity between shank and body diameter. Ideal for drilling in tough, high tensile strength materials. The 135° split point reduces thrust and eliminates "walking" at the drill point.

All sizes are individually packaged



Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



135° SPLIT POINT REDUCED SHANK WITH FLATS

Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
33/64"	.5156	3"	6"	1000EC133	1
17/32"	.5312	3"	6"	1000EC134	1
35/64"	.5469	3"	6"	1000EC135	1
9/16"	.5625	3"	6"	1000EC136	1
37/64"	.5781	3"	6"	1000EC137	1
19/32"	.5938	3"	6"	1000EC138	1
39/64"	.6094	3"	6"	1000EC139	1
5/8"	.6250	3"	6"	1000EC140	1
41/64"	.6406	3"	6"	1000EC141	1
21/32"	.6562	3"	6"	1000EC142	1
43/64"	.6719	3"	6"	1000EC143	1
11/16"	.6875	3"	6"	1000EC144	1
45/64"	.7031	3"	6"	1000EC145	1
23/32"	.7188	3"	6"	1000EC146	1
47/64"	.7344	3"	6"	1000EC147	1
3/4"	.7500	3"	6"	1000EC148	1
49/64"	.7656	3"	6"	1000EC149	1
25/32"	.7812	3"	6"	1000EC150	1
51/64"	.7969	3"	6"	1000EC151	1
13/16"	.8125	3"	6"	1000EC152	1
53/64"	.8281	3"	6"	1000EC153	1
27/32"	.8438	3"	6"	1000EC154	1
55/64"	.8594	3"	6"	1000EC155	1
7/8"	.8750	3"	6"	1000EC156	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.
57/64"	.8906	3"	6"	1000EC157	1
29/32"	.9062	3"	6"	1000EC158	1
59/64"	.9219	3"	6"	1000EC159	1
15/16"	.9375	3"	6"	1000EC160	1
61/64"	.9531	3"	6"	1000EC161	1
31/32"	.9688	3"	6"	1000EC162	1
63/64"	.9844	3"	6"	1000EC163	1
1"	1.0000	3"	6"	1000EC164	1
1-1/32"	1.0312	3"	6"	1000EC202	1
1-1/16"	1.0625	3"	6"	1000EC204	1
1-3/32"	1.0938	3"	6"	1000EC206	1
1-1/8"	1.1250	3"	6"	1000EC208	1
1-5/32"	1.1562	3"	6"	1000EC210	1
1-3/16"	1.1875	3"	6"	1000EC212	1
1-7/32"	1.2188	3"	6"	1000EC214	1
1-1/4"	1.2500	3"	6"	1000EC216	1
1-9/32"	1.2812	3"	6"	1000EC218	1
1-5/16"	1.3125	3"	6"	1000EC220	1
1-11/32"	1.3438	3"	6"	1000EC222	1
1-3/8"	1.3750	3"	6"	1000EC224	1
1-13/32"	1.4062	3"	6"	1000EC226	1
1-7/16"	1.4375	3"	6"	1000EC228	1
1-15/32"	1.4688	3"	6"	1000EC230	1
1-1/2"	1.5000	3"	6"	1000EC232	1



1000EC5

Corresponding Sets		
Number of Pieces	Sizes	Order Number
8	9/16" - 1" x 1/16	1000EC8
32	STAND 1/2" - 1" x 1/64 W/DRILLS	1000EC32

GENERAL PURPOSE TAPER LENGTH DRILLS

900 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Black Oxide

Straight shank taper length drills are standard for general purpose work in relatively deep holes. Shanks are the same diameter as the drill body.

Best Material Application



CAST IRON



STEEL

Drill Specifications



118° POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Qty.
1/4	.2500	3-3/4	6-1/8	900A116	1
9/32	.2812	3-7/8	6-1/4	900A118	1
5/16	.3125	4	6-3/8	900A120	1
11/32	.3438	4-1/8	6-1/2	900A122	1
23/64	.3594	4-1/4	6-3/4	900A123	1
3/8	.3750	4-1/4	6-3/4	900A124	1
25/64	.3906	4-3/8	7	900A125	1
13/32	.4062	4-3/8	7	900A126	1
27/64	.4219	4-5/8	7-1/4	900A127	1
7/16	.4375	4-5/8	7-1/4	900A128	1
29/64	.4531	4-3/4	7-1/2	900A129	1
15/32	.4688	4-3/4	7-1/2	900A130	1
31/64	.4844	4-3/4	7-3/4	900A131	1
1/2	.5000	4-3/4	7-3/4	900A132	1
33/64	.5156	4-3/4	8	900A133	1
17/32	.5312	4-3/4	8	900A134	1
35/64	.5469	4-7/8	8-1/4	900A135	1
9/16	.5625	4-7/8	8-1/4	900A136	1
37/64	.5781	4-7/8	8-3/4	900A137	1
19/32	.5938	4-7/8	8-3/4	900A138	1
39/64	.6094	4-7/8	8-3/4	900A139	1
5/8	.6250	4-7/8	8-3/4	900A140	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Qty.
41/64	.6406	5-1/8	9	900A141	1
21/32	.6562	5-1/8	9	900A142	1
43/64	.6719	5-3/8	9-1/4	900A143	1
11/16	.6875	5-3/8	9-1/4	900A144	1
45/64	.7031	5-5/8	9-1/2	900A145	1
23/32	.7188	5-5/8	9-1/2	900A146	1
47/64	.7344	5-7/8	9-3/4	900A147	1
3/4	.7500	5-7/8	9-3/4	900A148	1
49/64	.7656	6	9-7/8	900A149	1
25/32	.7812	6	9-7/8	900A150	1
51/64	.7969	6-1/8	10	900A151	1
13/16	.8125	6-1/8	10	900A152	1
53/64	.8281	6-1/8	10	900A153	1
27/32	.8438	6-1/8	10	900A154	1
55/64	.8594	6-1/8	10	900A155	1
7/8	.8750	6-1/8	10	900A156	1
57/64	.8906	6-1/8	10	900A157	1
29/32	.9062	6-1/8	10	900A158	1
59/64	.9219	6-1/8	10-3/4	900A159	1
15/16	.9375	6-1/8	10-3/4	900A160	1
61/64	.9531	6-3/8	11	900A161	1
31/32	.9688	6-3/8	11	900A162	1
63/64	.9844	6-3/8	11	900A163	1
1	1.0000	6-3/8	11	900A164	1

HEAVY DUTY TAPER LENGTH DRILLS

255AN SERIES

HEAVY DUTY HIGH SPEED STEEL

118° Point / Tanged Shank / Black Oxide

Automotive tanged shank drills with 118° points and taper length for deep drilling. Made from premium high-speed steel with a black oxide finish, ideal for use with positive split sleeve drivers.

Best Material Application



CAST IRON



STEEL

Drill Specifications



118° POINT



TANGED SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	2-3/4	5-1/8	49508	12
9/64	.1406	3	5-3/8	49509	12
5/32	.1562	3	5-3/8	49510	12
11/64	.1719	3-3/8	5-3/4	49511	12
3/16	.1875	3-3/8	5-3/4	49512	12
13/64	.2031	3-5/8	6	49513	12
7/32	.2188	3-5/8	6	49514	12
15/64	.2344	3-3/4	6-1/8	49515	12
1/4	.2500	3-3/4	6-1/8	49516	12
17/64	.2656	3-7/8	6-1/4	49517	12
9/32	.2812	3-7/8	6-1/4	49518	12
19/64	.2969	4	6-3/8	49519	6
5/16	.3125	4	6-3/8	49520	6
21/64	.3281	4-1/8	6-1/2	49521	6
11/32	.3438	4-1/8	6-1/2	49522	6
23/64	.3594	4-1/4	6-3/4	49523	6
3/8	.3750	4-1/4	6-3/4	49524	6
25/64	.3906	4-3/8	7	49525	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
13/32	.4062	4-3/8	7	49526	1
27/64	.4219	4-5/8	7-1/4	49527	1
7/16	.4375	4-5/8	7-1/4	49528	1
29/64	.4531	4-3/4	7-1/2	49529	1
15/32	.4688	4-3/4	7-1/2	49530	1
31/64	.4844	4-3/4	7-3/4	49531	1
1/2	.5000	4-3/4	7-3/4	49532	1
*33/64	.5156	4-3/4	8	49533	1
*17/32	.5312	4-3/4	8	49534	1
*35/64	.5469	4-7/8	8-1/4	49535	1
*9/16	.5625	4-7/8	8-1/4	49536	1
*37/64	.5781	4-7/8	8-3/4	49537	1
*19/32	.5938	4-7/8	8-3/4	49538	1
*39/64	.6094	4-7/8	8-3/4	49539	1
*5/8	.6250	4-7/8	8-3/4	49540	1
*21/32	.6562	5-1/8	9	49542	1
*43/64	.6719	5-3/8	9-1/4	49543	1
*11/16	.6875	5-3/8	9-1/4	49544	1

*Sizes over 1/2 are non-stock standards.

HEAVY DUTY TAPER LENGTH DRILLS

520 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze Finish

Heavy duty cobalt drills with 135° self-centering split points, designed for extreme conditions and tough materials like high-tensile steel and titanium. Durable straw finish for easy identification.



Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	1-3/4	3	44804	12
5/64	.0781	2	3-3/4	44805	12
3/32	.0938	2-1/4	4-1/4	44807	12
7/64	.1094	2-1/2	4-5/8	44806	12
1/8	.1250	2-3/4	5-1/8	44808	12
9/64	.1406	3	5-3/8	44809	12
5/32	.1562	3	5-3/8	44810	12
11/64	.1719	3-3/8	5-3/4	44811	12
3/16	.1875	3-3/8	5-3/4	44812	12
13/64	.2031	3-5/8	6	44813	12
7/32	.2188	3-5/8	6	44814	12
15/64	.2344	3-3/4	6-1/8	44815	12
1/4	.2500	3-3/4	6-1/8	44816	12
17/64	.2656	3-7/8	6-1/4	44817	12
9/32	.2812	3-7/8	6-1/4	44818	12
19/64	.2969	4	6-3/8	44819	6
5/16	.3125	4	6-3/8	44820	6
21/64	.3281	4-1/8	6-1/2	44821	6
11/32	.3438	4-1/8	6-1/2	44822	6
23/64	.3594	4-1/4	6-3/4	44823	6
3/8	.3750	4-1/4	6-3/4	44824	6
25/64	.3906	4-3/8	7	44825	1
13/32	.4062	4-3/8	7	44826	1
27/64	.4219	4-5/8	7-1/4	44827	1
7/16	.4375	4-5/8	7-1/4	44828	1
29/64	.4531	4-3/4	7-1/2	44829	1
15/32	.4688	4-3/4	7-1/2	44830	1
31/64	.4844	4-3/4	7-3/4	44831	1
1/2	.5000	4-3/4	7-3/4	44832	1

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
40	.0980	2-1/2	4-5/8	44890	12
38	.1015	2-1/2	4-5/8	44888	12
37	.1040	2-1/2	4-5/8	44887	12
36	.1065	2-1/2	4-5/8	44886	12
33	.1130	2-3/4	5-1/8	44883	12
30	.1285	3	5-3/8	44880	12
29	.1360	3	5-3/8	44879	12
27	.1440	3	5-3/8	44877	12
26	.1470	3	5-3/8	44876	12
21	.1590	3-3/8	5-3/4	44871	12
20	.1610	3-3/8	5-3/4	44870	12
16	.1770	3-3/8	5-3/4	44866	12
15	.1800	3-3/8	5-3/4	44865	12
7	.2010	3-5/8	6	44857	12
3	.2130	3-5/8	6	44853	12
1	.2280	3-3/4	6-1/8	44851	12
Letter					
E	.2500	3-3/4	6-1/8	44816	12
J	.2770	3-7/8	6-1/4	45155	12

GENERAL PURPOSE TAPER LENGTH DRILLS

120 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Black Oxide

The CHICAGO-LATROBE 120 Taper Length Drill features a general-purpose 118° point and longer overall length and flute length for deeper drilling. Made from high-speed steel with a black oxide finish to enhance wear resistance, lubricity, and chip flow. Suitable for diverse materials and conditions; peck drilling is recommended for deep applications.

Bright and alternate coatings available as stock modifications.

Style 120 is also available in sets of: 15 Pieces (1/16 -1/2 X 1/32), 29 Pieces (1/16 -1/2 X 1/64), 60 Pieces (#1 -#60 wire gauge)

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/64	.0156	5/16	1-1/2	49701	12
1/32	.0312	3/4	2	49702	12
3/64	.0469	1-1/8	2-1/4	49703	12
1/16	.0625	1-3/4	3	49704	12
5/64	.0781	2	3-3/4	49705	12
3/32	.0938	2-1/4	4-1/4	49706	12
7/64	.1094	2-1/2	4-5/8	49707	12
1/8	.1250	2-3/4	5-1/8	49708	12
9/64	.1406	3	5-3/8	49709	12
5/32	.1562	3	5-3/8	49710	12
11/64	.1719	3-3/8	5-3/4	49711	12
3/16	.1875	3-3/8	5-3/4	49712	12
13/64	.2031	3-5/8	6	49713	12
7/32	.2188	3-5/8	6	49714	12
15/64	.2344	3-3/4	6-1/8	49715	12
1/4	.2500	3-3/4	6-1/8	49716	12
17/64	.2656	3-7/8	6-1/4	49717	12
9/32	.2812	3-7/8	6-1/4	49718	12
19/64	.2969	4	6-3/8	49719	6
5/16	.3125	4	6-3/8	49720	6
21/64	.3281	4-1/8	6-1/2	49721	6
11/32	.3438	4-1/8	6-1/2	49722	6
23/64	.3594	4-1/4	6-3/4	49723	6
3/8	.3750	4-1/4	6-3/4	49724	6
25/64	.3906	4-3/8	7	49725	1
13/32	.4062	4-3/8	7	49726	1
27/64	.4219	4-5/8	7-1/4	49727	1
7/16	.4375	4-5/8	7-1/4	49728	1
29/64	.4531	4-3/4	7-1/2	49729	1
15/32	.4688	4-3/4	7-1/2	49730	1
31/64	.4844	4-3/4	7-3/4	49731	1
1/2	.5000	4-3/4	7-3/4	49732	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
33/64	.5156	4-3/4	8	49733	1
17/32	.5312	4-3/4	8	49734	1
35/64	.5469	4-7/8	8-1/4	49735	1
9/16	.5625	4-7/8	8-1/4	49736	1
37/64	.5781	4-7/8	8-3/4	49737	1
19/32	.5938	4-7/8	8-3/4	49738	1
39/64	.6094	4-7/8	8-3/4	49739	1
5/8	.6250	4-7/8	8-3/4	49740	1
41/64	.6406	5-1/8	9	49741	1
21/32	.6562	5-1/8	9	49742	1
43/64	.6719	5-3/8	9-1/4	49743	1
11/16	.6875	5-3/8	9-1/4	49744	1
45/64	.7031	5-5/8	9-1/2	49745	1
23/32	.7188	5-5/8	9-1/2	49746	1
47/64	.7344	5-7/8	9-3/4	49747	1
3/4	.7500	5-7/8	9-3/4	49748	1
49/64	.7656	6	9-7/8	49749	1
25/32	.7812	6	9-7/8	49750	1
51/64	.7969	6-1/8	10	49751	1
13/16	.8125	6-1/8	10	49752	1
53/64	.8281	6-1/8	10	49753	1
27/32	.8438	6-1/8	10	49754	1
55/64	.8594	6-1/8	10	49755	1
7/8	.8750	6-1/8	10	49756	1
57/64	.8906	6-1/8	10	49757	1
29/32	.9062	6-1/8	10	49758	1
59/64	.9219	6-1/8	10-3/4	49759	1
15/16	.9375	6-1/8	10-3/4	49760	1
61/64	.9531	6-3/8	11	49761	1
31/32	.9688	6-3/8	11	49762	1
63/64	.9844	6-3/8	11	49763	1
1	1.0000	6-3/8	11	49764	1

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GENERAL PURPOSE TAPER LENGTH DRILLS

01

DRILLS

Chicago-Latrobe



120 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
80	.0135	5/16	1-1/2	50370	12
79	.0145	5/16	1-1/2	50369	12
78	.0160	5/16	1-1/2	50368	12
77	.0180	5/16	1-1/2	50367	12
76	.0200	5/16	1-1/2	50366	12
75	.0210	5/16	1-1/2	50365	12
74	.0225	5/16	1-1/2	50364	12
73	.0240	5/16	1-1/2	50363	12
72	.0250	5/16	1-1/2	50362	12
71	.0260	3/4	2	50361	12
70	.0280	3/4	2	50360	12
69	.0292	3/4	2	50359	12
68	.0310	3/4	2	50358	12
67	.0320	3/4	2	50357	12
66	.0330	3/4	2	50356	12
65	.0350	3/4	2	50355	12
64	.0360	3/4	2	50354	12
63	.0370	3/4	2	50353	12
62	.0380	3/4	2	50352	12
61	.0390	1-1/8	2-1/4	50351	12
60	.0400	1-1/8	2-1/4	50350	12
59	.0410	1-1/8	2-1/4	50349	12
58	.0420	1-1/8	2-1/4	50348	12
57	.0430	1-1/8	2-1/4	50347	12
56	.0465	1-1/8	2-1/4	50346	12
55	.0520	1-3/4	3	50345	12
54	.0550	1-3/4	3	50344	12
53	.0595	1-3/4	3	50343	12
52	.0635	2	3-3/4	50342	12
51	.0670	2	3-3/4	50341	12
50	.0700	2	3-3/4	50340	12
49	.0730	2	3-3/4	50339	12
48	.0760	2	3-3/4	50338	12
47	.0785	2-1/4	4-1/4	50337	12
46	.0810	2-1/4	4-1/4	50336	12
45	.0820	2-1/4	4-1/4	50335	12
44	.0860	2-1/4	4-1/4	50334	12
43	.0890	2-1/4	4-1/4	50333	12
42	.0935	2-1/4	4-1/4	50332	12
41	.0960	2-1/2	4-5/8	50331	12
40	.0980	2-1/2	4-5/8	50330	12
39	.0995	2-1/2	4-5/8	50329	12
38	.1015	2-1/2	4-5/8	50328	12
37	.1040	2-1/2	4-5/8	50327	12
36	.1065	2-1/2	4-5/8	50326	12
35	.1100	2-3/4	5-1/8	50325	12
34	.1110	2-3/4	5-1/8	50324	12
33	.1130	2-3/4	5-1/8	50323	12
32	.1160	2-3/4	5-1/8	50322	12
31	.1200	2-3/4	5-1/8	50321	12
30	.1285	3	5-3/8	50320	12
29	.1360	3	5-3/8	50319	12
28	.1405	3	5-3/8	50318	12
27	.1440	3	5-3/8	50317	12
26	.1470	3	5-3/8	50316	12
25	.1495	3	5-3/8	50315	12
24	.1520	3	5-3/8	50314	12
23	.1540	3	5-3/8	50313	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
22	.1570	3-3/8	5-3/4	50312	12
21	.1590	3-3/8	5-3/4	50311	12
20	.1610	3-3/8	5-3/4	50310	12
19	.1660	3-3/8	5-3/4	50309	12
18	.1695	3-3/8	5-3/4	50308	12
17	.1730	3-3/8	5-3/4	50307	12
16	.1770	3-3/8	5-3/4	50306	12
15	.1800	3-3/8	5-3/4	50305	12
14	.1820	3-3/8	5-3/4	50304	12
13	.1850	3-3/8	5-3/4	50303	12
12	.1890	3-5/8	6	50302	12
11	.1910	3-5/8	6	50301	12
10	.1935	3-5/8	6	50300	12
9	.1960	3-5/8	6	50299	12
8	.1990	3-5/8	6	50298	12
7	.2010	3-5/8	6	50297	12
6	.2040	3-5/8	6	50296	12
5	.2055	3-5/8	6	50295	12
4	.2090	3-5/8	6	50294	12
3	.2130	3-5/8	6	50293	12
2	.2210	3-3/4	6-1/8	50292	12
1	.2280	3-3/4	6-1/8	50291	12
Letter					
A	.2340	3-3/4	6-1/8	50401	12
B	.2380	3-3/4	6-1/8	50402	12
C	.2420	3-3/4	6-1/8	50403	12
D	.2460	3-3/4	6-1/8	50404	12
F	.2570	3-3/4	6-1/8	50406	12
G	.2610	3-3/4	6-1/8	50407	12
H	.2660	3-7/8	6-1/4	50408	12
I	.2720	3-7/8	6-1/4	50409	12
J	.2770	3-7/8	6-1/4	50410	12
K	.2812	3-7/8	6-1/4	50411	12
L	.2900	3-7/8	6-1/4	50412	12
M	.2950	4	6-3/8	50413	6
N	.3020	4	6-3/8	50414	6
O	.3160	4	6-3/8	50415	6
P	.3230	4	6-3/8	50416	6
Q	.3320	4-1/8	6-1/2	50417	6
R	.3390	4-1/8	6-1/2	50418	6
S	.3480	4-1/4	6-3/4	50419	6
T	.3580	4-1/4	6-3/4	50420	6
U	.3680	4-1/4	6-3/4	50421	6
V	.3770	4-1/4	6-3/4	50422	1
W	.3860	4-1/4	6-3/4	50423	1
X	.3970	4-3/8	7	50424	1
Y	.4040	4-3/8	7	50425	1
Z	.4130	4-5/8	7-1/4	50426	1

Corresponding Sets		
Number of Pieces	Sizes	Order Number
15	1/16 -1/2 X 1/32	69884
29	1/16 -1/2 X 1/64	69864
60	#1 -#60 wire gauge	69865

Metal cases

PARABOLIC TAPER LENGTH DRILLS

120DH SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Parabolic / Bright

The CHICAGO-LATROBE 120DH Deep-Hole Parabolic Drill with Convoluted flute design for superior chip evacuation and coolant flow. Built for depths of up to 12× diameter. Made from premium high-speed steel with a 135° self-centering split point for reduced thrust and easier penetration. Available with a tapered shank and bright finish for good chip ejection.

NOE: Also available as with a TiN finish (style: 120DH-TN)

Best Material Application



Drill Specifications



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	2	3	68804	12
5/64	.0781	2-1/4	3-3/4	68805	12
3/32	.0938	2-1/4	4-1/4	68806	12
7/64	.1094	3-1/8	4-5/8	68807	12
1/8	.1250	3-3/8	5-1/8	68808	12
9/64	.1406	3-5/8	5-3/8	68809	12
5/32	.1562	3-3/4	5-3/8	68810	12
11/64	.1719	4-1/8	5-3/4	68811	12
3/16	.1875	4-1/8	5-3/4	68812	12
13/64	.2031	4-3/8	6	68813	12
7/32	.2188	4-3/8	6	68814	12
15/64	.2344	4-13/16	6-1/8	68815	12
1/4	.2500	4-13/16	6-1/8	68816	12
17/64	.2656	5	6-1/4	68817	12
9/32	.2812	5	6-1/4	68818	12
19/64	.2969	5-1/8	6-3/8	68819	6
5/16	.3125	5-1/8	6-3/8	68820	6
21/64	.3281	5-1/4	6-1/2	68821	6
11/32	.3438	5-1/4	6-1/2	68822	6
23/64	.3594	5-3/8	6-3/4	68823	6
3/8	.3750	5-3/8	6-3/4	68824	6
25/64	.3906	5-5/8	7	68825	1
13/32	.4062	5-5/8	7	68826	1
27/64	.4219	5-11/16	7-1/4	68827	1
7/16	.4375	5-11/16	7-1/4	68828	1
29/64	.4531	5-3/4	7-1/2	68829	1
15/32	.4688	5-3/4	7-1/2	68830	1
31/64	.4844	5-3/4	7-3/4	68831	1
1/2	.5000	5-3/4	7-3/4	68832	1
33/64	.5156	6	8	68833	1
17/32	.5312	6	8	68834	1
35/64	.5469	6-1/4	8-1/4	68835	1

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
9/16	.5625	6-1/4	8-1/4	68836	1
37/64	.5781	6-1/2	8-3/4	68837	1
19/32	.5938	6-1/2	8-3/4	68838	1
5/8	.6250	6-1/2	8-3/4	68840	1
Wire					
30	.1285	3-5/8	5-3/8	68870	12
29	.1360	3-5/8	5-3/8	68869	12
26	.1470	3-3/4	5-3/8	68866	12
25	.1495	3-3/4	5-3/8	68865	12
21	.1590	4-1/8	5-3/4	68861	12
20	.1610	4-1/8	5-3/4	68860	12
9	.1960	4-3/8	6	68849	12
Letter					
E	.2500	4-13/16	6-1/8	68816	12

PARABOLIC TAPER LENGTH DRILLS

120DH-TN SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / Parabolic / TiN



Best Material Application



STAINLESS



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK

01
DRILLS

Chicago-Latrobe



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	2	3	55236	12
5/64	.0781	2-1/4	3-3/4	55237	12
3/32	.0938	2-1/4	4-1/4	55238	12
7/64	.1094	3-1/8	4-5/8	55239	12
1/8	.1250	3-3/8	5-1/8	55240	12
9/64	.1406	3-5/8	5-3/8	55241	12
5/32	.1562	3-3/4	5-3/8	55242	12
11/64	.1719	4-1/8	5-3/4	55243	12
3/16	.1875	4-1/8	5-3/4	55244	12
13/64	.2031	4-3/8	6	55245	12
7/32	.2188	4-3/8	6	55246	12
15/64	.2344	4-13/16	6-1/8	55247	12
1/4	.2500	4-13/16	6-1/8	55248	12
17/64	.2656	5	6-1/4	55249	12
9/32	.2812	5	6-1/4	55250	12
19/64	.2969	5-1/8	6-3/8	55251	6
5/16	.3125	5-1/8	6-3/8	55252	6
21/64	.3281	5-1/4	6-1/2	55253	6
11/32	.3438	5-1/4	6-1/2	55254	6

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
23/64	.3594	5-3/8	6-3/4	55255	6
3/8	.3750	5-3/8	6-3/4	55256	6
25/64	.3906	5-5/8	7	55257	6
13/32	.4062	5-5/8	7	55258	6
27/64	.4219	5-11/16	7-1/4	55259	6
7/16	.4375	5-11/16	7-1/4	55260	6
29/64	.4531	5-3/4	7-1/2	55261	6
15/32	.4688	5-3/4	7-1/2	55262	6
31/64	.4844	5-3/4	7-3/4	55263	6
1/2	.5000	5-3/4	7-3/4	55264	6
33/64	.5156	6	8	55265	6
17/32	.5312	6	8	55266	6
35/64	.5469	6-1/4	8-1/4	55267	1
9/16	.5625	6-1/4	8-1/4	55268	1
37/64	.5781	6-1/2	8-3/4	55269	1
19/32	.5938	6-1/2	8-3/4	55270	1
5/8	.6250	6-1/2	8-3/4	55272	1
Letter					
E	.2500	4-13/16	6-1/8	55248	12

HEAVY DUTY TAPER LENGTH DRILLS

2513 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / Bronze Finish

CLEVELAND 2513 Heavy duty drill with M42 cobalt and bronze finish provides heat resistance for tough applications in steel, stainless steel, and cast iron.

Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	1-3/4	3	C83000	10
5/64	.0781	2	3-3/4	C83001	10
3/32	.0938	2-1/4	4-1/4	C83002	10
7/64	.1094	2-1/2	4-5/8	C83003	10
1/8	.1250	3-3/4	5-1/8	C14873	10
9/64	.1406	3	5-3/8	C14882	10
5/32	.1562	3	5-3/8	C14893	10
11/64	.1719	3-3/8	5-3/4	C83004	10
3/16	.1875	3-3/8	5-3/4	C14915	10
13/64	.2031	3-5/8	6	C83005	10
7/32	.2188	3-5/8	6	C14935	10
15/64	.2344	3-3/4	6-1/8	C83006	10
1/4	.2500	3-3/4	6-1/8	C14954	10
17/64	.2656	3-7/8	6-1/4	C83007	10
9/32	.2812	3-7/8	6-1/4	C14973	10
19/64	.2969	4	6-3/8	C83008	5
5/16	.3125	4	6-3/8	C14984	5
21/64	.3281	4-1/8	6-1/2	C83009	5
11/32	.3438	4-1/8	6-1/2	C14999	5
23/64	.3594	4-1/4	6-3/4	C15007	5
3/8	.3750	4-1/4	6-3/4	C15014	5
25/64	.3906	4-3/8	7	C83010	5
13/32	.4062	4-3/8	7	C15028	1
27/64	.4219	4-5/8	7-1/4	C15031	1
7/16	.4375	4-5/8	7-1/4	C15034	1
29/64	.4531	4-3/4	7-1/2	C15037	1
15/32	.4688	4-3/4	7-1/2	C15039	1
31/64	.4844	4-3/4	7-3/4	C15042	1
1/2	.5000	4-3/4	7-3/4	C15044	1

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
40	.0980	2-1/2	4-5/8	C83026	10
38	.1015	2-1/2	4-5/8	C83025	10
37	.1040	2-1/2	4-5/8	C83024	10
36	.1065	2-1/2	4-5/8	C83023	10
33	.1130	2-3/4	5-1/8	C83022	10
30	.1285	3	5-3/8	C83021	10
29	.1360	3	5-3/8	C83020	10
27	.1440	3	5-3/8	C83019	10
26	.1470	3	5-3/8	C83018	10
21	.1590	3-3/8	5-3/4	C83017	10
20	.1610	3-3/8	5-3/4	C83016	10
16	.1770	3-3/8	5-3/4	C83015	10
15	.1800	3-3/8	5-3/4	C83014	10
7	.2010	3-5/8	6	C83013	10
3	.2130	3-5/8	6	C83012	10
1	.2280	3-3/4	6-1/8	C83011	10

GENERAL PURPOSE TAPER LENGTH DRILLS

01

DRILLS

2510 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / Black Oxide

CLEVELAND 2510 General-purpose drill with HSS and black oxide finish offers 118° point and extended length for precise drilling in steel and cast iron.

Best Material Application



CAST IRON



STEEL

Drill Specifications



118° POINT



ROUND SHANK



Size	Fractional			Order Number	Pack Qty.
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)		
3/64	.0469	1-1/8	2-1/4	C08601	10
1/16	.0625	1-3/4	3	C08613	10
5/64	.0781	2	3-3/4	C08627	10
3/32	.0938	2-1/4	4-1/4	C08642	10
7/64	.1094	2-1/2	4-5/8	C08655	10
1/8	.1250	2-3/4	5-1/8	C08665	10
9/64	.1406	3	5-3/8	C08674	10
5/32	.1562	3	5-3/8	C08685	10
11/64	.1719	3-3/8	5-3/4	C08696	10
3/16	.1875	3-3/8	5-3/4	C08707	10
13/64	.2031	3-5/8	6	C08718	10
7/32	.2188	3-5/8	6	C08728	10
15/64	.2344	3-3/4	6-1/8	C08737	10
1/4	.2500	3-3/4	6-1/8	C08746	10
17/64	.2656	3-7/8	6-1/4	C08752	10
9/32	.2812	3-7/8	6-1/4	C08766	10
19/64	.2969	4	6-3/8	C08770	5
5/16	.3125	4	6-3/8	C08777	5
21/64	.3281	4-1/8	6-1/2	C08785	5
11/32	.3438	4-1/8	6-1/2	C08792	5
23/64	.3594	4-1/4	6-3/4	C08800	5
3/8	.3750	4-1/4	6-3/4	C08807	5
25/64	.3906	4-3/8	7	C08815	1
13/32	.4062	4-3/8	7	C08821	1
27/64	.4219	4-5/8	7-1/4	C08824	1
7/16	.4375	4-5/8	7-1/4	C08827	1
29/64	.4531	4-3/4	7-1/2	C08830	1
15/32	.4688	4-3/4	7-1/2	C08832	1
31/64	.4844	4-3/4	7-3/4	C08835	1
1/2	.5000	4-3/4	7-3/4	C08837	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
33/64	.5156	4-3/4	8	C08840	1
17/32	.5312	4-3/4	8	C08842	1
35/64	.5469	4-7/8	8-1/4	C08845	1
9/16	.5625	4-7/8	8-1/4	C08848	1
37/64	.5781	4-7/8	8-3/4	C08850	1
19/32	.5938	4-7/8	8-3/4	C08853	1
39/64	.6094	4-7/8	8-3/4	C08855	1
5/8	.6250	4-7/8	8-3/4	C08858	1
41/64	.6406	5-1/8	9	C08861	1
21/32	.6562	5-1/8	9	C08863	1
43/64	.6719	5-3/8	9-1/4	C08866	1
11/16	.6875	5-3/8	9-1/4	C08868	1
45/64	.7031	5-5/8	9-1/2	C08870	1
23/32	.7188	5-5/8	9-1/2	C08872	1
47/64	.7344	5-7/8	9-3/4	C08874	1
3/4	.7500	5-7/8	9-3/4	C08876	1
49/64	.7656	6	9-7/8	C08877	1
25/32	.7812	6	9-7/8	C08879	1
51/64	.7969	6-1/8	10	C08881	1
13/16	.8125	6-1/8	10	C08883	1
53/64	.8281	6-1/8	10	C08885	1
27/32	.8438	6-1/8	10	C08886	1
55/64	.8594	6-1/8	10	C08888	1
7/8	.8750	6-1/8	10	C08890	1
57/64	.8906	6-1/8	10	C08892	1
29/32	.9062	6-1/8	10	C08894	1
59/64	.9219	6-1/8	10-3/4	C08895	1
15/16	.9375	6-1/8	10-3/4	C08897	1
61/64	.9531	6-3/8	11	C08899	1
31/32	.9688	6-3/8	11	C08901	1
63/64	.9844	6-3/8	11	C08903	1
1	1.0000	6-3/8	11	C08904	1

CLEVELAND | WALTER

continued on next page

GENERAL PURPOSE
TAPER LENGTH DRILLS

2510 SERIES continued



Size	Wire				Pack Qty.
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	
60	.0400	1-1/8	2-1/4	C08593	10
59	.0410	1-1/8	2-1/4	C08594	10
58	.0420	1-1/8	2-1/4	C08596	10
57	.0430	1-1/8	2-1/4	C08597	10
56	.0465	1-1/8	2-1/4	C08600	10
55	.0520	1-3/4	3	C08605	10
54	.0550	1-3/4	3	C08607	10
53	.0595	1-3/4	3	C08611	10
52	.0635	2	3-3/4	C08615	10
51	.0670	2	3-3/4	C08618	10
50	.0700	2	3-3/4	C08620	10
49	.0730	2	3-3/4	C08623	10
48	.0760	2	3-3/4	C08625	10
47	.0785	2-1/4	4-1/4	C08628	10
46	.0810	2-1/4	4-1/4	C08631	10
45	.0820	2-1/4	4-1/4	C08632	10
44	.0860	2-1/4	4-1/4	C08635	10
43	.0890	2-1/4	4-1/4	C08638	10
42	.0935	2-1/4	4-1/4	C08641	10
41	.0960	2-1/2	4-5/8	C08644	10
40	.0980	2-1/2	4-5/8	C08646	10
39	.0995	2-1/2	4-5/8	C08648	10
38	.1015	2-1/2	4-5/8	C08649	10
37	.1040	2-1/2	4-5/8	C08651	10
36	.1065	2-1/2	4-5/8	C08653	10
35	.1100	2-3/4	5-1/8	C08656	10
34	.1110	2-3/4	5-1/8	C08658	10
33	.1130	2-3/4	5-1/8	C08659	10
32	.1160	2-3/4	5-1/8	C08661	10
31	.1200	2-3/4	5-1/8	C08663	10
30	.1285	3	5-3/8	C08668	10
29	.1360	3	5-3/8	C08671	10
28	.1405	3	5-3/8	C08673	10
27	.1440	3	5-3/8	C08676	10
26	.1470	3	5-3/8	C08678	10
25	.1495	3	5-3/8	C08680	10
24	.1520	3	5-3/8	C08682	10
23	.1540	3	5-3/8	C08684	10
22	.1570	3-3/8	5-3/4	C08686	10
21	.1590	3-3/8	5-3/4	C08688	10
20	.1610	3-3/8	5-3/4	C08689	10
19	.1660	3-3/8	5-3/4	C08692	10
18	.1695	3-3/8	5-3/4	C08695	10
17	.1730	3-3/8	5-3/4	C08697	10
16	.1770	3-3/8	5-3/4	C08699	10
15	.1800	3-3/8	5-3/4	C08701	10
14	.1820	3-3/8	5-3/4	C08703	10
13	.1850	3-3/8	5-3/4	C08704	10

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
12	.1890	3-5/8	6	C08708	10
11	.1910	3-5/8	6	C08710	10
10	.1935	3-5/8	6	C08712	10
9	.1960	3-5/8	6	C08713	10
8	.1990	3-5/8	6	C08715	10
7	.2010	3-5/8	6	C08717	10
6	.2040	3-5/8	6	C08719	10
5	.2055	3-5/8	6	C08721	10
4	.2090	3-5/8	6	C08724	10
3	.2130	3-5/8	6	C08726	10
2	.2210	3-3/4	6-1/8	C08730	10
1	.2280	3-3/4	6-1/8	C08733	10
Letter					
D	.2460	3-3/4	6-1/8	C08743	10
F	.2570	3-7/8	6-1/4	C08750	10
I	.2720	3-7/8	6-1/4	C08757	10
J	.2770	3-7/8	6-1/4	C08759	10
N	.3020	4	6-3/8	C08772	5
O	.3160	4-1/8	6-1/2	C08779	5
P	.3230	4-1/8	6-1/2	C08782	5
Q	.3320	4-1/8	6-1/2	C08787	5
R	.3390	4-1/8	6-1/2	C08790	5
V	.3770	4-3/8	7	C08808	1



Corresponding Sets		
Number of Pieces	Sizes	Order Number
29	1/16" through 1/2" x 1/64"	C00962

Metal cases

HEAVY DUTY TAPER LENGTH DRILLS

2745 SERIES

HEAVY DUTY CARBIDE TIPPED

118° Point / Round Shank Tang / Bright

CLEVELAND high speed steel drill with bright finish and carbide-tipped cutting edges and a tapered shank ensures precise drilling in steel, stainless steel, and aluminum.



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	2-3/4	5-1/8	C49017	1
5/32	.1562	3	5-3/8	C49029	1
3/16	.1875	3-3/8	5-3/4	C49041	1
7/32	.2188	3-5/8	6	C49052	1
1/4	.2500	3-3/4	6-1/8	C49064	1
9/32	.2812	3-7/8	6-1/4	C49078	1
5/16	.3125	4	6-3/8	C49087	1
11/32	.3438	4-1/8	6-1/2	C49098	1
3/8	.3750	4-1/4	6-3/4	C49110	1
13/32	.4062	4-3/8	7	C49119	1
27/64	.4219	4-5/8	7-1/4	C49121	1
7/16	.4375	4-5/8	7-1/4	C49124	1
15/32	.4688	4-3/4	7-1/2	C49129	1
1/2	.5000	4-3/4	7-3/4	C49134	1
17/32	.5312	4-3/4	8	C49139	1
9/16	.5625	4-7/8	8-1/4	C49145	1
5/8	.6250	4-7/8	8-3/4	C49155	1

PARABOLIC TAPER LENGTH DRILLS

2565 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / High Helix / Bright

CLEVELAND 2565 Parabolic drill with HSS and TiN finish delivers unmatched performance in deep-hole drilling up to 10x diameter without pecking. Taper length for extended reach.

NOTE: Double the given feed rate.

Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	1-3/4	3	C16058	10
5/64	.0781	2	3-3/4	C16059	10
3/32	.0938	2-1/4	4-1/4	C16060	10
7/64	.1094	2-1/2	4-5/8	C16061	10
1/8	.1250	2-3/4	5-1/8	C16062	10
9/64	.1406	3	5-3/8	C16063	10
5/32	.1562	3	5-3/8	C16064	10
11/64	.1719	3-3/8	5-3/4	C16065	10
3/16	.1875	3-3/8	5-3/4	C16066	10
13/64	.2031	3-5/8	6	C16067	10
7/32	.2188	3-5/8	6	C16068	10
15/64	.2344	3-3/4	6-1/8	C16069	10
1/4	.2500	3-3/4	6-1/8	C16070	10
17/64	.2656	3-7/8	6-1/4	C16071	10
9/32	.2812	3-7/8	6-1/4	C16072	10
19/64	.2969	4	6-3/8	C16073	5
5/16	.3125	4	6-3/8	C16074	5
21/64	.3281	4-1/8	6-1/2	C16075	5
11/32	.3438	4-1/8	6-1/2	C16076	5
23/64	.3594	4-1/4	6-3/4	C16077	5
3/8	.3750	4-1/4	6-3/4	C16078	5
25/64	.3906	4-3/8	7	C16079	1
13/32	.4062	4-3/8	7	C16080	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
27/64	.4219	4-5/8	7-1/4	C16081	1
7/16	.4375	4-5/8	7-1/4	C16082	1
29/64	.4531	4-3/4	7-1/2	C16083	1
15/32	.4688	4-3/4	7-1/2	C16084	1
31/64	.4844	4-3/4	7-3/4	C16085	1
1/2	.5000	4-3/4	7-3/4	C16086	1
33/64	.5156	6	8	C13000	1
17/32	.5312	6	8	C13001	1
35/64	.5469	6-1/4	8-1/4	C13002	1
9/16	.5625	6-1/4	8-1/4	C13004	1
37/64	.5781	6-1/2	8-3/4	C13005	1
19/32	.5938	6-1/2	8-3/4	C13006	1
5/8	.6250	6-1/2	8-3/4	C13008	1
Wire					
30	.1285	3	5-3/8	C16249	10
29	.1360	3	5-3/8	C16248	10
26	.1470	3	5-3/8	C16245	10
25	.1495	3	5-3/8	C16244	10
21	.1590	3-3/8	5-3/4	C16240	10
20	.1610	3-3/8	5-3/4	C16239	10
9	.1960	3-5/8	6	C16228	10
Letter					
E	.2500	3-3/4	6-1/8	C16070	10

PARABOLIC TAPER LENGTH DRILLS

01

DRILLS

2565-TN SERIES continued

HEAVY DUTY HIGH SPEED STEEL

135° Split Point/ Round Shank / High Helix / TiN

Best Material Application



Drill Specifications



Size	Fractional			Order Number	Pack Qty.
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)		
1/16	.0625	1-3/4	3	C05105	10
5/64	.0781	2	3-3/4	C05111	10
3/32	.0938	2-1/4	4-1/4	C05118	10
7/64	.1094	2-1/2	4-5/8	C05125	10
1/8	.1250	2-3/4	5-1/8	C05131	10
9/64	.1406	3	5-3/8	C05135	10
5/32	.1562	3	5-3/8	C05141	10
11/64	.1719	3-3/8	5-3/4	C05147	10
3/16	.1875	3-3/8	5-3/4	C05153	10
13/64	.2031	3-5/8	6	C05160	10
7/32	.2188	3-5/8	6	C05165	10
15/64	.2344	3-3/4	6-1/8	C05169	10
1/4	.2500	3-3/4	6-1/8	C05173	10
17/64	.2656	3-7/8	6-1/4	C05176	10
9/32	.2812	3-7/8	6-1/4	C05181	10
19/64	.2969	4	6-3/8	C05184	5
5/16	.3125	4	6-3/8	C05185	5
21/64	.3281	4-1/8	6-1/2	C05187	5
11/32	.3438	4-1/8	6-1/2	C05190	5
23/64	.3594	4-1/4	6-3/4	C05193	5
3/8	.3750	4-1/4	6-3/4	C05195	5
25/64	.3906	4-3/8	7	C05198	5
13/32	.4062	4-3/8	7	C05201	5

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
27/64	.4219	4-5/8	7-1/4	C05203	1
7/16	.4375	4-5/8	7-1/4	C05204	1
29/64	.4531	4-3/4	7-1/2	C05205	1
15/32	.4688	4-3/4	7-1/2	C05206	1
31/64	.4844	4-3/4	7-3/4	C05207	1
1/2	.5000	4-3/4	7-3/4	C05208	1
33/64	.5156	6	8	C13019	1
17/32	.5312	6	8	C13020	1
35/64	.5469	6-1/4	8-1/4	C13022	1
9/16	.5625	6-1/4	8-1/4	C13023	1
37/64	.5781	6-1/2	8-3/4	C13024	1
19/32	.5938	6-1/2	8-3/4	C13026	1
5/8	.6250	6-1/2	8-3/4	C13028	1
Letter					
E	.2500	3-3/4	6-1/8	C05173	10

CLEVELAND | WALTER

PARABOLIC TAPER LENGTH DRILLS

2575 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / High Helix / Bronze

CLEVELAND 2575 Wide land cobalt parabolic drill with bronze finish offers a longer design for effective deep hole drilling in aluminum and non-ferrous materials.

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	1-3/4	3	C16776	10
5/64	.0781	2	3-3/4	C16777	10
3/32	.0938	2-1/4	4-1/4	C16778	10
7/64	.1094	2-1/2	4-5/8	C16779	10
1/8	.1250	2-3/4	5-1/8	C16780	10
9/64	.1406	3	5-3/8	C16781	10
5/32	.1562	3	5-3/8	C16782	10
11/64	.1719	3-3/8	5-3/4	C16783	10
3/16	.1875	3-3/8	5-3/4	C16784	10
13/64	.2031	3-5/8	6	C16785	10
7/32	.2188	3-5/8	6	C16786	10
15/64	.2344	3-3/4	6-1/8	C16787	10
1/4	.2500	3-3/4	6-1/8	C16788	10
17/64	.2656	3-7/8	6-1/4	C16789	10
9/32	.2812	3-7/8	6-1/4	C16790	10
19/64	.2969	4	6-3/8	C16791	5
5/16	.3125	4	6-3/8	C16792	5
21/64	.3281	4-1/8	6-1/2	C16793	5
11/32	.3438	4-1/8	6-1/2	C16794	5
23/64	.3594	4-1/4	6-3/4	C16795	5
3/8	.3750	4-1/4	6-3/4	C16796	5
25/64	.3906	4-3/8	7	C16797	1
13/32	.4062	4-3/8	7	C16798	1
27/64	.4219	4-5/8	7-1/4	C16799	1
7/16	.4375	4-5/8	7-1/4	C16800	1
29/64	.4531	4-3/4	7-1/2	C16801	1
15/32	.4688	4-3/4	7-1/2	C16802	1
31/64	.4844	4-3/4	7-3/4	C16803	1
1/2	.5000	4-3/4	7-3/4	C16804	1

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.50	.0591	44.00	76.00	C16805	10
4.00	.1575	86.00	146.00	C16810	10
5.00	.1969	92.00	152.00	C16812	10
6.00	.2362	95.00	156.00	C16816	10

*Not split point

PARABOLIC TAPER LENGTH DRILLS

01

DRILLS

2575-TN SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / High Helix / TiN

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	1-3/4	3	C16885	10
5/64	.0781	2	3-3/4	C16886	10
3/32	.0938	2-1/4	4-1/4	C16887	10
7/64	.1094	2-1/2	4-5/8	C16888	10
1/8	.1250	2-3/4	5-1/8	C16889	10
9/64	.1406	3	5-3/8	C16890	10
5/32	.1562	3	5-3/8	C16891	10
11/64	.1719	3-3/8	5-3/4	C16892	10
3/16	.1875	3-3/8	5-3/4	C16893	10
13/64	.2031	3-5/8	6	C16894	10
7/32	.2188	3-5/8	6	C16895	10
15/64	.2344	3-3/4	6-1/8	C16896	10
1/4	.2500	3-3/4	6-1/8	C16897	10
17/64	.2656	3-7/8	6-1/4	C16898	10
9/32	.2812	3-7/8	6-1/4	C16899	10
19/64	.2969	4	6-3/8	C16900	5
5/16	.3125	4	6-3/8	C16901	5
21/64	.3281	4-1/8	6-1/2	C16902	5
11/32	.3438	4-1/8	6-1/2	C16903	5
23/64	.3594	4-1/4	6-3/4	C16904	5
3/8	.3750	4-1/4	6-3/4	C16905	5
25/64	.3906	4-3/8	7	C16906	1
13/32	.4062	4-3/8	7	C16907	1
27/64	.4219	4-5/8	7-1/4	C16908	1
7/16	.4375	4-5/8	7-1/4	C16909	1
29/64	.4531	4-3/4	7-1/2	C16910	1
15/32	.4688	4-3/4	7-1/2	C16911	1
31/64	.4844	4-3/4	7-3/4	C16912	1
1/2	.5000	4-3/4	7-3/4	C16913	1

Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
*1.50	.0591	44.00	76.00	C16914	10
5.00	.1969	92.00	152.00	C16921	10
6.00	.2362	95.00	156.00	C16925	10

*Not split point

CLEVELAND | WALTER

GENERAL PURPOSE EXTRA LENGTH DRILLS

1806 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / 12" Overall Length / Black Oxide

CLE-LINE 1806 extra-length drill with HSS and black oxide finish with a 12-inch flute length for reliable drilling extra deep hole drilling in steel and cast iron.

Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	9.0	12.0	C20436	1
5/32	.1562	9.0	12.0	C20438	1
3/16	.1875	9.0	12.0	C20440	1
7/32	.2188	9.0	12.0	C20442	1
1/4	.2500	9.0	12.0	C20444	1
9/32	.2812	9.0	12.0	C20446	1
5/16	.3125	9.0	12.0	C20448	1
11/32	.3438	9.0	12.0	C20450	1
3/8	.3750	9.0	12.0	C20452	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
13/32	.4062	9.0	12.0	C20454	1
7/16	.4375	9.0	12.0	C20456	1
15/32	.4688	9.0	12.0	C20458	1
1/2	.5000	9.0	12.0	C20460	1
17/32	.5313	9.0	12.0	C20462	1
9/16	.5625	9.0	12.0	C20464	1
19/32	.5938	9.0	12.0	C20466	1
5/8	.6250	9.0	12.0	C20468	1
21/32	.6563	9.0	12.0	C20470	1
11/16	.6875	9.0	12.0	C20472	1
3/4	.7500	9.0	12.0	C24745	1

1807 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / 18" Overall Length / Black Oxide

CLE-LINE 1807 Extra-length drill with HSS and black oxide finish with a 9" flute length for reliable drilling in steel and cast iron.

Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/4	.2500	14.0	18.0	C20481	1
9/32	.2812	14.0	18.0	C20483	1
5/16	.3125	14.0	18.0	C20485	1
11/32	.3438	14.0	18.0	C20487	1
3/8	.3750	14.0	18.0	C20489	1
13/32	.4062	14.0	18.0	C20491	1
7/16	.4375	14.0	18.0	C20493	1
15/32	.4688	14.0	18.0	C20495	1
1/2	.5000	14.0	18.0	C20497	1

GENERAL PURPOSE EXTRA LENGTH DRILLS

01

DRILLS

1308 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / 8" Overall Length / Black Oxide

Because of the inaccessibility or the extreme depth of a hole, it is often found that even long series drills are not long enough. The drilling of such holes generally requires the use of an Extra Length Drill. The drills are made with a general purpose flute design which will perform well under the widest range of operating conditions and materials.

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	6.0	8.0	1308A108	1
9/64	.1406	6.0	8.0	1308A109	1
5/32	.1562	6.0	8.0	1308A110	1
11/64	.1719	6.0	8.0	1308A111	1
3/16	.1875	6.0	8.0	1308A112	1
13/64	.2031	6.0	8.0	1308A113	1
7/32	.2188	6.0	8.0	1308A114	1
15/64	.2344	6.0	8.0	1308A115	1
1/4	.2500	6.0	8.0	1308A116	1
17/64	.2656	6.0	8.0	1308A117	1
9/32	.2812	6.0	8.0	1308A118	1
19/64	.2969	6.0	8.0	1308A119	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
5/16	.3125	6.0	8.0	1308A120	1
21/64	.3281	6.0	8.0	1308A121	1
11/32	.3438	6.0	8.0	1308A122	1
23/64	.3594	6.0	8.0	1308A123	1
3/8	.3750	6.0	8.0	1308A124	1
25/64	.3906	6.0	8.0	1308A125	1
13/32	.4062	6.0	8.0	1308A126	1
27/64	.4219	6.0	8.0	1308A127	1
7/16	.4375	6.0	8.0	1308A128	1
29/64	.4531	6.0	8.0	1308A129	1
15/32	.4688	6.0	8.0	1308A130	1
31/64	.4844	6.0	8.0	1308A131	1
1/2	.5000	6.0	8.0	1308A132	1

DRILCO | WALTER

GENERAL PURPOSE EXTRA LENGTH DRILLS

1312 / 1312R SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / 12" Overall Length / Black Oxide

Drillco Series 1312 and 1312R drills are precision-engineered, extra-length high speed steel drills designed for deep hole drilling and hard-to-reach applications. Featuring premium HSS construction with a black oxide finish for enhanced wear resistance and corrosion protection, these drills deliver dependable performance across a wide range of materials.

Series 1312: Imperial extra-length drills with straight shank and conventional 118° point geometry for efficient chip evacuation and smooth penetration in steel, stainless steel, aluminum, and other common metals.

Series 1312R: Imperial extra-length drills with reduced shank design for use in standard chucks while providing extended reach and rigidity in deeper holes.

Best Material Application



Drill Specifications



1312 - Round Shank / 1312R - Reduced Shank

Fractional						
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number 1312	Order Number 1312R	Pack Qty.
1/8	.1250	9	12	1312A108	—	1
9/64	.1406	9	12	1312A109	—	1
5/32	.1562	9	12	1312A110	—	1
11/64	.1719	9	12	1312A111	—	1
3/16	.1875	9	12	1312A112	—	1
13/64	.2031	9	12	1312A113	—	1
7/32	.2188	9	12	1312A114	—	1
15/64	.2344	9	12	1312A115	—	1
1/4	.2500	9	12	1312A116	—	1
17/64	.2656	9	12	1312A117	—	1
9/32	.2812	9	12	1312A118	—	1
19/64	.2969	9	12	1312A119	—	1
5/16	.3125	9	12	1312A120	—	1
21/64	.3281	9	12	1312A121	—	1
11/32	.3438	9	12	1312A122	—	1
23/64	.3594	9	12	1312A123	—	1
3/8	.3750	9	12	1312A124	—	1
25/64	.3906	9	12	1312A125	—	1
13/32	.4062	9	12	1312A126	—	1
27/64	.4219	9	12	1312A127	—	1
7/16	.4375	9	12	1312A128	—	1
29/64	.4531	9	12	1312A129	—	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number 1312	Order Number 1312R	Pack Qty.
15/32	.4688	9	12	1312A130	—	1
31/64	.4844	9	12	1312A131	—	1
1/2	.5000	9	12	1312A132	—	1
33/64	.5156	9	12	1312A133	1312AR133	1
17/32	.5312	9	12	1312A134	1312AR134	1
35/64	.5469	9	12	1312A135	1312AR135	1
9/16	.5625	9	12	1312A136	1312AR136	1
37/64	.5781	9	12	1312A137	1312AR137	1
19/32	.5938	9	12	1312A138	1312AR138	1
39/64	.6094	9	12	1312A139	1312AR139	1
5/8	.6250	9	12	1312A140	1312AR140	1
41/64	.6406	9	12	1312A141	1312AR141	1
21/32	.6562	9	12	1312A142	1312AR142	1
43/64	.6719	9	12	1312A143	1312AR143	1
11/16	.6875	9	12	1312A144	1312AR144	1
45/64	.7031	9	12	1312A145	1312AR145	1
23/32	.7188	9	12	1312A146	1312AR146	1
47/64	.7344	9	12	1312A147	1312AR147	1
3/4	.7500	9	12	1312A148	1312AR148	1

GENERAL PURPOSE EXTRA LENGTH DRILLS

T1290 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / 12" Overall Length / Bright

High-speed steel extra-length drills with a 118° point and bright finish for smooth, accurate drilling. Ideal for general-purpose applications and reaching deeper holes.

Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



118° POINT ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	9	12	059808	1
5/32	.1562	9	12	059810	1
3/16	.2031	9	12	059812	1
7/32	.2188	9	12	059814	1
1/4	.2500	9	12	059816	1
9/32	.2812	9	12	059818	1
5/16	.3125	9	12	059820	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
11/32	.3438	9	12	059822	1
3/8	.3750	9	12	059824	1
13/32	.4062	9	12	059826	1
7/16	.4375	9	12	059828	1
15/32	.4688	9	12	059830	1
1/2	.5000	9	12	059832	1
17/32*	.5312	9	12	059834	1
9/16*	.5625	9	12	059836	1
5/8*	.6250	9	12	059840	1

* Black Oxide

1318 / 1318R SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / 18" Overall Length / Black Oxide

Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT ROUND SHANK



1318 - Round Shank / 1318R - 1/2" Reduced Shank

Fractional - Round Shank					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number 1318	Pack Qty.
1/4	.2500	13	18	1318A116	1
17/64	.2656	13	18	1318A117	1
9/32	.2812	13	18	1318A118	1
19/64	.2969	13	18	1318A119	1
5/16	.3125	13	18	1318A120	1
21/64	.3281	13	18	1318A121	1
11/32	.3438	13	18	1318A122	1
23/64	.3594	13	18	1318A123	1
3/8	.3750	13	18	1318A124	1
25/64	.3906	13	18	1318A125	1
13/32	.4062	13	18	1318A126	1
27/64	.4219	13	18	1318A127	1
7/16	.4375	13	18	1318A128	1
29/64	.4531	13	18	1318A129	1
15/32	.4688	13	18	1318A130	1
31/64	.4844	13	18	1318A131	1
1/2	.5000	13	18	1318A132	1

Fractional - 1/2" Reduced Shank					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Order Number 1318	Order Number 1318R	Pack Qty.
33/64"	13"	18"	1318A133	1318AR133	1
17/32"	13"	18"	1318A134	1318AR134	1
35/64"	13"	18"	1318A135	1318AR135	1
9/16"	13"	18"	1318A136	1318AR136	1
37/64"	13"	18"	1318A137	1318AR137	1
19/32"	13"	18"	1318A138	1318AR138	1
39/64"	13"	18"	1318A139	1318AR139	1
5/8"	13"	18"	1318A140	1318AR140	1
21/32"	13"	18"	1318A142	1318AR142	1
11/16"	13"	18"	1318A144	1318AR144	1
23/32"	13"	18"	1318A146	1318AR146	1
3/4"	13"	18"	1318A148	1318AR148	1
25/32"	13"	18"	1318A150	1318AR150	1
13/16"	13"	18"	1318A152	1318AR152	1
27/32"	13"	18"	1318A154	1318AR154	1
7/8"	13"	18"	1318A156	1318AR156	1
29/32"	13"	18"	1318A158	1318AR158	1
15/16"	13"	18"	1318A160	1318AR160	1
31/32"	13"	18"	1318A162	1318AR162	1
1"	13"	18"	1318A164	1318AR164	1

GENERAL PURPOSE EXTRA LENGTH DRILLS

T1813 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Round Shank / 18" Overall Length / Bright

High-speed steel extra-length drills with a 118° point and bright finish for smooth, accurate drilling. Ideal for general-purpose applications and reaching deeper holes.

Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



118° POINT ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/4	.2500	13	18	059916	1
5/16	.3125	13	18	059920	1
3/8	.3750	13	18	059924	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
7/16	.4375	13	18	059928	1
1/2	.5000	13	18	059932	1
9/16*	.6250	13	18	059936	1
5/8*	.6250	13	18	059940	1

*Black oxide

GENERAL PURPOSE EXTRA LENGTH DRILLS

120X SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° K Notch / Round Shank / Extra Long Length / Black Oxide

The CHICAGO-LATROBE 120X Heavy duty Extra-Long Drill with 118° K-notch point is for applications requiring extended reach. Made from premium high-speed steel with a wear-resistant black oxide finish for added lubricity in ferrous materials. Offered in multiple lengths across popular diameters, it delivers durability and versatility for a wide range of drilling tasks.

NOTE: Style 120X is also available in a set: 25 Piece 1/8 - 1/2 X 1/64 (12" length)

Best Material Application



CAST IRON



STEEL

Drill Specifications



118° K-NOTCH



ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/32	.0938	5-1/2	8	50448	1
7/64	.1094	5-1/2	8	50455	1
1/8	.1250	5-1/2	8	50458	1
1/8	.1250	7-1/2	10	50460	1
1/8	.1250	9	12	50461	1
9/64	.1406	5-1/2	8	50463	1
9/64	.1406	7-1/2	10	50465	1
9/64	.1406	9	12	50466	1
5/32	.1562	5-1/2	8	50468	1
5/32	.1562	7-1/2	10	50717	1
5/32	.1562	9	12	50718	1
11/64	.1719	5-1/2	8	50471	1
11/64	.1719	7-1/2	10	50473	1
11/64	.1719	9	12	50719	1
3/16	.1875	5-1/2	8	50720	1
3/16	.1875	7-1/2	10	50722	1
3/16	.1875	9	12	50723	1
13/64	.2031	5-1/2	8	50476	1
13/64	.2031	7-1/2	10	50725	1
13/64	.2031	9	12	50726	1
7/32	.2188	5-1/2	8	50479	1
7/32	.2188	7-1/2	10	50728	1
7/32	.2188	9	12	50729	1
15/64	.2344	5-1/2	8	50730	1
15/64	.2344	7-1/2	10	50731	1
15/64	.2344	9	12	50732	1
1/4	.2500	5-1/2	8	50485	1
1/4	.2500	7-1/2	10	50734	1
1/4	.2500	9	12	50735	1
17/64	.2656	5-1/2	8	50489	1
17/64	.2656	7-1/2	10	50736	1
17/64	.2656	9	12	50737	1
9/32	.2812	5-1/2	8	50493	1
9/32	.2812	7-1/2	10	50495	1
9/32	.2812	9	12	50738	1
19/64	.2969	5-1/2	8	50498	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
19/64	.2969	7-1/2	10	50500	1
19/64	.2969	9	12	50739	1
5/16	.3125	5-1/2	8	50503	1
5/16	.3125	7-1/2	10	50505	1
5/16	.3125	9	12	50740	1
21/64	.3281	5-1/2	8	50509	1
21/64	.3281	7-1/2	10	50511	1
21/64	.3281	9	12	50741	1
11/32	.3438	5-1/2	8	50514	1
11/32	.3438	7-1/2	10	50516	1
11/32	.3438	9	12	50742	1
23/64	.3594	5-1/2	8	50520	1
23/64	.3594	7-1/2	10	50522	1
23/64	.3594	9	12	50523	1
3/8	.3750	5-1/2	8	50527	1
3/8	.3750	7-1/2	10	50529	1
3/8	.3750	9	12	50743	1
25/64	.3906	5-1/2	8	50534	1
25/64	.3906	7-1/2	10	50536	1
25/64	.3906	9	12	50745	1
13/32	.4062	5-1/2	8	50540	1
13/32	.4062	7-1/2	10	50746	1
13/32	.4062	9	12	50747	1
27/64	.4219	7-1/2	10	50546	1
27/64	.4219	9	12	50749	1
7/16	.4375	5-1/2	8	50550	1
7/16	.4375	7-1/2	10	50552	1
7/16	.4375	9	12	50750	1
29/64	.4531	7-1/2	10	50557	1
29/64	.4531	9	12	50558	1
15/32	.4688	5-1/2	8	50561	1
15/32	.4688	7-1/2	10	50563	1
15/32	.4688	9	12	50751	1
31/64	.4844	7-1/2	10	50568	1
31/64	.4844	9	12	50752	1
1/2	.5000	5-1/2	8	50570	1

continued on next page

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GENERAL PURPOSE EXTRA LENGTH DRILLS

120X SERIES continued



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/2	.5000	7- 1/2	10	50571	1
1/2	.5000	9	12	50572	1
33/64	.5156	7- 1/2	10	50580	1
33/64	.5156	9	12	50581	1
17/32	.5312	7- 1/2	10	50585	1
17/32	.5312	9	12	50586	1
35/64	.5469	9	12	50591	1
9/16	.5625	9	12	50596	1
37/64	.5781	9	12	50602	1
19/32	.5938	9	12	50608	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
39/64	.6094	9	12	50613	1
5/8	.6250	9	12	50619	1
41/64	.6406	9	12	50624	1
21/32	.6562	9	12	50629	1
43/64	.6719	9	12	50634	1
11/16	.6875	9	12	50639	1
45/64	.7031	9	12	50644	1
23/32	.7188	9	12	50648	1
47/64	.7344	9	12	50654	1
3/4	.7500	9	12	50659	1



Corresponding Sets		
Number of Pieces	Description	Order Number
25	1/8 - 1/2 X 1/64 (12" length)	69869

Plastic pouch

GENERAL PURPOSE EXTRA LENGTH DRILLS

01

DRILLS

950E SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° K Notch / Round Shank / Extra Long Length / Black Oxide

CLEVELAND 950E Extra-length drill made with HSS and black oxide finish includes 118° K-Notch point for accurate long-reach drilling in steel and cast iron.

Best Material Application



Drill Specifications



Size	Fractional			Order Number	Pack Qty.
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)		
3/32	.0938	5- 1/2	8	C09655	1
7/64	.1094	5- 1/2	8	C09656	1
1/8	.1250	5- 1/2	8	C09657	1
1/8	.1250	7- 1/2	10	C09707	1
1/8	.1250	9	12	C09736	1
9/64	.1406	5- 1/2	8	C09658	1
5/32	.1562	5- 1/2	8	C09659	1
5/32	.1562	7- 1/2	10	C09709	1
5/32	.1562	9	12	C09738	1
11/64	.1719	5- 1/2	8	C09660	1
3/16	.1875	5- 1/2	8	C09661	1
3/16	.1875	7- 1/2	10	C09711	1
3/16	.1875	9	12	C09740	1
13/64	.2031	5- 1/2	8	C09662	1
7/32	.2188	5- 1/2	8	C09663	1
7/32	.2188	7- 1/2	10	C09713	1
7/32	.2188	9	12	C09742	1
15/64	.2344	5- 1/2	8	C09664	1
15/64	.2344	7- 1/2	10	C09714	1
1/4	.2500	5- 1/2	8	C09665	1
1/4	.2500	7- 1/2	10	C09715	1
1/4	.2500	9	12	C09744	1
17/64	.2656	5- 1/2	8	C09666	1
9/32	.2812	5- 1/2	8	C09667	1
9/32	.2812	7- 1/2	10	C09717	1
9/32	.2812	9	12	C09746	1
19/64	.2969	5- 1/2	8	C09668	1
5/16	.3125	5- 1/2	8	C09669	1
5/16	.3125	7- 1/2	10	C09719	1
5/16	.3125	9	12	C09748	1
21/64	.3281	5- 1/2	8	C09670	1
11/32	.3438	5- 1/2	8	C09671	1

Size	Fractional			Order Number	Pack Qty.
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)		
11/32	.3438	7- 1/2	10	C09721	1
11/32	.3438	9	12	C09750	1
23/64	.3594	5- 1/2	8	C09672	1
3/8	.3750	5- 1/2	8	C09673	1
3/8	.3750	7- 1/2	10	C09723	1
3/8	.3750	9	12	C09752	1
25/64	.3906	5- 1/2	8	C09674	1
13/32	.4062	5- 1/2	8	C09675	1
13/32	.4062	7- 1/2	10	C09725	1
13/32	.4062	9	12	C09754	1
27/64	.4219	5- 1/2	8	C09676	1
7/16	.4375	5- 1/2	8	C09677	1
7/16	.4375	7- 1/2	10	C09727	1
7/16	.4375	9	12	C09756	1
29/64	.4531	5- 1/2	8	C09678	1
15/32	.4688	5- 1/2	8	C09679	1
15/32	.4688	7- 1/2	10	C09729	1
15/32	.4688	9	12	C09758	1
31/64	.4844	5- 1/2	8	C09680	1
1/2	.5000	5- 1/2	8	C09681	1
1/2	.5000	7- 1/2	10	C09731	1
1/2	.5000	9	12	C09760	1
17/32	.5312	7- 1/2	10	C09733	1
17/32	.5312	9	12	C09762	1
9/16	.5625	7- 1/2	10	C09735	1
9/16	.5625	9	12	C09764	1
19/32	.5938	9	12	C09766	1
5/8	.6250	9	12	C09768	1
21/32	.6562	9	12	C09770	1
11/16	.6875	9	12	C09772	1
23/32	.7188	9	12	C09774	1
3/4	.7500	9	12	C09776	1

CLE-LINE
WALTER

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

1803 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / 6" Overall Length / Black Oxide

CLE-LINE 1803 Aircraft extension drill with HSS and black oxide finish delivers accurate 6-inch length drilling in steel and cast iron.

Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	6	C23621	12
5/64	.0781	1	6	C23622	12
3/32	.0938	1-1/4	6	C23623	12
7/64	.1094	1-1/2	6	C23624	12
1/8	.1250	1-5/8	6	C23625	12
9/64	.1406	1-3/4	6	C23626	12
5/32	.1562	2	6	C23627	12
11/64	.1719	2-1/8	6	C23628	12
3/16	.1875	2-5/16	6	C23629	12
13/64	.2031	2-7/16	6	C23630	12
7/32	.2188	2-1/2	6	C23631	12
15/64	.2344	2-5/8	6	C23632	12
1/4	.2500	2-3/4	6	C23633	12
17/64	.2656	2-5/8	6	C23634	12
9/32	.2812	3-1/16	6	C23635	12
19/64	.2969	3-1/16	6	C23636	6
5/16	.3125	3-3/16	6	C23637	6
21/64	.3281	3-7/16	6	C23638	6
11/32	.3438	3-7/16	6	C23639	6
23/64	.3594	3-1/2	6	C23640	6
3/8	.3750	3-5/8	6	C23641	6
25/64	.3906	3-3/4	6	C23642	6
13/32	.4062	3-3/4	6	C23643	6
27/64	.4219	3-15/16	6	C23644	6
7/16	.4375	4-1/16	6	C23645	6
29/64	.4531	4-3/16	6	C23646	6
15/32	.4688	4-5/6	6	C23647	6
31/64	.4844	4-3/8	6	C23648	6
1/2	.5000	4-1/2	6	C23649	6
Wire					
40	.0980	1-3/8	6	C23700	1
39	.0995	1-3/8	6	C23699	1
38	.1015	1-7/16	6	C23698	1
37	.1040	1-7/16	6	C23697	1
36	.1065	1-7/16	6	C23696	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
35	.1100	1-1/2	6	C23695	1
34	.1110	1-1/2	6	C23694	1
33	.1130	1-1/2	6	C23693	1
32	.1160	1-5/8	6	C23692	1
31	.1200	1-5/8	6	C23691	1
30	.1285	1-5/8	6	C23690	1
29	.1360	1-3/4	6	C23689	1
28	.1405	1-3/4	6	C23688	1
27	.1440	1-7/8	6	C23687	1
26	.1470	1-7/8	6	C23686	1
25	.1495	1-7/8	6	C23685	1
24	.1520	2	6	C23684	1
23	.1540	2	6	C23683	1
22	.1570	2	6	C23682	1
21	.1590	2-1/8	6	C23681	1
20	.1610	2-1/8	6	C23680	1
19	.1660	2-1/8	6	C23679	1
18	.1695	2-1/8	6	C23678	1
17	.1730	2-3/16	6	C23677	1
16	.1770	2-3/16	6	C23676	1
15	.1800	2-3/16	6	C23675	1
14	.1820	2-3/16	6	C23674	1
13	.1850	2-5/16	6	C23673	1
12	.1890	2-5/16	6	C23672	1
11	.1910	2-5/16	6	C23671	1
10	.1935	2-7/16	6	C23670	1
9	.1960	2-7/16	6	C23669	1
8	.1990	2-7/16	6	C23668	1
7	.2010	2-7/16	6	C23667	1
6	.2040	2-1/2	6	C23666	1
5	.2055	2-1/2	6	C23665	1
4	.2090	2-1/2	6	C23664	1
3	.2130	2-1/2	6	C23663	1
2	.2210	2-5/8	6	C23662	1
1	.2280	2-5/8	6	C23661	1
Letter					
E	.2500	2-3/4	6	C23633	12

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

01

DRILLS

1805 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / 12" Overall Length / Black Oxide

CLE-LINE 1805 Aircraft extension drill with HSS and black oxide finish ensures extended length precision drilling in steel and cast iron. Superior rigidity in hand or machine drilling.

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	12	C23721	12
5/64	.0781	1	12	C23722	12
3/32	.0938	1-1/4	12	C23723	12
7/64	.1094	1-1/2	12	C23724	12
1/8	.1250	1-5/8	12	C23725	12
9/64	.1406	1-3/4	12	C23726	12
5/32	.1562	2	12	C23727	12
11/64	.1719	2-1/8	12	C23728	12
3/16	.1875	2-5/16	12	C23729	12
13/64	.2031	2-7/16	12	C23730	12
7/32	.2188	2-1/2	12	C23731	12
15/64	.2344	2-5/8	12	C23732	12
1/4	.2500	2-3/4	12	C23733	12
17/64	.2656	2-5/8	12	C23734	12
9/32	.2812	3-1/16	12	C23735	12
19/64	.2969	3-1/16	12	C23736	6
5/16	.3125	3-3/16	12	C23737	6
21/64	.3281	3-7/16	12	C23738	6
11/32	.3438	3-7/16	12	C23739	6
23/64	.3594	3-1/2	12	C23740	6
3/8	.3750	3-5/8	12	C23741	6
25/64	.3906	3-3/4	12	C23742	6
13/32	.4062	3-3/4	12	C23743	6
27/64	.4219	3-15/16	12	C23744	6
7/16	.4375	4-1/16	12	C23745	6
29/64	.4531	4-3/16	12	C23746	6
15/32	.4688	4-5/6	12	C23747	6
31/64	.4844	4-3/8	12	C23748	6
1/2	.5000	4-1/2	12	C23749	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
40	.0980	1-3/8	12	C23800	12
39	.0995	1-3/8	12	C23799	12
31	.1200	1-5/8	12	C23791	12
30	.1285	1-5/8	12	C23790	12
29	.1360	1-3/4	12	C23789	12
25	.1495	1-7/8	12	C23785	12
21	.1590	2-1/8	12	C23781	12
20	.1610	2-1/8	12	C23780	12
19	.1660	2-1/8	12	C23779	12
16	.1770	2-3/16	12	C23776	12
13	.1850	2-5/16	12	C23773	12
12	.1890	2-5/16	12	C23772	12
11	.1910	2-5/16	12	C23771	12
10	.1935	2-7/16	12	C23770	12
9	.1960	2-7/16	12	C23769	12
8	.1990	2-7/16	12	C23768	12
7	.2010	2-7/16	12	C23767	12
6	.2040	2-1/2	12	C23766	12
5	.2055	2-1/2	12	C23765	12
4	.2090	2-1/2	12	C23764	12
3	.2130	2-1/2	12	C23763	12
2	.2210	2-5/8	12	C23762	12
1	.2280	2-5/8	12	C23761	12
Letter					
E	.2500	2-3/4	12	C23733	12

CLE-LINE
WALTER

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

1100 / 1180 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / 6" Overall Length / Black Oxide

Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	6	1100A104	6
5/64	.0781	1	6	1100A105	6
3/32	.0938	1-1/4	6	1100A106	6
7/64	.1094	1-1/2	6	1100A107	6
1/8	.1250	1-5/8	6	1100A108	6
9/64	.1406	1-3/4	6	1100A109	6
5/32	.1562	2	6	1100A110	6
11/64	.1719	2-1/8	6	1100A111	6
3/16	.1875	2-5/16	6	1100A112	6
13/64	.2031	2-7/16	6	1100A113	6
7/32	.2188	2-1/2	6	1100A114	6
15/64	.2344	2-5/8	6	1100A115	6
1/4	.2500	2-3/4	6	1100A116	6
17/64	.2656	2-7/8	6	1100A117	6
9/32	.2812	2-15/16	6	1100A118	6
19/64	.2969	3-1/16	6	1100A119	6
5/16	.3125	3-3/16	6	1100A120	6
21/64	.3281	3-5/16	6	1100A121	6
11/32	.3438	3-7/16	6	1100A122	6
23/64	.3594	3-1/2	6	1100A123	6
3/8	.3750	3-5/8	6	1100A124	6
25/64	.3906	3-3/4	6	1100A125	6
13/32	.4062	3-7/8	6	1100A126	6
27/64	.4219	3-15/16	6	1100A127	6
7/16	.4375	4-1/16	6	1100A128	6
29/64	.4531	4-3/16	6	1100A129	6
15/32	.4688	4-5/16	6	1100A130	6
31/64	.4844	4-3/8	6	1100A131	6
1/2	.5000	4-1/2	6	1100A132	6
Wire					
40	.0980	1-3/8	6	1180A040	6
39	.0995	1-3/8	6	1180A039	6
38	.1015	1-7/16	6	1180A038	6
37	.1040	1-7/16	6	1180A037	6

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
36	.1065	1-7/16	6	1180A036	6
35	.1100	1-1/2	6	1180A035	6
34	.1110	1-1/2	6	1180A034	6
33	.1130	1-1/2	6	1180A033	6
32	.1160	1-5/8	6	1180A032	6
31	.1200	1-5/8	6	1180A031	6
30	.1285	1-5/8	6	1180A030	6
29	.1360	1-3/4	6	1180A029	6
28	.1405	1-3/4	6	1180A028	6
27	.1440	1-7/8	6	1180A027	6
26	.1470	1-7/8	6	1180A026	6
25	.1495	1-7/8	6	1180A025	6
24	.1520	y2	6	1180A024	6
23	.1540	2	6	1180A023	6
22	.1570	2	6	1180A022	6
21	.1590	2-1/8	6	1180A021	6
20	.1610	2-1/8	6	1180A020	6
19	.1660	2-1/8	6	1180A019	6
18	.1695	2-1/8	6	1180A018	6
17	.1730	2-3/16	6	1180A017	6
16	.1770	2-3/16	6	1180A016	6
15	.1800	2-3/16	6	1180A015	6
14	.1820	2-3/16	6	1180A014	6
13	.1850	2-5/16	6	1180A013	6
12	.1890	2-5/16	6	1180A012	6
11	.1910	2-5/16	6	1180A011	6
10	.1935	2-7/16	6	1180A010	6
9	.1960	2-7/16	6	1180A009	6
8	.1990	2-7/16	6	1180A008	6
7	.2010	2-7/16	6	1180A007	6
6	.2040	2-1/2	6	1180A006	6
5	.2055	2-1/2	6	1180A005	6
4	.2090	2-1/2	6	1180A004	6
3	.2130	2-1/2	6	1180A003	6
2	.2210	2-5/8	6	1180A002	6
1	.2280	2-5/8	6	1180A001	6

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

T6HH / T6WW SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / 6" Overall Length / Black Oxide

High-speed steel 6" aircraft extension drills with a 135° split point and black oxide finish for precise starts and smoother drilling. Built with heavy duty construction for strength and long reach in hard to reach applications.

Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number Bulk	Bulk Qty.
7/64	.1094	1-1/2	6	057507	6	057507.20	144
1/8	.1250	1-5/8	6	057508	6	057508.20	144
9/64	.1406	1-3/4	6	057509	6	—	—
5/32	.1562	2	6	057510	6	—	—
11/64	.1719	2-1/8	6	057511	6	—	—
3/16	.1875	2-5/16	6	057512	6	057512.20	144
13/64	.2031	2-7/16	6	057513	6	—	—
7/32	.2188	2-1/2	6	057514	6	057514.20	144
15/64	.2344	2-5/8	6	057515	6	—	—
1/4	.2500	2-3/4	6	057516	6	057516.20	144
17/64	.2656	2-7/8	6	057517	6	—	—
9/32	.2812	2-15/16	6	057518	6	—	—
19/64	.2969	3-1/16	6	057519	6	—	—
5/16	.3125	3-3/16	6	057520	6	—	—
21/64	.3281	3-5/16	6	057521	6	—	—
11/32	.3438	3-7/16	6	057522	6	—	—
23/64	.3594	3-1/2	6	057523	6	—	—
3/8	.3750	3-5/8	6	057524	6	—	—
7/16	.4375	4-1/16	6	057528	6	—	—
1/2	.5000	4-1/2	6	057532	6	—	—

Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
40	.0980	1-3/8	6	057640	6
33	.1130	1-1/2	6	057633	6
30	.1285	1-5/8	6	057630	6
29	.1360	1-3/4	6	057629	6
27	.1440	1-7/8	6	057627	6
25	.1495	1-7/8	6	057625	6
21	.1590	2-1/8	6	057621	6
20	.1610	2-1/8	6	057620	6
19	.1660	2-1/8	6	057619	6
18	.1695	2-1/8	6	057618	6
11	.1910	2-5/16	6	057611	6
10	.1935	2-7/16	6	057610	6
9	.1960	2-7/16	6	057609	6
6	.2040	2-1/2	6	057606	6
5	.2055	2-1/2	6	057605	6
2	.2210	2-5/8	6	057602	6

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

1200 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / 12" Overall Length / Black Oxide

12" Aircraft Extension Drills for drilling holes in hard to reach places. Manufactured to NAS 907 Type C specifications, 135 degree split point, surface treated with jobber flute lengths. Heavy duty construction for portable or machine drilling.

Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	12	1200A104	6
5/64	.0781	1	12	1200A105	6
3/32	.0938	1-1/4	12	1200A106	6
7/64	.1094	1-1/2	12	1200A107	6
1/8	.1250	1-5/8	12	1200A108	6
9/64	.1406	1-3/4	12	1200A109	6
5/32	.1562	2	12	1200A110	6
11/64	.1719	2-1/8	12	1200A111	6
3/16	.1875	2-5/16	12	1200A112	6
13/64	.2031	2-7/16	12	1200A113	6
7/32	.2188	2-1/2	12	1200A114	6
15/64	.2344	2-5/8	12	1200A115	6
1/4	.2500	2-3/4	12	1200A116	6
17/64	.2656	2-7/8	12	1200A117	6
9/32	.2812	2-15/16	12	1200A118	6
19/64	.2969	3-1/16	12	1200A119	6
5/16	.3125	3-3/16	12	1200A120	3
21/64	.3281	3-5/16	12	1200A121	3
11/32	.3438	3-7/16	12	1200A122	3
23/64	.3594	3-1/2	12	1200A123	3
3/8	.3750	3-5/8	12	1200A124	3
25/64	.3906	3-3/4	12	1200A125	3
13/32	.4062	3-7/8	12	1200A126	3
27/64	.4219	3-15/16	12	1200A127	3
7/16	.4375	4-1/16	12	1200A128	3
29/64	.4531	4-3/16	12	1200A129	3
15/32	.4688	4-5/16	12	1200A130	3
31/64	.4844	4-3/8	12	1200A131	3
1/2	.5000	4-1/2	12	1200A132	3
Wire					
40	.0980	1-3/8	12	1280A040	6
39	.0995	1-3/8	12	1280A039	6
38	.1015	1-7/16	12	1280A038	6
37	.1040	1-7/16	12	1280A037	6
36	.1065	1-7/16	12	1280A036	6
35	.1100	1-1/2	12	1280A035	6

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
34	.1110	1-1/2	12	1280A034	6
33	.1130	1-1/2	12	1280A033	6
32	.1160	1-5/8	12	1280A032	6
31	.1200	1-5/8	12	1280A031	6
30	.1285	1-5/8	12	1280A030	6
29	.1360	1-3/4	12	1280A029	6
28	.1405	1-3/4	12	1280A028	6
27	.1440	1-7/8	12	1280A027	6
26	.1470	1-7/8	12	1280A026	6
25	.1495	1-7/8	12	1280A025	6
24	.1520	2	12	1280A024	6
23	.1540	2	12	1280A023	6
22	.1570	2	12	1280A022	6
21	.1590	2-1/8	12	1280A021	6
20	.1610	2-1/8	12	1280A020	6
19	.1660	2-1/8	12	1280A019	6
18	.1695	2-1/8	12	1280A018	6
17	.1730	2-3/16	12	1280A017	6
16	.1770	2-3/16	12	1280A016	6
15	.1800	2-3/16	12	1280A015	6
14	.1820	2-3/16	12	1280A014	6
13	.1850	2-5/16	12	1280A013	6
12	.1890	2-5/16	12	1280A012	6
11	.1910	2-5/16	12	1280A011	6
10	.1935	2-7/16	12	1280A010	6
9	.1960	2-7/16	12	1280A009	6
8	.1990	2-7/16	12	1280A008	6
7	.2010	2-7/16	12	1280A007	6
6	.2040	2-1/2	12	1280A006	6
5	.2055	2-1/2	12	1280A005	6
4	.2090	2-1/2	12	1280A004	6
3	.2130	2-1/2	12	1280A003	6
2	.2210	2-5/8	12	1280A002	6
1	.2280	2-5/8	12	1280A001	6

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

T12HH SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / 12" Overall Length / Black Oxide

High-speed steel 12" extra-length aircraft extension drills with a 135° split point and black oxide finish for precise starts and reduced friction. Built with heavy duty construction for strength and durability in deep or hard-to-reach drilling applications.

Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Pack	Pack Qty.	Order Number (each)	Order Number
5/64	.0781	1	12	058505	6	—	—
3/32	.0938	1-1/4	12	058506	6	—	—
7/64	.1094	1-1/2	12	058507	6	—	—
1/8	.1250	1-5/8	12	058508	6	058408	1
9/64	.1406	1-3/4	12	058509	6	—	—
5/32	.1562	2	12	058510	6	—	—
11/64	.1719	2-1/8	12	058511	6	—	—
3/16	.1875	2-5/16	12	058512	6	058412	1
7/32	.2188	2-1/2	12	058514	6	—	—
1/4	.2500	2-3/4	12	058516	6	058416	1
17/64	.2656	2-7/8	12	058517	6	—	—
9/32	.2812	2-15/16	12	058518	6	—	—
19/64	.2969	3-1/16	12	058519	6	—	—
5/16	.3125	3-3/16	12	058520	3	058420	1
11/32	.3438	3-7/16	12	058522	3	—	—
3/8	.3750	3-5/8	12	058524	3	058424	1
13/32	.4062	3-7/8	12	058526	3	—	—
7/16	.4375	4-1/16	12	058528	3	058428	1
15/32	.4688	4-5/16	12	058530	3	—	—
1/2	.5000	4-1/2	12	058532	3	058432	1

Wire							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.	Order Number (each)	Order Number
1	.2280	2-5/8	12	058601	6	—	—
7	.2010	2-7/16	12	058607	6	—	—
10	.1935	2-7/16	12	058610	6	—	—
11	.1910	2-5/16	12	058611	6	—	—
17	.1730	2-3/16	12	058617	6	—	—
20	.1610	2-1/8	12	058620	6	—	—
30	.1285	1-5/8	12	058630	6	—	—
40	.0980	1-3/8	12	058640	6	—	—

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

1100C / 1180C SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / 6" Overall Length / Bronze

Manufactured to NAS 907 Type J specifications, 135° split point, surface-treated with jobber flute lengths for drilling holes in hard-to reach places. Heavy duty construction for portable or machine drilling in high tensile strength alloy steels, stainless steels, titanium, and other difficult-to-machine materials.



Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	6	1100C104	6
5/64	.0781	1	6	1100C105	6
3/32	.0938	1-1/4	6	1100C106	6
7/64	.1094	1-1/2	6	1100C107	6
1/8	.1250	1-5/8	6	1100C108	6
9/64	.1406	1-3/4	6	1100C109	6
5/32	.1562	2	6	1100C110	6
11/64	.1719	2-1/8	6	1100C111	6
3/16	.1875	2-5/16	6	1100C112	6
13/64	.2031	2-7/16	6	1100C113	6
7/32	.2188	2-1/2	6	1100C114	6
15/64	.2344	2-5/8	6	1100C115	6
1/4	.2500	2-3/4	6	1100C116	6
9/32	.2812	2-15/16	6	1100C118	6
5/16	.3125	3-3/16	6	1100C120	6
3/8	.3750	3-5/8	6	1100C124	6
Wire					
40	.0980	1-3/8	6	1180C040	6
39	.0995	1-3/8	6	1180C039	6
38	.1015	1-7/16	6	1180C038	6
37	.1040	1-7/16	6	1180C037	6
36	.1065	1-7/16	6	1180C036	6
35	.1100	1-1/2	6	1180C035	6
34	.1110	1-1/2	6	1180C034	6
33	.1130	1-1/2	6	1180C033	6
32	.1160	1-5/8	6	1180C032	6
31	.1200	1-5/8	6	1180C031	6
30	.1285	1-5/8	6	1180C030	6
29	.1360	1-3/4	6	1180C029	6

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
28	.1405	1-3/4	6	1180C028	6
27	.1440	1-7/8	6	1180C027	6
26	.1470	1-7/8	6	1180C026	6
25	.1495	1-7/8	6	1180C025	6
24	.1520	2	6	1180C024	6
23	.1540	2	6	1180C023	6
22	.1570	2	6	1180C022	6
21	.1590	2-1/8	6	1180C021	6
20	.1610	2-1/8	6	1180C020	6
19	.1660	2-1/8	6	1180C019	6
18	.1695	2-1/8	6	1180C018	6
17	.1730	2-3/16	6	1180C017	6
16	.1770	2-3/16	6	1180C016	6
15	.1800	2-3/16	6	1180C015	6
14	.1820	2-3/16	6	1180C014	6
13	.1850	2-5/16	6	1180C013	6
12	.1890	2-5/16	6	1180C012	6
11	.1910	2-5/16	6	1180C011	6
10	.1935	2-7/16	6	1180C010	6
9	.1960	2-7/16	6	1180C009	6
8	.1990	2-7/16	6	1180C008	6
7	.2010	2-7/16	6	1180C007	6
6	.2040	2-1/2	6	1180C006	6
5	.2055	2-1/2	6	1180C005	6
4	.2090	2-1/2	6	1180C004	6
3	.2130	2-1/2	6	1180C003	6
2	.2210	2-5/8	6	1180C002	6
1	.2280	2-5/8	6	1180C001	6

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

1200C / 1280C SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / 12" Overall Length / Bronze

12" Aircraft Extension Drills for drilling holes in hard to reach places. Manufactured to NAS 907 Type J specifications, 135 degree split point, surface treated with jobber flute lengths. Cobalt Steel for higher performance in tougher materials.

Best Material Application



STAINLESS



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	12	1200C104	6
5/64	.0781	1	12	1200C105	6
3/32	.0938	1-1/4	12	1200C106	6
7/64	.1094	1-1/2	12	1200C107	6
1/8	.1250	1-5/8	12	1200C108	6
9/64	.1406	1-3/4	12	1200C109	6
5/32	.1562	2	12	1200C110	6
11/64	.1719	2-1/8	12	1200C111	6
3/16	.1875	2-5/16	12	1200C112	6
13/64	.2031	2-7/16	12	1200C113	6
7/32	.2188	2-1/2	12	1200C114	6
15/64	.2344	2-5/8	12	1200C115	6
1/4	.2500	2-3/4	12	1200C116	6
17/64	.2656	2-7/8	12	1200C117	6
9/32	.2812	2-15/16	12	1200C118	6
19/64	.2969	3-1/16	12	1200C119	6
5/16	.3125	3-3/16	12	1200C120	3
21/64	.3281	3-5/16	12	1200C121	3
11/32	.3438	3-7/16	12	1200C122	3
23/64	.3594	3-1/2	12	1200C123	3
3/8	.3750	3-5/8	12	1200C124	3
25/64	.3906	3-3/4	12	1200C125	3
13/32	.4062	3-7/8	12	1200C126	3
27/64	.4219	3-15/16	12	1200C127	3
7/16	.4375	4-1/16	12	1200C128	3
29/64	.4531	4-3/16	12	1200C129	3
15/32	.4688	4-5/16	12	1200C130	3
31/64	.4844	4-3/8	12	1200C131	3
1/2	.5000	4-1/2	12	1200C132	3
Wire					
40	.0980	1-3/8	12	1280C040	6
39	.0995	1-3/8	12	1280C039	6
38	.1015	1-7/16	12	1280C038	6
37	.1040	1-7/16	12	1280C037	6
36	.1065	1-7/16	12	1280C036	6
35	.1100	1-1/2	12	1280C035	6
34	.1110	1-1/2	12	1280C034	6

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
33	.1130	1-1/2	12	1280C033	6
32	.1160	1-5/8	12	1280C032	6
31	.1200	1-5/8	12	1280C031	6
30	.1285	1-5/8	12	1280C030	6
29	.1360	1-3/4	12	1280C029	6
28	.1405	1-3/4	12	1280C028	6
27	.1440	1-7/8	12	1280C027	6
26	.1470	1-7/8	12	1280C026	6
25	.1495	1-7/8	12	1280C025	6
24	.1520	2	12	1280C024	6
23	.1540	2	12	1280C023	6
22	.1570	2	12	1280C022	6
21	.1590	2-1/8	12	1280C021	6
20	.1610	2-1/8	12	1280C020	6
19	.1660	2-1/8	12	1280C019	6
18	.1695	2-1/8	12	1280C018	6
17	.1730	2-3/16	12	1280C017	6
16	.1770	2-3/16	12	1280C016	6
15	.1800	2-3/16	12	1280C015	6
14	.1820	2-3/16	12	1280C014	6
13	.1850	2-5/16	12	1280C013	6
12	.1890	2-5/16	12	1280C012	6
11	.1910	2-5/16	12	1280C011	6
10	.1935	2-7/16	12	1280C010	6
9	.1960	2-7/16	12	1280C009	6
8	.1990	2-7/16	12	1280C008	6
7	.2010	2-7/16	12	1280C007	6
6	.2040	2-1/2	12	1280C006	6
5	.2055	2-1/2	12	1280C005	6
4	.2090	2-1/2	12	1280C004	6
3	.2130	2-1/2	12	1280C003	6
2	.2210	2-5/8	12	1280C002	6
1	.2280	2-5/8	12	1280C001	6

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

906 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / 6" Overall Length / Black Oxide

The CHICAGO-LATROBE 906 Aircraft Extension Drill is built to NAS 907 Type B specs for aerospace applications. It features a jobber flute length, extended 6" shanks for long-reach access, and a 135° P3 split point for self-centering, reduced thrust, and easy penetration. Made from premium high-speed steel with a black oxide finish for wear resistance and added lubricity in ferrous materials.

NOTE: Drills <.0625" do not have split points.

Also available with an extended 12" shank (see style 912).



Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK

Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*3/64	.0469	3/4	6	11000	12
1/16	.0625	7/8	6	11001	12
5/64	.0781	1	6	11002	12
3/32	.0938	1-1/4	6	11003	12
7/64	.1094	1-1/2	6	11004	12
1/8	.1250	1-5/8	6	11005	12
9/64	.1406	1-3/4	6	11006	12
5/32	.1562	2	6	11007	12
11/64	.1719	2-1/8	6	11008	12
3/16	.1875	2-5/16	6	11009	12
13/64	.2031	2-7/16	6	11010	12
7/32	.2188	2-1/2	6	11011	12
15/64	.2344	2-5/8	6	11012	12
1/4	.2500	2-3/4	6	11013	12
17/64	.2656	2-7/8	6	11014	12
9/32	.2812	2-15/16	6	11016	12
19/64	.2969	3-1/16	6	11017	6
5/16	.3125	3-3/16	6	11018	6
21/64	.3281	3-5/16	6	11019	6
11/32	.3438	3-7/16	6	11020	6
23/64	.3594	3-1/2	6	11021	6
3/8	.3750	3-5/8	6	11022	6
25/64	.3906	3-3/4	6	11023	6
13/32	.4062	3-7/8	6	11024	6
27/64	.4219	3-15/16	6	11025	6
7/16	.4375	4-1/16	6	11026	6
29/64	.4531	4-3/16	6	11027	6
15/32	.4688	4-5/16	6	11028	6
31/64	.4844	4-3/8	6	11029	6
1/2	.5000	4-1/2	6	11030	6
Wire					
60	.0400	11/16	6	11090	12
59	.0410	11/16	6	11089	12
58	.0420	11/16	6	11088	12
57	.0430	3/4	6	11087	12
56	.0465	3/4	6	11086	12
55	.0520	7/8	6	11085	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*54	.0550	7/8	6	11084	12
*53	.0595	7/8	6	11083	12
52	.0635	7/8	6	11082	12
51	.0670	1	6	11081	12
50	.0700	1	6	11080	12
49	.0730	1	6	11079	12
48	.0760	1	6	11078	12
47	.0785	1	6	11077	12
46	.0810	1-1/8	6	11076	12
45	.0820	1-1/8	6	11075	12
44	.0860	1-1/8	6	11074	12
43	.0890	1-1/4	6	11073	12
42	.0935	1-1/4	6	11072	12
41	.0960	1-3/8	6	11071	12
40	.0980	1-3/8	6	11070	12
39	.0995	1-3/8	6	11069	12
38	.1015	1-7/16	6	11068	12
37	.1040	1-7/16	6	11067	12
36	.1065	1-7/16	6	11066	12
35	.1100	1-1/2	6	11065	12
34	.1110	1-1/2	6	11064	12
33	.1130	1-1/2	6	11063	12
32	.1160	1-5/8	6	11062	12
31	.1200	1-5/8	6	11061	12
30	.1285	1-5/8	6	11060	12
29	.1360	1-3/4	6	11059	12
28	.1405	1-3/4	6	11058	12
27	.1440	1-7/8	6	11057	12
26	.1470	1-7/8	6	11056	12
25	.1495	1-7/8	6	11055	12
24	.1520	2	6	11054	12
23	.1540	2	6	11053	12
22	.1570	2	6	11052	12
21	.1590	2-1/8	6	11051	12
20	.1610	2-1/8	6	11050	12
19	.1660	2-1/8	6	11049	12
18	.1695	2-1/8	6	11048	12
17	.1730	2-3/16	6	11047	12

*Not split point

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HEAVY DUTY AIRCRAFT EXTENSION DRILLS

906 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
16	.1770	2-3/16	6	11046	12
15	.1800	2-3/16	6	11045	12
14	.1820	2-3/16	6	11044	12
13	.1850	2-5/16	6	11043	12
12	.1890	2-5/16	6	11042	12
11	.1910	2-5/16	6	11041	12
10	.1935	2-7/16	6	11040	12
9	.1960	2-7/16	6	11039	12
8	.1990	2-7/16	6	11038	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
7	.2010	2-7/16	6	11037	12
6	.2040	2-1/2	6	11036	12
5	.2055	2-1/2	6	11035	12
4	.2090	2-1/2	6	11034	12
3	.2130	2-1/2	6	11033	12
2	.2210	2-5/8	6	11032	12
1	.2280	2-5/8	6	11031	12
Letter					
E	.2500	2-3/4	6	11013	12
F	.2570	2-7/8	6	11255	12

912 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / 12" Overall Length / Black Oxide

The CHICAGO-LATROBE 912 Aircraft Extension Drill is built to NAS 907 Type B specs for aerospace applications. It features a jobber flute length, extended 12" shanks for long-reach access, and a 135° P3 split point for self-centering, reduced thrust, and easy penetration. Made from premium high-speed steel with a black oxide finish for wear resistance and added lubricity in ferrous materials.

NOTE: Drills <.0625" do not have split points.

Also available with an extended 6" shank (Style 906).

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*3/64	.0469	3/4	12	11095	12
1/16	.0625	7/8	12	11096	12
5/64	.0781	1	12	11097	12
3/32	.0938	1-1/4	12	11098	12
7/64	.1094	1-1/2	12	11099	12
1/8	.1250	1-5/8	12	11100	12
9/64	.1406	1-3/4	12	11101	12
5/32	.1562	2	12	11102	12
11/64	.1719	2-1/8	12	11103	12
3/16	.1875	2-5/16	12	11104	12
13/64	.2031	2-7/16	12	11105	12
7/32	.2188	2-1/2	12	11106	12
15/64	.2344	2-5/8	12	11107	12
1/4	.2500	2-3/4	12	11108	12
17/64	.2656	2-7/8	12	11109	12
9/32	.2812	2-15/16	12	11110	12
19/64	.2969	3-1/16	12	11111	6
5/16	.3125	3-3/16	12	11112	6
21/64	.3281	3-5/16	12	11113	6
11/32	.3438	3-7/16	12	11114	6
23/64	.3594	3-1/2	12	11115	6

*Not split point

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/8	.3750	3-5/8	12	11116	6
25/64	.3906	3-3/4	12	11117	6
13/32	.4062	3-7/8	12	11118	6
27/64	.4219	3-15/16	12	11119	6
7/16	.4375	4-1/16	12	11120	6
29/64	.4531	4-3/16	12	11121	6
15/32	.4688	4-5/16	12	11122	6
31/64	.4844	4-3/8	12	11123	6
1/2	.5000	4-1/2	12	11124	6
Wire					
*60	.0400	11/16	12	11184	12
*59	.0410	11/16	12	11183	12
*58	.0420	11/16	12	11182	12
*57	.0430	3/4	12	11181	12
*56	.0465	3/4	12	11180	12
*55	.0520	7/8	12	11179	12
*54	.0550	7/8	12	11178	12
*53	.0595	7/8	12	11177	12
52	.0635	7/8	12	11176	12
51	.0670	1	12	11175	12
50	.0700	1	12	11174	12
49	.0730	1	12	11173	12

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HEAVY DUTY AIRCRAFT EXTENSION DRILLS

912 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
48	.0760	1	12	11172	12
47	.0785	1	12	11171	12
46	.0810	1-1/8	12	11170	12
45	.0820	1-1/8	12	11169	12
44	.0860	1-1/8	12	11168	12
43	.0890	1-1/4	12	11167	12
42	.0935	1-1/4	12	11166	12
41	.0960	1-3/8	12	11165	12
40	.0980	1-3/8	12	11164	12
39	.0995	1-3/8	12	11163	12
38	.1015	1-7/16	12	11162	12
37	.1040	1-7/16	12	11161	12
36	.1065	1-7/16	12	11160	12
35	.1100	1-1/2	12	11159	12
34	.1110	1-1/2	12	11158	12
33	.1130	1-1/2	12	11157	12
32	.1160	1-5/8	12	11156	12
31	.1200	1-5/8	12	11155	12
30	.1285	1-5/8	12	11154	12
29	.1360	1-3/4	12	11153	12
28	.1405	1-3/4	12	11152	12
27	.1440	1-7/8	12	11151	12
26	.1470	1-7/8	12	11150	12
25	.1495	1-7/8	12	11149	12
24	.1520	2	12	11148	12
23	.1540	2	12	11147	12
22	.1570	2	12	11146	12
21	.1590	2-1/8	12	11145	12
20	.1610	2-1/8	12	11144	12
19	.1660	2-1/8	12	11143	12
18	.1695	2-1/8	12	11142	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
17	.1730	2-3/16	12	11141	12
16	.1770	2-3/16	12	11140	12
15	.1800	2-3/16	12	11139	12
14	.1820	2-3/16	12	11138	12
13	.1850	2-5/16	12	11137	12
12	.1890	2-5/16	12	11136	12
11	.1910	2-5/16	12	11135	12
10	.1935	2-7/16	12	11134	12
9	.1960	2-7/16	12	11133	12
8	.1990	2-7/16	12	11132	12
7	.2010	2-7/16	12	11131	12
6	.2040	2-1/2	12	11130	12
5	.2055	2-1/2	12	11129	12
4	.2090	2-1/2	12	11128	12
3	.2130	2-1/2	12	11127	12
2	.2210	2-5/8	12	11126	12
1	.2280	2-5/8	12	11125	12
Letter					
E	.2500	2-3/4	12	11108	12
F	.2570	2-7/8	12	11225	12
I	.2720	2-7/8	12	11228	12
O	.3160	3-3/16	12	11234	6
V	.3770	3-5/8	12	11241	6

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

01

DRILLS

3957-6 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / 6" Overall Length / Bright

CLEVELAND 3957-6 Aircraft NAS 907 Type B 6-inch extension drill with HSS and bright finish ensures efficiency and precision in long-reach drilling applications.



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
*3/64	.0469	3/4	6	C13100	12
1/16	.0625	7/8	6	C13101	12
5/64	.0781	1	6	C13102	12
3/32	.0938	1-1/4	6	C13103	12
7/64	.1094	1-1/2	6	C13104	12
1/8	.1250	1-5/8	6	C13105	12
9/64	.1406	1-3/4	6	C13106	12
5/32	.1562	2	6	C13107	12
11/64	.1719	2-1/8	6	C13108	12
3/16	.1875	2-5/16	6	C13109	12
13/64	.2031	2-7/16	6	C13110	12
7/32	.2188	2-1/2	6	C13111	12
15/64	.2344	2-5/8	6	C13112	12
1/4	.2500	2-3/4	6	C13113	12
17/64	.2656	2-7/8	6	C13245	12
9/32	.2812	3-1/16	6	C13114	12
5/16	.3125	3-3/16	6	C13115	6
11/32	.3438	3-7/16	6	C13116	6
3/8	.3750	3-5/8	6	C13117	6
13/32	.4062	3-3/4	6	C13118	6
27/64	.4219	3-15/16	6	C13246	6
7/16	.4375	4-1/16	6	C13119	6
15/32	.4688	4-5/16	6	C13120	6
1/2	.5000	4-1/2	6	C13121	6
Wire					
52	.0635	7/8	6	C13174	12
51	.0670	1	6	C13173	12
50	.0700	1	6	C13172	12
49	.0730	1	6	C13171	12
48	.0760	1	6	C13170	12
47	.0785	1-1/8	6	C13169	12
46	.0810	1-1/8	6	C13168	12
45	.0820	1-1/8	6	C13167	12
44	.0860	1-1/4	6	C13166	12
43	.0890	1-1/4	6	C13165	12
42	.0935	1-1/4	6	C13164	12
41	.0960	1-3/8	6	C13163	12
40	.0980	1-3/8	6	C13162	12
39	.0995	1-3/8	6	C13161	12
38	.1015	1-7/16	6	C13160	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
37	.1040	1-7/16	6	C13159	12
36	.1065	1-7/16	6	C13158	12
35	.1100	1-1/2	6	C13157	12
34	.1110	1-1/2	6	C13156	12
33	.1130	1-1/2	6	C13155	12
32	.1160	1-5/8	6	C13154	12
31	.1200	1-5/8	6	C13153	12
30	.1285	1-5/8	6	C13152	12
29	.1360	1-3/4	6	C13151	12
28	.1405	1-3/4	6	C13150	12
27	.1440	1-7/8	6	C13149	12
26	.1470	1-7/8	6	C13148	12
25	.1495	1-7/8	6	C13147	12
24	.1520	2	6	C13146	12
23	.1540	2	6	C13145	12
22	.1570	2	6	C13144	12
21	.1590	2-1/8	6	C13143	12
20	.1610	2-1/8	6	C13142	12
19	.1660	2-1/8	6	C13141	12
18	.1695	2-1/8	6	C13140	12
17	.1730	2-3/16	6	C13139	12
16	.1770	2-3/16	6	C13138	12
15	.1800	2-3/16	6	C13137	12
14	.1820	2-3/16	6	C13136	12
13	.1850	2-5/16	6	C13135	12
12	.1890	2-5/16	6	C13134	12
11	.1910	2-5/16	6	C13133	12
10	.1935	2-7/16	6	C13132	12
9	.1960	2-7/16	6	C13131	12
8	.1990	2-7/16	6	C13130	12
7	.2010	2-7/16	6	C13129	12
6	.2040	2-1/2	6	C13128	12
5	.2055	2-1/2	6	C13127	12
4	.2090	2-1/2	6	C13126	12
3	.2130	2-1/2	6	C13125	12
2	.2210	2-5/8	6	C13124	12
1	.2280	2-5/8	6	C13123	12
Letter					
E	.2500	2-3/4	6	C13113	12
F	.2570	2-7/8	6	C13122	12

CLEVELAND | WALTER

*Not split point

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

3957-12 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / 12" Overall Length / Bright

CLEVELAND 3957-12 Aircraft NAS 907 Type B 12-inch extension drill with HSS and bright finish is perfect for long-reach drilling in steel and aluminum.

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	12	C13176	12
5/64	.0781	1	12	C13177	12
3/32	.0938	1-1/4	12	C13178	12
7/64	.1094	1-1/2	12	C13179	12
1/8	.1250	1-5/8	12	C13180	12
9/64	.1406	1-3/4	12	C13181	12
5/32	.1562	2	12	C13182	12
11/64	.1719	2-1/8	12	C13183	12
3/16	.1875	2-5/16	12	C13184	12
13/64	.2031	2-7/16	12	C13185	12
7/32	.2188	2-1/2	12	C13186	12
15/64	.2344	2-5/8	12	C13187	12
1/4	.2500	2-3/4	12	C13188	12
17/64	.2656	2-5/8	12	C13189	12
9/32	.2812	3-1/16	12	C13190	12
19/64	.2969	3-1/16	12	C13191	6
5/16	.3125	3-3/16	12	C13192	6
21/64	.3281	3-7/16	12	C13193	6
11/32	.3438	3-7/16	12	C13194	6
23/64	.3594	3-1/2	12	C13195	6
3/8	.3750	3-5/8	12	C13196	6
25/64	.3906	3-3/4	12	C13197	6
13/32	.4062	3-3/4	12	C13198	6
27/64	.4219	3-15/16	12	C13199	6
7/16	.4375	4-1/16	12	C13200	6
29/64	.4531	4-3/16	12	C13201	6
15/32	.4688	4-5/16	12	C13202	6
31/64	.4844	4-3/8	12	C13203	6
1/2	.5000	4-1/2	12	C13204	6

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
40	.0980	1-3/8	12	C13244	12
39	.0995	1-3/8	12	C13243	12
31	.1200	1-5/8	12	C13242	12
30	.1285	1-5/8	12	C13241	12
29	.1360	1-3/4	12	C13240	12
28	.1405	1-3/4	12	C13239	12
27	.1440	1-7/8	12	C13238	12
26	.1470	1-7/8	12	C13237	12
25	.1495	1-7/8	12	C13236	12
24	.1520	2	12	C13235	12
21	.1590	2-1/8	12	C13234	12
20	.1610	2-1/8	12	C13233	12
19	.1660	2-1/8	12	C13232	12
16	.1770	2-3/16	12	C13231	12
15	.1800	2-3/16	12	C13230	12
13	.1850	2-5/16	12	C13229	12
12	.1890	2-5/16	12	C13228	12
11	.1910	2-5/16	12	C13227	12
10	.1935	2-7/16	12	C13226	12
9	.1960	2-7/16	12	C13225	12
8	.1990	2-7/16	12	C13224	12
7	.2010	2-7/16	12	C13223	12
6	.2040	2-1/2	12	C13222	12
5	.2055	2-1/2	12	C13221	12
3	.2130	2-1/2	12	C13220	12
2	.2210	2-5/8	12	C13219	12
1	.2280	2-5/8	12	C13218	12
Letter					
E	.2500	2-3/4	12	C13188	12
0	.3160	3-7/16	12	C13211	6

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

01

DRILLS

3722-6 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / 6" Overall Length / Bronze Finish

CLEVELAND 3722-6 Aircraft NAS 907 Type J 6-inch cobalt drill with bronze finish ensures efficient drilling in heat-intensive long-reach applications.

Also available in 12-inch (Style: 3722-12)

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/32	0.0938	1-1/4	6	C08101	12
7/64	0.1094	1-1/2	6	C08107	12
1/8	0.1250	1-5/8	6	C08115	12
9/64	0.1406	1-3/4	6	C08114	12
5/32	0.1562	2	6	C08117	12
11/64	0.1719	2-1/8	6	C08152	12
3/16	0.1875	2-5/16	6	C08119	12
13/64	0.2031	2-7/16	6	C08159	12
7/32	0.2188	2-1/2	6	C08121	12
15/64	0.2344	2-5/8	6	C08166	12
1/4	0.2500	2-3/4	6	C08123	12
Wire					
42	0.0935	1-1/4	6	C08100	12
41	0.0960	1-3/8	6	C08102	12
40	0.0980	1-3/8	6	C08144	12
39	0.0995	1-3/8	6	C08103	12
38	0.1015	1-7/16	6	C08104	12
37	0.1040	1-7/16	6	C08105	12
36	0.1065	1-7/16	6	C08106	12
35	0.1100	1-1/2	6	C08108	12
34	0.1110	1-1/2	6	C08109	12
32	0.1160	1-5/8	6	C08110	12
31	0.1200	1-5/8	6	C08111	12
30	0.1285	1-5/8	6	C08142	12
29	0.1360	1-3/4	6	C08112	12
28	0.1405	1-3/4	6	C08113	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
27	0.1440	1-7/8	6	C08140	12
26	0.1470	1-7/8	6	C08145	12
25	0.1495	1-7/8	6	C08146	12
24	0.1520	2	6	C08147	12
23	0.1540	2	6	C08148	12
22	0.1570	2	6	C08149	12
21	0.1590	2-1/8	6	C08138	12
20	0.1610	2-1/8	6	C08137	12
19	0.1660	2-1/8	6	C08150	12
18	0.1695	2-1/8	6	C08151	12
17	0.1730	2-3/16	6	C08153	12
16	0.1770	2-3/16	6	C08135	12
15	0.1800	2-3/16	6	C08154	12
14	0.1820	2-3/16	6	C08155	12
13	0.1850	2-5/16	6	C08134	12
12	0.1890	2-5/16	6	C08156	12
11	0.1910	2-5/16	6	C08133	12
10	0.1935	2-7/16	6	C08132	12
9	0.1960	2-7/16	6	C08157	12
8	0.1990	2-7/16	6	C08130	12
7	0.2010	2-7/16	6	C08158	12
6	0.2040	2-1/2	6	C08160	12
5	0.2055	2-1/2	6	C08161	12
4	0.2090	2-1/2	6	C08162	12
3	0.2130	2-1/2	6	C08163	12
2	0.2210	2-5/8	6	C08164	12
1	0.2280	2-5/8	6	C08165	12

CLEVELAND | WALTER

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

3722-12 SERIES

HEAVY DUTY COBALT

135° Split Point / Round Shank / 12" Overall Length / Bronze Finish

CLEVELAND 3722-12 Aircraft NAS 907 Type J 12-inch cobalt drill with bronze finish provides heat resistance and long-reach capabilities for tough materials.

Also available in 6-inch (Style: 3722-6)

Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/32	0.0938	1-1/4	12	C08188	12
7/64	0.1094	1-1/2	12	C08168	12
1/8	0.1250	1-5/8	12	C08169	12
9/64	0.1406	1-3/4	12	C08172	12
5/32	0.1562	2	12	C08174	12
11/64	0.1719	2-1/8	12	C08178	12
3/16	0.1875	2-5/16	12	C08180	12
13/64	0.2031	2-7/16	12	C08183	12
7/32	0.2188	2-1/2	12	C08184	12
15/64	0.2344	2-5/8	12	C08186	12
1/4	0.2500	2-3/4	12	C08187	12

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
40	0.0980	1-3/8	12	C08167	12
30	0.1285	1-5/8	12	C08170	12
29	0.1360	1-3/4	12	C08171	12
27	0.1440	1-7/8	12	C08173	12
21	0.1590	2-1/8	12	C08175	12
20	0.1610	2-1/8	12	C08176	12
19	0.1660	2-1/8	12	C08177	12
16	0.1770	2-3/16	12	C08179	12
11	0.1910	2-5/16	12	C08181	12
10	0.1935	2-7/16	12	C08182	12
2	0.2210	2-5/8	12	C08185	12

SST+ EXTENSION DRILL BIT

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8"	.1250	1-5/8"	6"	01F508	1
9/64"	.1410	1-3/4"	6"	01F509	1
13/64"	.2030	2-7/16"	6"	01F513	10
1/4"	.2500	2-3/4"	6"	01F516	1
3/8"	.3750	3-5/8"	6"	01F524	1



HEAVY DUTY AIRCRAFT EXTENSION DRILLS

01

DRILLS

1630 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / 6" Overall Length / Black Oxide

CLE-FORCE 1630 Aircraft extension drill with HSS and black oxide finish ensures 6-inch length precision drilling in steel and cast iron.

Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	6	C68867	12
5/64	.0781	1	6	C68868	12
3/32	.0938	1-1/4	6	C68869	12
7/64	.1094	1-1/2	6	C68870	12
1/8	.1250	1-5/8	6	C68871	12
9/64	.1406	1-3/4	6	C68872	12
5/32	.1562	2	6	C68873	12
11/64	.1719	2-1/8	6	C68874	12
3/16	.1875	2-5/16	6	C68875	12
13/64	.2031	2-7/16	6	C68876	12
7/32	.2188	2-1/2	6	C68877	12
15/64	.2344	2-5/8	6	C68878	12
1/4	.2500	2-3/4	6	C68879	12
17/64	.2656	2-5/8	6	C68880	12
9/32	.2812	3-1/16	6	C68881	12
19/64	.2969	3-1/16	6	C68882	6
5/16	.3125	3-3/16	6	C68883	6
21/64	.3281	3-7/16	6	C68884	6
11/32	.3438	3-7/16	6	C68885	6
23/64	.3594	3-1/2	6	C68886	6
3/8	.3750	3-5/8	6	C68887	6
25/64	.3906	3-3/4	6	C68888	6
13/32	.4062	3-3/4	6	C68889	6
27/64	.4219	3-15/16	6	C68890	6
7/16	.4375	4-1/16	6	C68891	6
29/64	.4531	4-3/16	6	C68892	6
15/32	.4688	4-5/6	6	C68893	6
31/64	.4844	4-3/8	6	C68894	6
1/2	.5000	4-1/2	6	C68895	6
Wire					
40	.0980	1-3/8	6	C68935	12
39	.0995	1-3/8	6	C68934	12
38	.1015	1-7/16	6	C68933	12
37	.1040	1-7/16	6	C68932	12
36	.1065	1-7/16	6	C68931	12
35	.1100	1-1/2	6	C68930	12
34	.1110	1-1/2	6	C68929	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
33	.1130	1-1/2	6	C68928	12
32	.1160	1-5/8	6	C68927	12
31	.1200	1-5/8	6	C68926	12
1/8	.1250	1-5/8	6	C68871	12
30	.1285	1-5/8	6	C68925	12
29	.1360	1-3/4	6	C68924	12
28	.1405	1-3/4	6	C68923	12
27	.1440	1-7/8	6	C68922	12
26	.1470	1-7/8	6	C68921	12
25	.1495	1-7/8	6	C68920	12
24	.1520	2	6	C68919	12
23	.1540	2	6	C68918	12
22	.1570	2	6	C68917	12
21	.1590	2-1/8	6	C68916	12
20	.1610	2-1/8	6	C68915	12
19	.1660	2-1/8	6	C68914	12
18	.1695	2-1/8	6	C68913	12
17	.1730	2-3/16	6	C68912	12
16	.1770	2-3/16	6	C68911	12
15	.1800	2-3/16	6	C68910	12
14	.1820	2-3/16	6	C68909	12
13	.1850	2-5/16	6	C68908	12
12	.1890	2-5/16	6	C68907	12
11	.1910	2-5/16	6	C68906	12
10	.1935	2-7/16	6	C68905	12
9	.1960	2-7/16	6	C68904	12
8	.1990	2-7/16	6	C68903	12
7	.2010	2-7/16	6	C68902	12
6	.2040	2-1/2	6	C68901	12
5	.2055	2-1/2	6	C68900	12
4	.2090	2-1/2	6	C68899	12
3	.2130	2-1/2	6	C68898	12
2	.2210	2-5/8	6	C68897	12
1	.2280	2-5/8	6	C68896	12
Letter					
E	.2500	2-3/4	6	C68879	12

CLE-FORCE

HEAVY DUTY AIRCRAFT EXTENSION DRILLS

1631 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / Round Shank / 12" Overall Length / Black Oxide

CLE-FORCE 1631 Aircraft extension drill with HSS and black oxide finish delivers precision performance with a 12-inch length for steel.

Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	7/8	12	C68936	12
5/64	.0781	1	12	C68937	12
3/32	.0938	1-1/4	12	C68938	12
7/64	.1094	1-1/2	12	C68939	12
1/8	.1250	1-5/8	12	C68940	12
9/64	.1406	1-3/4	12	C68941	12
5/32	.1562	2	12	C68942	12
11/64	.1719	2-1/8	12	C68943	12
3/16	.1875	2-5/16	12	C68944	12
13/64	.2031	2-7/16	12	C68945	12
7/32	.2188	2-1/2	12	C68946	12
15/64	.2344	2-5/8	12	C68947	12
1/4	.2500	2-3/4	12	C68948	12
17/64	.2656	2-5/8	12	C68949	12
9/32	.2812	3-1/16	12	C68950	12
19/64	.2969	3-1/16	12	C68951	6
5/16	.3125	3-3/16	12	C68952	6
21/64	.3281	3-7/16	12	C68953	6
11/32	.3438	3-7/16	12	C68954	6
23/64	.3594	3-1/2	12	C68955	6
3/8	.3750	3-5/8	12	C68956	6
25/64	.3906	3-3/4	12	C68957	6
13/32	.4062	3-3/4	12	C68958	6
27/64	.4219	3-15/16	12	C68959	6
7/16	.4375	4-1/16	12	C68960	6
29/64	.4531	4-3/16	12	C68961	6
15/32	.4688	4-5/6	12	C68962	6
31/64	.4844	4-3/8	12	C68963	6
1/2	.5000	4-1/2	12	C68964	6
Wire					
40	.0980	1-3/8	12	C69004	12
39	.0995	1-3/8	12	C69003	12
38	.1015	1-7/16	12	C69002	12
37	.1040	1-7/16	12	C69001	12
36	.1065	1-7/16	12	C69000	12
35	.1100	1-1/2	12	C68999	12
34	.1110	1-1/2	12	C68998	12

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
33	.1130	1-1/2	12	C68997	12
32	.1160	1-5/8	12	C68996	12
31	.1200	1-5/8	12	C68995	12
1/8	.1250	1-5/8	12	C68940	12
30	.1285	1-5/8	12	C68994	12
29	.1360	1-3/4	12	C68993	12
28	.1405	1-3/4	12	C68992	12
27	.1440	1-7/8	12	C68991	12
26	.1470	1-7/8	12	C68990	12
25	.1495	1-7/8	12	C68989	12
24	.1520	2	12	C68988	12
23	.1540	2	12	C68987	12
22	.1570	2	12	C68986	12
21	.1590	2-1/8	12	C68985	12
20	.1610	2-1/8	12	C68984	12
19	.1660	2-1/8	12	C68983	12
18	.1695	2-1/8	12	C68982	12
17	.1730	2-3/16	12	C68981	12
16	.1770	2-3/16	12	C68980	12
15	.1800	2-3/16	12	C68979	12
14	.1820	2-3/16	12	C68978	12
13	.1850	2-5/16	12	C68977	12
12	.1890	2-5/16	12	C68976	12
11	.1910	2-5/16	12	C68975	12
10	.1935	2-7/16	12	C68974	12
9	.1960	2-7/16	12	C68973	12
8	.1990	2-7/16	12	C68972	12
7	.2010	2-7/16	12	C68971	12
6	.2040	2-1/2	12	C68970	12
5	.2055	2-1/2	12	C68969	12
4	.2090	2-1/2	12	C68968	12
3	.2130	2-1/2	12	C68967	12
2	.2210	2-5/8	12	C68966	12
1	.2280	2-5/8	12	C68965	12
Letter					
E	.2500	2-3/4	12	C68948	12

GENERAL PURPOSE TAPER SHANK DRILLS

01

DRILLS

1894 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Taper Shank / Black Oxide

The CLE-LINE 1894 Taper Shank Drill with black oxide finish and 118° point delivers reliable performance for general-purpose steel and cast iron drilling. ASME B94.11M compliant.

Best Material Application



Drill Specifications



Fractional							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.	Order Number Hanger
1/8	.1250	1-7/8	5-1/8	1	C20049	1	C20049HT
9/64	.1406	1-7/8	5-1/8	1	C20050	1	C20050HT
5/32	.1562	2-1/8	5-3/8	1	C20051	1	C20051HT
11/64	.1719	2-1/2	5-3/4	1	C20052	1	C20052HT
3/16	.1875	2-1/2	5-3/4	1	C20053	1	C20053HT
13/64	.2031	2-3/4	6	1	C20054	1	C20054HT
7/32	.2188	2-3/4	6	1	C20055	1	C20055HT
15/64	.2344	2-7/8	6-1/8	1	C20056	1	C20056HT
1/4	.2500	2-7/8	6-1/8	1	C20057	1	C20057HT
17/64	.2656	3	6-1/4	1	C20058	1	C20058HT
9/32	.2812	3	6-1/4	1	C20059	1	C20059HT
19/64	.2969	3-1/8	6-3/8	1	C20060	1	C20060HT
5/16	.3125	3-1/8	6-3/8	1	C20061	1	C20061HT
21/64	.3281	3-1/4	6-1/2	1	C20062	1	C20062HT
11/32	.3438	3-1/4	6-1/2	1	C20063	1	C20063HT
23/64	.3594	3-1/2	6-3/4	1	C20064	1	—
3/8	.3750	3-1/2	6-3/4	1	C20524	1	—
3/8	.3750	3-1/2	7-3/8	2	C20020	1	—
25/64	.3906	3-5/8	7	1	C20525	1	—
13/32	.4062	3-5/8	7	1	C20526	1	—
13/32	.4063	3-5/8	7-1/2	2	C20022	1	—
27/64	.4219	3-7/8	7-1/4	1	C20527	1	—
7/16	.4375	3-7/8	7-1/4	1	C20528	1	—
7/16	.4375	3-7/8	7-3/4	2	C20024	1	—
29/64	.4531	4-1/8	7-1/2	1	C20529	1	—
15/32	.4688	4-1/8	7-1/2	1	C20530	1	—
31/64	.4844	4-3/8	8-1/4	2	C24730	1	—
1/2	.5000	4-3/8	7-3/4	1	C20026	1	C20026HT
1/2	.5000	4-3/8	8-1/4	2	C24731	1	—
33/64	.5156	4-5/8	8-1/2	2	C24732	1	—
17/32	.5312	4-5/8	8-1/2	2	C24733	1	—
35/64	.5469	4-7/8	8-3/4	2	C20535	1	—
9/16	.5625	4-7/8	8-3/4	2	C24734	1	—
37/64	.5781	4-7/8	8-3/4	2	C24735	1	—
19/32	.5938	4-7/8	8-3/4	2	C24736	1	—

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
39/64	.6094	4-7/8	8-3/4	2	C24737	1
5/8	.6250	4-7/8	8-3/4	2	C20540	1
41/64	.6406	5-1/8	9	2	C24738	1
21/32	.6562	5-1/8	9	2	C24739	1
43/64	.6719	5-3/8	9-1/4	2	C20543	1
11/16	.6875	5-3/8	9-1/4	2	C24740	1
11/16	.6875	5-3/8	10	3	C20029	1
45/64	.7031	5-5/8	9-1/2	2	C20545	1
23/32	.7188	5-5/8	9-1/2	2	C24741	1
47/64	.7344	5-7/8	9-3/4	2	C24742	1
3/4	.7500	5-7/8	9-3/4	2	C24743	1
3/4	.7500	5-7/8	10-1/2	3	C20030	1
49/64	.7656	6	9-7/8	2	C20549	1
25/32	.7812	6	9-7/8	2	C20550	1
51/64	.7969	6-1/8	10-3/4	3	C20551	1
13/16	.8125	6-1/8	10-3/4	3	C20552	1
53/64	.8281	6-1/8	10-3/4	3	C20553	1
27/32	.8438	6-1/8	10-3/4	3	C20554	1
55/64	.8594	6-1/8	10-3/4	3	C20555	1
7/8	.8750	6-1/8	10	2	C20035	1
7/8	.8750	6-1/8	10-3/4	3	C20556	1
57/64	.8906	6-1/8	10-3/4	3	C20557	1
29/32	.9062	6-1/8	10-3/4	3	C20558	1
59/64	.9219	6-1/8	10-3/4	3	C20559	1
15/16	.9375	6-1/8	10-3/4	3	C20560	1
61/64	.9531	6-3/8	11	3	C20561	1
31/32	.9688	6-3/8	11	3	C20562	1
63/64	.9844	6-3/8	11	3	C20563	1
1	1.0000	6-3/8	11	3	C20564	1
1-1/64	1.0156	6-1/2	11-1/8	3	C20565	1
1-1/32	1.0312	6-1/2	11-1/8	3	C20566	1
1-3/64	1.0469	6-5/8	11-1/4	3	C20567	1
1-1/16	1.0625	6-5/8	11-1/4	3	C20568	1
1-5/64	1.0781	6-7/8	12-1/2	4	C20569	1
1-3/32	1.0938	6-7/8	12-1/2	4	C20570	1
1-7/64	1.1094	7-1/8	12-3/4	4	C20571	1

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CLE-LINE | WALTER

GENERAL PURPOSE TAPER SHANK DRILLS

1894 SERIES continued



Fractional						
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
1-1/8	1.1250	7-1/8	11-3/4	3	C20040	1
1-1/8	1.1250	7-1/8	12-3/4	4	C20572	1
1-5/32	1.1562	7-1/4	12-7/8	4	C20574	1
1-11/64	1.1719	7-3/8	13	4	C20575	1
1-3/16	1.1875	7-3/8	13	4	C20576	1
1-13/64	1.2031	7-1/2	13-1/8	4	C20577	1
1-7/32	1.2188	7-1/2	13-1/8	4	C20578	1
1-15/64	1.2344	7-7/8	13-1/2	4	C20579	1
1-1/4	1.2500	7-7/8	12-1/2	3	C20043	1
1-1/4	1.2500	7-7/8	13-1/2	4	C20580	1
1-17/64	1.2656	8-1/2	14-1/8	4	C20581	1
1-9/32	1.2812	8-1/2	14-1/8	4	C20582	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
1-19/64	1.2969	8-5/8	14-1/4	4	C20583	1
1-5/16	1.3125	8-5/8	14-1/4	4	C20584	1
1-21/64	1.3281	8-3/4	14-3/8	4	C20585	1
1-11/32	1.3438	8-3/4	14-3/8	4	C20586	1
1-23/64	1.3594	8-7/8	14-1/2	4	C20587	1
1-3/8	1.3750	8-7/8	14-1/2	4	C20588	1
1-25/64	1.3906	9	14-5/8	4	C20589	1
1-13/32	1.4062	9	14-5/8	4	C20590	1
1-27/64	1.4219	9-1/8	14-3/4	4	C20591	1
1-7/16	1.4375	9-1/8	14-3/4	4	C20592	1
1-1/2	1.5000	9-3/8	15	4	C20596	1
1-9/16	1.5625	9-5/8	16-5/8	5	C20068	1
1-5/8	1.6250	10	17	5	C20072	1

GENERAL PURPOSE TAPER SHANK DRILLS

1400 / 1450 / 1475 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Taper Shank / Black Oxide

For general purpose use in a wide range of materials.

1400 – American Standard Taper Shanks / 1450 – Smaller than normal Taper Shanks /

1475 – Larger than normal Taper Shanks.

All sizes are individually packaged

Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT TAPER SHANK



Fractional						
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
1/8	.1250	1-7/8	5-1/8	1	1400A108	1
9/64	.1406	2-1/8	5-3/8	1	1400A109	1
5/32	.1562	2-1/8	5-3/8	1	1400A110	1
11/64	.1719	2-1/2	5-3/4	1	1400A111	1
3/16	.1875	2-1/2	5-3/4	1	1400A112	1
13/64	.2031	2-3/4	6	1	1400A113	1
7/32	.2188	2-3/4	6	1	1400A114	1
15/64	.2344	2-7/8	6-1/8	1	1400A115	1
1/4	.2500	2-7/8	6-1/8	1	1400A116	1
17/64	.2656	3	6-1/4	1	1400A117	1
9/32	.2812	3	6-1/4	1	1400A118	1
19/64	.2969	3-1/8	6-3/8	1	1400A119	1
5/16	.3125	3-1/8	6-3/8	1	1400A120	1
21/64	.3281	3-1/4	6-1/2	1	1400A121	1
11/32	.3438	3-1/4	6-1/2	1	1400A122	1
23/64	.3594	3-1/2	6-3/4	1	1400A123	1
3/8	.3750	3-1/2	6-3/4	1	1400A124	1
25/64	.3906	3-5/8	7	1	1400A125	1
13/32	.4062	3-5/8	7	1	1400A126	1
27/64	.4219	3-7/8	7-1/4	1	1400A127	1
7/16	.4375	3-7/8	7-1/4	1	1400A128	1
29/64	.4531	4-1/8	7-1/2	1	1400A129	1
15/32	.4688	4-1/8	7-1/2	1	1400A130	1
31/64	.4844	4-3/8	8-1/4	2	1400A131	1
1/2	.5000	4-3/8	8-1/4	2	1400A132	1
33/64	.5156	4-5/8	8-1/2	2	1400A133	1
17/32	.5312	4-5/8	8-1/2	2	1400A134	1
35/64	.5469	4-7/8	8-3/4	2	1400A135	1
9/16	.5625	4-7/8	8-3/4	2	1400A136	1
37/64	.5781	4-7/8	8-3/4	2	1400A137	1
19/32	.5938	4-7/8	8-3/4	2	1400A138	1
39/64	.6094	4-7/8	8-3/4	2	1400A139	1
5/8	.6250	4-7/8	8-3/4	2	1400A140	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
41/64	.6406	5-1/8	9	2	1400A141	1
21/32	.6562	5-1/8	9	2	1400A142	1
43/64	.6719	5-3/8	9-1/4	2	1400A143	1
11/16	.6875	5-3/8	9-1/4	2	1400A144	1
45/64	.7031	5-5/8	9-1/2	2	1400A145	1
23/32	.7188	5-5/8	9-1/2	2	1400A146	1
47/64	.7344	5-7/8	9-3/4	2	1400A147	1
3/4	.7500	5-7/8	9-3/4	2	1400A148	1
49/64	.7656	6	9-7/8	2	1400A149	1
25/32	.7812	6	9-7/8	2	1400A150	1
51/64	.7969	6-1/8	10-3/4	3	1400A151	1
13/16	.8125	6-1/8	10-3/4	3	1400A152	1
53/64	.8281	6-1/8	10-3/4	3	1400A153	1
27/32	.8438	6-1/8	10-3/4	3	1400A154	1
55/64	.8594	6-1/8	10-3/4	3	1400A155	1
7/8	.8750	6-1/8	10-3/4	3	1400A156	1
57/64	.8906	6-1/8	10-3/4	3	1400A157	1
29/32	.9062	6-1/8	10-3/4	3	1400A158	1
59/64	.9219	6-1/8	10-3/4	3	1400A159	1
15/16	.9375	6-1/8	10-3/4	3	1400A160	1
61/64	.9531	6-3/8	11	3	1400A161	1
31/32	.9688	6-3/8	11	3	1400A162	1
63/64	.9844	6-3/8	11	3	1400A163	1
1	1.0000	6-3/8	11	3	1400A164	1
1-1/64	1.0156	6-1/2	11-1/8	3	1400A201	1
1-1/32	1.0312	6-1/2	11-1/8	3	1400A202	1
1-3/64	1.0469	6-5/8	11-1/4	3	1400A203	1
1-1/16	1.0625	6-5/8	11-1/4	3	1400A204	1
1-5/64	1.0781	6-7/8	12-1/2	4	1400A205	1
1-3/32	1.0938	6-7/8	12-1/2	4	1400A206	1
1-7/64	1.1094	7-1/8	12-3/4	4	1400A207	1
1-1/8	1.1250	7-1/8	12-3/4	4	1400A208	1
1-9/64	1.1406	7-1/4	12-7/8	4	1400A209	1

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GENERAL PURPOSE
TAPER SHANK DRILLS

1400 / 1450 / 1475 SERIES continued



Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
1-5/32	1.1562	7-1/4	12-7/8	4	1400A210	1
1-11/64	1.1719	7-3/8	13	4	1400A211	1
1-3/16	1.1875	7-3/8	13	4	1400A212	1
1-13/64	1.2031	7-1/2	13-1/8	4	1400A213	1
1-7/32	1.2188	7-1/2	13-1/8	4	1400A214	1
1-15/64	1.2344	7-7/8	13-1/2	4	1400A215	1
1-1/4	1.2500	7-7/8	13-1/2	4	1400A216	1
1-17/64	1.2656	8-1/2	14-1/8	4	1400A217	1
1-9/32	1.2812	8-1/2	14-1/8	4	1400A218	1
1-19/64	1.2969	8-1/2	14-1/4	4	1400A219	1
1-5/16	1.3125	8-5/8	14-1/4	4	1400A220	1
1-21/64	1.3281	8-3/4	14-3/8	4	1400A221	1
1-11/32	1.3438	8-3/4	14-3/8	4	1400A222	1
1-23/64	1.3594	8-7/8	14-1/2	4	1400A223	1
1-3/8	1.3750	8-7/8	14-1/2	4	1400A224	1
1-25/64	1.3906	9	14-5/8	4	1400A225	1
1-13/32	1.4062	9	14-5/8	4	1400A226	1
1-27/64	1.4219	9-1/8	14-3/4	4	1400A227	1
1-7/16	1.4375	9-1/8	14-3/4	4	1400A228	1
1-29/64	1.4531	9-1/4	14-7/8	4	1400A229	1
1-15/32	1.4688	9-1/4	14-7/8	4	1400A230	1
1-31/64	1.4844	9-3/8	15	4	1400A231	1
1-1/2	1.5000	9-3/8	15	4	1400A232	1
1-17/32	1.5310	9-3/8	16-3/8	5	1400A234	1
1-9/16	1.5625	9-5/8	16-5/8	5	1400A236	1
1-19/32	1.5938	9-7/8	16-7/8	5	1400A238	1
1-5/8	1.6250	10	17	5	1400A240	1
1-21/32	1.6562	10-1/8	17-1/8	5	1400A242	1
1-11/16	1.6875	10-1/8	17-1/8	5	1400A244	1
1-23/32	1.7188	10-1/8	17-1/8	5	1400A246	1
1-3/4	1.7500	10-1/8	17-1/8	5	1400A248	1
1-25/32	1.7812	10-1/8	17-1/8	5	1400A250	1
1-13/16	1.8125	10-1/8	17-1/8	5	1400A252	1
1-27/32	1.8438	10-1/8	17-1/8	5	1400A254	1
1-7/8	1.8750	10-3/8	17-3/8	5	1400A256	1
1-29/32	1.9062	10-3/8	17-3/8	5	1400A258	1
1-15/16	1.9375	10-3/8	17-3/8	5	1400A260	1
1-31/32	1.9688	10-3/8	17-3/8	5	1400A262	1
2	2.0000	10-3/8	17-3/8	5	1400A264	1
2-1/32	2.0312	10-3/8	17-3/8	5	1400A302	1
2-1/16	2.0625	10-1/4	17-3/8	5	1400A304	1
2-3/32	2.0938	10-1/4	17-3/8	5	1400A306	1
2-1/8	2.1250	10-1/4	17-3/8	5	1400A308	1
2-5/32	2.1562	10-1/4	17-3/8	5	1400A310	1
2-3/16	2.1875	10-1/4	17-3/8	5	1400A312	1
2-7/32	2.2188	10-1/8	17-3/8	5	1400A314	1
2-1/4	2.2500	10-1/8	17-3/8	5	1400A316	1
2-5/16	2.3125	10-1/8	17-3/8	5	1400A320	1
2-3/8	2.3750	10-1/8	17-3/8	5	1400A324	1
2-7/16	2.4375	11-1/4	18-3/4	5	1400A328	1
2-1/2	2.5000	11-1/4	18-3/4	5	1400A332	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
2-9/16	2.5625	11-7/8	19-1/2	5	1400A336	1
2-5/8	2.6250	12-3/4	19-1/2	5	1400A340	1
2-11/16	2.6875	12-3/4	20-3/8	5	1400A344	1
2-3/4	2.7500	12-3/4	20-3/8	5	1400A348	1
2-13/16	2.8125	13-3/8	21-1/8	5	1400A352	1
2-7/8	2.8750	13-3/8	21-1/8	5	1400A356	1
2-15/16	2.9375	14	21-3/4	5	1400A360	1
3	3.0000	14	21-3/4	5	1400A364	1
Fractional (Undersized)						
31/64	.4844	4-3/8	7-3/4	1	1450A131	1
1/2	.5000	4-3/8	7-3/4	1	1450A132	1
33/64	.5156	4-5/8	8	1	1450A133	1
17/32	.5312	4-5/8	8	1	1450A134	1
35/64	.5469	4-7/8	8-1/4	1	1450A135	1
9/16	.5625	4-7/8	8-1/4	1	1450A136	1
51/64	.7969	6-1/8	10	2	1450A151	1
13/16	.8125	6-1/8	10	2	1450A152	1
53/64	.8281	6-1/8	10	2	1450A153	1
27/32	.8438	6-1/8	10	2	1450A154	1
55/64	.8594	6-1/8	10	2	1450A155	1
7/8	.8750	6-1/8	10	2	1450A156	1
57/64	.8906	6-1/8	10	2	1450A157	1
29/32	.9062	6-1/8	10	2	1450A158	1
1-5/64	1.0781	6-7/8	11-1/2	3	1450A205	1
1-3/32	1.0938	6-7/8	11-1/2	3	1450A206	1
1-7/64	1.1094	7-1/8	11-3/4	3	1450A207	1
1-1/8	1.1250	7-1/8	11-3/4	3	1450A208	1
1-9/64	1.1406	7-1/4	11-7/8	3	1450A209	1
1-5/32	1.1562	7-1/4	11-7/8	3	1450A210	1
1-11/64	1.1719	7-3/8	12	3	1450A211	1
1-3/16	1.1875	7-3/8	12	3	1450A212	1
1-13/64	1.2031	7-1/2	12-1/8	3	1450A213	1
1-7/32	1.2188	7-1/2	12-1/8	3	1450A214	1
1-15/64	1.2344	7-7/8	12-1/2	3	1450A215	1
1-1/4	1.2500	7-7/8	12-1/2	3	1450A216	1
1-33/64	1.5156	9-3/8	15	4	1450A233	1
1-17/32	1.5312	9-3/8	15	4	1450A234	1
1-35/64	1.5469	9-5/8	15-1/4	4	1450A235	1
1-9/16	1.5625	9-5/8	15-1/4	4	1450A236	1
1-37/64	1.5781	9-7/8	15-1/2	4	1450A237	1
1-19/32	1.5938	9-7/8	15-1/2	4	1450A238	1
1-39/64	1.6094	10	15-5/8	4	1450A239	1
1-5/8	1.6250	10	15-5/8	4	1450A240	1
1-41/64	1.6406	10-1/8	15-3/4	4	1450A241	1
1-21/32	1.6562	10-1/8	15-3/4	4	1450A242	1
1-43/64	1.6719	10-1/8	15-3/4	4	1450A243	1
1-11/16	1.6875	10-1/8	15-3/4	4	1450A244	1
1-45/64	1.7031	10-1/8	15-3/4	4	1450A245	1
1-23/32	1.7188	10-1/8	15-3/4	4	1450A246	1
1-47/64	1.7344	10-3/8	16-1/4	4	1450A247	1

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GENERAL PURPOSE TAPER SHANK DRILLS

1400 / 1450 / 1475 SERIES continued



Fractional (Undersized)					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number
1-3/4	1.7500	10-3/8	16-1/4	4	1450A248
1-25/32	1.7812	10-3/8	16-1/4	4	1450A250
1-13/16	1.8125	10-3/8	16-1/4	4	1450A252
1-27/32	1.8438	10-3/8	16-1/4	4	1450A254
1-7/8	1.8750	10-1/2	16-1/2	4	1450A256
1-29/32	1.9062	10-1/2	16-1/2	4	1450A258
1-15/16	1.9375	10-5/8	16-5/8	4	1450A260
1-31/32	1.9688	10-5/8	16-5/8	4	1450A262
2	2.0000	10-5/8	16-5/8	4	1450A264

1420E SERIES

Hardened Drill Sleeve

Case hardened throughout and ground internally and externally.



Fractional			
Size	Inside Morse Taper	Outside Morse Taper	Order Number
12	1	2	142E012H
13	1	3	142E013H
14	1	4	142E014H
23	2	3	142E023H
24	2	4	142E024H
25	2	5	142E025H
34	3	4	142E034H
35	3	5	142E035H
45	4	5	142E045H
46	4	6	142E046H
56	5	6	142E056H

1470E SERIES

Drill Drifts & Gauges

For ejecting taper shank tools out of Morse Taper sleeves and sockets. Fully drop forged.



Fractional			
Size	Overall Length	Morse Taper Number	Order Number
1	4-1/2"	#1	147E001
2	5-1/4"	#2	147E002
3	6"	#3	147E003
4	7"	#4, 5 and 6	147E004

Fractional (Oversized)					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number
3/8	.3750	3-1/2	7-3/8	2	1475A124
25/64	.3906	3-5/8	7-1/2	2	1475A125
13/32	.4062	3-5/8	7-1/2	2	1475A126
27/64	.4219	3-7/8	7-3/4	2	1475A127
7/16	.4375	3-7/8	7-3/4	2	1475A128
29/64	.4531	4-1/8	8	2	1475A129
15/32	.4688	4-1/8	8	2	1475A130
41/64	.6406	5-1/8	9-3/4	3	1475A141
21/32	.6562	5-1/8	9-3/4	3	1475A142
43/64	.6719	5-3/8	10	3	1475A143
11/16	.6875	5-3/8	10	3	1475A144
45/64	.7031	5-3/8	10-1/4	3	1475A145
23/32	.7188	5-7/8	10-1/4	3	1475A146
47/64	.7344	5-7/8	10-1/2	3	1475A147
3/4	.7500	6	10-1/2	3	1475A148
49/64	.7656	6	10-5/8	3	1475A149
25/32	.7812	6-3/8	10-5/8	3	1475A150
1	1.000	6-3/8	12	4	1475A164
1-1/32	1.0312	6-1/2	12-1/8	4	1475A202
1-1/16	1.0625	6-5/8	12-1/4	4	1475A204

1440E SERIES

Hardened Bright



Fractional			
Size	Inside Morse Taper	Outside Morse Taper	Order Number
12	1	2	144E012H
13	1	3	144E013H
21	2	1	144E021H
22	2	2	144E022H
23	2	3	144E023H
24	2	4	144E024H
32	3	2	144E032H
33	3	3	144E033H
34	3	4	144E034H
43	4	3	144E043H
44	4	4	144E044H
45	4	5	144E045H
54	5	4	144E054H
55	5	5	144E055H
56	5	6	144E056H

DRILL GAUGES

Fractional	
Size	Order Number
Fractional	29G0000
33/64" - 1"	32G0000
Wire #1 - 60	60G0000



GENERAL PURPOSE TAPER SHANK DRILLS

110 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Taper Shank / Black Oxide

The CHICAGO-LATROBE 110 Taper Shank Drill features general-purpose 118° geometry and Morse taper shanks per ANSI standards for use in corresponding holders. Made from premium high-speed steel with a black oxide finish for enhanced wear resistance, lubricity, and chip flow, it's ideal for a wide range of materials and conditions.

NOTE: Alternate shanks (Style 110S) available in selected sizes.

Style 110 is also available as a set: 49/64 -1 x 1/64

Best Material Application



CAST IRON



STEEL

Drill Specifications



118° POINT



TAPER SHANK



Fractional						
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
1/8	.1250	1-7/8	5-1/8	1	53108	1
5/32	.1562	2-1/8	5-3/8	1	53310	1
3/16	.1875	2-1/2	5-3/4	1	53112	1
13/64	.2031	2-3/4	6	1	53113	1
7/32	.2188	2-3/4	6	1	53114	1
15/64	.2344	2-7/8	6-1/8	1	53115	1
1/4-E	.2500	2-7/8	6-1/8	1	53116	1
17/64	.2656	3	6-1/4	1	53117	1
9/32	.2812	3	6-1/4	1	53118	1
19/64	.2969	3-1/8	6-3/8	1	53119	1
5/16	.3125	3-1/8	6-3/8	1	53120	1
21/64	.3281	3-1/4	6-1/2	1	53121	1
11/32	.3438	3-1/4	6-1/2	1	53122	1
23/64	.3594	3-1/2	6-3/4	1	53123	1
3/8	.3750	3-1/2	6-3/4	1	53124	1
25/64	.3906	3-5/8	7	1	53125	1
13/32	.4062	3-5/8	7	1	53126	1
27/64	.4219	3-7/8	7-1/4	1	53127	1
7/16	.4375	3-7/8	7-1/4	1	53128	1
29/64	.4531	4-1/8	7-1/2	1	53129	1
15/32	.4688	4-1/8	7-1/2	1	53130	1
31/64	.4844	4-3/8	8-1/4	2	53131	1
1/2	.5000	4-3/8	8-1/4	2	53132	1
33/64	.5156	4-5/8	8-1/2	2	53133	1
17/32	.5312	4-5/8	8-1/2	2	53134	1
35/64	.5469	4-7/8	8-3/4	2	53135	1
9/16	.5625	4-7/8	8-3/4	2	53136	1
37/64	.5781	4-7/8	8-3/4	2	53137	1
19/32	.5938	4-7/8	8-3/4	2	53138	1
39/64	.6094	4-7/8	8-3/4	2	53139	1
5/8	.6250	4-7/8	8-3/4	2	53140	1
41/64	.6406	5-1/8	9	2	53141	1
21/32	.6562	5-1/8	9	2	53142	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
43/64	.6719	5-3/8	9-1/4	2	53143	1
11/16	.6875	5-3/8	9-1/4	2	53144	1
45/64	.7031	5-5/8	9-1/2	2	53145	1
23/32	.7188	5-5/8	9-1/2	2	53146	1
47/64	.7344	5-7/8	9-3/4	2	53147	1
3/4	.7500	5-7/8	9-3/4	2	53148	1
49/64	.7656	6	9-7/8	2	53149	1
25/32	.7812	6	9-7/8	2	53150	1
51/64	.7969	6-1/8	10-3/4	3	53151	1
13/16	.8125	6-1/8	10-3/4	3	53152	1
53/64	.8281	6-1/8	10-3/4	3	53153	1
27/32	.8438	6-1/8	10-3/4	3	53154	1
55/64	.8594	6-1/8	10-3/4	3	53155	1
7/8	.8750	6-1/8	10	2	*53556	1
7/8	.8750	6-1/8	10-3/4	3	53156	1
57/64	.8906	6-1/8	10-3/4	3	53157	1
29/32	.9062	6-1/8	10-3/4	3	53158	1
59/64	.9219	6-1/8	10-3/4	3	53159	1
15/16	.9375	6-1/8	10-3/4	3	53160	1
61/64	.9531	6-3/8	11	3	53161	1
31/32	.9688	6-3/8	11	3	53162	1
63/64	.9844	6-3/8	11	3	53163	1
1	1.0000	6-3/8	11	3	53164	1
1-1/64	1.0156	6-1/2	11-1/8	3	53165	1
1-1/32	1.0312	6-1/2	11-1/8	3	53166	1
1-1/16	1.0625	6-5/8	11-1/4	3	53168	1
1-7/64	1.1094	7-1/8	12-3/4	4	53171	1
1-1/8	1.1250	7-1/8	12-3/4	4	53172	1
1-3/16	1.1875	7-3/8	13	4	53176	1
1-1/4	1.2500	7-7/8	13-1/2	4	53180	1
1-5/16	1.3125	8-5/8	14-1/4	4	53184	1
1-11/32	1.3438	8-3/4	14-3/8	4	53186	1
1-3/8	1.3750	8-7/8	14-1/2	4	53188	1

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GENERAL PURPOSE TAPER SHANK DRILLS

110 SERIES continued



Fractional						
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
1-7/16	1.4375	9-1/8	14-3/4	4	53192	1
1-15/32	1.4688	9-1/4	14-7/8	4	53194	1
1-1/2	1.5000	9-3/8	15	4	53196	1
1-9/16	1.5625	9-5/8	16-5/8	5	53200	1
1-5/8	1.6250	10	17	5	53204	1
1-11/16	1.6875	10-1/8	17-1/8	5	53208	1
1-3/4	1.7500	10-1/8	17-1/8	5	53212	1
1-13/16	1.8125	10-1/8	17-1/8	5	53216	1
1-7/8	1.8750	10-3/8	17-3/8	5	53220	1
2	2.0000	10-3/8	17-3/8	5	53228	1



Corresponding Sets		
Number of Pieces	Sizes	Order Number
16	49/64 - 1 x 1/64	69867

Metal Case

110S SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Taper Shank / Black Oxide

The CHICAGO-LATROBE 110S Taper Shank Drill features general-purpose 118° geometry and Morse taper shanks per ANSI standards for use in corresponding holders. Made from premium high-speed steel with a black oxide finish for enhanced wear resistance, lubricity, and chip flow, it's ideal for a wide range of materials and conditions.



Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT TAPER SHANK

Fractional						
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
11/16	.6875	5-3/8	10	3	53844	1
3/4	.7500	5-7/8	10-1/2	3	53848	1
7/8	.8750	6-1/8	10	2	53556	1
1	1.0000	6-3/8	12	2	53559	1
1-1/8	1.1250	7-1/8	11-3/4	3	53572	1
1-1/4	1.2500	7-7/8	12-1/2	3	53580	1
1-3/4	1.7500	10-3/8	16-1/4	4	53612	1
2	2.0000	10-5/8	16-5/8	4	53628	1

GENERAL PURPOSE TAPER SHANK DRILLS

2410 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Taper Shank / Black Oxide

CLEVELAND 2410 Standard taper shank drill with HSS and black oxide finish provides reliable general-purpose drilling with its 118° point in steel and cast iron.

Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT TAPER SHANK



Size	Decimal Equiv. (Inch)	Fractional		Morse Taper Number	Order Number	Pack Qty.
		Flute Length (Inch)	Overall Length (Inch)			
1/8	.1250	1-7/8	5-1/8	1	C12040	1
5/32	.1562	2-1/8	5-3/8	1	C12052	1
3/16	.1875	2-1/2	5-3/4	1	C12064	1
13/64	.2031	2-3/4	6	1	C12069	1
7/32	.2188	2-3/4	6	1	C12075	1
15/64	.2344	2-7/8	6-1/8	1	C12082	1
1/4-E	.2500	2-7/8	6-1/8	1	C12091	1
17/64	.2656	3	6-1/4	1	C12099	1
9/32	.2812	3	6-1/4	1	C12113	1
19/64	.2969	3-1/8	6-3/8	1	C12117	1
5/16	.3125	3-1/8	6-3/8	1	C12124	1
21/64	.3281	3-1/4	6-1/2	1	C12132	1
11/32	.3438	3-1/4	6-1/2	1	C12139	1
23/64	.3594	3-1/2	6-3/4	1	C12147	1
3/8	.3750	3-1/2	6-3/4	1	C12154	1
25/64	.3906	3-5/8	7	1	C12162	1
13/32	.4062	3-5/8	7	1	C12167	1
27/64	.4219	3-7/8	7-1/4	1	C12170	1
7/16	.4375	3-7/8	7-1/4	1	C12173	1
29/64	.4531	4-1/8	7-1/2	1	C12176	1
15/32	.4688	4-1/8	7-1/2	1	C12178	1
31/64	.4844	4-3/8	8-1/4	2	C12181	1
1/2	.5000	4-3/8	8-1/4	2	C12183	1
33/64	.5156	4-5/8	8-1/2	2	C12186	1
17/32	.5312	4-5/8	8-1/2	2	C12188	1
35/64	.5469	4-7/8	8-3/4	2	C12191	1
9/16	.5625	4-7/8	8-3/4	2	C12194	1
37/64	.5781	4-7/8	8-3/4	2	C12196	1
19/32	.5938	4-7/8	8-3/4	2	C12199	1
39/64	.6094	4-7/8	8-3/4	2	C12201	1
5/8	.6250	4-7/8	8-3/4	2	C12204	1
41/64	.6406	5-1/8	9	2	C12207	1
21/32	.6562	5-1/8	9	2	C12209	1
43/64	.6719	5-3/8	9-1/4	2	C12212	1
11/16	.6875	5-3/8	9-1/4	2	C12214	1
45/64	.7031	5-5/8	9-1/2	2	C12216	1
23/32	.7188	5-5/8	9-1/2	2	C12218	1
47/64	.7344	5-7/8	9-3/4	2	C12220	1
3/4	.7500	5-7/8	9-3/4	2	C12222	1
49/64	.7656	6	9-7/8	2	C12223	1
25/32	.7812	6	9-7/8	2	C12225	1
51/64	.7969	6-1/8	10-3/4	3	C12227	1
13/16	.8125	6-1/8	10-3/4	3	C12229	1
53/64	.8281	6-1/8	10-3/4	3	C12231	1
27/32	.8438	6-1/8	10-3/4	3	C12232	1
55/64	.8594	6-1/8	10-3/4	3	C12234	1
7/8	.8750	6-1/8	10-3/4	3	C12236	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
57/64	.8906	6-1/8	10-3/4	3	C12238	1
29/32	.9062	6-1/8	10-3/4	3	C12240	1
59/64	.9219	6-1/8	10-3/4	3	C12241	1
15/16	.9375	6-1/8	10-3/4	3	C12243	1
31/32	.9688	6-3/8	11	3	C12247	1
63/64	.9844	6-3/8	11	3	C12249	1
1	1.0000	6-3/8	11	3	C12250	1
1-1/64	1.0156	6-1/2	11-1/8	3	C12252	1
1-1/32	1.0312	6-1/2	11-1/8	3	C12254	1
1-1/16	1.0625	6-5/8	11-1/4	3	C12257	1
1-1/8	1.1250	7-1/8	12-3/4	4	C12265	1
1-3/16	1.1875	7-3/8	13	4	C12272	1
1-1/4	1.2500	7-7/8	13-1/2	4	C12279	1
1-5/16	1.3125	8-5/8	14-1/4	4	C12286	1
1-11/32	1.3438	8-3/4	14-3/8	4	C12290	1
1-3/8	1.3750	8-7/8	14-1/2	4	C12293	1
1-7/16	1.4375	9-1/8	14-3/4	4	C12301	1
1-15/32	1.4688	9-1/4	14-7/8	4	C12304	1
1-1/2	1.5000	9-3/8	15	4	C12308	1
1-9/16	1.5625	9-5/8	16-5/8	5	C12315	1
1-5/8	1.6250	10	17	5	C12322	1
1-3/4	1.7500	10-1/8	17-1/8	5	C12336	1
1-7/8	1.8750	10-3/8	17-3/8	5	C12351	1
2	2.0000	10-3/8	17-3/8	5	C12365	1
1-1/16	1.0625	6-5/8	12-1/4	4	C12691	1



100C SERIES Drift Drills				
Size	Width at Hole	Thickness	Overall Length (Inch)	Order Number
1	.6875	.2031	4.5000	57121
2	.8125	.2500	5.1250	57122
3	1.0625	.3125	6.7500	57123
4	1.1250	.4688	7.1250	57124
5	1.3750	.5980	8.5000	57125



100D SERIES Reducing Sleeves			
Tool Morse Taper (Inside) Size	Spindle Morse Taper (Outside) Size	Overall Length (Inch)	Order Number
No. 1	No. 2	3.5625	57000
No. 2	No. 3	4.4375	57004
No. 3	No. 4	5.3750	57007
No. 4	No. 5	6.6250	57009

GENERAL PURPOSE TAPER SHANK DRILLS

2411 / 2412 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Point / Taper Shank / Black Oxide

CLEVELAND 2411 Undersized taper shank drill with HSS and black oxide finish ensures precision with its 118° point for general-purpose drilling in steel and cast iron.

Best Material Application



CAST IRON STEEL

Drill Specifications



118° POINT TAPER SHANK



Fractional (Undersized)						
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
1/2	.5000	4-3/8	7-3/4	1	C12483	1
7/8	.8750	6-1/8	10	2	C12505	1
1-1/8	1.1250	7-1/8	11-3/4	3	C12518	1
1-1/4	1.2500	7-7/8	12-1/2	3	C12532	1
1-17/32	1.5312	9-3/8	15	4	C12541	1
1-3/4	1.7500	10-3/8	16-1/4	4	C12566	1

Fractional (Oversized)						
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Number	Order Number	Pack Qty.
11/16	.6875	5-3/8	10	3	C12670	1
3/4	.7500	5-7/8	10-1/2	3	C12678	1
1	1.0000	6-3/8	12	4	C12684	1
1-1/16	1.0625	6-5/8	12-1/4	4	C12691	1



100C SERIES Drift Drills	
Size	Order Number
1	C53665
2	C53666
3	C53667
4	C53668

GENERAL PURPOSE TAPER SHANK DRILLS

1682 SERIES

HEAVY DUTY HIGH SPEED STEEL

118° Point / Black Oxide

CLE-FORCE 1682 Taper Shank Drill with black oxide finish and 118° point provides efficient general-purpose drilling in steel and cast iron. ASME B94.11M compliant.

Best Material Application



CAST IRON



STEEL

Drill Specifications



118° POINT



TAPER SHANK



Fractional						
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Shank	Order Number	Pack Qty.
5/16	.3125	3-1/8	6-3/8	1	C68779	1
21/64	.3281	3-1/4	6-1/2	1	C68780	1
11/32	.3438	3-1/4	6-1/2	1	C68781	1
23/64	.3594	3-1/2	6-3/4	1	C68782	1
3/8	.3750	3-1/2	6-3/4	1	C68794	1
3/8	.3750	3-1/2	7-3/8	2	C68738	1
25/64	.3906	3-5/8	7	1	C68795	1
25/64	.3906	3-5/8	7	2	C68739	1
13/32	.4062	3-5/8	7	1	C68796	1
13/32	.4063	3-5/8	7-1/2	2	C68740	1
27/64	.4219	3-7/8	7-1/4	1	C68797	1
27/64	.4219	3-7/8	7-3/4	2	C68741	1
7/16	.4375	3-7/8	7-1/4	1	C68798	1
7/16	.4375	3-7/8	7-3/4	2	C68742	1
29/64	.4531	4-1/8	7-1/2	1	C68799	1
29/64	.4531	4-1/8	8	2	C68743	1
15/32	.4688	4-1/8	7-1/2	1	C68800	1
31/64	.4844	4-3/8	8-1/4	2	C68801	1
1/2	.5000	4-3/8	7-3/4	1	C68744	1
1/2	.5000	4-3/8	8-1/4	2	C68802	1
33/64	.5156	4-5/8	8-1/2	2	C68803	1
17/32	.5312	4-5/8	8	1	C68745	1
17/32	.5312	4-5/8	8-1/2	2	C68804	1
35/64	.5469	4-7/8	8-3/4	2	C68805	1
9/16	.5625	4-7/8	8-3/4	2	C68806	1
37/64	.5781	4-7/8	8-3/4	2	C68807	1
19/32	.5938	4-7/8	8-3/4	2	C68808	1
39/64	.6094	4-7/8	8-3/4	2	C68809	1
5/8	.6250	4-7/8	8-3/4	2	C68810	1
41/64	.6406	5-1/8	9	2	C68811	1
21/32	.6562	5-1/8	9	2	C68812	1
21/32	.6562	5-1/8	9-3/4	3	C68746	1
43/64	.6719	5-3/8	9-1/4	2	C68813	1
11/16	.6875	5-3/8	9-1/4	2	C68814	1
11/16	.6875	5-3/8	10	3	C68747	1
45/64	.7031	5-5/8	9-1/2	2	C68815	1
23/32	.7188	5-5/8	9-1/2	2	C68816	1
47/64	.7344	5-7/8	9-3/4	2	C68817	1
3/4	.7500	5-7/8	9-3/4	2	C68818	1
3/4	.7500	5-7/8	10-1/2	3	C68748	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Shank	Order Number	Pack Qty.
49/64	.7656	6	9-7/8	2	C68819	1
49/64	.7656	6	10-5/8	3	C68749	1
25/32	.7812	6	9-7/8	2	C68820	1
25/32	.7812	6	10-5/8	3	C68750	1
51/64	.7969	6-1/8	10-3/4	3	C68821	1
13/16	.8125	6-1/8	10	2	C68751	1
13/16	.8125	6-1/8	10-3/4	3	C68822	1
53/64	.8281	6-1/8	10-3/4	3	C68823	1
27/32	.8438	6-1/8	10	2	C68752	1
27/32	.8438	6-1/8	10-3/4	3	C68824	1
55/64	.8594	6-1/8	10-3/4	3	C68825	1
7/8	.8750	6-1/8	10	2	C68753	1
7/8	.8750	6-1/8	10-3/4	3	C68826	1
57/64	.8906	6-1/8	10-3/4	3	C68827	1
29/32	.9062	6-1/8	10-3/4	3	C68828	1
59/64	.9219	6-1/8	10-3/4	3	C68829	1
15/16	.9375	6-1/8	10-3/4	3	C68830	1
61/64	.9531	6-3/8	11	3	C68831	1
31/32	.9688	6-3/8	11	3	C68832	1
63/64	.9844	6-3/8	11	3	C68833	1
1	1.0000	6-3/8	11	3	C68834	1
1	1.0000	6-3/8	12	4	C68754	1
1-1/64	1.0156	6-1/2	11-1/8	3	C68835	1
1-1/32	1.0312	6-1/2	11-1/8	3	C68836	1
1-3/64	1.0469	6-5/8	11-1/4	3	C68837	1
1-1/16	1.0625	6-5/8	11-1/4	3	C68838	1
1-1/16	1.0625	6-5/8	12-1/4	4	C68755	1
1-5/64	1.0781	6-7/8	12-1/2	4	C68839	1
1-3/32	1.0938	6-7/8	11-1/2	3	C68756	1
1-3/32	1.0938	6-7/8	12-1/2	4	C68840	1
1-7/64	1.1094	7-1/8	11-3/4	3	C68757	1
1-7/64	1.1094	7-1/8	12-3/4	4	C68841	1
1-1/8	1.1250	7-1/8	11-3/4	3	C68758	1
1-1/8	1.1250	7-1/8	12-3/4	4	C68842	1
1-9/64	1.1406	7-1/4	12-7/8	4	C68843	1
1-5/32	1.1562	7-1/4	11-7/8	3	C68759	1
1-5/32	1.1562	7-1/4	12-7/8	4	C68844	1
1-11/64	1.1719	7-3/8	13	4	C68845	1
1-3/16	1.1875	7-3/8	12	3	C68760	1
1-3/16	1.1875	7-3/8	13	4	C68846	1

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GENERAL PURPOSE TAPER SHANK DRILLS

1682 SERIES continued

HEAVY DUTY HIGH SPEED STEEL

118° Point / Black Oxide



Fractional						
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper Shank	Order Number	Pack Qty.
1-13/64	1.2031	7-1/2	13-1/8	4	C68847	1
1-7/32	1.2188	7-1/2	13-1/8	4	C68848	1
1-15/64	1.2344	7-7/8	13-1/2	4	C68849	1
1-1/4	1.2500	7-7/8	12-1/2	3	C68761	1
1-1/4	1.2500	7-7/8	13-1/2	4	C68850	1
1-17/64	1.2656	8-1/2	14-1/8	4	C68851	1
1-9/32	1.2812	8-1/2	14-1/8	4	C68852	1
1-19/64	1.2969	8-5/8	14-1/4	4	C68853	1
1-5/16	1.3125	8-5/8	14-1/4	4	C68854	1
1-21/64	1.3281	8-3/4	14-3/8	4	C68855	1
1-11/32	1.3438	8-3/4	14-3/8	4	C68856	1
1-23/64	1.3594	8-7/8	14-1/2	4	C68857	1
1-3/8	1.3750	8-7/8	14-1/2	4	C68858	1
1-25/64	1.3906	9	14-5/8	4	C68859	1
1-13/32	1.4062	9	14-5/8	4	C68860	1
1-27/64	1.4219	9-1/8	14-3/4	4	C68861	1
1-7/16	1.4375	9-1/8	14-3/4	4	C68862	1
1-29/64	1.4531	9-1/4	14-7/8	4	C68863	1
1-15/32	1.4688	9-1/4	14-7/8	4	C68864	1
1-31/64	1.4844	9-3/8	15	4	C68865	1
1-1/2	1.5000	9-3/8	15	4	C68866	1
1-17/32	1.5312	9-3/8	15	4	C68762	1
1-17/32	1.5312	9-3/8	16-3/8	5	C68783	1
1-9/16	1.5625	9-5/8	16-5/8	5	C68784	1
1-19/32	1.5938	9-7/8	16-7/8	5	C68785	1
1-5/8	1.6250	10	15-5/8	4	C68763	1
1-5/8	1.6250	10	17	5	C68786	1
1-21/32	1.6562	10-1/8	17-1/8	5	C68787	1
1-11/16	1.6875	10-1/8	17-1/8	5	C68788	1
1-23/32	1.7188	10-1/8	17-1/8	5	C68764	1
1-3/4	1.7500	10-3/8	16-1/4	4	C68765	1
1-3/4	1.7500	10-3/8	17-1/8	5	C68789	1
1-13/16	1.8125	10-1/8	17-1/8	5	C68790	1
1-7/8	1.8750	10-3/8	17-3/8	5	C68791	1
1-15/16	1.9375	10-3/8	17-3/8	5	C68792	1
2	2.0000	10-5/8	16-5/8	4	C68766	1
2	2.0000	10-3/8	17-3/8	5	C68793	1

Metric						
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Morse Taper Shank	Order Number	Pack Qty.
10.50	.4134	85	165	1	C21950	1
12.50	.4921	101	182	1	C21951	1
12.80	.5039	101	182	1	C21952	1
13.75	.5413	108	189	1	C21953	1
15.25	.6004	120	218	2	C21954	1
16.25	.6398	125	223	2	C21955	1
18.50	.7283	135	233	2	C21956	1
19.25	.7579	140	238	2	C21957	1
19.50	.7677	140	238	2	C21958	1
20.50	.8071	145	243	2	C21959	1
21.50	.8465	150	248	2	C21960	1
22.50	.8858	155	253	2	C21961	1
23.00	.9055	155	253	2	C21962	1
23.50	.9252	155	276	3	C21963	1
25.50	1.0039	165	286	3	C21964	1
26.50	1.0433	165	286	3	C21965	1
27.00	1.0630	170	291	3	C21966	1
28.00	1.1024	170	291	3	C21967	1
28.50	1.1220	175	296	3	C21968	1
29.00	1.1417	175	296	3	C21969	1
29.50	1.1614	175	296	3	C21970	1
30.00	1.1811	175	296	3	C21971	1
30.50	1.2008	180	301	3	C21972	1
31.00	1.2205	180	301	3	C21973	1
31.50	1.2402	180	301	3	C21974	1
33.00	1.2992	185	334	4	C21975	1
34.00	1.3386	190	339	4	C21976	1
35.00	1.3780	190	339	4	C21977	1
36.00	1.4173	195	344	4	C21978	1
38.00	1.4961	200	349	4	C21979	1
39.00	1.5354	200	349	4	C21980	1
40.00	1.5748	200	349	4	C21981	1
45.00	1.7717	210	359	4	C21982	1
49.00	1.9291	220	369	4	C21983	1
50.00	1.9685	220	369	4	C21984	1

HEAVY DUTY HEX SHANK DRILLS

1816 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / 1/4" Hex Shank / Bright

CLE-LINE 1816 Specialty 1/4" hex shank drill with bright finish and 135° split point offers precision for steel drilling tasks. Use in quick change chucks for fast size changes.

Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



135° SPLIT POINT 1/4 HEX SHANK



Fractional			
Size	Decimal Equiv. (Inch)	Order Number	Pack Qty.
1/16	.0625	C20510	12
5/64	.0781	C20511	12
3/32	.0938	C20512	12
7/64	.1094	C20513	12
1/8	.1250	C20514	12
9/64	.1406	C20516	12
5/32	.1562	C20517	12
3/16	.1875	C20518	12
7/32	.2188	C20908	12
1/4	.2500	C20909	6

1826 SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / 1/4" Hex Shank / TiN

Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



135° SPLIT POINT 1/4 HEX SHANK



Fractional			
Size	Decimal Equiv. (Inch)	Order Number	Pack Qty.
1/16	.0625	C20120	12
5/64	.0781	C20121	12
3/32	.0938	C20122	12
7/64	.1094	C20123	12
1/8	.1250	C20124	12
9/64	.1406	C20125	12
5/32	.1562	C20126	12
3/16	.1875	C20127	12
7/32	.2188	C20128	12
1/4	.2500	C20129	6

HEAVY DUTY HEX SHANK DRILLS

HEXT4 SERIES

HEAVY DUTY HIGH SPEED STEEL

1/4" Hex Shank for Hex or adjustable power tool chucks / Black Oxide

High-speed steel drills with a 135° self-centering split point and black oxide finish for quick starts and reduced friction. Features a 1/4" hex shank for secure use in hex or adjustable power tool chucks.

Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



1/4 HEX SHANK



Fractional									
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Qty.	Order Number Bulk	Bulk Qty.	Order Number (Hanger)	Hanger Qty.
1/16	.0625	5/8	2-1/4	400AX104	1	045404.20	72	045404	—
3/32	.0938	3/4	2-7/16	400AX106	1	—	—	045406	—
1/8	.1250	7/8	2-5/8	400AX108	1	045408.20	72	045408	1
5/32	.1562	1	2-13/16	400AX110	1	045410.20	72	045410	—
3/16	.1875	1-1/8	3	400AX112	1	045412.20	72	045412	—
7/32	.2188	1-1/4	3-1/8	400AX114	1	045414.20	72	045414	—
1/4	.2500	1-3/8	3-3/16	400AX116	1	045416.20	72	045416	—

Corresponding Sets		
Number of Pieces	Sizes	Order Number
7	1/16"-1/4" x 1/32	045432

Plastic Case

HEAVY DUTY HEX SHANK DRILLS

HEXT4HD SERIES

HEAVY DUTY HIGH SPEED STEEL

135° Split Point / 1/4" Hex Shank / Black & Gold

WALTER Thunderbit drills have a special heavy duty core that guarantess increased strength and reduced breakage. 1/4" Quick Change hex shank drills are ideal for hex or adjustable power tool chucks. Drills have a 135 degree self-centering split point.

Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



1/4 HEX SHANK



Corresponding Sets			
Number of Pieces	Style	Sizes	Order Number
7	T47HEXHD	1/16"-1/4" x 1/32	045532

Plastic case

GENERAL PURPOSE JOBBER LENGTH CARBIDE DRILLS

700 SERIES

GENERAL PURPOSE CARBIDE

118° Point / Round Shank / Bright

Solid carbide drills have the ability to retain hardness and a sharp edge at high temperatures.

- ▷ *Excellent abrasion-resistant qualities*
- ▷ *Advantageous for use in drilling abrasive materials such as cast iron, non-ferrous alloys, high silicon aluminum, hard rubber, and Plexiglass*
- ▷ *Carbide drills are run at higher speeds than standard High Speed Steel drills*
- ▷ *They offer the advantage of extreme rigidity for greater drilling accuracy*

All sizes are individually packaged



Fractional				
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number
1/32	.0312	3/8	1-1/8	700A102
3/64	.0469	3/4	1-1/2	700A103
1/16	.0625	3/4	1-1/2	700A104
5/64	.0781	7/8	1-3/4	700A105
3/32	.0938	1	2	700A106
7/64	.1094	1-1/4	2-1/4	700A107
1/8	.1250	1-1/4	2-1/4	700A108
9/64	.1406	1-3/8	2-1/2	700A109
5/32	.1562	1-3/8	2-1/2	700A110
11/64	.1719	1-5/8	2-3/4	700A111
3/16	.1875	1-5/8	2-3/4	700A112
13/64	.2031	1-3/4	3	700A113
7/32	.2188	1-3/4	3	700A114
15/64	.2344	2	3-1/4	700A115
1/4	.2500	2	3-1/4	700A116
17/64	.2656	2-1/8	3-1/2	700A117
9/32	.2812	2-1/8	3-1/2	700A118
19/64	.2969	2-3/8	3-3/4	700A119
5/16	.3125	2-3/8	3-3/4	700A120
21/64	.3281	2-1/2	4	700A121
11/32	.3438	2-1/2	4	700A122
23/64	.3594	2-1/2	4	700A123
3/8	.3750	2-3/4	4-1/4	700A124
25/64	.3906	2-7/8	4-1/2	700A125
13/32	.4062	2-7/8	4-1/2	700A126
27/64	.4219	2-7/8	4-1/2	700A127
7/16	.4375	2-7/8	4-1/2	700A128
29/64	.4531	3	4-3/4	700A129
15/32	.4688	3	4-3/4	700A130
31/64	.4844	3	4-3/4	700A131
1/2	.5000	3	4-3/4	700A132

Wire				
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number
60	.0400	3/4	1-1/2	700A060
59	.0410	3/4	1-1/2	700A059
58	.0420	3/4	1-1/2	700A058
57	.0430	3/4	1-1/2	700A057
56	.0465	3/4	1-1/2	700A056
55	.0520	3/4	1-1/2	700A055
54	.0550	3/4	1-1/2	700A054
53	.0595	3/4	1-1/2	700A053
52	.0635	3/4	1-1/2	700A052
51	.0670	3/4	1-1/2	700A051
50	.0700	7/8	1-3/4	700A050
49	.0730	7/8	1-3/4	700A049
48	.0760	7/8	1-3/4	700A048
47	.0785	7/8	1-3/4	700A047
46	.0810	7/8	1-3/4	700A046
45	.0820	7/8	2	700A045
44	.0860	1	2	700A044
43	.0890	1	2	700A043
42	.0935	1	2	700A042
41	.0960	1	2	700A041
40	.0980	1	2	700A040
39	.0995	1-1/4	2-1/4	700A039
38	.1015	1-1/4	2-1/4	700A038
37	.1040	1-1/4	2-1/4	700A037
36	.1065	1-1/4	2-1/4	700A036
35	.1100	1-1/4	2-1/4	700A035
34	.1110	1-1/4	2-1/4	700A034
33	.1130	1-1/4	2-1/4	700A033
32	.1160	1-1/4	2-1/4	700A032
31	.1200	1-1/4	2-1/4	700A031
30	.1285	1-1/4	2-1/4	700A030
29	.1360	1-3/8	2-1/2	700A029
28	.1405	1-3/8	2-1/2	700A028
27	.1440	1-3/8	2-1/2	700A027

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GENERAL PURPOSE JOBBER LENGTH CARBIDE DRILLS

700 SERIES continued



Wire				
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number
26	.1470	1-3/8	2-1/2	700A026
25	.1495	1-3/8	2-1/2	700A025
24	.1520	1-3/8	2-1/2	700A024
23	.1540	1-3/8	2-1/2	700A023
22	.1570	1-3/8	2-1/2	700A022
21	.1590	1-3/8	2-1/2	700A021
20	.1610	1-3/8	2-1/2	700A020
19	.1660	1-5/8	2-3/4	700A019
18	.1695	1-5/8	2-3/4	700A018
17	.1730	1-5/8	2-3/4	700A017
16	.1770	1-5/8	2-3/4	700A016
15	.1800	1-5/8	2-3/4	700A015
14	.1820	1-5/8	2-3/4	700A014
13	.1850	1-5/8	2-3/4	700A013
12	.1890	1-5/8	2-3/4	700A012
11	.1910	1-5/8	2-3/4	700A011
10	.1935	1-5/8	2-3/4	700A010
9	.1960	1-5/8	2-3/4	700A009
8	.1990	1-3/4	3	700A008
7	.2010	1-3/4	3	700A007
6	.2040	1-3/4	3	700A006
5	.2055	1-3/4	3	700A005
4	.2090	1-3/4	3	700A004
3	.2130	1-3/4	3	700A003
2	.2210	1-3/4	3	700A002
1	.2280	1-3/4	3	700A001

Letter				
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number
A	.2340	2	3-1/4	700A501
B	.2380	2	3-1/4	700A502
C	.2420	2	3-1/4	700A503
D	.2460	2	3-1/4	700A504
E	.2500	2	3-1/4	700A505
F	.2570	2	3-1/4	700A506
G	.2610	2-1/8	3-1/2	700A507
H	.2660	2-1/8	3-1/2	700A508
I	.2720	2-1/8	3-1/2	700A509
J	.2770	2-1/8	3-1/2	700A510
K	.2810	2-1/8	3-1/2	700A511
L	.2900	2-1/8	3-1/2	700A512
M	.2950	2-3/8	3-3/4	700A513
N	.3020	2-3/8	3-3/4	700A514
O	.3160	2-3/8	3-3/4	700A515
P	.3230	2-3/8	3-3/4	700A516
Q	.3320	2-1/2	4	700A517
R	.3390	2-1/2	4	700A518
S	.3480	2-1/2	4	700A519
T	.3580	2-1/2	4	700A520
U	.3680	2-3/4	4-1/4	700A521
V	.3770	2-3/4	4-1/4	700A522
W	.3860	2-7/8	4-1/4	700A523
X	.3970	2-7/8	4-1/4	700A524
Y	.4040	2-7/8	4-1/4	700A525
Z	.4130	2-7/8	4-1/4	700A526

HEAVY DUTY 3-FLUTE CARBIDE DRILLS

730 SERIES

CARBIDE

150° Point / Round Shank / 3 Flutes / Bright

3-Flute Solid Carbide drills can be used for centering, spotting, or drilling. This tool provides precise hole size, finish, and higher productivity. Applications include titanium, cast iron, low alloy steel, and high silicon aluminum.

All sizes are individually packaged

Best Material Application



Drill Specifications



Fractional				
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number
1/8	.1250	1-1/4	2-1/4	730A108
9/64	.1406	1-3/8	2-1/2	730A109
5/32	.1562	1-3/8	2-1/2	730A110
11/64	.1719	1-5/8	2-3/4	730A111
3/16	.1875	1-5/8	2-3/4	730A112
13/64	.2031	1-3/4	3	730A113
7/32	.2188	1-3/4	3	730A114
15/64	.2344	2	3-1/4	730A115
1/4	.2500	2	3-1/4	730A116
17/64	.2656	2-1/8	3-1/2	730A117
9/32	.2812	2-1/8	3-1/2	730A118
19/64	.2969	2-3/8	3-3/4	730A119
5/16	.3125	2-3/8	3-3/4	730A120
21/64	.3281	2-1/2	4	730A121
11/32	.3438	2-1/2	4	730A122
23/64	.3594	2-1/2	4	730A123
3/8	.3750	2-3/4	4-1/2	730A124
25/64	.3906	2-7/8	4-1/2	730A125
13/32	.4062	2-7/8	4-1/2	730A126
27/64	.4219	2-7/8	4-1/2	730A127
7/16	.4375	2-7/8	4-1/2	730A128
29/64	.4531	3	4-1/2	730A129
15/32	.4688	3	4-3/4	730A130
31/64	.4844	3	4-3/4	730A131
1/2	.5000	3	4-3/4	730A132
17/32	.5312	3	4-3/4	730A134
9/16	.5625	3-1/2	5-3/4	730A136
5/8	.6250	3-1/2	5-3/4	730A140
3/4	.7500	4-1/4	5-3/4	730A148

Metric				
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number
3.0	.1182	1-1/4"	2-1/4"	730A003
6.0	.2363	2"	3-1/4"	730A006
8.0	.3150	2-3/8"	3-3/4"	730A008
10.0	.3938	2-7/8"	4-1/2"	730A010
12.0	.4725	3"	4-3/4"	730A012
14.0	.5511	3-1/2"	5-3/4"	730A014
16.0	.6299	3-1/2"	5-3/4"	730A016

GENERAL PURPOSE STRAIGHT FLUTE CARBIDE DRILLS

710 SERIES

CARBIDE

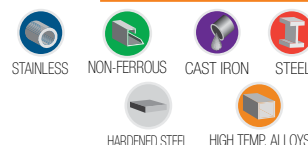
140° Split Point / Round Shank / Straight Flute / Bright

The straight flute design of these Solid Carbide drills increases edge strength, and produces good size control and hole surface finish.

- ▷ The 140° split point provides ease of penetration
- ▷ Used to drill difficult materials (up to Rc 60) including nickel alloys, chrome alloys, steel weldments, titanium alloys, high temperature alloys, and stainless-steel weldments
- ▷ Suitable for drilling out broken drills, taps, bolts, screws, studs, weldments

All sizes are individually packaged

Best Material Application



Drill Specifications



ROUND SHANK



Fractional				
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number
3/64	.0469	1/2	1-3/8	710A103
1/16	.0625	5/8	1-5/8	710A104
5/64	.0781	11/16	1-11/16	710A105
3/32	.0938	3/4	1-3/4	710A106
7/64	.1094	13/16	1-13/16	710A107
1/8	.1250	7/8	1-7/8	710A108
9/64	.1406	15/16	1-15/16	710A109
5/32	.1562	1	2-1/16	710A110
11/64	.1719	1-1/16	2-1/8	710A111
3/16	.1875	1-1/8	2-3/16	710A112
13/64	.2031	1-3/16	2-1/4	710A113
7/32	.2188	1-1/4	2-3/8	710A114
15/64	.2344	1-5/16	2-7/16	710A115
1/4	.2500	1-3/8	2-1/2	710A116
17/64	.2656	1-7/16	2-5/8	710A117
9/32	.2812	1-1/2	2-11/16	710A118
19/64	.2969	1-9/16	2-3/4	710A119
5/16	.3125	1-5/8	2-13/16	710A120
21/64	.3281	1-11/16	2-15/16	710A121
11/32	.3438	1-11/16	3	710A122
23/64	.3594	1-3/4	3-1/16	710A123
3/8	.3750	1-13/16	3-1/8	710A124
25/64	.3906	1-7/8	3-1/4	710A125
13/32	.4062	1-15/16	3-5/16	710A126
27/64	.4219	2	3-3/8	710A127
7/16	.4375	2-1/16	3-7/16	710A128
29/64	.4531	2-1/8	3-9/16	710A129
15/32	.4688	2-1/8	3-5/8	710A130
31/64	.4844	2-3/16	3-11/16	710A131
1/2	.5000	2-1/4	3-3/4	710A132

Wire				
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number
60	.0400	1/2	1-3/8	710A060
59	.0410	1/2	1-3/8	710A059
58	.0420	1/2	1-3/8	710A058
57	.0430	1/2	1-3/8	710A057
56	.0465	1/2	1-3/8	710A056
55	.0520	5/8	1-1/2	710A055
54	.0550	5/8	1-1/2	710A054
53	.0595	5/8	1-1/2	710A053
52	.0635	11/16	1-11/16	710A052
51	.0670	11/16	1-11/16	710A051
50	.0700	11/16	1-11/16	710A050
49	.0730	11/16	1-11/16	710A049
48	.0760	11/16	1-11/16	710A048
47	.0785	3/4	1-3/4	710A047
46	.0810	3/4	1-3/4	710A046
45	.0820	3/4	1-3/4	710A045
44	.0860	3/4	1-3/4	710A044
43	.0890	3/4	1-3/4	710A043
42	.0935	3/4	1-3/4	710A042
41	.0960	13/16	1-13/16	710A041
40	.0980	13/16	1-13/16	710A040
39	.0995	13/16	1-13/16	710A039
38	.1015	13/16	1-13/16	710A038
37	.1040	13/16	1-13/16	710A037
36	.1065	13/16	1-13/16	710A036
35	.1100	7/8	1-7/8	710A035
34	.1110	7/8	1-7/8	710A034
33	.1130	7/8	1-7/8	710A033
32	.1160	7/8	1-7/8	710A032
31	.1200	7/8	1-7/8	710A031
30	.1285	15/16	1-15/16	710A030
29	.1360	15/16	1-15/16	710A029
28	.1405	15/16	1-15/16	710A028

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HEAVY DUTY STRAIGHT FLUTE CARBIDE DRILLS

710 SERIES continued



Wire				
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number
27	.1440	1	2-1/16	710A027
26	.1470	1	2-1/16	710A026
25	.1495	1	2-1/16	710A025
24	.1520	1	2-1/16	710A024
23	.1540	1	2-1/16	710A023
22	.1570	1-1/16	2-1/8	710A022
21	.1590	1-1/16	2-1/8	710A021
20	.1610	1-1/16	2-1/8	710A020
19	.1660	1-1/16	2-1/8	710A019
18	.1695	1-1/16	2-1/8	710A018
17	.1730	1-1/8	2-3/16	710A017
16	.1770	1-1/8	2-3/16	710A016
15	.1800	1-1/8	2-3/16	710A015
14	.1820	1-1/8	2-3/16	710A014
13	.1850	1-1/8	2-3/16	710A013
12	.1890	1-3/16	2-1/4	710A012
11	.1910	1-3/16	2-1/4	710A011
10	.1935	1-3/16	2-1/4	710A010
9	.1960	1-3/16	2-1/4	710A009
8	.1990	1-3/16	2-1/4	710A008
7	.2010	1-3/16	2-1/4	710A007
6	.2040	1-1/4	2-3/8	710A006
5	.2055	1-1/4	2-3/8	710A005
4	.2090	1-1/4	2-3/8	710A004
3	.2130	1-1/4	2-3/8	710A003
2	.2210	1-5/16	2-7/16	710A002
1	.2280	1-5/16	2-7/16	710A001

Letter				
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number
A	.2340	1-5/16	2-7/16	710A501
B	.2380	1-3/8	2-1/2	710A502
C	.2420	1-3/8	2-1/2	710A503
D	.2460	1-3/8	2-1/2	710A504
E	.2500	1-3/8	2-1/2	710A505
F	.2570	1-7/16	2-5/8	710A506
G	.2610	1-7/16	2-5/8	710A507
H	.2660	1-1/2	2-11/16	710A508
I	.2720	1-1/2	2-11/16	710A509
J	.2770	1-1/2	2-11/16	710A510
K	.2810	1-1/2	2-11/16	710A511
L	.2900	1-9/16	2-3/4	710A512
M	.2950	1-9/16	2-3/4	710A513
N	.3020	1-5/8	2-13/16	710A514
O	.3160	1-11/16	2-15/16	710A515
P	.3230	1-11/16	2-15/16	710A516
Q	.3320	1-11/16	3	710A517
R	.3390	1-11/16	3	710A518
S	.3480	1-3/4	3-1/16	710A519
T	.3580	1-3/4	3-1/16	710A520
U	.3680	1-13/16	3-1/8	710A521
V	.3770	1-7/8	3-1/4	710A522
W	.3860	1-7/8	3-1/4	710A523
X	.3970	1-15/16	3-5/16	710A524
Y	.4040	1-15/16	3-5/16	710A525
Z	.4130	2	3-3/8	710A526



Corresponding Sets		
Number of Pieces	Sizes	Order Number
710 Series Solid Carbide Straight Flute Sets		
5	1/8, 3/16, 1/4, 5/16, 3/8	710A5

HEAVY DUTY SCREW MACHINE CARBIDE DRILLS

720 SERIES

CARBIDE

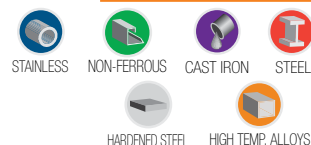
135° Split Point / Round Shank / Slow Helix / Bright

Slow helix 135° split point provides ease of penetration and increases edge strength.

- ▷ Heavy duty web, short flute, and overall length increases strength and rigidity
- ▷ Suited for drilling difficult materials (up to Rc 60), including nickel alloys, chrome alloys, steel weldments, titanium alloys, high temperature alloys, and stainless-steel weldments

All sizes are individually packaged

Best Material Application



Drill Specifications



Fractional				
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number
3/64	.0469	1/2	1-3/8	720A103
1/16	.0625	5/8	1-5/8	720A104
5/64	.0781	11/16	1-11/16	720A105
3/32	.0938	3/4	1-3/4	720A106
7/64	.1094	13/16	1-13/16	720A107
1/8	.1250	7/8	1-7/8	720A108
9/64	.1406	15/16	1-15/16	720A109
5/32	.1562	1	2-1/16	720A110
11/64	.1719	1-1/16	2-1/8	720A111
3/16	.1875	1-1/8	2-3/16	720A112
13/64	.2031	1-3/16	2-1/4	720A113
7/32	.2188	1-1/4	2-3/8	720A114
15/64	.2344	1-5/16	2-7/16	720A115
1/4	.2500	1-3/8	2-1/2	720A116
17/64	.2656	1-7/16	2-5/8	720A117
9/32	.2812	1-1/2	2-11/16	720A118
19/64	.2969	1-9/16	2-3/4	720A119
5/16	.3125	1-5/8	2-13/16	720A120
21/64	.3281	1-11/16	2-15/16	720A121
11/32	.3438	1-11/16	3	720A122
23/64	.3594	1-3/4	3-1/16	720A123
3/8	.3750	1-13/16	3-1/8	720A124
25/64	.3906	1-7/8	3-1/4	720A125
13/32	.4062	1-15/16	3-5/16	720A126
27/64	.4219	2	3-3/8	720A127
7/16	.4375	2-1/16	3-7/16	720A128
29/64	.4531	2-1/8	3-9/16	720A129
15/32	.4688	2-1/8	3-5/8	720A130
31/64	.4844	2-3/16	3-11/16	720A131
1/2	.5000	2-1/4	3-3/4	720A132

Wire				
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number
60	.0400	1/2	1-3/8	720A060
59	.0410	1/2	1-3/8	720A059
58	.0420	1/2	1-3/8	720A058
57	.0430	1/2	1-3/8	720A057
56	.0465	1/2	1-3/8	720A056
55	.0520	5/8	1-1/2	720A055
54	.0550	5/8	1-1/2	720A054
53	.0595	5/8	1-1/2	720A053
52	.0635	11/16	1-11/16	720A052
51	.0670	11/16	1-11/16	720A051
50	.0700	11/16	1-11/16	720A050
49	.0730	11/16	1-11/16	720A049
48	.0760	11/16	1-11/16	720A048
47	.0785	3/4	1-3/4	720A047
46	.0810	3/4	1-3/4	720A046
45	.0820	3/4	1-3/4	720A045
44	.0860	3/4	1-3/4	720A044
43	.0890	3/4	1-3/4	720A043
42	.0935	3/4	1-3/4	720A042
41	.0960	13/16	1-13/16	720A041
40	.0980	13/16	1-13/16	720A040
39	.0995	13/16	1-13/16	720A039
38	.1015	13/16	1-13/16	720A038
37	.1040	13/16	1-13/16	720A037
36	.1065	13/16	1-13/16	720A036
35	.1100	7/8	1-7/8	720A035
34	.1110	7/8	1-7/8	720A034
33	.1130	7/8	1-7/8	720A033
32	.1160	7/8	1-7/8	720A032
31	.1200	7/8	1-7/8	720A031
30	.1285	15/16	1-15/16	720A030
29	.1360	15/16	1-15/16	720A029
28	.1405	15/16	1-15/16	720A028

HEAVY DUTY SCREW MACHINE CARBIDE DRILLS

720 SERIES continued



01

DRILLS

Size	Decimal Equiv. (Inch)	Wire		Order Number
		Flute Length (Inch)	Overall Length (Inch)	
27	.1440	1	2-1/16	720A027
26	.1470	1	2-1/16	720A026
25	.1495	1	2-1/16	720A025
24	.1520	1	2-1/16	720A024
23	.1540	1	2-1/16	720A023
22	.1570	1-1/16	2-1/8	720A022
21	.1590	1-1/16	2-1/8	720A021
20	.1610	1-1/16	2-1/8	720A020
19	.1660	1-1/16	2-1/8	720A019
18	.1695	1-1/16	2-1/8	720A018
17	.1730	1-1/8	2-3/16	720A017
16	.1770	1-1/8	2-3/16	720A016
15	.1800	1-1/8	2-3/16	720A015
14	.1820	1-1/8	2-3/16	720A014
13	.1850	1-1/8	2-3/16	720A013
12	.1890	1-3/16	2-1/4	720A012
11	.1910	1-3/16	2-1/4	720A011
10	.1935	1-3/16	2-1/4	720A010
9	.1960	1-3/16	2-1/4	720A009
8	.1990	1-3/16	2-1/4	720A008
7	.2010	1-3/16	2-1/4	720A007
6	.2040	1-1/4	2-3/8	720A006
5	.2055	1-1/4	2-3/8	720A005
4	.2090	1-1/4	2-3/8	720A004
3	.2130	1-1/4	2-3/8	720A003
2	.2210	1-5/16	2-7/16	720A002
1	.2280	1-5/16	2-7/16	720A001

Size	Decimal Equiv. (Inch)	Letter		Order Number
		Flute Length (Inch)	Overall Length (Inch)	
A	.2340	1-5/16	2-7/16	720A501
B	.2380	1-3/8	2-1/2	720A502
C	.2420	1-3/8	2-1/2	720A503
D	.2460	1-3/8	2-1/2	720A504
E	.2500	1-3/8	2-1/2	720A505
F	.2570	1-7/16	2-5/8	720A506
G	.2610	1-7/16	2-5/8	720A507
H	.2660	1-1/2	2-11/16	720A508
I	.2720	1-1/2	2-11/16	720A509
J	.2770	1-1/2	2-11/16	720A510
K	.2810	1-1/2	2-11/16	720A511
L	.2900	1-9/16	2-3/4	720A512
M	.2950	1-9/16	2-3/4	720A513
N	.3020	1-5/8	2-13/16	720A514
O	.3160	1-11/16	2-15/16	720A515
P	.3230	1-11/16	2-15/16	720A516
Q	.3320	1-11/16	3	720A517
R	.3390	1-11/16	3	720A518
S	.3480	1-3/4	3-1/16	720A519
T	.3580	1-3/4	3-1/16	720A520
U	.3680	1-13/16	3-1/8	720A521
V	.3770	1-7/8	3-1/4	720A522
W	.3860	1-7/8	3-1/4	720A523
X	.3970	1-15/16	3-5/16	720A524
Y	.4040	1-15/16	3-5/16	720A525
Z	.4130	2	3-3/8	720A526

DRILCO | WALTER

GENERAL PURPOSE CARBIDE SPADE DRILLS

750 SERIES

CARBIDE

118° Point / Spade / Bright

Solid Carbide spade drills perform well in hard-to-machine materials (up to Rc 60), high strength alloys, plastic, and glass. They can be used in thin sheet metal and spotting applications. Drilling depth should not exceed 2x the drill diameter.

All sizes are individually packaged

Best Material Application



STAINLESS



NON-FERROUS



CAST IRON



STEEL

Drill Specifications



118° POINT



ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Shank Size	Overall Length (Inch)	Order Number
1/32	.0312	3/16	1/8	1-1/2	750A102
3/64	.0469	7/32	1/8	1-1/2	750A103
1/16	.0625	5/16	1/8	1-1/2	750A104
5/64	.0781	7/16	1/8	1-1/2	750A105
3/32	.0938	7/16	1/8	1-1/2	750A106
7/64	.1094	7/16	1/8	1-1/2	750A107
1/8	.1250	1/2	1/8	1-1/2	750A108
9/64	.1406	1/2	3/16	2	750A109
5/32	.1562	9/16	3/16	2	750A110
11/64	.1719	9/16	3/16	2	750A111
3/16	.1875	11/16	3/16	2	750A112
7/32	.2188	19/32	1/4	2-1/2	750A114

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Shank Size	Overall Length (Inch)	Order Number
1/4	.2500	11/16	1/4	2-1/2	750A116
9/32	.2812	3/4	5/16	2-1/2	750A118
5/16	.3125	7/8	5/16	2-1/2	750A120
11/32	.3438	15/16	3/8	2-1/2	750A122
3/8	.3750	1-1/8	3/8	2-1/2	750A124
13/32	.4062	1-1/8	1/2	2-1/2	750A126
7/16	.4375	1-3/16	1/2	3	750A128
15/32	.4688	1-3/16	1/2	3	750A130
1/2	.5000	1-3/16	1/2	3	750A132

HEAVY DUTY STRAIGHT FLUTE CARBIDE DRILLS

769 SERIES

CARBIDE

140° 4-Facet Point / Straight Flute / Bright

The CHICAGO-LATROBE 769 Solid Carbide Straight Flute with 2 flutes, right-hand cut, and a 140° point for precision. Designed for regular length, uncoated, and ideal for non-ferrous, hardened, and stainless materials up to 2x diameter depth. Manufactured from solid submicron grain carbide.



Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/64	.0469	1/2	1-1/2	78587	1
1/16	.0625	5/8	1-5/8	78588	1
5/64	.0781	11/16	1-11/16	78589	1
3/32	.0938	3/4	1-3/4	78590	1
7/64	.1094	13/16	1-13/16	78591	1
1/8	.1250	7/8	1-7/8	78592	1
9/64	.1406	15/16	1-15/16	78593	1
5/32	.1563	1	2-1/16	78594	1
11/64	.1719	1-1/16	2-1/8	78595	1
3/16	.1875	1-1/8	2-3/16	78596	1
13/64	.2031	1-3/16	2-1/4	78597	1
7/32	.2188	1-1/4	2-3/8	78598	1
15/64	.2344	1-5/16	2-7/16	78599	1
1/4	.2500	1-3/8	2-1/2	78600	1
17/64	.2656	1-7/16	2-5/8	78601	1
9/32	.2813	1-1/2	2-11/16	78602	1
19/64	.2969	1-9/16	2-3/4	78603	1
5/16	.3125	1-5/8	2-13/16	78604	1
21/64	.3281	1-13/16	2-15/16	78605	1
11/32	.3438	1-11/16	3	78606	1
23/64	.3594	1-3/4	3-1/16	78607	1
3/8	.3750	1-13/16	3-1/8	78608	1
25/64	.3906	1-7/8	3-1/4	78609	1
13/32	.4063	1-15/16	3-5/16	78610	1
27/64	.4219	2	3-3/8	78611	1
7/16	.4375	2-1/16	3-7/16	78612	1
29/64	.4531	2-1/8	3-9/16	78613	1
15/32	.4688	2-1/8	3-5/8	78614	1
31/64	.4844	2-3/16	3-11/16	78615	1
1/2	.5000	2-1/4	3-3/4	78616	1

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
60	.0400	1/2	1-1/2	78560	1
59	.0410	1/2	1-1/2	78559	1
58	.0420	1/2	1-1/2	78558	1
57	.0430	1/2	1-1/2	78557	1
56	.0465	1/2	1-1/2	78556	1
55	.0520	1/2	1-1/2	78555	1
54	.0550	1/2	1-1/2	78554	1
53	.0595	1/2	1-1/2	78553	1
52	.0635	11/16	1-11/16	78552	1
51	.0670	11/16	1-11/16	78551	1
50	.0700	11/16	1-11/16	78550	1
49	.0730	11/16	1-11/16	78549	1
48	.0760	11/16	1-11/16	78548	1
47	.0785	3/4	1-3/4	78547	1
46	.0810	3/4	1-3/4	78546	1
45	.0820	3/4	1-3/4	78545	1
44	.0860	3/4	1-3/4	78544	1
43	.0890	3/4	1-3/4	78543	1
42	.0935	3/4	1-3/4	78542	1
41	.0960	13/16	1-13/16	78541	1
40	.0980	13/16	1-13/16	78540	1
39	.0995	13/16	1-13/16	78539	1
38	.1015	13/16	1-13/16	78538	1
37	.1040	13/16	1-13/16	78537	1
36	.1065	13/16	1-13/16	78536	1
35	.1100	7/8	1-7/8	78535	1
34	.1110	7/8	1-7/8	78534	1
33	.1130	7/8	1-7/8	78533	1
32	.1160	7/8	1-7/8	78532	1
31	.1200	7/8	1-7/8	78531	1
30	.1285	15/16	1-15/16	78530	1
29	.1360	15/16	1-15/16	78529	1
28	.1405	15/16	1-15/16	78528	1

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GENERAL PURPOSE STRAIGHT FLUTE CARBIDE DRILLS

769 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
27	.1440	1	2-1/16	78527	1
26	.1470	1	2-1/16	78526	1
25	.1495	1	2-1/16	78525	1
24	.1520	1	2-1/16	78524	1
23	.1540	1	2-1/16	78523	1
22	.1570	1-1/16	2-1/8	78522	1
21	.1590	1-1/16	2-1/8	78521	1
20	.1610	1-1/16	2-1/8	78520	1
19	.1660	1-1/16	2-1/8	78519	1
18	.1695	1-1/16	2-1/8	78518	1
17	.1730	1-1/8	2-3/16	78517	1
16	.1770	1-1/8	2-3/16	78516	1
15	.1800	1-1/8	2-3/16	78515	1
14	.1820	1-1/8	2-3/16	78514	1
13	.1850	1-1/8	2-3/16	78513	1
12	.1890	1-3/16	2-1/4	78512	1
11	.1910	1-3/16	2-1/4	78511	1
10	.1935	1-3/16	2-1/4	78510	1
9	.1960	1-3/16	2-1/4	78509	1
8	.1990	1-3/16	2-1/4	78508	1
7	.2010	1-3/16	2-1/4	78507	1
6	.2040	1-1/4	2-3/8	78506	1
5	.2055	1-1/4	2-3/8	78505	1
4	.2090	1-1/4	2-3/8	78504	1
3	.2130	1-1/4	2-3/8	78503	1
2	.2210	1-7/16	2-7/16	78502	1
1	.2280	1-7/16	2-7/16	78501	1

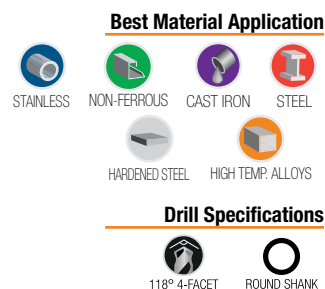
GENERAL PURPOSE STUB LENGTH CARBIDE DRILLS

759 SERIES

CARBIDE

118° 4-Facet Point / Straight Flute / Bright

The CHICAGO-LATROBE 759 Stub Length Drill is a 118° 4-facet point solid carbide tool with 2 flutes, and a right-hand spiral/cut. Stub length for rigid set ups. Made from submicron grain carbide, ideal for cast iron, stainless steel, high-temp alloys, and hardened materials.



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/16	.0625	3/8	1-1/2	78700	1
5/64	.0781	1/2	1-1/2	78701	1
3/32	.0938	1/2	2	78702	1
7/64	.1094	5/8	2	78703	1
1/8	.1250	5/8	2	78704	1
9/64	.1406	5/8	2	78705	1
5/32	.1563	3/4	2	78706	1
11/64	.1719	3/4	2-1/8	78707	1
3/16	.1875	3/4	2-3/16	78708	1
13/64	.2031	3/4	2-1/4	78709	1
7/32	.2188	1	2-1/2	78710	1
15/64	.2344	1	2-1/2	78711	1
1/4	.2500	1	2-1/2	78712	1
17/64	.2656	1	2-1/2	78713	1
9/32	.2813	1	2-1/2	78714	1
19/64	.2969	1-1/4	2-1/2	78715	1
5/16	.3125	1-1/4	2-1/2	78716	1
21/64	.3281	1-1/4	2-1/2	78717	1
11/32	.3438	1-1/4	2-1/2	78718	1
23/64	.3594	1-1/4	2-1/2	78719	1
3/8	.3750	1-1/4	2-3/4	78720	1
25/64	.3906	1-1/4	2-3/4	78721	1
13/32	.4063	1-1/4	2-3/4	78722	1
27/64	.4219	1-1/4	2-3/4	78723	1
7/16	.4375	1-1/4	2-3/4	78724	1
29/64	.4531	1-1/4	3	78725	1
15/32	.4688	1-1/4	3	78726	1
31/64	.4844	1-1/4	3	78727	1
1/2	.5000	1-1/4	3	78728	1

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
53	.0595	3/8	1-1/2	78692	1
52	.0635	3/8	1-1/2	78691	1
51	.0670	3/8	1-1/2	78690	1
50	.0700	3/8	1-1/2	78689	1
49	.0730	3/8	1-1/2	78688	1
48	.0760	1/2	1-1/2	78687	1
47	.0785	1/2	1-1/2	78686	1
46	.0810	1/2	1-1/2	78685	1
45	.0820	1/2	1-1/2	78684	1
44	.0860	1/2	2	78683	1
43	.0890	1/2	2	78682	1
42	.0935	1/2	2	78681	1
41	.0960	1/2	2	78680	1
40	.0980	5/8	2	78679	1
39	.0995	5/8	2	78678	1
38	.1015	5/8	2	78677	1
37	.1040	5/8	2	78676	1
36	.1065	5/8	2	78675	1
35	.1100	5/8	2	78674	1
34	.1110	5/8	2	78673	1
33	.1130	5/8	2	78672	1
32	.1160	5/8	2	78671	1
31	.1200	5/8	2	78670	1
30	.1285	5/8	2	78669	1
29	.1360	5/8	2	78668	1
28	.1405	5/8	2	78667	1
27	.1440	5/8	2	78666	1
26	.1470	5/8	2	78665	1
25	.1495	5/8	2	78664	1
24	.1520	5/8	2	78663	1
23	.1540	5/8	2	78662	1
22	.1570	3/4	2	78661	1
21	.1590	3/4	2	78660	1

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GENERAL PURPOSE STUB LENGTH CARBIDE DRILLS

759 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
20	.1610	3/4	2	78659	1
19	.1660	3/4	2-1/8	78658	1
18	.1695	3/4	2-1/8	78657	1
17	.1730	3/4	2-1/8	78656	1
16	.1770	3/4	2-1/8	78655	1
15	.1800	3/4	2-3/16	78654	1
14	.1820	3/4	2-3/16	78653	1
13	.1850	3/4	2-3/16	78652	1
12	.1890	3/4	2-3/16	78651	1
11	.1910	3/4	2-3/16	78650	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
10	.1935	3/4	2-3/16	78649	1
9	.1960	3/4	2-1/4	78648	1
8	.1990	3/4	2-1/4	78647	1
7	.2010	3/4	2-1/4	78646	1
6	.2040	3/4	2-1/4	78645	1
5	.2055	3/4	2-1/4	78644	1
4	.2090	3/4	2-1/4	78643	1
3	.2130	1	2-1/2	78642	1
2	.2210	1	2-1/2	78641	1
1	.2280	1	2-1/2	78640	1

GENERAL PURPOSE CARBIDE SPADE DRILLS

780 SERIES

CARBIDE

118° Point / Spade / Bright

The CHICAGO-LATROBE 780 Solid Carbide Spade Drill has 2 straight flutes and a 118° point for precision. Designed with stub length for rigidity, they are ideal for shallow holes and thin sheets in non-ferrous, hardened, and stainless materials. Manufactured from solid submicron grain carbide.



Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/32	.0313	3/16	1-1/2	78481	1
1/16	.0625	5/16	1-1/2	78482	1
3/32	.0938	7/16	1-1/2	78483	1
1/8	.1250	7/16	1-1/2	78484	1
5/32	.1563	15/32	2	78485	1
3/16	.1875	9/16	2	78486	1
7/32	.2188	19/32	2	78487	1
1/4	.2500	11/16	2	78488	1
9/32	.2813	3/4	2-1/2	78489	1
5/16	.3125	7/8	2-1/2	78490	1
11/32	.3438	15/16	2-1/2	78491	1
3/8	.3750	1	2-1/2	78492	1

GENERAL PURPOSE JOBBER LENGTH CARBIDE DRILLS

1727 SERIES

CARBIDE

118° 4-Facet / Round Shank / Low Helix / Bright

CLEVELAND 1727 Heavy duty carbide drill with bright finish features a 118° 4-facet point and boasts a low helix design for efficient two-to-three times SFM performance over HSS drills.



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/32	0.0312	5/16	1-1/4	C89501	1
3/64	0.0469	3/4	1-1/2	C89507	1
1/16	0.0625	3/4	1-1/2	C47519	1
5/64	0.0781	7/8	1-3/4	C89517	1
3/32	0.0938	1	2	C47548	1
7/64	0.1094	1-1/4	2-1/4	C47561	1
1/8	0.1250	1-1/4	2-1/4	C47571	1
9/64	0.1406	1-3/8	2-1/2	C47580	1
5/32	0.1562	1-3/8	2-1/2	C47591	1
11/64	0.1719	1-5/8	2-3/4	C47602	1
3/16	0.1875	1-5/8	2-3/4	C47613	1
13/64	0.2031	1-3/4	3	C89566	1
7/32	0.2188	1-3/4	3	C47634	1
15/64	0.2344	2	3-1/4	C89575	1
1/4	0.2500	2	3-1/4	C47648	1
17/64	0.2656	2-1/8	3-1/2	C89582	1
9/32	0.2812	2-1/8	3-1/2	C89587	1
19/64	0.2969	2-3/8	4	C89590	1
5/16	0.3125	2-3/8	4	C47671	1
21/64	0.3281	2-1/2	4	C89595	1
11/32	0.3438	2-1/2	4	C89597	1
23/64	0.3594	2-3/4	4-1/4	C89600	1
3/8	0.3750	2-3/4	4-1/4	C47694	1
25/64	0.3906	2-7/8	4-1/2	C89605	1
13/32	0.4062	2-7/8	4-1/2	C89608	1
27/64	0.4219	2-7/8	4-1/2	C89610	1
7/16	0.4375	2-7/8	4-1/2	C47708	1
29/64	0.4531	3	4-3/4	C89612	1
15/32	0.4688	3	4-3/4	C89613	1
31/64	0.4844	3	4-3/4	C89614	1
1/2	0.5000	3	4-3/4	C47718	1

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
60	0.0400	3/4	1-1/2	C89502	1
59	0.0410	3/4	1-1/2	C89503	1
58	0.0420	3/4	1-1/2	C89504	1
57	0.0430	3/4	1-1/2	C89505	1
56	0.0465	3/4	1-1/2	C89506	1
55	0.0520	3/4	1-1/2	C89508	1
54	0.0550	3/4	1-1/2	C89509	1
53	0.0595	3/4	1-1/2	C47517	1
52	0.0635	3/4	1-1/2	C89512	1
51	0.0670	3/4	1-1/2	C89513	1
50	0.0700	7/8	1-3/4	C47526	1
49	0.0730	7/8	1-3/4	C89515	1
48	0.0760	7/8	1-3/4	C89516	1
47	0.0785	7/8	1-3/4	C89518	1
46	0.0810	7/8	1-3/4	C89519	1
45	0.0820	7/8	1-3/4	C89520	1
44	0.0860	1	2	C89521	1
43	0.0890	1	2	C89522	1
42	0.0935	1	2	C89523	1
41	0.0960	1	2	C89525	1
40	0.0980	1	2	C47552	1
39	0.0995	1-1/4	2-1/4	C89527	1
38	0.1015	1-1/4	2-1/4	C89528	1
37	0.1040	1-1/4	2-1/4	C89529	1
36	0.1065	1-1/4	2-1/4	C89530	1
35	0.1100	1-1/4	2-1/4	C89532	1
34	0.1110	1-1/4	2-1/4	C89533	1
33	0.1130	1-1/4	2-1/4	C89534	1
32	0.1160	1-1/4	2-1/4	C89535	1
31	0.1200	1-1/4	2-1/4	C89536	1

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GENERAL PURPOSE
JOBBER LENGTH CARBIDE DRILLS

1727 SERIES continued



Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
30	0.1285	1-3/8	2-1/2	C47574	1
29	0.1360	1-3/8	2-1/2	C89539	1
28	0.1405	1-3/8	2-1/2	C89540	1
27	0.1440	1-3/8	2-1/2	C47582	1
26	0.1470	1-3/8	2-1/2	C89543	1
25	0.1495	1-3/8	2-1/2	C89544	1
24	0.1520	1-3/8	2-1/2	C89545	1
23	0.1540	1-3/8	2-1/2	C89546	1
22	0.1570	1-3/8	2-1/2	C89548	1
21	0.1590	1-3/8	2-1/2	C89549	1
20	0.1610	1-3/8	2-1/2	C89550	1
19	0.1660	1-5/8	2-3/4	C89551	1
18	0.1695	1-5/8	2-3/4	C89552	1
17	0.1730	1-5/8	2-3/4	C89554	1
16	0.1770	1-5/8	2-3/4	C89555	1
15	0.1800	1-5/8	2-3/4	C89556	1
14	0.1820	1-5/8	2-3/4	C89557	1
13	0.1850	1-5/8	2-3/4	C89558	1
12	0.1890	1-5/8	2-3/4	C89560	1
11	0.1910	1-5/8	2-3/4	C89561	1
10	0.1935	1-5/8	2-3/4	C47618	1
9	0.1960	1-3/4	3	C89563	1
8	0.1990	1-3/4	3	C89564	1
7	0.2010	1-3/4	3	C47623	1
6	0.2040	1-3/4	3	C47625	1
5	0.2055	1-3/4	3	C89568	1
4	0.2090	1-3/4	3	C89569	1
3	0.2130	1-3/4	3	C89570	1
2	0.2210	1-3/4	3	C89572	1
1	0.2280	1-3/4	3	C89573	1
Letter					
A	0.2340	2	3-1/4	C89574	1
B	0.2380	2	3-1/4	C89576	1
C	0.2420	2	3-1/4	C89577	1
D	0.2460	2	3-1/4	C89578	1
E	0.2500	2	3-1/4	C47648	1
F	0.2570	2	3-1/4	C89580	1
G	0.2610	2-1/8	3-1/2	C89581	1
H	0.2660	2-1/8	3-1/2	C89583	1
I	0.2720	2-1/8	3-1/2	C89584	1
J	0.2770	2-1/8	3-1/2	C89585	1
K	0.2810	2-1/8	3-1/2	C89586	1
L	0.2900	2-1/8	3-1/2	C89588	1
M	0.2950	2-3/8	4	C89589	1
N	0.3020	2-3/8	4	C89591	1
O	0.3160	2-3/8	4	C89593	1
P	0.3230	2-3/8	4	C89594	1
Q	0.3320	2-1/2	4	C89596	1
R	0.3390	2-1/2	4	C89615	1
S	0.3480	2-1/2	4	C89598	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
T	0.3580	2-3/4	4-1/4	C89599	1
U	0.3680	2-3/4	4-1/4	C89601	1
V	0.3770	2-3/4	4-1/4	C89603	1
W	0.3860	2-7/8	4-1/2	C89604	1
X	0.3970	2-7/8	4-1/2	C89606	1
Y	0.4040	2-7/8	4-1/2	C89607	1
Z	0.4130	2-7/8	4-1/2	C89609	1
Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Pack Qty.
3.0	0.1182	33	61	C47239	1
3.1	0.1221	36	65	C47240	1
3.2	0.1260	36	65	C47241	1
3.3	0.1300	36	65	C47242	1
3.4	0.1339	39	70	C47243	1
3.5	0.1378	39	70	C47244	1
4.0	0.1575	43	75	C47245	1
4.5	0.1615	47	80	C47246	1
5.0	0.1969	52	86	C47247	1
5.5	0.2166	57	93	C47248	1
6.0	0.2363	57	93	C47249	1
6.5	0.2560	63	101	C47250	1
7.0	0.2756	69	109	C47251	1
7.5	0.2953	69	109	C47252	1
8.0	0.3150	75	117	C47253	1
8.5	0.3347	75	117	C47254	1
9.0	0.3544	81	125	C47255	1
9.5	0.3741	81	125	C47256	1
10.0	0.3938	87	133	C47257	1
10.5	0.4134	87	133	C47258	1
11.0	0.4331	94	142	C47259	1
11.5	0.4528	94	142	C47260	1
12.0	0.4725	101	151	C47261	1

GENERAL PURPOSE CARBIDE SPADE DRILLS

1766 SERIES

GENERAL PURPOSE CARBIDE

140° 4-Facet Point / Straight Flute / Bright

CLEVELAND 1765 Straight flute drill with carbide and bright finish ensures accuracy with high helix and precise tolerances in steel and cast iron.



Best Material Application



Drill Specifications



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/32	.0313	1/2	1-1/2	C89410	1
3/64	.0469	1/2	1-1/2	C89416	1
1/16	.0625	5/8	1-5/8	C89420	1
5/64	.0781	11/16	1-11/16	C89426	1
3/32	.0938	3/4	1-3/4	C89433	1
7/64	.1094	13/16	1-13/16	C89440	1
1/8	.1250	7/8	1-7/8	C89446	1
9/64	.1406	15/16	1-15/16	C89450	1
5/32	.1562	1	2-1/16	C89456	1
11/64	.1719	1-1/16	2-1/8	C89462	1
3/16	.1875	1-1/8	2-3/16	C89468	1
13/64	.2031	1-3/16	2-1/4	C89475	1
7/32	.2188	1-1/4	2-3/8	C89480	1
15/64	.2344	1-5/16	2-7/16	C89483	1
1/4	.2500	1-3/8	2-1/2	C89484	1
17/64	.2656	1-7/16	2-5/8	C89485	1
9/32	.2812	1-1/2	2-11/16	C89486	1
19/64	.2969	1-9/16	2-3/4	C89487	1
5/16	.3125	1-5/8	2-13/16	C89488	1
21/64	.3281	1-11/16	2-15/16	C89489	1
11/32	.3438	1-11/16	3	C89490	1
23/64	.3594	1-3/4	3-1/16	C89491	1
3/8	.3750	1-13/16	3-1/8	C89492	1
25/64	.3906	1-7/8	3-1/4	C89493	1
13/32	.4062	1-15/16	3-5/16	C89494	1
27/64	.4219	2	3-3/8	C89495	1
7/16	.4375	2-1/16	3-7/16	C89496	1
29/64	.4531	2-1/8	3-9/16	C89497	1
15/32	.4688	2-1/8	3-5/8	C89498	1
31/64	.4844	2-3/16	3-11/16	C89499	1
1/2	.5000	2-1/4	3-3/4	C89500	1

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
60	.0400	1/2	1-1/2	C89411	1
59	.0410	1/2	1-1/2	C89412	1
58	.0420	1/2	1-1/2	C89413	1
57	.0430	1/2	1-1/2	C89414	1
56	.0465	1/2	1-1/2	C89415	1
55	.0520	1/2	1-1/2	C89417	1
54	.0550	1/2	1-1/2	C89418	1
53	.0595	1/2	1-1/2	C89419	1
52	.0635	11/16	1-11/16	C89421	1
51	.0670	11/16	1-11/16	C89422	1
50	.0700	11/16	1-11/16	C89423	1
49	.0730	11/16	1-11/16	C89424	1
48	.0760	11/16	1-11/16	C89425	1
47	.0785	3/4	1-3/4	C89427	1
46	.0810	3/4	1-3/4	C89428	1
45	.0820	3/4	1-3/4	C89429	1
44	.0860	3/4	1-3/4	C89430	1
43	.0890	3/4	1-3/4	C89431	1
42	.0935	3/4	1-3/4	C89432	1
41	.0960	13/16	1-13/16	C89434	1
40	.0980	13/16	1-13/16	C89435	1
39	.0995	13/16	1-13/16	C89436	1
38	.1015	13/16	1-13/16	C89437	1
37	.1040	13/16	1-13/16	C89438	1
36	.1065	13/16	1-13/16	C89439	1
35	.1100	7/8	1-7/8	C89441	1
34	.1110	7/8	1-7/8	C89442	1
33	.1130	7/8	1-7/8	C89443	1
32	.1160	7/8	1-7/8	C89444	1
31	.1200	7/8	1-7/8	C89445	1

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GENERAL PURPOSE CARBIDE SPADE DRILLS

1766 SERIES continued



Size	Decimal Equiv. (Inch)	Wire		Order Number	Pack Qty.
		Flute Length (Inch)	Overall Length (Inch)		
30	.1285	15/16	1-15/16	C89447	1
29	.1360	15/16	1-15/16	C89448	1
28	.1405	15/16	1-15/16	C89449	1
27	.1440	1	2-1/16	C89451	1
26	.1470	1	2-1/16	C89452	1
25	.1495	1	2-1/16	C89453	1
24	.1520	1	2-1/16	C89454	1
23	.1540	1	2-1/16	C89455	1
22	.1570	1-1/16	2-1/8	C89457	1
21	.1590	1-1/16	2-1/8	C89458	1
20	.1610	1-1/16	2-1/8	C89459	1
19	.1660	1-1/16	2-1/8	C89460	1
18	.1695	1-1/16	2-1/8	C89461	1
17	.1730	1-1/8	2-3/16	C89463	1
16	.1770	1-1/8	2-3/16	C89464	1
15	.1800	1-1/8	2-3/16	C89465	1
14	.1820	1-1/8	2-3/16	C89466	1
13	.1850	1-1/8	2-3/16	C89467	1
12	.1890	1-3/16	2-1/4	C89469	1
11	.1910	1-3/16	2-1/4	C89470	1
10	.1935	1-3/16	2-1/4	C89471	1
9	.1960	1-3/16	2-1/4	C89472	1
8	.1990	1-3/16	2-1/4	C89473	1
7	.2010	1-3/16	2-1/4	C89474	1
6	.2040	1-1/4	2-3/8	C89476	1
5	.2055	1-1/4	2-3/8	C89477	1
4	.2090	1-1/4	2-3/8	C89478	1
3	.2130	1-1/4	2-3/8	C89479	1
2	.2210	1-5/16	2-7/16	C89481	1
1	.2280	1-5/16	2-7/16	C89482	1

GENERAL PURPOSE STUB LENGTH CARBIDE DRILLS

1767 SERIES

GENERAL PURPOSE CARBIDE

118° 4-Facet Point / Round Shank / Bright

CLEVELAND 1767 Stub-length carbide drill with bright finish features a 118° 4-facet point for reliable and efficient drilling in steel and cast iron.



Size	Fractional			Order Number	Pack Qty.
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)		
1/16	.0625	5/8	2	C89676	1
5/64	.0781	5/8	2	C89677	1
3/32	.0938	5/8	2	C89678	1
7/64	.1094	5/8	2	C89679	1
1/8	.1250	5/8	2	C89680	1
9/64	.1406	5/8	2	C89681	1
5/32	.1562	3/4	2-1/2	C89682	1
11/64	.1719	3/4	2-1/2	C89683	1
3/16	.1875	3/4	2-1/2	C89684	1
13/64	.2031	3/4	2-1/2	C89685	1
7/32	.2188	1	2-1/2	C89686	1
15/64	.2344	1	2-1/2	C89687	1
1/4	.2500	1	2-1/2	C89688	1
17/64	.2656	1	2-1/2	C89689	1

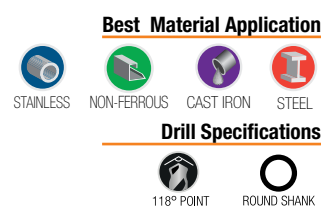
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
9/32	.2812	1	2-1/2	C89690	1
19/64	.2969	1-1/4	2-3/4	C89691	1
5/16	.3125	1-1/4	2-3/4	C89692	1
21/64	.3281	1-1/4	2-3/4	C89693	1
11/32	.3438	1-1/4	3	C89694	1
23/64	.3594	1-1/4	3	C89695	1
3/8	.3750	1-1/4	3	C89696	1
25/64	.3906	1-1/4	3	C89697	1
13/32	.4062	1-1/4	3	C89698	1
27/64	.4219	1-1/4	3	C89699	1
7/16	.4375	1-1/4	3	C89700	1
29/64	.4531	1-1/4	3	C89701	1
15/32	.4688	1-1/4	3	C89702	1
31/64	.4844	1-1/4	3	C89703	1
1/2	.5000	1-1/4	3	C89704	1

1765 SERIES

GENERAL PURPOSE CARBIDE

118° Point / Round Shank / Bright

CLEVELAND 1765 Spade drill with carbide and bright finish features a 118° point, delivering efficient and precise holemaking in tough materials.



Size	Fractional			Order Number	Pack Qty.
	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)		
1/32	.0313	3/16	1-1/2	C89705	1
1/16	.0625	5/16	1-1/2	C89706	1
3/32	.0938	3/8	1-1/2	C89707	1
1/8	.1250	7/16	1-1/2	C89708	1
5/32	.1562	15/32	2	C89709	1
3/16	.1875	9/16	2	C89710	1

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
7/32	.2188	19/32	2	C89711	1
1/4	.2500	11/16	2	C89712	1
9/32	.2812	3/4	2-1/2	C89714	1
5/16	.3125	7/8	2-1/2	C89715	1
11/32	.3438	15/16	2-1/2	C89716	1
3/8	.3750	1-1/16	2-1/2	C89713	1

GENERAL PURPOSE STEP DRILLS

1874 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Split Point / Various Shanks / Bright

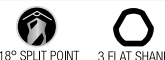
The CLE-LINE 1874 Step drill with HSS bright finish and 118° split point ensures clean and accurate drilling on steel and aluminum material.

Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



118° SPLIT POINT 3 FLAT SHANK



Fractional						
Size	Hole Size (Inch)	Decimal Equiv. (Inch)	Shank Diameter (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/16 - 1/2 x 1/16	3/16 - 1/2	.1875 - .5000	1/4	3-1/8	C20285	1
3/16 - 1/2 x 1/16	3/16 - 1/2	.1875 - .5000	1/4 Hex	3-1/8	C20310	1
3/16 - 7/8 x 1/16	3/16 - 7/8	.1875 - .8750	3/8	3-1/4	C20288	1
1/8 - 1/2 x 1/32	1/8 - 1/2	.1250 - .5000	1/4	3-1/8	C20286	1
1/8 - 1/2 x 1/32	1/8 - 1/2	.1250 - .5000	1/4 Hex	3-1/8	C20311	1
1/4 - 3/4 x 1/16	1/4 - 3/4	.2500 - .7500	3/8	2-3/4	C20287	1
1/4 - 1-3/8 x 1/8	1/4 - 1-3/8	.2500 - 1.3750	3/8	3-1/4	C20290	1
1/4 - 1-1/8 x 1/16	1/4 - 1-1/8	.2500 - 1.1250	3/8	3-7/64	C20293	1

1874TN SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Split Point / Various Shanks / TiN

The CLE-LINE 1874TN TiN-coated HSS step drill with a 118° split point delivers reliable performance in drilling steel and aluminum materials.

Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



118° SPLIT POINT 3 FLAT SHANK



Fractional						
Size	Hole Size (Inch)	Decimal Equiv. (Inch)	Shank Diameter (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
3/16 - 1/2 x 1/16	3/16 - 1/2	.1875 - .5000	1/4	3-1/8	C20295	1
3/16 - 1/2 x 1/16	3/16 - 1/2	.1875 - .5000	1/4 Hex	3-1/8	C20312	1
3/16 - 7/8 x 1/16	3/16 - 7/8	.1875 - .8750	3/8	3-1/4	C20298	1
1/8 - 1/2 x 1/32	1/8 - 1/2	.1250 - .5000	1/4	3-1/8	C20296	1
1/8 - 1/2 x 1/32	1/8 - 1/2	.1250 - .5000	1/4 Hex	3-1/8	C20313	1
1/4 - 3/4 x 1/16	1/4 - 3/4	.2500 - .7500	3/8	2-3/4	C20297	1

Corresponding Sets			
Number of Pieces	Sizes	Order Number	
		Bright	TiN
3	1/8 - 3/4	C20325	C20326

Metal cases



#C20326

GENERAL PURPOSE STEP DRILLS

8900 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Split Point / 3 Flat Shank / Bright

3-flat shank reduces slippage in the drill chuck. For sheet metal and other thin material such as plastic, PVC pipe, and wood. Ideal for electricians and other skilled trades.



Best Material Application



NON-FERROUS PLASTIC STEEL

Drill Specifications



118° SPLIT POINT 3 FLAT SHANK

Fractional							
Size	Shank Size	Min. Size	Max. Size	Step Increment	Number of Steps	Order Number	Pack Qty.
1	1/4	1/8	1/2	1/32	13	890A001	1
2	1/4	3/16	1/2	1/16	6	890A002	1
3	3/8	1/4	3/4	1/16	9	890A003	1
4	3/8	3/16	7/8	1/16	12	890A004	1
5	1/2	1/4	1-3/8	1/8	10	890A005	1
9	1/4	7/8	1-1/8	1/8	2	890A009	1

8950 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

118° Split Point / 1/4" Hex Shank / Spiral Flute / TiN

DRILLCO's MULTI-STEP drills are designed for all sheet metals up to 5/32" thick. Creates clean, round, burr free holes in multiple sizes with just one tool!



Best Material Application



STAINLESS CAST IRON PLASTIC STEEL

Drill Specifications



118° SPLIT POINT 1/4 HEX SHANK

Fractional			
Tool#	Description	Order Number	Pack Qty.
1	13 Steps: 1/8" to 1/2"	895A001	1
2	9 Steps: 1/4" to 3/4"	895A002	1
3	12 Steps: 3/16" to 7/8"	895A003	1
4	13 Steps: 1/4" to 1.1/8"	895A004	1

Corresponding Sets		
Number of Pieces	Sizes	Order Number
3	#1-#3	895SET

Metal case

GENERAL PURPOSE STEP DRILLS

01W SERIES

HIGH SPEED STEEL

118° Split Point / 3-Flat Shank / IceCut™ Coating

MULTI-STEP drill bits are the fastest and easiest way to enlarge holes in sheet metal and other materials up to 1/8" thick.

- ▷ *Special AlCrN coating provides additional toughness and wear resistance to prolong tooling life, even when compared to titanium based coatings such as TiN or TiAlN*
- ▷ *2 wide cylindrical flutes eliminate chip build-up for faster drilling and to produce holes with minimal vibration or distortion*
- ▷ *Each shank has three flats for easy mounting*
- ▷ *Spiral fluting is ideal to improve speed when working with cordless power tools*
- ▷ *Straight fluting is ideal to ensure you get the proper hole size without warping on corded power tools*

Best Material Application



STAINLESS



NON-FERROUS



STEEL

Drill Specifications



118° SPLIT POINT



3 FLAT SHANK

Fractional							
Type	Type of Flute	Shank Size	Min. Size	Max. Size	Step Increment	Number of Steps	Order No.
A	SPIRAL	1/4"	1/8"	1/2"	1/8"	13	01W001
B	SPIRAL	3/8"	3/16"	7/8"	1/8"	12	01W005
C	SPIRAL	3/8"	1/4"	3/4"	1/8"	9	01W011
D	SPIRAL	3/8"	1/4"	1 3/8"	9/64"	10	01W012
E	SPIRAL	1/4"	3/16"	1/2"	3/8"	6	01W021
F	SPIRAL	3/8"	1/4"	1"	1/8"	10	01W029
A	STRAIGHT	1/4"	1/8"	1/2"	1/8"	13	01W101
B	STRAIGHT	3/8"	3/16"	7/8"	1/8"	12	01W105
C	STRAIGHT	3/8"	1/4"	3/4"	1/8"	9	01W111
D	STRAIGHT	3/8"	1/4"	1 3/8"	9/64"	10	01W112

Packaged in reusable plastic packaging



Corresponding Sets

Contains the three MULTI-STEP bits needed for all hole sizes from 1-3/8".

Number of Pieces	Set Includes	Order Number
3	01W001, 01W005, 01W012	01W951

HEAVY DUTY DOUBLE ENDED DRILLS

1815 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

135° Split Point / Black Oxide

CLE-LINE 1815 Specialty double-end drill with HSS and black oxide finish. Made specifically for sheet metal and other thin materials having a thickness similar to the drill diameter.

Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	.433	1.929	C20500	12
9/64	.1406	.551	1.047	C17618	12
5/32	.1562	.551	2.165	C17619	12
3/16	.1875	.669	2.441	C20501	12
1/4	.2500	.787	2.756	C20503	12

Wire					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
30	.1285	.500	1.875	C23811	12
20	.1610	.625	2.063	C23810	12
11	.1910	.688	2.334	C23809	12

HEAVY DUTY DOUBLE ENDED DRILLS

1683 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

135° Split Point / Black Oxide

CLE-FORCE 1683 Specialty double-end drill with HSS and black oxide finish offers 135° split points for precision in sheet metal and thin materials.

Best Material Application



CAST IRON



STEEL

Drill Specifications



135° SPLIT POINT



ROUND SHANK



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Qty.
1/8	.1250	.433	1.929	C69021	12
9/64	.1406	.551	1.047	C69022	12
5/32	.1562	.551	2.165	C69023	12
3/16	.1875	.669	2.441	C69024	12
1/4	.2500	.787	2.756	C69025	12
Wire					
30	.1285	.500	1.875	C69028	12
20	.1610	.625	2.063	C69027	12
11	.1910	.688	2.334	C69026	12
Metric					
Size (mm)	Decimal Equiv. (Inch)	Flute Length (mm)	Overall Length (mm)	Order Number	Qty.
2.00	.0787	9	38	C69005	12
2.10	.0826	9	38	C69006	12
2.50	.0984	10	43	C69007	12
3.00	.1181	11	46	C69008	12
3.20	.1259	12	49	C69009	12
3.26	.1283	12	49	C69010	12
3.30	.1299	12	49	C69012	12
3.50	.1377	14	52	C69013	12
4.00	.1574	14	55	C69014	12
4.10	.1614	14	55	C69015	12
4.20	.1653	14	55	C69016	12
4.90	.1929	17.5	62	C69017	12
5.00	.1968	17.5	62	C69018	12
5.10	.2007	17.5	62	C69019	12
5.20	.2047	17.5	62	C69020	12

GENERAL PURPOSE DOUBLE ENDED DRILLS

TSM8 SERIES

HIGH SPEED STEEL

135° Split Point / Black Oxide

High-speed steel double-end drills with a 135° split point and black oxide finish for fast, accurate starts and reduced friction. Ideal for thin sheet metal and pop-rivet drilling applications.



Fractional							
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Tube	Tube Quantity	Order Number Bulk	Bulk Quantity
1/8"	0.1250	1/2"	2"	098808	12	098808.20	288
9/64"	0.1406	1/2"	2"	098809	12	098809.20	288
5/32"	0.1562	1/2"	2-1/16"	098810	12	098810.20	288
3/16"	0.1875	1/2"	2-3/16"	098812	12	098812.20	288
1/4"	0.2500	1/2"	2-1/2"	098816	12	098816.20	288
Wire							
#11	0.1910	1/2"	2-1/4"	098811	12	098811.20	288
#20	0.1610	1/2"	2-1/8"	098820	12	098820.20	288
#30	0.1285	1/2"	2"	098830	12	098830.20	288

Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK

01K SST+ SERIES

COBALT

135° Split Point / Bronze Oxide

The most effective double-ended drill bit available that can allow you to drill hundreds of holes faster than anyone else. The state-of-the-art cobalt blend provides these drill bits an incomparable lifespan that would make any black oxide competitors blush. Even if you want to drill a hole into sheet metal, thin material, for automotive or aerospace purposes, for a rivet hole, or simply to double the life of your current stub length drill bit.

- ▷ Self-centering 135° split point geometry
- ▷ Special bronze SST surface treatment heavy duty fully ground body construction
- ▷ High flow flute design
- ▷ Double-ended design provides twice the life and quicker change outs compared to traditional drill bits



Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK

Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Qty.
1/16"	0.0630	23/64"	1-1/2"	01K004	10
5/64"	0.0780	23/64"	1-1/2"	01K005	10
3/32"	0.0940	25/64"	1-11/16"	01K006	10
7/64"	0.1094	7/16"	1-13/16"	01K007	10
1/8"	0.1250	15/32"	1-59/64"	01K008	10
9/64"	0.1406	35/64"	2-3/64"	01K009	10
5/32"	0.1562	35/64"	2-11/64"	01K010	10
11/64"	0.1720	5/8"	2-9/32"	01K011	10
3/16"	0.1875	11/16"	2-7/16"	01K012	10
13/64"	0.2030	11/16"	2-7/16"	01K013	10
7/32"	0.2188	3/4"	2-19/32"	01K014	10
15/64"	0.2340	3/4"	2-19/32"	01K015	10
1/4"	0.2500	53/64"	2-3/4"	01K016	10

Wire					
Size	Rivet Size	Flute Length (Inch)	Overall Length (Inch)	Order Number	
#51	.067	25/64"	1-11/16"	01K151	10
#40	.098	7/16"	1-13/16"	01K140	10
#30	.1285	35/64"	2-3/64"	01K130	10
#20	.161	5/8"	2-9/32"	01K120	10
#10	.1935	11/16"	2-7/16"	01K110	10
#1	.228	3/4"	2-19/32"	01K101	10
Letter					
F	.257	1 7/64"	4-1/64"	01K206	10

HEAVY DUTY DOUBLE ENDED DRILLS

330 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

135° Split Point / Black Oxide

The Style 330 Double Ended Drill Bit is a high-speed steel (HSS) jobber-length drill designed for maximum tool economy and productivity. Featuring drill points on both ends, this tool effectively doubles the usable life of the bit—reducing tool change frequency and overall cost per hole. Manufactured from premium HSS, the 330 offers excellent toughness and wear resistance for general-purpose drilling in steel, stainless steel, cast iron, and non-ferrous materials.



Best Material Application



CAST IRON STEEL

Drill Specifications



135° SPLIT POINT ROUND SHANK

Fractional					
Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	1/2	2	330A108	12
9/64	.1406	1/2	2	330A109	12
5/32	.1562	1/2	2-1/16	330A110	12
3/16	.1875	1/2	2-3/16	330A112	12
1/4	.2500	1/2	2-1/2	330A116	12
Wire					
11	.1910	1/2	2-1/4	330A011	12
20	.1610	1/2	2-1/8	330A020	12
30	.1285	1/2	2	330A030	12

HEAVY DUTY COMBINED DRILL & COUNTERSINK

1824 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Bright

CLE-LINE 1824 Combined drill and countersink with HSS bright finish produces a 60° angle center, suitable for center drilling in steel and aluminum.

Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



60°
INCLUDED
ANGLE

ROUND SHANK



Wire						
Size	Decimal Equiv. (Inch)	Drill Diameter (Inch)	Body Diameter (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
0	.0312	1/32	1/8	1-1/8	C20891	12
1	.0469	3/64	1/8	1-1/4	C20892	12
2	.0781	5/64	3/16	1-7/8	C20893	12
3	.1094	7/64	1/4	2	C20894	12
4	.1250	1/8	5/16	2-1/8	C20895	12
5	.1875	3/16	7/16	2-3/4	C20896	6
6	.2188	7/32	1/2	3	C20897	6
7	.2500	1/4	5/8	3-1/4	C20898	1
8	.2344	5/16	3/4	3-1/2	C20899	1

GENERAL PURPOSE COMBINED DRILL & COUNTERSINK

3500 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Plain Type / 60° Angle / Bright

The 3500 Series Combined Drill & Countersinks are precision-engineered tools designed for accurate hole starting and center creation in metalworking applications.

Manufactured from premium High-Speed Steel (HSS), the 3500 Series delivers durability, concentricity, and consistent performance in both manual and CNC machining environments.

- ▷ *Accurately starts holes and creates precise centers for turning between centers on a lathe*
- ▷ *Minimizes deflection and walking during hole initiation, improving concentricity and accuracy*
- ▷ *Provides strength and wear resistance for consistent performance in ferrous and non-ferrous materials*
- ▷ *Ensures clean entry and accurate alignment before secondary drilling operations*



Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



Size	Wire				Order Number	Pack Qty.
	Decimal Equiv. (Inch)	Drill Diameter (Inch)	Body Diameter (Inch)	Overall Length (Inch)		
00	.025	#72	1/8	1-1/4	350AA00	1
1	.0469	3/64	1/8	1-1/4	350A001	1
2	.0781	5/64	3/16	1-7/8	350A002	1
3	.1094	7/64	1/4	2	350A003	1
4	.1250	1/8	5/16	2-1/8	350A004	1
5	.1875	3/16	7/16	2-3/4	350A005	1
6	.2188	7/32	1/2	3	350A006	1
7	.2500	1/4	5/8	3-1/4	350A007	1
8	.2344	5/16	3/4	3-1/2	350A008	1

GENERAL PURPOSE COMBINED DRILL & COUNTERSINK

217 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Plain Type / 60° Angle / Bright

Drill and countersink tools for 60° center holes. Style 217 suits most uses; Style 217B adds a 120° bevel for edge protection. Made from high-speed steel with a bright finish, ideal for steel and cast iron.



Best Material Application



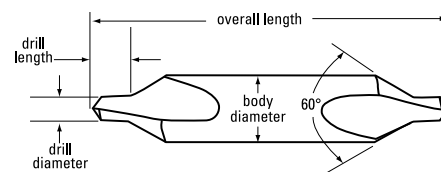
NON-FERROUS CAST IRON STEEL

Drill Specifications



60°
INCLUDED
ANGLE

ROUND SHANK



Wire							
Size	Drill Diameter (Inch)	Decimal Equiv. (Inch)	Body Diameter (Inch)	Drill Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
00	.025	.0250	.1250	.0300	1.2500	56699	12
0	1/32	.0312	.1250	.0380	1.2500	56700	12
1	3/64	.0469	.1250	.0469	1.2500	56701	12
2	5/64	.0781	.1875	.0781	1.8750	56702	12
3	7/64	.1094	.2500	.1094	2.0000	56703	12
4	1/8	.1250	.3125	.1250	2.1250	56704	12
5	3/16	.1875	.4375	.1875	2.7500	56705	6
6	7/32	.2188	.5000	.2188	3.0000	56706	6
7	1/4	.2500	.6250	.2500	3.2500	56707	1
8	5/16	.3125	.7500	.3125	3.5000	56708	1

217B SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Bell Type / 60° Angle / Bright

Drill and countersink tools for 60° center holes. Style 217 suits most uses; Style 217B adds a 120° bevel for edge protection. Made from high-speed steel with a bright finish, ideal for steel and cast iron.



Best Material Application



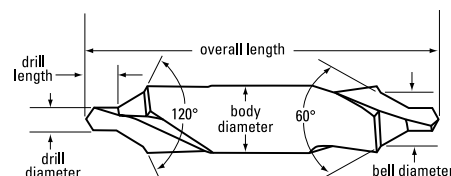
NON-FERROUS CAST IRON STEEL

Drill Specifications



60°
INCLUDED
ANGLE

ROUND SHANK



Wire							
Size	Drill Diameter (Inch)	Decimal Equiv. (Inch)	Bell Diameter (Inch)	Body Diameter (Inch)	Drill Length (Inch)	Overall Length (Inch)	Pack Qty.
11	3/64	.0469	.1000	.1250	.0469	1.2500	12
12	1/16	.0625	.1500	.1875	.0625	1.8750	12
13	3/32	.0938	.2000	.2500	.0938	2.0000	12
14	7/64	.1094	.2500	.3125	.1094	2.1250	12
15	5/32	.1562	.3500	.4375	.1562	2.7500	6
16	3/16	.1875	.4000	.5000	.1875	3.0000	6
17	7/32	.2188	.5000	.6250	.2188	3.2500	1
18	1/4	.2500	.6000	.7500	.2500	3.5000	1

Corresponding Sets

Number of Pieces	Sizes	Order Number	
		Plain	Bell
5	1, 2, 3, 4, 5	56710	—
8	1, 2, 3, 4, 5, 6, 7, 8	69878	—
8	11, 12, 13, 14, 15, 16, 17, 18	—	69879

Plastic cases



56710

GENERAL PURPOSE COMBINED DRILL & COUNTERSINK

996 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Bell Type / 118° Point / Bright

CLEVELAND 996 Bell-type drill and countersink made with HSS is designed to form protected centers, ensuring precise holmaking for various applications.



Size	Drill Diameter (Inch)	Decimal Equiv. (Inch)	Wire			Drill Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
			Bell Diameter (Inch)	Body Diameter (Inch)					
11	3/64	.0469	.100	.125		.047	1.250	C46272	10
12	1/16	.0625	.150	.188		.063	1.875	C46273	5
13	3/32	.0938	.200	.250		.094	2.000	C46274	5
14	7/64	.1094	.250	.313		.109	2.125	C46275	5
15	5/32	.1562	.350	.438		.156	2.750	C46276	5
16	3/16	.1875	.400	.500		.188	3.000	C46277	5
17	7/32	.2188	.500	.625		.219	3.250	C46278	1
18	1/4	.2500	.600	.750		.250	3.500	C46279	1

Best Material Application



CAST IRON



NON-FERROUS



STEEL

Drill Specifications



60° INCLUDED ANGLE



ROUND SHANK

998 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Plain Type / 118° Point / Bright

CLEVELAND 998 Double-ended plain drill and countersink made with HSS and bright finish features a 118° point for steel, cast iron, and aluminum.



Best Material Application



CAST IRON



NON-FERROUS



STEEL

Drill Specifications



60° INCLUDED ANGLE



ROUND SHANK

Size	Drill Diameter (Inch)	Decimal Equiv. (Inch)	Wire			Drill Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
			Body Diameter (Inch)						
00	.025	.0250	.125			.030	1.250	C46261	10
0	1/32	.0312	.125			.038	1.250	C46262	10
1	3/64	.0469	.125			.047	1.250	C46263	10
2	5/64	.0781	.188			.078	1.875	C46264	5
3	7/64	.1094	.250			.109	2.000	C46265	5
4	1/8	.1250	.313			.125	2.125	C46266	5
5	3/16	.1875	.438			.188	2.750	C46267	5
6	7/32	.2188	.500			.219	3.000	C46268	5
7	1/4	.2500	.625			.250	3.250	C46269	1
8	5/16	.3125	.750			.313	3.500	C46270	1



Corresponding Sets

Number of Pieces	Sizes	Order Number
5	1, 2, 3, 4, 5	C00944

GENERAL PURPOSE COMBINED DRILL & COUNTERSINK

1798 SERIES

GENERAL PURPOSE CARBIDE

Bright

The CLEVELAND 1798 Combined Drill and Countersink is solid carbide and a bright surface treatment.



Best Material Application



Drill Specifications



Wire							
Size	Drill Diameter (Inch)	Decimal Equiv. (Inch)	Body Diameter (Inch)	Drill Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1	3/64	.0469	.125	.0469	1.500	C52772	1
2	5/64	.0781	.188	.0781	2.000	C52773	1
3	7/64	.1094	.250	.1094	2.000	C52774	1
4	1/8	.1250	.313	.1250	2.125	C52775	1
5	3/16	.1875	.438	.1875	2.750	C52776	1
6	7/32	.2188	.500	.2188	3.000	C52777	1

GENERAL PURPOSE COMBINED DRILL & COUNTERSINK

3500C SERIES

GENERAL PURPOSE CARBIDE

60° Angle / Bright

Solid Carbide Combination Drill & Countersinks (also known as Center Drills) have strong shanks and flutes, making them ideal for drilling and countersinking in difficult materials. They may also be used in high-production applications where tolerance, finish, and machine downtimes are considered. Included angle is 60°. Other angles are available upon request.

All sizes are individually packaged



Drill Specifications



Wire						
Size	Drill Diameter (Inch)	Decimal Equiv. (Inch)	Body Diameter (Inch)	Overall Length (Inch)	Order Number	Qty.
00	.025	.0250	1/8	1-1/4	350CA00A	1
0	1/32	.0312	1/8	1-1/4	350CAB0A	1
1	3/64	.0469	1/8	1-1/4	350C001A	1
2	5/64	.0781	3/16	1-7/8	350C002A	1
3	7/64	.1094	1/4	2	350C003A	1
4	1/8	.1250	5/16	2-1/8	350C004A	1
5	3/16	.1875	7/16	2-3/4	350C005A	1
6	7/32	.2188	1/2	3	350C006A	1

GENERAL PURPOSE COMBINED DRILL & COUNTERSINK

3500E SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Plain & Bell Type / 60° Angle / Bright

Bell Type is used if the parts to be machined are to pass through a number of subsequent handlings, where there is danger of marring the edges of the center holes. They have an additional small 120° chamfer to protect the edges of the 60° hole.

Best Material Application



NON-FERROUS CAST IRON STEEL

Drill Specifications



60°
INCLUDED
ANGLE

ROUND SHANK



Plain Type					
Size	Body Dia.	Overall Length	Drill Size	Plain Order No.	Qty.
1	1/8"	1-1/4"	3/64"	350E001	1
2	3/16"	1-7/8"	5/64"	350E002	1
3	1/4"	2"	7/64"	350E003	1
4	5/16"	2-1/8"	1/8"	350E004	1
5	7/16"	2-3/4"	3/16"	350E005	1
6	1/2"	3"	7/32"	350E006	1
7	5/8"	3-1/4"	1/4"	350E007	1
8	3/4"	3-1/2"	5/16"	350E008	1

Bell Type					
Size	Body Dia.	Overall Length	Drill Size	Bell Order No.	Qty.
11	1/8"	1-1/4"	3/64"	350E011	1
12	3/16"	1-7/8"	1/16"	350E012	1
13	1/4"	2"	3/32"	350E013	1
14	5/16"	2-1/8"	7/64"	350E014	1
15	7/16"	2-3/4"	5/32"	350E015	1
16	1/2"	3"	3/16"	350E016	1
17	5/8"	3-1/4"	7/32"	350E017	1
18	3/4"	3-1/2"	1/4"	350E018	1

Corresponding Sets		
Number of Pieces	Sizes	Order Number
5	5/64"; 7/64"; 1/8"; 3/16"; 7/32"	350E5

GENERAL PURPOSE SCREW EXTRACTORS

1829 SERIES

GENERAL PURPOSE

Bright

CLE-LINE 1829 Specialty screw extractor with a square shank removes broken cap screws, set screws, studs, bolts, pipe fittings from steel, cast iron, and aluminum without damaging threads.



Best Material Application



Drill Specifications



SQUARE SHANK

Fractional						
Size	Small End (Inch)	Large Diameter (Inch)	Length of Taper (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1	.0625	.1562	3/4	2	C17170	12
2	.0860	.1800	3/4	2-3/8	C17171	12
3	.1250	.2500	1	2-3/4	C17172	12
4	.1875	.3125	1	3	C17173	6
5	.2500	.4375	1-1/2	3-3/8	C17174	1
6	.3750	.5938	1-3/4	3-3/4	C17176	1
7	.5000	.7812	2-1/4	4-1/8	C17178	1
8	.7500	1.0312	2-1/4	4-3/8	C17180	1
9	1.0000	1.2812	2-1/4	4-5/8	C24750	1
10	1.2500	1.5625	2-1/2	5	C24751	1



Corresponding Sets		
Number of Pieces	Sizes	Order Number
5	#1 – #5	C21149

Plastic case

1864 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Square Shank / Drill (Series 1878) Black & Gold / Bright

The CLE-LINE 1864 Specialty drill and screw extractor set with HSS and black & gold finish precisely removes screws from steel, cast iron, and hardened steel.

Best Material Application



Drill Specifications



Fractional				
Number of Pieces	Jobber Drill Size	Screw Extractor	Order Number	Qty.
2	5/64	#1	C22311	1
2	7/64	#2	C22312	1
2	5/32	#3	C22313	1
2	1/4", E	#4	C22314	1
2	17/64"	#5	C22315	1
2	13/32"	#6	C22316	1



GENERAL PURPOSE SCREW EXTRACTORS

9000E SERIES

CARBON STEEL

Screw extractors are designed to remove a broken or seized screw. The screw must first be "drilled out" to the proper size in order for the screw extractor to fit properly. The screw extractor is turned counterclockwise using a tap wrench.

Available individually, in a 5pc set or in a 5pc set with corresponding required drill



Fractional							
Size	Screw Size (Inch)	Pipe Size (Inch)	Drill Size (Inch)	For Removing Screw Size	Use Drill Size	Order Number	Pack Qty.
1	3/16	—	5/64	3/32 to 5/32	1/16 to 5/64	9000E001	1
2	1/4	—	7/64	5/32 to 7/32	3/32 to 7/64	9000E002	1
3	5/16	—	5/32	7/32 to 9/32	9/64 to 5/32	9000E003	1
4	7/16 – 9/16	—	1/4	9/32 to 3/8	7/32 to 1/4	9000E004	1
5	9/16-3/4	1/8	17/64	3/8 to 5/8, 1/8, 1/4 pipe	17/64 to 19/64	9000E005	1
6	3/4	3/8	13/32	5/8 to 7/8, 3/8 pipe	25/64 to 27/64	9000E006	1
7	1 – 1-3/8	1/2	17/32	7/8 to 1-1/8, 1/2 pipe	33/64 to 35/64	9000E007	1
8	1-3/8	3/4	13/16	1-1/8 to 1-3/8, 3/4 pipe	25/32 to 27/32	9000E008	1
9	1-3/4	1	1-1/16	1-3/8 and up, 1 pipe	1-1/16 to 1-1/8	9000E009	1



9000ESET



9000EDS

Corresponding Sets			
Extractor	Drills	Case	Order Number
#1-5	5/64, 7/64, 5/32, 1/4, 17/64	Metal	9000EDS
#1-5 no Drills	N/A	Plastic	9000ESET

GENERAL PURPOSE SCREW EXTRACTORS

800 SERIES

GENERAL PURPOSE ALLOY STEEL

Bright

CHICAGO-LATROBE 800 Screw extractors are manufactured with alloy steel substrate and have a bright finish. Ideal for removing screws from alloy steel, tool steel, low/medium carbon steel, and cast iron. Durable and reliable for various applications.

Best Material Application



Drill Specifications



SQUARE SHANK



Fractional										
Size	Small End (Inch)	Large Diameter (Inch)	Flute Length (Inch)	Overall Length (Inch)	Use for these sizes		Pipe (Inch)	Recom Drill Size	Order Number	Pack Qty.
					Bolts or Screws (Inch)	(mm)				
1	.0625	.1562	.7500	2.0000	MS 8 to 1/4	2.5 to 6	—	5/64	65001	12
2	.0860	.1800	.7500	2.3750	MS 12 to 5/16	6 to 8	—	7/64	65003	12
3	.1250	.2500	1.0000	2.7500	5/16 to 7/16	8 to 12	—	5/32	65005	12
4	.1875	.3125	1.0000	3.0000	7/16 to 9/16	12 to 14	1/8	1/4	65007	12
5	.2500	.4375	1.5000	3.3750	9/16 to 3/4	14 to 20	1/8	17/64	65009	1
5-1/4	.3438	.5312	1.5000	3.3750	11/16 to 15/16	—	1/4	23/64	65011	1
6	.3750	.5938	1.7500	3.7500	3/4 to 1	—	3/8	13/32	65013	1
6-3/8	.4688	.6875	1.6875	3.7500	15/16 to 1-1/8	—	3/8	31/64	65015	1
7	.5000	.7812	2.2500	4.1250	1 to 1-3/8	24 to 35	—	17/32	65017	1
7-1/2	.5938	.8750	2.2500	4.1250	1-1/8 to 1-1/2	—	1/2	39/64	65019	1
8	.7500	1.0312	2.2500	4.3750	1-3/8 to 1-3/4	35 to 44	3/4	13/16	65021	1
9	1.0000	1.2812	2.2500	4.6250	1-3/4 to 2-1/8	44 to 54	1	1-1/16	65023	1
10	1.2500	1.5625	2.5000	5.0000	2-1/8 to 2-1/2	54 to 63	1-1/4	1-5/16	65025	1
11	1.5000	1.8750	3.0000	5.6250	2-1/2 to 3	63 to 76	1-1/2	1-9/16	65027	1
12	1.8438	2.2812	3.5000	6.2500	3 to 3-1/2	76 to 88	2	1-15/16	65029	1

Corresponding Sets

Number of Pieces	Sizes	Case Style	Order Number
5	Extractor #: 1, 2, 3, 4, 5	pouch in tube	65035
6	Extractor #: 1, 2, 3, 4, 5, 6	pouch in tube	65036
9	Extractor #: 1, 2, 3, 4, 5, 6, 7, 8, 9	pouch only	65039
3	Extractor #: 4, 5, 6	tube only	65037
4	Extractor #: 5, 5 1/4, 6 3/8, 7 1/2	pouch in tube	65041
6	Extractor #: 5, 5 1/4, 6 3/8, 7 1/2, 8, 9	wood block	65042
4	Extractor #: 6, 7, 8, 9	wood block	65038
12	Extractor #: 1, 2, 3, 4, 5, 6; 150 drill sizes: 5/64, 7/64, 5/32, 1/4, 17/64, 13/32	pouch/tube	65040
12	Extractor #: 1, 2, 3, 4, 5, 6; 550ASP drill sizes: 5/64, 7/64, 5/32, 1/4, 17/64, 13/32	pouch/tube	65043



65040

GENERAL PURPOSE SCREW EXTRACTORS

192 SERIES

GENERAL PURPOSE ALLOY STEEL

Bright

CLEVELAND 192 Ezy-Out® Screw Extractor with alloy steel substrate is ideal for versatile removal of broken screws and bolts in steel and cast iron. ANSI sizes provided.



Fractional								
Size	Small End (Inch)	Large Diameter (Inch)	Overall Length (Inch)	Use for these sizes Bolts or Screws (Inch)	Pipe (Inch)	Recommended Drill Size	Order Number	Pack Qty.
#1	.054	.156	2.000	#8 - 1/4	--	5/64	C53651	12
#2	.080	.188	2.375	#12 - 5/16	--	7/64	C53652	12
#3	.125	.250	2.688	5/16 - 7/16	--	5/32	C53653	12
#4	.188	.328	2.875	7/16 - 9/16	--	1/4	C53654	6
#5	.250	.438	3.375	9/16 - 3/4	1/8, 1/4	9/32	C53655	1
#5-1/4	.343	.531	3.375	11/16 - 15/16	1/4	23/64	C53669	1
#6	.375	.594	3.750	3/4 - 1	3/8	13/32	C53656	1
#6-3/8	.468	.687	3.750	15/16 - 1-1/8	3/8	31/64	C53670	1
#7	.500	.750	4.125	1 - 1-3/8	1/2	17/32	C53657	1
#7-1/2	.593	.875	4.125	1-1/8 - 1-1/2	1/2	39/64	C53671	1
#8	.750	1.000	4.375	1-3/8 - 1-3/4	3/4	13/16	C53658	1
#9	1.000	1.281	4.625	1-3/4 - 2-1/8	1	1-1/16	C53659	1
#10	1.250	1.563	5.000	2-1/8 - 2-1/2	1-1/4	1-5/16	C53660	1
#11	1.500	1.875	5.625	2-1/2 - 3	1-1/2	1-9/16	C53661	1
#12	1.875	2.313	6.250	3 - 3-1/2	2	1-15/16	C53662	1

Corresponding Sets		
Number of Pieces	Sizes	Order Number
5	#1, 2, 3, 4, and 5	C00906
6	#1, 2, 3, 4, 5, and 6	C00907
3	#4, 5, and 6	C00909
4	#5, 5-1/4, 6-3/8, and 7-1/2	C00917
6	#5, 5-1/4, 6-3/8, 7-1/2, 8, and 9	C00918
4	#6, 7, 8, and 9	C00908
12	#1, 2, 3, 4, 5, and 6 plus drills 5/64", 7/64", 5/32", 1/4", 9/32", 13/32"	C00910



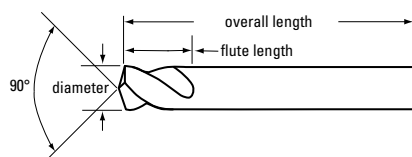
GENERAL PURPOSE SPOTTING / CENTERING DRILLS

90SPS / 90SPR SERIES

HIGH SPEED STEEL

Bright

- ▷ Short flute length results in accurate location of spotting hole for 118° drills.
- ▷ Manufactured from premium high-speed steel.
- ▷ Standard 90° point.
- ▷ Short overall length for applications with restricted clearance space.
- ▷ Bright drills standard from stock.



Best Material Application



Drill Specifications



Style 90SPS



Style 90SPR

Fractional -90SPS				
Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Order Number
1/4	.2500	1	2- 1/2	49490
3/8	.3750	1- 1/8	3- 1/8	49491
1/2	.5000	1- 1/2	3- 3/4	49492
5/8	.6250	1- 5/8	4- 1/4	49493
3/4	.7500	1- 3/4	5	49494
1	1.0000	1- 3/4	6	49495

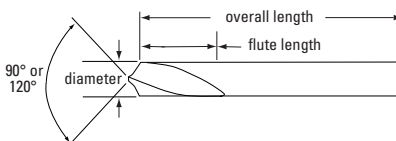
Fractional -90SPR				
Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Order Number
1/4	.2500	1	4	49496
3/8	.3750	1- 1/8	5	49497
1/2	.5000	1- 1/2	6	49498
5/8	.6250	1- 5/8	7- 1/8	49499
3/4	.7500	1- 3/4	8	49500
1	1.0000	1- 3/4	8	49501

790 SERIES

CARBIDE

Bright / 90° or 120°

- ▷ 2 flutes, right-hand spiral, right-hand cut.
- ▷ Manufactured from solid submicron grain carbide.
- ▷ Available in 90° and 120° point.
- ▷ Stub length for rigid setups.
- ▷ Uncoated drills standard from stock.



Best Material Application



Drill Specifications



Fractional -90SPS					
Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Order Number	
				90°	120°
1/4	.2500	.7500	2.5000	78220	78221
3/8	.3750	.8750	3.1250	78222	78223
1/2	.5000	1.1250	3.7500	78224	78225
5/8	.6250	1.1875	4.2500	78226	78227
3/4	.7500	1.3125	5.0000	78228	78229

GENERAL PURPOSE SPOTTING / CENTERING DRILLS

995 SERIES

HIGH SPEED STEEL

Bright

Best Material Application



Drill Specifications



Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Fractional		
				Order Number		
3/8	.3750	1	2	C11739		
1/2	.5000	1	2	C11757		
5/8	.6250	1- 1/8	2- 1/4	C11771		
3/4	.7500	1- 1/8	2- 1/4	C11782		
1	1.0000	1- 1/4	2- 1/2	C11796		

1799 SERIES

CARBIDE

AlTiN

Best Material Application



Drill Specifications



Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Fractional		
				Order Number		
1/8	.1250	3/8	2	C46400	C46401	C46402
3/16	.1875	3/4	3	C46403	C46404	C46405
1/4	.2500	3/4	3	C46406	C46407	C46408
5/16	.3125	1	2 1/2	C46409	C46410	C46411
3/8	.3750	1	3	C46412	C46413	C46414
1/2	.5000	1	4	C46415	C46416	C46417

2635 SERIES

HIGH SPEED STEEL

Bright

Best Material Application



Drill Specifications



Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Fractional	
				Order Number	
1/4	.2500	1	2- 1/2	C24167	C24174
3/8	.3750	1- 1/8	3- 1/8	C24168	C24175
1/2	.5000	1- 1/2	3- 3/4	C24169	C24176
5/8	.6250	1- 5/8	4- 1/4	C24170	C24177
3/4	.7500	1- 3/4	5	C24171	C24178
1	1.0000	1- 3/4	6	C24172	C24179

Corresponding Sets			
Number of Pieces	Angle	Sizes	Order Number
6	90°	1/4" through 1"	C24173
6	120°	1/4" through 1"	C24180

2645 SERIES

HIGH SPEED STEEL

Bright

Best Material Application



Drill Specifications



Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Fractional	
				Order Number	
1/4	.2500	1	4	C24181	C24188
3/8	.3750	1- 1/8	5	C24182	C24189
1/2	.5000	1- 1/2	6	C24183	C24190
5/8	.6250	1- 5/8	7- 1/8	C24184	C24191
3/4	.7500	1- 3/4	8	C24185	C24192
1	1.0000	1- 3/4	8	C24186	C24193

Corresponding Sets			
Number of Pieces	Angle	Sizes	Order Number
6	90°	1/4" through 1"	C24187
6	120°	1/4" through 1"	C24194

Tech tip!

Using Spotting and Centering Drills

- Use these drills to get true and accurate centers.
- There is no body clearance on these drills to allow chucking close to the point. This feature helps to maintain drill accuracy for centering.



Tech tip!

Point Angle: 90° versus 120°

- Use the 90° point spotting drill for a 118° point following drill.
- Use the 120° point spotting drill for a 135° following drill.

GENERAL PURPOSE SPOTTING / CENTERING DRILLS

2636 SERIES

COBALT

Bronze Oxide

Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



118° POINT ROUND SHANK



Fractional					
Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Order Number	
				90°	120°
1/4	.2500	1	2- 1/2	C26167	C26174
3/8	.3750	1- 1/8	3- 1/8	C26168	C26175
1/2	.5000	1- 1/2	3- 3/4	C26169	C26176
5/8	.6250	1- 5/8	4- 1/4	C26170	C26177
3/4	.7500	1- 3/4	5	C26171	C26178
1	1.0000	1- 3/4	6	C26172	C26179

Corresponding Sets			
Number of Pieces	Angle	Sizes	Order Number
6	90°	1/4" through 1"	C26173
6	120°	1/4" through 1"	C26180



C26173

2646 SERIES

COBALT

Bronze Oxide

Best Material Application



STAINLESS CAST IRON STEEL

Drill Specifications



ROUND SHANK



Fractional					
Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Order Number	
				90°	120°
1/4	.2500	1	4	C26181	C26188
3/8	.3750	1- 1/8	5	C26182	C26189
1/2	.5000	1- 1/2	6	C26183	C26190
5/8	.6250	1- 5/8	7- 1/8	C26184	C26191
3/4	.7500	1- 3/4	8	C26185	C26192
1	1.0000	1- 3/4	8	C26186	C26193

Corresponding Sets			
Number of Pieces	Angle	Sizes	Order Number
6	90°	1/4" through 1"	C26187
6	120°	1/4" through 1"	C26194

1600N SERIES

CARBIDE TIP

Round Shank / Black & Gold

This masonry drill is used to drill Concrete, Natural Stone, Aerated Concrete, Masonry, Brick, Block, and Lime Sandstone. Self Centering Tip for easy spot drilling. Chisel Shaped Head Geometry-for faster drilling progress. Hardened Steel Body-for increased impact resistance. Large Volume Flute creates cupping effect for efficient dust extraction.



Best Material Application



Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Shank Size (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	1/8	1-3/8	2-1/2	160N108	1
5/32	.1562	5/32	1-1/2	3	160N110	1
3/16	.1875	3/16	2	3-1/2	160N112	1
7/32	.2188	7/32	2	3-1/2	160N114	1
1/4	.2500	1/4	2-3/8	4	160N116	1
9/32	.2812	9/32	2-3/8	4	160N118	1

Size (Inch)	Decimal Equiv. (Inch)	Shank Size (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
5/16	.3125	5/16	3	5	160N120	1
3/8	.3750	3/8	3	5	160N124	1
7/16	.4375	7/16	3-1/2	6	160N128	1
15/32	.4688	15/32	3-1/2	6	160N130	1
1/2	.5000	1/2	3-1/2	6	160N132	1
9/16	.5625	1/2	3-1/2	6	160N136	1

1600A SERIES

CARBIDE TIP

Rotary Percussion & Hammer Drilling / Round Shank / Black & Gold Tipped

The combination of rotation and percussion helps the drill achieve a cutting and grinding (rotary) action at the same time as a chipping (percussive) action, chipping away at rock to produce a hole. Usually, these motions are hydraulically or pneumatically driven.



Best Material Application



Drill Specifications



Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Shank Size (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/8	.1250	1/8	1-1/2	3	160A1083	1
5/32	.1562	5/32	1-1/2	3	160A1103	1
3/16	.1875	3/16	2	4	160A1124	1
3/16	.1875	3/16	3-1/2	6	160A1126	1
3/16	.1875	3/16	4-3/4	8	160A1128	1
7/32	.2188	7/32	2	4	160A1144	1
1/4	.2500	1/4	2	4	160A1164	1
1/4	.2500	1/4	3-1/2	6	160A1166	1
1/4	.2500	1/4	6-5/8	12	160A11612	1
1/4	.2500	1/4	10	16	160A11616	1
1/4	.2500	1/4	18-1/2	24	160A11624	1
5/16	.3125	1/4	2-1/2	5	160A1205	1
5/16	.3125	1/4	3-1/2	6	160A1206	1
5/16	.3125	1/4	4-3/4	8	160A1208	1
5/16	.3125	1/4	6-5/8	12	160A12012	1
5/16	.3125	1/4	10	16	160A12016	1
5/16	.3125	1/4	18-1/2	24	160A12024	1
11/32	.3438	1/4	2-1/2	5	160A1225	1
3/8	.3750	5/16	2-1/2	5	160A1245	1
3/8	.3750	5/16	3-1/2	6	160A1246A	1
3/8	.3750	5/16	4-3/4	8	160A1248A	1
3/8	.3750	5/16	6-5/8	12	160A12412A	1
3/8	.3750	5/16	10	16	160A12416A	1
3/8	.3750	5/16	18-1/2	24	160A12424A	1

Size (Inch)	Decimal Equiv. (Inch)	Shank Size (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
7/16	.4375	3/8	3-1/2	6	160A1286A	1
1/2	.5000	3/8	3-1/2	6	160A1326A	1
1/2	.5000	3/8	6-5/8	12	160A13212A	1
1/2	.5000	3/8	10	16	160A13216A	1
1/2	.5000	3/8	18-1/2	24	160A13224A	1
9/16	.5625	3/8	3-1/2	6	160A1366A	1
9/16	.5625	3/8	4-3/4	8	160A1368A	1
9/16	.5625	3/8	10	16	160A13616B	1
19/32	.5938	1/2	3-1/2	6	160A1386B	1
5/8	.6250	1/2	3-1/2	6	160A1406B	1
5/8	.6250	1/2	4-3/4	8	160A1408A	1
5/8	.6250	1/2	10	16	160A14016B	1
5/8	.6250	1/2	18-1/2	24	160A14024B	1
3/4	.7500	1/2	4	6-1/2	160A1486B	1
3/4	.7500	1/2	6-5/8	12	160A14812B	1
3/4	.7500	1/2	10	16	160A14816B	1
3/4	.7500	1/2	18-1/2	24	160A14824B	1
7/8	.8750	1/2	4	6-1/2	160A1566B	1
7/8	.8750	1/2	6-5/8	12	160A15612B	1
7/8	.8750	1/2	10	16	160A15616B	1
7/8	.8750	1/2	18-1/2	24	160A15624B	1
1	1.0000	1/2	4	6-1/2	160A1646B	1
1	1.0000	1/2	6-5/8	12	160A16412B	1
1	1.0000	1/2	10	16	160A16416B	1
1	1.0000	1/2	18-1/2	24	160A16424B	1

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MASONRY

1700A / 1700B SERIES

GENERAL PURPOSE CARBIDE TIP

SDS Plus / Round Shank / Bright

Short head-to-flute entrance allows debris to quickly channel down the flute for faster drilling progress. Chisel-shaped head geometry for faster drilling progress. Self-centering tip for easy spot drilling. Reinforced flute geometry reduces vibrations, increases breakage resistance, and transfers more energy from power tool motor to tip of the drill bit. Rebar Chamfer prevents carbide head from cracking in the event of contact with reinforced concrete (product not intended for use in reinforced concrete).

Best Material Application



Drill Specifications

SDS
PLUS Shank

Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number (1 piece)	Order Number Bulk	Bulk Qty.
5/32	.1562	2	4-1/4	170A1104	—	—
5/32	.1562	4	6-1/4	170A1106	170B1106	25
3/16	.1875	2	4-1/2	170A1124	170B1124	25
3/16	.1875	4	6-1/2	170A1126	170B1126	25
3/16	.1875	6	8-1/2	170A1128	170B1128	25
3/16	.1875	10	12-1/2	170A11212	—	—
7/32	.2188	2	4-1/2	—	170B1146	25
7/32	.2188	4	6-1/2	170A1146	170B1148	25
7/32	.2188	6	8-1/2	170A1148	—	—
1/4	.2500	2	4-1/2	170A1164	170B1164	25
1/4	.2500	4	6-1/2	170A1166	170B1166	25
1/4	.2500	6	8-1/2	170A1168	170B1168	25
1/4	.2500	9	10-1/2	170A11612	—	—
1/4	.2500	18	20	170A11618	—	—
5/16	.3125	4	6-1/2	170A1206	170B1206	25
5/16	.3125	6	8-1/2	170A1208	—	—
5/16	.3125	10	12-1/2	170A12012	—	—
3/8	.3750	4	6-1/2	170A1246	170B1246	25
3/8	.3750	6	8-1/2	170A1248	170B1248	25
3/8	.3750	10	12-1/2	170A12412	—	—
3/8	.3750	16	18	170A12418	—	—
3/8	.3750	22	24	170A12424	—	—
7/16	.4375	4	6-1/2	170A1286	—	—
7/16	.4375	10	12-1/2	170A12812	—	—

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number (1 piece)	Order Number Bulk	Bulk Qty.
1/2	.5000	4	6-1/2	170A1326	—	—
1/2	.5000	8	10-1/2	170A13210	—	—
1/2	.5000	10	12-1/2	170A13212	170B13212	15
1/2	.5000	16	18	170A13218	—	—
1/2	.5000	22	24	170A13224	—	—
9/16	.5625	4	6-1/4	170A1366	—	—
9/16	.5625	10	12-1/4	170A13612	—	—
9/16	.5625	16	18	170A13618	—	—
5/8	.6250	4	6-1/4	170A1406	—	—
5/8	.6250	6	8-1/4	170A1408	—	—
5/8	.6250	10	12-1/4	170A14012	—	—
5/8	.6250	16	18	170A14018	—	—
5/8	.6250	22	24	170A14024	—	—
3/4	.7500	6	8	170A1488	—	—
3/4	.7500	10	12	170A14812	—	—
3/4	.7500	16	18	170A14818	—	—
7/8	.8750	8	10	170A15610	—	—
7/8	.8750	10	12	170A15612	—	—
7/8	.8750	16	18	170A15618	—	—
1	1.0000	10	12	170A16412	—	—
1	1.0000	16	18	170A16418	—	—

1720 SERIES

GENERAL PURPOSE SDS PLUS DURA-TIP

Bright

The 3-cutting-edge monobloc tip is the solution for all concrete drilling. The self-centering tip provides more precision, and this design guarantees a concentric hole. The bit is designed for longer life when drilling in concrete. As an additional benefit, it can crush through and pulverize rebar when drilling in reinforced concrete applications. The square flute accelerates dust extraction and improves the drill bit's lifetime. The reinforced geometry reduces vibrations and transfers more energy from the power tool motor to the tip of the drill bit.

All sizes are individually packaged

Best Material Application



Drill Specifications

SDS
PLUS Shank

Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number (1 piece)	Order Number Bulk	Bulk Qty.
3/16	.1875	2	4-1/4	172F1124	—	—
3/16	.1875	4	6-1/2	172F1126	172B1126	15
3/16	.1875	6	8-1/2	172F1128	—	—
3/16	.1875	10	12-1/2	172F11212	—	—
1/4	.2500	2	4-1/2	172F1164	—	—
1/4	.2500	4	6-1/2	172F1166	172B1166	15
1/4	.2500	6	8-1/2	172F1168	—	—
1/4	.2500	10	12-1/2	172F11612	—	—
5/16	.3125	4	6-1/2	172F1206	172B1206	15
5/16	.3125	10	12-1/2	172F12012	—	—
5/16	.3125	16	18	172F12018	—	—
3/8	.3750	4	6-1/4	172F1246	172B1246	10
3/8	.3750	10	12-1/4	172F12412	—	—
3/8	.3750	16	18	172F12418	—	—

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number (1 piece)	Order Number Bulk	Bulk Qty.
1/2	.5000	4	6-1/4	172F1326	172B1326	10
1/2	.5000	10	12-1/4	172F13212	—	—
1/2	.5000	16	18	172F13218	—	—
9/16	.5625	4	6-1/4	172F1366	—	—
9/16	.5625	10	12-1/4	172F13612	—	—
9/16	.5625	16	18	172F13618	—	—
5/8	.6250	8	10-1/4	172F14010	—	—
5/8	.6250	10	12-1/4	172F14012	—	—
3/4	.7500	8	10	172F14810	—	—
3/4	.7500	10	12	172F14812	—	—

1740 SERIES

GENERAL PURPOSE CARBIDE TIP

SDS MAX / Bright

Designed for longer life in concrete and reinforced concrete applications. The 6-cutting-edge geometry guarantees perfect round and calibrated holes, a longer lifetime, an anti-blocking system, and really low vibration which delivers more comfort. The square flutes accelerate dust extraction and improves the drill bit's lifetime as well as transfers more impact energy from the head to the tip of the drill bit. It can crush through and pulverize rebar when drilling in reinforced concrete applications.



Best Material Application



Drill Specifications

SDS
MAX Shank

Fractional				
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number (1 piece)
1/2	.5000	7-1/2	13	174F13213*
1/2	.5000	15-1/2	21	174F13221*
9/16	.5625	7-1/2	13	174F13613*
9/16	.5625	15-1/2	21	174F13621*
5/8	.6250	7-1/2	13	174F14013
5/8	.6250	15-1/2	21	174F14021
5/8	.6250	31	36	174F14036
3/4	.7500	7-1/2	13	174F14813
3/4	.7500	17	21	174F14821
3/4	.7500	31	36	174F14836

*available in 3 tip only

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number (1 piece)
7/8	.8750	8	13	174F15613
7/8	.8750	17	21	174F15621
1	1.0000	8	13	174F16413
1	1.0000	17	21	174F16421
1	1.0000	31	36	174F16436
1-1/8	1.1250	12	17	174F20817
1-1/8	1.1250	17	21	174F20821
1-1/4	1.2500	9-1/2	15	174F21615
1-1/4	1.2500	18	23	174F21623
1-1/4	1.2500	31	36	174F21636
1-3/8	1.3750	18	23	174F22423
1-1/2	1.5000	18	21	174F23223

MASONRY

1760 / 1770 SERIES

SOLID CARBIDE TIPPED REBAR CUTTERS

Micro SDS+ or 3-Flat Shank / Fractional / Bright One-Piece Design

These cutters are the perfect solution for drilling through concrete embedded rebar! Evacuation zones between the carbide teeth and flutes for optimal dust evacuation. Made from premium grade European Carbide.

For sizes 3/8" – 5/8", rebar cutters come in a single, one-piece design in either Micro SDS+ (Compatible with SDS+ drive systems), or 3-Flat shank.

For sizes 3/4" and above, DRILLCO rebar cutters come in a two-piece design (Head + Shank Adapter). The adapter is available in Micro SDS+ or 3-Flat Shank, and is interchangeable and reusable with all sizes from 3/4" and above.

- ▷ Cuts through rebar up to 5x faster than an SDS+ multi-cutting drill
- ▷ Eliminates the need to relocate holes to avoid rebar; just drill straight through!
- ▷ Large, unique flute design optimizes debris removal
- ▷ Relief hole for easier chip and heat removal away from the drilling surface



Fractional						Qty.
Size (Inch)	Decimal Equiv. (Inch)	Head Length (Inch)	Overall Length (Inch)	Order Number (Micro SDS+)	Order Number (3 Flats SDS)	
3/8	.3750	4	8	176F1248	177F1248	1
1/2	.5000	4	12	176F13212	177F13212	1
9/16	.5625	4	12	176F13612	177F13612	1
5/8	.6250	4	12	176F14012	177F14012	1

Best Material Application

REBAR

Drill Specifications



Micro SDS+ PLUS Shank

1780 SERIES

SOLID CARBIDE TIPPED REBAR CUTTERS

Fractional / Bright Two-Piece Design



Tech tip!

Use rebar cutters on rotation mode only

Drill Specifications



Micro SDS+ PLUS Shank

Head Only			
Size (Inch)	Decimal Equiv. (Inch)	Head Length (Inch)	Order Number
3/4	.7500	4	178F1484
7/8	.8750	4	178F1564
1	1.0000	4	178F1644
1-1/8	1.1250	4	178F2084
1-1/4	1.2500	4	178F2164
1-3/8	1.3750	4	178F2244
1-1/2	1.5000	4	178F2324

Adapter			
Size (Inch)	Decimal Equiv. (Inch)	Adapter Length (Inch)	Order Number
SDS PLUS		9	178FSDSADAPT
3-Flat Shank		9	178F3FLATADAPT

1840 SERIES

GLASS & TILE

Round Shank / Bright

For the drilling of glass, tile, and ceramics. Can be used with or without water or coolant; water is the preferred & best way. For use in rotary motors (not to be confused or used with rotary percussion motors).



Fractional				
Size (Inch)	Decimal Equiv. (Inch)	Overall Length (Inch)	Order Number Pack	Pack Qty
1/8	.1250	3-1/2	184F108	1
3/16	.1875	3-1/2	184F112	1
1/4	.2500	3-1/2	184F116	1
5/16	.3125	3-3/4	184F120	1
3/8	.3750	4	184F124	1
1/2	.5000	4	184F132	1

Best Material Application



Drill Specifications



1750 SERIES

CARBIDE TIPPED

TAPCON® SDS-HEX Type Screw Anchor Drills / Bright

The TAPCON® drill bit is specially designed to be used with the TAPCON® masonry fastener and installation kit.



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Qty.
5/32	.1562	2-3/8	5	175F1105	1
5/32	.1562	4-1/8	7	175F1107	1
3/16	.1875	2-3/8	5	175F1125	1
3/16	.1875	4-1/8	7	175F1127	1

Best Material Application



Drill Specifications



1800A SERIES

CARBIDE TIPPED

TAPCON® Screw Type Anchor Drills Fractional / Black with Gold Tip



Fractional					
Size (Inch)	Decimal Equiv. (Inch)	Screw Size (Inch)	Overall Length (Inch)	Order Number	Qty.
5/32	.1562	12	3-1/2	180A1103	1
5/32	.1562	12	4-1/2	180A1104	1
5/32	.1562	12	5-1/2	180A1105	1
3/16	.1875	14	3-1/2	180A1123	1

Size (Inch)	Decimal Equiv. (Inch)	Screw Size (Inch)	Overall Length (Inch)	Order Number	Qty.
3/16	.1875	14	4-1/2	180A1124	1
3/16	.1875	14	5-1/2	180A1125	1
3/16	.1875	14	6-1/2	180A1126	1
3/16	.1875	14	7-1/2	180A1127	1

Best Material Application



Drill Specifications



MASONRY

1850 SERIES

HAMMER DRILL TOOLS

For the drilling of glass, tile, and ceramics. Can be used with or without water or coolant; water is the preferred & best way. For use in rotary motors (not to be confused or used with rotary percussion motors).



Fractional				
Description	Overall Length (Inch)	Shank Type	Length of Cut (Inch)	Order No.
BULL POINT CHISEL SDS-PLUS SHANK	10	SDS PLUS		185FCB05
BULL POINT CHISEL SDS-MAX	12	SDS MAX		185FCB06
BULL POINT CHISEL SDS-MAX 18"	18"	SDS MAX	—	185FCB07
BUSHING TOOL SDS-MAX 1-3/4"	9-1/2"	SDS MAX	—	185FCB29
FLAT CHISEL SDS-PLUS 3/4"	10"	SDS PLUS	13/16"	185FCF11
FLAT CHISEL SDS-MAX 1"	12"	SDS MAX	15/16"	185FCF13
FLAT CHISEL SDS-MAX 1"	18"	SDS MAX	15/16"	185FCF14
GOUGING CHISEL SDS-PLUS 7/8"	10"	SDS PLUS	—	185FCG27
GOUGING CHISEL SDS-MAX 1"	12"	SDS MAX	—	185FCG28
MOIL POINT CHISEL 3/4"	12"	3/4"	—	185FCM02
MOIL POINT CHISEL 3/4"	18"	3/4"	—	185FCM03
MORTAR/SEAM SDS-MAX 1 1/8"	12"	SDS MAX	—	185FCM26
SCALING CHISEL SDS-MAX 2"	12"	SDS MAX	2"	185FCS15
SCALING CHISEL SDS-MAX 3"	12"	SDS MAX	3-3/16"	185FCS16
SCALING CHISEL 3/4"	12"	3/4"	3-3/16"	185FCS23
TILE SCALING CHISEL SDS- PLUS 3"	6-1/2"	SDS PLUS	1-9/16"	185FCT23
TILE SCALING CHISEL SDS- MAX 2"	12"	SDS MAX	1-31/32"	185FCT24

1860 SERIES



Fractional			
Description	Shank Type	Overall Length (Inch)	Order No.
SDS-PLUS ADAPTER SDS-MAX SHANK 8"	SDS MAX	8"	186FA01
CHUCK ADAPTER SDS-PLUS SHANK 2"	SDS PLUS	2"	186FA02
CHUCK ADAPTER SDS-PLUS SHANK 2-1/2"	SDS PLUS	2-1/2"	186FA03
CARBIDE TIPPED SCRIBER HEXAGONAL SHANK	HEXAGONAL	—	186FA04



186FA04

1838 SERIES

CARBIDE TIPPED

Multi-purpose Carbide Tipped

CLE-LINE 1838 Multi-purpose masonry drill with 118° carbide tip offers universal use in low density wood, alloy steel, non-ferrous materials, slate composite, and tile.



Best Material Application

NON-FERROUS STEEL WOOD TILE

Drill Specifications

118° POINT ROUND SHANK



Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Shank Diameter (Inch)	Working Length (Inch)	Overall Length (Inch)	Order Number	Qty.
1/8	.1250	7/64	25/32	2-1/2	C22210	1
5/32	.1562	5/32	1-3/8	3	C22211	1
3/16	.1875	3/16	1-25/32	3-1/2	C22212	1
1/4	.2500	7/32	2-1/2	4	C22213	1
5/16	.3125	19/64	3	4-1/2	C22214	1
3/8	.3750	23/64	3	4-1/2	C22215	1
1/2	.5000	31/64	4	6	C22216	1
5/8	.6250	1/2	4	6	C22217	1

Corresponding Sets		
Number of Pieces	Sizes	Order Number
5	1/8, 5/32, 3/16, 1/4, 5/16	C22218

1818 SERIES

CARBIDE TIPPED

CLE-LINE 1818 Sandblasted masonry drill with a precision square carbide tip for centering and long life for rotary or percussion drilling.



Best Material Application

CONCRETE / MASONRY

Drill Specifications

ROUND SHANK

Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Shank Diameter (Inch)	Working Length (Inch)	Overall Length (Inch)	Order Number	Qty.
1/8	.1250	3/32	1-3/8	3	C20930	1
3/16	.1875	5/32	2-1/2	4	C20932	1
3/16	.1875	5/32	4	6	C20910	1
1/4	.2500	7/32	2-1/2	4	C20934	1
1/4	.2500	7/32	4	6	C20935	1
1/4	.2500	3/16	10	12	C20911	1
5/16	.3125	15/64	2-1/2	4	C20937	1
5/16	.3125	15/64	4	6	C20938	1
5/16	.3125	15/64	10	12	C20912	1
3/8	.3750	5/16	2-1/2	4	C20939	1
3/8	.3750	5/16	4	6	C20940	1
3/8	.3750	5/16	10	12	C20913	1

Size (Inch)	Decimal Equiv. (Inch)	Shank Diameter (Inch)	Working Length (Inch)	Overall Length (Inch)	Order Number	Qty.
1/2	.5000	3/8	4	6	C20944	1
1/2	.5000	3/8	10	12	C20914	1
5/8	.6250	1/2	4	6	C20946	1
5/8	.6250	1/2	10	12	C20925	1
3/4	.7500	1/2	4	6	C20948	1
3/4	.7500	1/2	10	12	C20926	1
7/8	.8750	1/2	10	12	C20927	1
1	1.0000	1/2	4	6	C20950	1
1	1.0000	1/2	10	12	C20928	1

Corresponding Sets		
Number of Pieces	Sizes	Order Number
5	1/8, 5/32, 3/16, 1/4, 5/16	C20929

Plastic case



MASONRY

1889 SERIES

CARBIDE TIPPED

General-application jobber drills made from high-speed steel (HSS) with a 118° point, regular helix, and straight shank for reliable, everyday drilling. The black oxide finish enhances wear resistance and provides smooth performance in routine maintenance and repair work.

Best Material Application



Drill Specifications



Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Shank Diameter (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Qty.
1/8	.1250	3/32	1-9/16	3	C23286	1
3/16	.1875	5/32	3-15/16	4	C23270	1
1/4	.2500	7/32	2-11/64	4	C23287	1
1/4	.2500	7/32	3-3/4	6	C23271	1
1/4	.2500	7/32	8-25/32	12	C23272	1
5/16	.3125	15/64	2-11/64	4	C23288	1
5/16	.3125	15/64	3-3/4	6	C23273	1
5/16	.3125	15/64	8-25/32	12	C23274	1

Size (Inch)	Decimal Equiv. (Inch)	Shank Diameter (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number	Qty.
3/8	.3750	5/16	2-11/64	4-1/2	C23289	1
3/8	.3750	5/16	3-3/4	6	C23275	1
3/8	.3750	5/16	8-25/32	12	C23276	1
1/2	.5000	3/8	2-11/64	4-1/2	C23278	1
1/2	.5000	3/8	3-3/4	6	C23280	1
1/2	.5000	3/8	8-25/32	12	C23281	1
5/8	.6250	1/2	3-11/32	6	C23282	1
3/4	.7500	1/2	3-5/64	6	C23283	1

1821 SERIES

SDS CARBIDE TIPPED

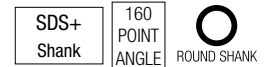
SDS® - plus 2 Cutting Premium

CLE-LINE 1821 SDS® masonry drill with self-centering carbide tip and square flute offers concrete-breaking performance with a chiseling effect. Features a 160° Tip Angle.

Best Material Application



Drill Specifications



Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Shank Diameter (Inch)	Working Length (Inch)	Overall Length (Inch)	Order Number	Qty.
3/16	.1875	SDS + shank 3/8"	2	4	C21032	1
3/16	.1875	SDS + shank 3/8"	4	6	C20712	1
3/16	.1875	SDS + shank 3/8"	6	8	C21033	1
3/16	.1875	SDS + shank 3/8"	10	12	C21020	1
1/4	.2500	SDS + shank 3/8"	2	4	C21034	1
1/4	.2500	SDS + shank 3/8"	4	6	C20713	1
1/4	.2500	SDS + shank 3/8"	6	8	C21035	1
1/4	.2500	SDS + shank 3/8"	10	12	C21021	1
5/16	.3125	SDS + shank 3/8"	4	6	C21036	1
5/16	.3125	SDS + shank 3/8"	10	12	C21022	1
3/8	.3750	SDS + shank 3/8"	4	6	C20714	1
3/8	.3750	SDS + shank 3/8"	6	8	C21039	1
3/8	.3750	SDS + shank 3/8"	10	12	C21040	1
3/8	.3750	SDS + shank 3/8"	16	18	C21023	1

1821 SERIES continued



Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Shank Diameter (Inch)	Working Length (Inch)	Overall Length (Inch)	Order Number	Qty.
1/2	.5000	SDS + shank 3/8"	4	6	C20715	1
1/2	.5000	SDS + shank 3/8"	6	8	C21042	1
1/2	.5000	SDS + shank 3/8"	10	12	C21043	1
1/2	.5000	SDS + shank 3/8"	16	18	C21024	1
5/8	.6250	SDS + shank 3/8"	6	8	C21025	1
5/8	.6250	SDS + shank 3/8"	10	12	C21046	1
5/8	.6250	SDS + shank 3/8"	16	18	C21026	1
3/4	.7500	SDS + shank 3/8"	6	8	C20717	1
3/4	.7500	SDS + shank 3/8"	10	12	C21048	1
3/4	.6250	SDS + shank 3/8"	16	18	C21027	1
7/8	.8750	SDS + shank 3/8"	8	10	C21028	1
1	1.0000	SDS + shank 3/8"	10	12	C21029	1
1	1.0000	SDS + shank 3/8"	16	18	C21030	1

Corresponding Sets		
Number of Pieces	Sizes	Order Number
5	3/16", 1/4", 5/16", 3/8", 1/2" x 6	C21031

Plastic case



1833 SERIES

SDS - DRILL REBAR

SDS® - plus 3 Cutting Premium

CLE-LINE 1833 SDS® masonry drill with 135° monobloc carbide tip combines square/round flute for rebar and concrete drilling without cracking.

Compatible SDS-plus shank.



Fractional						
Size (Inch)	Decimal Equiv. (Inch)	Shank Diameter (Inch)	Working Length (Inch)	Overall Length (Inch)	Order Number	Qty.
3/16	.1875	SDS + shank 3/8"	2	4	C22100	1
3/16	.1875	SDS + shank 3/8"	4	6	C22101	1
1/4	.2500	SDS + shank 3/8"	2	4	C22102	1
1/4	.2500	SDS + shank 3/8"	4	6	C22103	1
1/4	.2500	SDS + shank 3/8"	10	12	C22104	1
5/16	.3125	SDS + shank 3/8"	4	6	C22105	1
5/16	.3125	SDS + shank 3/8"	10	12	C22106	1
3/8	.3750	SDS + shank 3/8"	4	6	C22107	1
3/8	.3750	SDS + shank 3/8"	10	12	C22108	1
1/2	.5000	SDS + shank 3/8"	4	6	C22109	1
1/2	.5000	SDS + shank 3/8"	10	12	C22110	1
9/16	.5625	SDS + shank 3/8"	4	6	C22111	1
9/16	.5625	SDS + shank 3/8"	10	12	C22112	1

Best Material Application



Drill Specifications



1822 SERIES

GLASS & TILE

Round Shank / Bright

CLE-LINE 1822 Masonry drill with carbide tip and diamond-style design ensures accurate, reliable drilling through glass, tile, and other materials.

NOTES: 4 Sided design "diamond style" tip improves precision and penetration.

Drills through up to class 3 ceramic tiles.

Suitable for more materials: non-tempered glass, plastic, composite, brick, marble.

Best Material Application



TILE



CERAMIC



GLASS

Drill Specifications



ROUND SHANK



Fractional				
Size (Inch)	Decimal Equiv. (Inch)	Overall Length (Inch)	Order Number Pack	Pack Qty
1/8	.1250	3-5/32	C20718	1
3/16	.1875	3-5/32	C20719	1
1/4	.2500	3-15/16	C20720	1
5/16	.3125	3-15/16	C20721	1
3/8	.3750	3-15/16	C20722	1
1/2	.5000	3-15/16	C20723	1



Corresponding Sets		
Number of Pieces	Sizes	Order Number
4	1/8", 1/4", 3/8", 1/2"	C21148

Metal case

1900E SERIES

HIGH SPEED STEEL

Ship Auger Bit / HEX Shank / Bright

Ship Auger Bits are used to make long holes in thick pieces of lumber. They can cut through nails without damaging the bit. It is also capable of drilling through vinyl and plastic. Ideal for electricians, plumbers, utilities and any trade requiring fast hole drilling in clean or nail-embedded wood.



Best Material Application



WOOD

Drill Specifications



HEX SHANK

Fractional				
Size (Inch)	Decimal Equiv. (Inch)	Overall Length (Inch)	Order Number Pack	Pack Qty
1/4	.2500	7-1/2	19E116A	1
3/8	.3750	7-1/2	19E124A	1
3/8	.3750	18	19E124B	1
7/16	.4375	7-1/2	19E128A	1
7/16	.4375	18	19E128B	1
1/2	.5000	7-1/2	19E132A	1
1/2	.5000	18	19E132B	1
9/16	.5625	7-1/2	19E136A	1
9/16	.5625	18	19E136B	1
5/8	.6250	7-1/2	19E140A	1
5/8	.6250	18	19E140B	1

Size (Inch)	Decimal Equiv. (Inch)	Overall Length (Inch)	Order Number Pack	Pack Qty
11/16	.6875	7-1/2	19E144A	1
11/16	.6875	18	19E144B	1
3/4	.7500	7-1/2	19E148A	1
3/4	.7500	18	19E148B	1
7/8	.8750	7-1/2	19E156A	1
7/8	.8750	18	19E156B	1
1	1.0000	7-1/2	19E164A	1
1	1.0000	18	19E164B	1
1-1/8	1.1250	18	19E208B	1
1-1/4	1.2500	18	19E216B	1

1950E SERIES

HIGH SPEED STEEL

Paddle Bits - Ball Groove Shank / Bright

Ball groove hex shank helps reduce slippage in the drill chuck.



Best Material Application



WOOD

Drill Specifications



HEX SHANK

Fractional				
Size (Inch)	Decimal Equiv. (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
1/4	.2500	6	195E116	1
5/16	.3125	6	195E120	1
3/8	.3750	6	195E124	1
7/16	.4375	6	—	1
1/2	.5000	6	195E132	1
9/16	.5625	6	195E136	1
5/8	.6250	6	195E140	1
11/16	.6875	6	195E144	1
3/4	.7500	6	195E148	1
13/16	.8125	6	—	—
7/8	.8750	6	195E156	1
15/16	.9375	6	195E160	1
1	1.0000	6	195E164	1
1-1/8	1.1250	6	195E208	1
1-1/4	1.2500	6	195E216	1
1-3/8	1.3750	6	195E224	1
1-1/2	1.5000	6	195E232	1

PILOT DRILLS

400P SERIES

HIGH SPEED STEEL

Pilot drills have a self-centering 118° split point and are designed to fit most styles of hole saw arbors. Pilot drills have 3 notches ground into the shank to allow adjustment for varying depth hole saws.

Best Material Application



STEEL

Drill Specifications



118° POINT



135° SPLIT POINT



ROUND SHANK



Fractional								
Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Description	Order Number Pack	Pack Qty.	Order Number Bulk	Bulk Qty.
1/4	.25	1-5/16	4	118° Point, Black Oxide	400P116	1	—	—
1/4	.25	1-5/16	4-1/4	135° Point, 3 Flat, Bright Finish	093216	12	093216.20	288
1/4	.25	1-5/16	4-1/4	135° Point, 3 Flat, Bright Finish	P4321BRT	1	—	—

DRILL BLANKS

903 SERIES

HIGH SPEED STEEL

CLEVELAND 903 Undersize Drill Blank ensures precision with $+.0000/-0.0002$ tolerance, ideal for steel, cast iron, and titanium applications.



Tolerance $+.0000/-0.0002$

Fractional				
Blank Diameter (Inch)	Decimal Equivalent (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
#55	.0520	1.875	C19562	10
1/16	.0625	1.875	C19570	10
3/32	.0938	2.250	C19599	10
1/8	.1250	2.750	C19622	10
3/16	.1875	3.500	C19664	10
1/4,E	.2500	4.000	C19703	10
5/16	.3125	4.500	C19736	5
3/8	.3750	5.000	C19766	5
1/2	.5000	6.000	C19795	5

DISPLAY, DISPENSERS, INDEXES



115DX



49A123 / 540DX



C00851



291DX



57810

No. of Pieces	Series	Description	Order Number
Jobber Drill Dispensers (Empty)			
270	—	Fractional Sizes	270DX
720	—	Wire Sizes	720DX
240	—	Letter Sizes	240DX
115	—	Master Drill Dispenser	115DX
234	—	Metric Sizes	800DX
Drill Index (Empty)			
13	—	Drill Bit Index 1/16" - 1/4" x 1/64	13IDX C00854
15	—	Drill Bit Index 1/16" - 1/2" x 1/32	15IDX C00852 or 57803
20	—	Drill Bit Index #61-80	57805
21	—	Drill Bit Index 1/16" - 3/8" x 1/64	21IDX C00853 or 57802
25	—	1.0mm to 13.0 mm x 0.5mm	— C00865 or 57809
26	—	Drill Bit Index A-Z	26IDX C23993 or C00857 or 57808
29	—	Drill Bit Index 1/16" - 1/2" x 1/64	29IDX C23992 or C00851 or 57804
29	—	Drill Bit Index 1/16" - 1/2" x 1/64 , Bit Barrel	29WIDX or 29WMDX C23995
60	—	Drill Bit Index #1-60	60IDX C23994 or C00855 or 57806
115	—	1/64" to 1/2" x 1/64", A to Z letter, #1 to #60 wire	115IDX C00878 or 57810
540	—	Empty Drill Counter Display	540DX or 49A123 —
Drill Gauges			
		Wire #1 - #60	60G0000
		Fractional Drill Gauge	29G0000
		33/64" - 1"	32G0000



TECHNICAL INFORMATION

DRILL NOMENCLATURE

AXIS

The imaginary straight line which forms the longitudinal center line of the drill.

BACK TAPER

A slight decrease in diameter, from front to back in the body of the drill.

BODY

The portion of the drill extending from the shank or neck to the outer corners of the cutting lips.

BODY DIAMETER CLEARANCE

That portion of the land that has been cut away so it will not rub against the walls of the hole.

CHISEL EDGE

The edge at the end of the web that connects the cutting lips.

DRILL DIAMETER

The diameter over the margins of the drill measured at the point.

FLUTES

Helical or straight grooves cut or formed in the body of the drill to provide cutting lips, to permit removal of chips, and to allow cutting fluid to reach the cutting lips.

FLUTE LENGTH

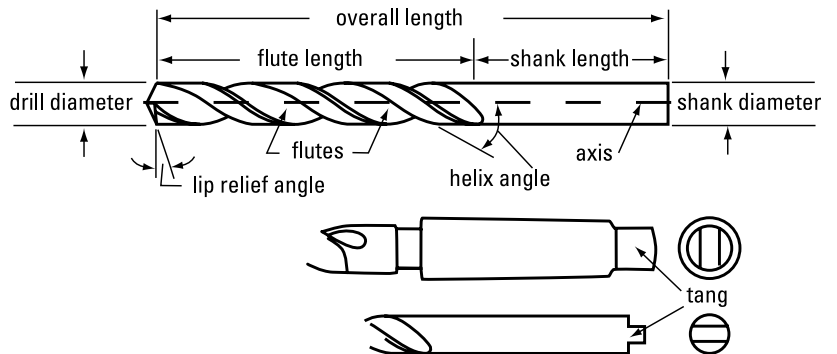
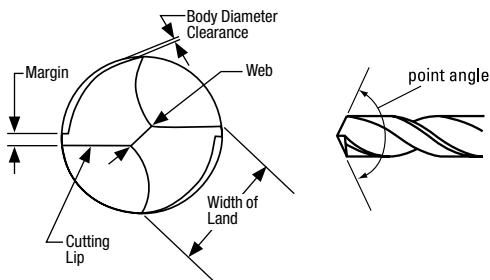
The length from the outer corners of the cutting lips to the extreme back end of the flutes. However, metric drills are measured from the extreme end of the shank to the end of the flute at the point.

LAND

The peripheral portion of the body between adjacent flutes.

LAND WIDTH

The distance between the leading edge and the heel of the land measured at a right angle to the leading edge.



LIP RELIEF

The axial relief on the drill point.

MARGIN

The cylindrical portion of the land which is not cut away to provide clearance.

NECK

The DRILLS of reduced diameter between the body and the shank of a drill.

OVERALL LENGTH

The length from the extreme end of the shank to the outer corners of the cutting lips. However, metric drills are measured from the extreme end of the shank to the end of the flute at the point.

POINT

The cutting end of a drill, made up of the ends of the lands and the web. In form it resembles a cone, but departs from a true cone to furnish clearance behind the cutting lips.

POINT ANGLE

The angle included between the cutting lips projected upon a plane parallel to the drill axis and parallel to the two cutting lips.

SHANK

The part of the drill by which it is held and driven.

TANG

The flattened end of a taper shank, intended to fit into a driving slot in a socket.

WEB

The central portion of the body that joins the lands. The extreme end of the web forms the chisel edge on a two flute drill.

TECHNICAL INFORMATION

SURFACE TREATMENTS

Chemical Compositions of High Speed Steels
Drills — Taps — Reamers — End Mills

Chemical Composition						
Type	Carbon %	Tungsten %	Molybdenum	Chromium %	Vanadium %	Term
M.50	.83	0.10	4.25	4.00	1.00	HSS
M1	.80	1.50	8.00	4.00	1.00	HSS
M2	.85	6.00	5.00	4.00	2.00	HSS
M7	1.00	1.75	8.75	4.00	2.00	HSS
M35	.80	6.00	5.00	4.00	2.00	5% Cobalt
M42	1.0	1.50	9.50	3.75	1.05	8% Cobalt

Surface treatments for high speed steel tools function to condition them, so in certain applications they will outperform tools that have not been treated. Surface treatments do not, however, alter the functional structure of the tool itself.

SURFACE TREATMENTS

	Recommended Applications	Precautions
Black Oxide	This treatment is applied to finished tools and produces a thin black iron oxide surface coating. It also provides additional tempering and stress relieving. This coating reduces galling and chip welding and also increases the ability of the tool to retain lubricants. Recommended in iron and steel drilling applications. It should not be used in non-ferrous metals such as aluminum because it increases the loading tendencies of the tool.	
Chrome Plating	This treatment deposits an extremely thin layer of chromium on the surface of tools. It reduces the coefficient of friction and resists chip weld and abrasion. Recommended for non-ferrous and non-metallic materials.	
TiN (Titanium Nitride)	For ferrous and non-metallic materials: free-machining steels and irons, high tensile steels, tough machining steels, plastics, hard rubber, and fiber. The hard, smooth treatment increases tool life, improves finish, and allows higher speeds.	Avoid titanium and titanium alloys due to tendency to gall.
TiCN (Titanium Carbonitride)	For ferrous and non-ferrous materials: cast iron, aluminum, stainless steel, brass, abrasive materials, high-silicon automotive aluminum, glass-filled plastics, and composites. The hard, smooth treatment increases tool life and improves finish.	Use with caution in titanium, titanium alloys, and aluminum die casting due to tendency to gall.
TiAlN (Titanium Aluminum Nitride)	For ferrous materials, high-temperature alloys, and titanium: stainless steels, gray cast irons or nodular irons, and steels containing high-nickel, cobalt, chromium, and tungsten. Most effective where higher speeds are available.	Avoid in most non-ferrous materials.
CrN (Chromium Nitride)	For non-ferrous materials: brass, bronze, zinc alloys, and magnesium alloys. CrN is medium-hard and has a lower wear resistance than TiN, TiCN, and TiAlN. However, unlike these treatments, CrN does not gall in non-ferrous materials.	Ineffective in ferrous materials.
Nitride	This treatment produces a hard case which is highly resistant to abrasion. It also slows down the tendency of softer materials to cling or load on tools. Recommended for tools that are used for ferrous, non-ferrous, and non-metallic materials which are abrasive and have loading characteristics.	
Nitride and Oxide	Combines the advantages of the lubricity of oxide with the abrasion resistance of nitriding. Recommended for abrasive ferrous applications. Not recommended for soft materials such as aluminum, magnesium, or similar non-ferrous applications.	
Titanium Nitride	This surface treatment improves tool life by acting as a wear-resistant and thermal barrier. It also gives the tool a low coefficient of friction and very high surface hardness. It reduces friction and chip welding and acts as a thermal insulator between the chip and the tool. Recommended for use in ferrous materials below Rc 40 and in non-ferrous materials.	

TECHNICAL INFORMATION

DRILL POINTS / SPECIAL DRILLS

DRILL POINTS

Conventional Point - Conventional points with 118° included point angles are the most commonly used because they provide satisfactory results in a wide variety of materials. A possible limitation is that the straight chisel edge contributes to walking at the drill point, often making it necessary to spot the hole for improved accuracy.

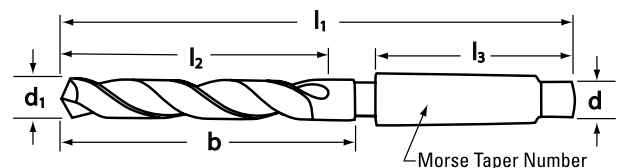
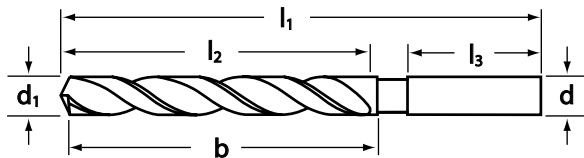
Split Point - Split points were originally developed for use on drills designed for deep oil holes in automotive crankshafts. Since its inception, the split point has gained widespread use and is applied to both 118° and 135° included point angles. Its main advantages are the ability to reduce thrust and eliminate walking at the drill point. The split point also has two positive rake cutting edges extending the center of the drill, which can assist as a chipbreaker to produce small chips which can readily be ejected.

Notched Point - Notched points were developed for drilling tough alloys. Commonly incorporated on heavy web drills, which allow the point to withstand the higher thrust loads required in drilling these materials. As with the split point, the notched point contains two additional positive rake cutting edges extending toward the center of the drill. These secondary cutting lips, which extend no further than half the original cutting lip, can assist in chip control and reduce the torque required in drilling tough materials. Notched points can be incorporated on both 118° and 135° included point angles, making them suitable for drilling a broad variety of materials.

Helical Point - Helical points change the flat blunt chisel to an "S" contour with a radiused crown effect which has its highest point at the center of the drill axis. This crown contour creates a continuous cutting edge from margin to margin across the web. The advantage is its self-centering ability which allows the chisel to cut and enables the drill to cut closer to actual drill diameter. Helical Points are not available under $1/16"$ diameter.

Reduced Rake Point - Reduced rake points are generated by flattering or dubbing both cutting lips from the outer periphery to the chisel. This reduces the effective axial rake to 0–5, positive which translates to a plowing rather than shearing action. This reduction in shearing is an effective method of preventing the drill from grabbing in low tensile strength materials such as brass. Reducing the rake also strengthens the cutting lip and can assist in breaking chips.

SPECIAL DRILLS



If you know the specs for your special tool, please send a blueprint and/or provide this information:

- Material/hardness to be drilled.

d = shank diameter or size

- If standard taper shank is ordered, specify as No. 2 American National Standard Taper, No. 3 American National Standard Taper, etc.
- If taper shank is special, give diameter at small end, length of shank, diameter at large end, taper per foot, and furnish a sample of gauge if possible.
- If tang is special, give thickness and length.

b = body length

d' = diameter of fluted DRILLS. For multiple diameter drills, indicate the diameter of the large fluted DRILLS

l' = overall length

- When ordering extra-length drills, specify: type of material being drilled, depth of hole, whether drilling in a vertical or horizontal position, and whether feed is intermittent or with only occasional withdrawals.

l² = flute length

l³ = shank length

For multiple-diameter drills, provide:

- the diameter of the small, fluted DRILLS
- the included angle of cutting shoulder. Note: this is measured as an angle between the two cutting edges (included angle) and not as an angle with the center line.
- the length of small diameter. Note: this is measured from the outer corner of the point to the bottom or inner corner of the cutting shoulder.

For special accuracy requirements, give tolerances on the important dimensions.

For assistance in designing your special tool, provide

• Workpiece material hardness	• Hole diameter
• Depth of hole	• Thru hole or blind hole
• Shank type	• Coolant or non-coolant
• Step length if necessary	• Step angle

Make sure that suitable allowance has been made for re-sharpening and for clearance for the spindle above the drill bushings. If a particular style of flute-construction is desired, it should be specified by reference to the regular drill of the required flute-style.

TECHNICAL INFORMATION

MATERIAL CLASS

Recommended Surface Feet per Minute (SFM) and Coolant by Material Application

FERROUS MATERIALS

MATERIALS	BRINELL HARDNESS	GEOMETRY	SFM	COOLANT
Low Carbon Steel	85-125	general purpose	80-95	soluble oil
Medium Carbon Steel	125-175	general purpose	70-85	soluble oil
High Carbon Steel	175-225	heavy duty	45-65	soluble oil
Steels Alloyed	under 200 200-300 over 300	general purpose heavy duty cobalt	60-90 40-70 20-30	soluble oil soluble oil soluble oil
Steel Drop Forgings Heat Treated	330-370 370-420 over 420		30-40 20-30 10-20	cutting oil cutting oil cutting oil
Grey Cast Iron Soft	125	general purpose	140-150	dry
Grey Cast Iron Medium	120-200	heavy duty	50-80	soluble oil
Grey Cast Iron Hard	up to 350	heavy duty	25-40	soluble oil
Titanium Alloys (Ti)-75A	300-440	cobalt	50-60	cutting oil
Ti-150A, RS-120	300-440	cobalt	40-50	cutting oil
Ti-140A, RC 130B	300-440	cobalt	30-40	cutting oil
Ti-6AL -4V	300-440	cobalt	20-30	cutting oil
300 Series Stainless	120-200	cobalt	20-40	cutting oil
400 Series Stainless	200-300	cobalt	40-70	cutting oil
Martensitic 416, 420, F416 Plus K, 400F, 416SE, 440F	135-185	cobalt	40-50	cutting oil
Precipitation Hardening	325-375	cobalt	30	cutting oil
Stainless Steel, Cast	400-450	cobalt	20	cutting oil
Heat Resisting Steels	175-225	cobalt	10-25	cutting oil
Nimonic Alloys	200-300	cobalt	10-20	cutting oil
Manganese 12-14% min	125-220	heavy duty	10-12	cutting oil
Spring Steels	402	cobalt	15-30	soluble oil
Armor Plate	200-250 250-300 300-350	cobalt cobalt cobalt	40 35 30	soluble oil soluble oil cutting oil

NON-FERROUS MATERIALS

MATERIALS	BRINELL HARDNESS	GEOMETRY	SFM	COOLANT
Aluminum Pure	140-350	fast spiral*	130-200	soluble oil
Aluminum Alloys	140-330	fast spiral*	150-300	soluble oil
Aluminum Leaded	40-100	fast spiral*	200-325	soluble oil
Aluminum Silicon Alloy Die Cast	40-100	fast spiral*	25-50	soluble oil
Brass	190-210	slow spiral*	200-250	cutting or soluble oil
Bronze	150-200	slow spiral*	200-250	soluble oil
Copper - Nickel & Copper Tin Alloy	65-100	general-purpose*	140-200	cutting or soluble oil
Copper - Aluminum Alloys	30-100	general-purpose*	120-200	cutting or soluble oil
Magnesium Alloys - Wrought	50-90	general-purpose*	140-330	cutting or soluble oil
Magnesium Alloys - Cast	50-90	general-purpose*	140-365	cutting or soluble oil
Nickel Alloys - Wrought and Cast	80-170	cobalt	15-20	cutting or soluble oil
Nickel Alloys - Monel	115-240	cobalt	15-20	cutting or soluble oil
Nickel Alloys - Beryllium Nickel	200-250	cobalt	10-12	cutting or soluble oil
Zinc Alloy	112-126	general-purpose	200-250	soluble oil

*bright only

TECHNICAL INFORMATION

MATERIAL CLASS

FERROUS MATERIAL

MATERIAL	HARDNESS	SPEEDS (SFM) DRILL SURFACE TREATMENT				FEED RATE (IPR) INCREASE BY 25% FOR T1CN			
		BRIGHT, BLACK OXIDE & STRAW	TIN	T1CN	T1ALN	1/8" 3.17MM	1/4" 6.35MM	3/8" 9.52MM	1/2" 12.70MM
low carbon steel	85-125 Bhn	90	125	135	—	.0040	.0065	.0080	.0100
medium carbon steel	125-175 Bhn	90	125	135	—	.0040	.0065	.0080	.0100
high carbon steel	175-225 Bhn	90	125	135	—	.0030	.0050	.0065	.0080
alloyed steel	200-300 Bhn	60	80	90	—	.0025	.0040	.0050	.0065
heat-treatable steel and forgings	370-420 Bhn	40	50	60	70	.0025	.0040	.0050	.0065
tool steels	< 24 HRC	60	80	90	110	.0030	.0050	.0065	.0080
	> 24-30 HRC	30	40	45	55	.0025	.0040	.0050	.0065
high-speed steels	14-30 HRC	35	50	55	60	.0025	.0040	.0050	.0065
gray cast iron	240 Bhn	115	160	175	—	.0050	.0080	.0100	.0125
	<300 Bhn	90	125	135	—	.0050	.0080	.0100	.0125
mallable cast iron	<300 Bhn	70	95	105	—	.0050	.0080	.0100	.0125
chilled cast iron	<350 Bhn	25	35	40	—	.0025	.0040	.0050	.0065
stainless steel 300 series (Austenitic)	120-200 Bhn	60	80	90	100	.0025	.0040	.0050	.0065
400 series (Martensitic)	200-300 Bhn	40	50	60	80	.0025	.0040	.0050	.0065
sulphurized	> 25 HRC	45	65	70	80	.0025	.0040	.0050	.0065
spring steel	400 Bhn	25	35	40	45	.0020	.0030	.0040	.0050

NON-FERROUS MATERIAL

MATERIAL	HARDNESS	BRIGHT, BLACK OXIDE & STRAW	TIN	T1CN	T1ALN	1/8" 3.17MM	1/4" 6.35MM	3/8" 9.52MM	1/2" 12.70MM
aluminum and aluminum alloys	40-100 Bhn	180	—	—	—	.0050	.0080	.0100	.0125
cast aluminum < 10% Si > 10% Si	200 Bhn	200	275	—	—	.0050	.0080	.0100	.0125
	200 Bhn	180	225	—	250	.0040	.0065	.0080	.0100
brass, long chipping	190-210 Bhn	150	—	—	—	.0040	.0065	.0080	.0100
bronze, long chipping	150-200 Bhn	90	115	—	130	.0030	.0050	.0065	.0080
copper, low alloy	65-100 Bhn	120	145	—	—	.0040	.0065	.0080	.0100
plastics, duraplastics	N/A	55	75	80	—	.0030	.0050	.0065	.0080

The speeds and feeds listed here are conservative recommendations for initial setup. In actual use, depending on the machine environment and workpiece material, significantly higher speeds and feeds may be achievable.

Use these speeds and feeds as a starting point. Cutting conditions can be gradually adjusted until the optimum settings for the application are found.
Questions? Contact Technical Support

RECOMMENDED DRILLING DEPTHS

Length of Drill	Drilling Depth
Center Drills	1 x D
Stub (Screw Machine)	2.5 x D
Mechanic's	3.5 x D
Jobber	4 x D
S&D Drill	4 x D
Aircraft Extension	4 x D
Taper Length	6 x D
8" Extra Length	10 x D
12" Extra Length	12 x D
18" Extra Length	15 x D

TECHNICAL INFORMATION

OPERATING PARAMETERS

DETERMINING FEED AND SPEED

This catalog offers starting feed and speed parameters for each style of tool. The recommended operating parameters are found in front of each tool style for high-performance tools and in the beginning of the general application DRILLS for those tools. Drill cutting speed tables for individual sizes of drills can be found in this DRILLS, titled "Drill Cutting Speeds".

To determine your own starting speeds and feeds, follow this procedure.

Look up the material to be drilled in the Recommended SFM (surface feet per minute) by material class table in this DRILLS, titled "Material Class" and determine the geometry class.

Determine the drill style from the Drill Style by Geometry and

Length/Construction table on page 3 based on recommended drill type and drill length desired.

Review each drill style to understand the geometry differences. Select the appropriate geometry and check to ensure the desired size is available.

Starting speed and feed recommendations for the drill can be determined from the formulas below.

Recommended operating parameters for high-performance drills are generally 20% faster than for conventional geometries and are shown with the individual drill styles. Feed rates for high performance drills are heavier than for conventional geometries by 50% or more.

DRILL DIAMETER TOLERANCES

Diameter Range (Inch)	Plus (+) (Inch)	Minus (-) (Inch)
through 1/8	.0000	.0005
over 1/8 through 1/4	.0000	.0007
over 1/4 through 1/2	.0000	.0010
over 1/2 through 1	.0000	.0012
over 1 through 2	.0000	.0015
over 2 through 3-1/2	.0000	.0020

DRILL LIP HEIGHT TOLERANCES

Diameter Range (Inch)	Total Indicator Variation (Inch)
1/16 through 1/8	.0020
over 1/8 through 1/4	.0030
over 1/4 through 1/2	.0040
over 1/2 through 1	.0050
over 1 through 3-1/2	.0060

DRILL OVERALL LENGTH AND FLUTE LENGTH TOLERANCES

Diameter Range (Inch)	Plus (+) (Inch)	Minus (-) (Inch)
#80 through 1/8	.1250	.0625
over 1/8 through 1/2	.1250	.1250
over 1/2 through 1	.2500	.1250
over 1 through 2	.2500	.2500
over 2 through 3-1/2	.3750	.3750

DRILL DEFINITIONS

RPM = revolutions per minute
 SFM = surface feet per minute
 FR = feed rate in inches per minute
 IPR = inches per revolution

DRILL FORMULA

$RPM = 3.8 \times SFM / \text{drill diameter}$
 $SFM = 0.26 \times RPM \times \text{drill diameter}$
 $FR = RPM \times IPR$

DRILL POINT ANGLE TOLERANCES

Diameter Range (Inch)	Included Angle (Degrees)	Tolerance (Degrees)
1/16 through 1/2	118° or 135°	± 5°
over 1/2 through 1-1/2	118°	± 3°
over 1-1/2 through 3-1/2	118°	± 2°

DRILL FEEDS

Diameter Range (Inch)	IPR (inches per revolution)	
	Normal Feeds	Heavy Feed
1/16 through 1/8	.001 - .002	.002 - .004
over 1/8 through 1/4	.002 - .004	.004 - .008
over 1/4 through 1/2	.004 - .008	.008 - .016
over 1/2 through 1	.008 - .016	.016 - .024
over 1	.016 - .024	.024 - .032

TECHNICAL INFORMATION

OPERATING PARAMETERS

Material	Hardness	Speeds (SFM) Bright		Feed Rate (IPR) for drill diameter					
				.0625"	.1250"	.2500"	.5000"	.7500"	1.0000"
low carbon steel, annealed	85-125 Bhn	85-150	low high	.0005 .0015	.0010 .0030	.0020 .0050	.0040 .0090	.0050 .0100	.0060 .0120
medium carbon steel	275-425 Bhn	65-120	low high	.0005 .0010	.0010 .0020	.0020 .0040	.0030 .0080	.0040 .0900	.0040 .0100
hardened steel	48-52 Rc C	30-90	low high	.0005 .0010	.0010 .0030	.0020 .0030	.0030 .0050	.0040 .0060	.0040 .0070
stainless steel (soft)	135-275 Bhn	50-150	low high	.0005 .0010	.0005 .0030	.0020 .0060	.0040 .0060	.0050 .0080	.0060 .0100
stainless steel (hard)	275-425 Bhn	30-90	low high	.0005 .0010	.0005 .0020	.0010 .0030	.0015 .0040	.0020 .0060	.0025 .0070
cast iron (soft)	120-220 Bhn	100-300	low high	.0010 .0020	.0020 .0040	.0040 .0080	.0050 .0100	.0070 .0120	.0090 .0140
cast iron (hard)	220-320 Bhn	60-200	low high	.0015 .0020	.0010 .0030	.0020 .0040	.0030 .0070	.0040 .0080	.0050 .0100
ductile iron		70-250	low high	.0010 .0020	.0020 .0040	.0030 .0060	.0050 .0080	.0060 .0090	.0070 .0150
malleable iron		80-250	low high	.0010 .0020	.0020 .0050	.0030 .0060	.0050 .0120	.0060 .0140	.0070 .0150
high-temp alloys, nickel-based		15-20	low high	.0005 .0010	.0005 .0030	.0010 .0040	.0015 .0050	.0020 .0600	.0025 .0070
monel, high nickel steels		15-20	low high	.0005 .0010	.0005 .0020	.0010 .0030	.0015 .0040	.0020 .0050	.0025 .0060
titanium (soft)		60-200	low high	.0005 .0010	.0020 .0030	.0040 .0060	.0050 .0060	.0060 .0080	.0070 .0100
titanium (hard)		45-200	low high	.0005 .0020	.0010 .0040	.0020 .0070	.0040 .0090	.0040 .0100	.0050 .0120
refractory alloys		50-200	low high	.0005 .0010	.0005 .0030	.0020 .0060	.0040 .0100	.0050 .0120	.0050 .0120
aluminum, aluminum alloys		150-400	low high	.0010 .0020	.0020 .0040	.0030 .0070	.0050 .0130	— —	— —
brass, bronze		100-300	low high	.0005 .0015	.0010 .0030	.0020 .0040	.0040 .0100	— —	— —
copper, copper alloys		150-400	low high	.0010 .0030	.0030 .0050	.0050 .0120	.0060 .0140	— —	— —
magnesium, magnesium alloys		200-650	low high	.0015 .0030	.0030 .0070	.0050 .0120	.0080 .0150	— —	— —
plastics, glass filled		150-300	low high	.0010 .0020	.0020 .0040	.0030 .0060	.0050 .0120	— —	— —
plastics		250-600	low high	.0015 .0030	.0030 .0050	.0040 .0120	.0060 .0160	— —	— —

Higher feed and speed values should be favored for softer materials; lower feed and speed values should be used for harder materials. The above recommendations are for hole depths up to 2 drill diameters.

When hole depths run 3 to 6 times diameters, speeds should be reduced 10% to 35% respectively, and feeds should be reduced 10% to 20% respectively.

Tech tip!

Q-COBALT ADVANTAGES

- Deliver close hole tolerance for high-precision work.
- Use higher speeds and feeds for increased productivity.
- Ideal for deep-hole drilling in a wide range of materials.

TECHNICAL INFORMATION

DRILL CUTTING SPEEDS

 DRILLCO 710 SERIES SOLID CARBIDE DRILLS										
WORKPIECE MATERIAL GROUPS	Hardness	Speed (SFM)	1/32"	1/16"	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"
Free Machining & Low Carbon Steels 1006, 1008, 1015, 1018, 1020, 1022, 1025, 1117, 1140, 1141, 11L08, 11L14, 1213, 12L13, 12L14, 1215, 1330	up to 28 Rc	330	0.0010	0.0020	0.0030	0.0060	0.0080	0.0100	0.0110	0.0120
"Medium Carbon & High Carbon Steels, Alloy Steels & Easy to Machine Tool Steels" 1030, 1035, 1040, 1045, 1050, 1052, 1055, 1060, 1085, 1095, 1541, 1551, 9255, 2515, 3135, 3415, 4130, 4137, 4140, 4150, 4320, 4340, 4520, 5015, 5115, 5120, 5132, 5140, 5155, 6150, 8620, 9262, 9840, 52100, 01, 02, 06, S2, W1 to W310"	28 to 38 Rc	265	0.0010	0.0020	0.0030	0.0060	0.0080	0.0100	0.0110	0.0120
Tool Steels & Die Steels 07, M1, M2, M3, M4, M7, T1, T2, T4, T5, T8, T15, A2, A3, A6, A7, H10, H11, H12, H13, H19, H21, L3, L6, L7, P2, P20, S1, S5, S7, 52100, A 128, D2, D3, D4, D5, D7	28 to 44 Rc	230	0.0010	0.0020	0.0030	0.0060	0.0080	0.0100	0.0110	0.0120
Hardened Steel	45 to 65 Rc	50	0.0003	0.0010	0.0010	0.0010	0.0020	0.0020	0.0020	0.0030
Stainless Steel - Moderately Difficult 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH	up to 28 Rc	150	0.0010	0.0020	0.0030	0.0060	0.0080	0.0100	0.0110	0.0120
Stainless Steel - Difficult to Machine 302B, 304B, 309, 310, 316, 316B, 316L, 316Ti, 317, 317L, 321, PH13-8Mo, Nitronics	up to 28 Rc	100	0.0003	0.0005	0.0020	0.0040	0.0050	0.0060	0.0080	0.0100
High Temp Alloys Nimonic, Inconel, Monel, Hastelloy	up to 42 Rc	70	0.0003	0.0005	0.0020	0.0040	0.0050	0.0060	0.0080	0.0100
Titanium Alloys 6Al-4V, 5Al-2.5 Sn, 6Al-2 Sn-4Zr-6Mo, 3Al-8V-6Cr4Mo-4Zr, 10V-2Fe-3Al, 13V-11Cr-3Al	up to 42 Rc	180	0.0003	0.0005	0.0020	0.0040	0.0050	0.0060	0.0080	0.0100
Cast-Iron - Gray CG, ASTM A48, CLASS 20, 25, 30, 35, SAE J431C, GRADES G1800, G3000, G3500, GG 10, 15, 20, 25, 30, 35, 40	up to 240 HB	365	0.0010	0.0020	0.0030	0.0060	0.0080	0.0100	0.0110	0.0120
Cast Iron - Ductile & Malleable CGI 60-40-18, 65-45-12, D4018, D4512, D5506, 32510, 35108, M3210, M4504, M5503, 250, 300, 350, 400, 450	over 240 HB	365	0.0010	0.0020	0.0030	0.0060	0.0080	0.0100	0.0110	0.0120
Plastics		300	0.0010	0.0020	0.0030	0.0060	0.0080	0.0100	0.0110	0.0120
Kevlar		300	0.0010	0.0020	0.0030	0.0060	0.0080	0.0100	0.0110	0.0120

MULTI-STEP™ M2AI DRILL BITS - RECOMMENDED CUTTING SPEEDS

CHOOSE RPM BASED ON LARGEST STEP DIAMETER

CUTTING DIAMETER		Aluminum	Copper	Mild Steel	Stainless Steel	Non-Metallic
Inch	mm					
1/2	12.7	1003	878	502	376	1128
9/16	14.3	892	781	446	335	1004
5/8	15.9	802	702	401	301	902
11/16	17.5	730	638	365	274	821
3/4	19.1	669	585	334	251	752
13/16	20.6	617	540	309	231	694
7/8	22.2	573	502	287	215	645
15/16	23.8	535	468	268	201	602
1	25.4	502	439	251	188	564
1-1/16	27.0	472	413	236	177	531
1-1/8	28.6	446	390	223	167	502
1-3/16	30.2	422	370	211	158	475
1-1/4	31.8	401	351	201	150	451
1-5/16	33.3	382	334	191	143	430
1-3/8	34.9	365	319	182	137	410

TECHNICAL INFORMATION

DRILL CUTTING SPEEDS

FRACTIONAL																
DRILL SIZE FRAC / DEC		FEET PER MINUTE														
		10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
		REVOLUTIONS PER MINUTE														
1/16	.0625	611	1222	1833	2445	3056	3667	4278	4889	5550	6111	6722	7334	7945	8556	9167
1/8	.1250	306	611	917	1222	1528	1833	2139	2445	2750	3056	3361	3667	3973	4278	4584
3/16	.1875	204	407	611	815	1019	1222	1426	1630	1833	2037	2241	2445	2648	2852	3056
1/4	.2500	153	306	458	611	764	917	1070	1222	1375	1528	1681	1833	1986	2139	2292
5/16	.3125	122	244	367	489	611	733	856	978	1100	1222	1345	1467	1589	1711	1833
3/8	.3750	102	204	306	407	509	611	713	815	917	1019	1120	1222	1324	1426	1528
7/16	.4375	87	175	262	349	437	524	611	698	786	873	960	1048	1135	1222	1310
1/2	.5000	76	153	229	306	382	458	535	611	688	764	840	917	993	1070	1146
5/8	.6250	61	122	183	244	306	367	428	489	550	611	672	733	794	856	917
3/4	.7500	51	102	153	203	255	306	357	407	458	509	560	611	662	713	764
7/8	.8750	44	87	131	175	218	262	306	349	393	436	480	524	568	611	655
1	1.0000	38	76	115	153	191	229	267	306	344	382	420	458	497	535	573
1-1/8	1.1250	34	68	102	136	170	204	238	272	306	340	373	407	441	475	509
1-1/4	1.2500	31	61	92	122	153	183	214	244	275	306	336	367	397	428	458
1-3/8	1.3750	28	56	83	111	139	167	194	222	250	278	306	333	361	389	417
1-1/2	1.5000	26	51	76	102	127	153	178	204	229	255	280	306	331	357	382
1-5/8	1.6250	24	47	70	94	117	141	165	188	212	235	259	282	306	329	353
1-3/4	1.7500	22	44	65	87	109	131	153	175	196	218	240	262	284	306	327
1-7/8	1.8750	20	41	61	81	102	122	143	163	183	204	224	244	265	285	306
2	2.0000	19	38	57	76	95	115	134	153	172	191	210	229	248	267	287
2-1/4	2.2500	17	34	51	68	85	102	119	136	153	170	187	204	221	238	255
2-1/2	2.5000	15	31	46	61	76	92	107	122	137	153	168	183	199	214	229
2-3/4	2.7500	14	28	42	56	69	83	97	111	125	139	153	167	181	194	208
3	3.0000	13	25	38	51	64	76	89	102	115	127	140	153	166	178	191

LETTER															
DRILL SIZE LETTER / DEC	FEET PER MINUTE														
	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
	REVOLUTIONS PER MINUTE														
A .2340	163	326	491	654	818	982	1145	1309	1472	1636	1796	1959	2122	2285	2448
B .2380	161	321	482	642	803	963	1124	1284	1445	1605	1765	1926	2086	2247	2407
C .2420	158	316	473	631	789	947	1105	1262	1420	1578	1736	1894	2052	2210	2368
D .2460	155	311	467	622	778	934	1089	1245	1400	1556	1708	1863	2018	2174	2329
E .2500	153	306	458	611	764	917	1070	1222	1375	1528	1681	1834	1968	2139	2292
F .2570	149	297	446	594	743	892	1040	1189	1337	1486	1635	1784	1932	2081	2229
G .2610	146	293	440	585	732	878	1024	1170	1317	1463	1610	1756	1903	2049	2195
H .2660	144	287	430	574	718	862	1005	1149	1292	1436	1580	1723	1867	2010	2154
I .2720	140	281	421	562	702	842	983	1123	1264	1404	1545	1685	1826	1966	2106
J .2770	138	276	414	552	690	827	965	1103	1241	1379	1517	1655	1793	1930	2068
K .2810	136	272	408	544	680	815	951	1087	1223	1359	1495	1631	1767	1903	2039
L .2900	132	263	395	527	659	790	922	1054	1185	1317	1449	1581	1712	1844	1976
M .2950	129	259	389	518	648	777	907	1036	1166	1295	1424	1554	1683	1813	1942
N .3020	126	253	380	506	633	759	886	1012	1139	1265	1391	1518	1644	1771	1897
O .3160	121	242	363	484	605	725	846	967	1088	1209	1330	1450	1571	1692	1813
P .3230	118	237	355	473	592	710	828	946	1065	1183	1301	1419	1537	1657	1774
Q .3320	115	230	345	460	575	690	805	920	1035	1150	1266	1384	1496	1611	1726
R .3390	113	225	338	451	564	676	789	902	1014	1127	1239	1355	1465	1577	1690
S .3480	110	220	329	439	549	659	769	878	988	1098	1207	1317	1427	1537	1646
T .3580	107	213	320	426	533	640	746	853	959	1066	1173	1280	1387	1494	1600
U .3680	104	208	311	415	519	623	727	830	934	1038	1142	1246	1349	1453	1557
V .3770	101	203	304	405	507	608	709	810	912	1013	1114	1219	1317	1418	1520
W .3860	99	198	297	396	495	594	693	792	891	989	1088	1188	1286	1385	1484
X .3970	96	192	289	385	481	576	672	769	865	962	1058	1155	1251	1347	1443
Y .4040	95	189	284	378	473	567	662	756	851	945	1040	1135	1229	1324	1418
Z .4130	92	185	277	370	462	555	647	740	832	925	1017	1110	1202	1295	1387

TECHNICAL INFORMATION

DRILL CUTTING SPEEDS

DIAMETER RANGE (INCHES)	NORMAL FEEDS (IPR)	HEAVY FEED (IPR)
from 1/16 thru 1/8	.001-.002	.002-.004
over 1/8 thru 1/4	.002-.004	.004-.008
over 1/4 thru 1/2	.004-.008	.008-.016
over 1/2 thru 1	.008-.016	.016-.024
over 1	.016-.024	.024-.032

WIRE GAUGE																
DRILL SIZE WIRE / DEC	FEET PER MINUTE															
	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'	
	REVOLUTIONS PER MINUTE															
80 .0135	2830	5659	8490	11320	14150	16980	19810	22640	25470	28300	31123	33953	36782	39612	42441	
79 .0145	2634	5269	7902	10536	13170	15804	18438	21072	23706	26340	28988	31611	34246	36880	39514	
78 .0160	2388	4775	7161	9548	11935	14322	16709	19096	21483	23870	26260	28648	31035	33422	35810	
77 .0180	2122	4244	6366	8488	10610	12732	14854	16976	19098	21220	23343	25465	27587	29709	31831	
76 .0200	1910	3820	5730	7640	9550	11460	13370	15280	17190	19100	21008	22918	24828	26738	28648	
75 .0210	1819	3638	5457	7276	9095	10914	12733	14552	16371	18190	20008	21827	23646	25465	27284	
74 .0225	1698	3396	5106	6808	8510	10212	11914	13616	15318	17020	18674	20372	22069	23767	25465	
73 .0240	1592	3183	4776	6368	7960	9552	11144	12736	14328	15920	17507	19099	20690	22282	23873	
72 .0250	1528	3056	4584	6112	7640	9168	10696	12224	13752	15280	16807	18335	19863	21390	22918	
71 .0260	1469	2938	4419	5892	7365	8838	10311	11784	13257	14730	16160	17629	19099	20568	22037	
70 .0280	1364	2729	4091	5456	6820	8184	9548	10912	12276	13640	15006	16370	17734	19099	20463	
69 .0292	1308	2616	3918	5224	6530	7836	9142	1048	11754	13060	14389	15697	17006	18314	19622	
68 .0310	1232	2465	3696	4928	6160	7392	8624	9856	11088	12320	13554	14786	16018	17250	18482	
67 .0320	1194	2388	3582	4776	5970	7164	8358	9552	10746	11940	13130	14324	15517	16712	17905	
66 .0330	1158	2316	3474	4632	5790	6948	8106	9264	10422	11580	12732	13890	15047	16205	17362	
65 .0350	1091	2182	3273	4364	5455	6546	7637	8728	9819	10910	12005	13096	14187	15279	16370	
64 .0360	1061	2122	3183	4244	5305	6366	7427	8488	9549	10610	11671	12732	13793	14854	15915	
63 .0370	1032	2064	3096	4128	5160	6192	7224	8256	9288	10320	11366	12398	13421	14453	15485	
62 .0380	1005	2010	3015	4020	5025	6030	7035	8040	9045	10050	11057	12060	13068	14073	15078	
61 .0390	979	1959	2938	3918	4897	5876	6856	7835	8815	9794	10774	11753	12732	13712	14691	
60 .0400	955	1910	2865	3820	4775	5729	6684	7639	8594	9549	10504	11459	12414	13369	14324	
59 .0410	932	1863	2795	3726	4658	5590	6521	7453	8388	9316	10248	11180	12111	13043	13975	
58 .0420	910	1819	2729	3637	4547	5456	6367	7275	8186	9095	10004	10913	11823	12732	13642	
57 .0430	888	1777	2671	3561	4452	5342	6232	7122	8013	8903	9771	10660	11548	12436	13325	
56 .0465	821	1643	2465	3286	4108	4929	5751	6572	7394	8215	9036	9857	10678	11500	12322	
55 .0520	735	1469	2204	2938	3673	4408	5142	5877	6611	7346	8080	8815	9549	10284	11028	
54 .0550	694	1389	2084	2778	3473	4167	4862	5556	6251	6945	7639	8334	9028	9723	10417	
53 .0595	641	1283	1924	2566	3207	3848	4490	5131	5773	6414	7062	7704	8346	8988	9630	
52 .0635	602	1203	1805	2406	3008	3609	4211	4812	5414	6015	6619	7218	7820	8421	9023	
51 .0670	570	1140	1710	2280	2851	3421	3991	4561	5131	5701	6271	6841	7413	798	8552	
50 .0700	546	1091	1637	2183	2729	3274	3820	4366	4911	5457	6002	6548	7094	7640	8185	
49 .0730	523	1047	1570	2093	2617	3140	3663	4186	4710	5233	5756	6279	6808	7326	7849	
48 .0760	503	1005	1508	2010	2513	3016	3518	4021	4523	5026	5528	6031	6534	7036	7539	
47 .0785	487	973	1460	1946	2433	2920	3406	3893	4379	4866	5352	5839	6326	6812	7299	
46 .0810	472	943	1415	1886	2358	2830	3301	3773	4244	4716	5187	5659	6130	6602	7074	
45 .0820	466	932	1397	1863	2329	2795	3261	3726	4192	4658	5124	5590	6056	6522	6987	
44 .0860	444	888	1333	1777	2221	2665	3109	3554	3999	4442	4886	5330	5774	6218	6662	
43 .0890	429	858	1288	1717	2146	2575	3004	3434	3863	4292	4721	5150	5579	6008	6438	

continued on next page

TECHNICAL INFORMATION

DRILL CUTTING SPEEDS

WIRE GAUGE CONTINUED															
DRILL SIZE WIRE / DEC	FEET PER MINUTE														
	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
	REVOLUTIONS PER MINUTE														
42 .0935	408	817	1226	1634	2043	2451	2860	3268	3677	4085	4494	4902	5311	5719	6128
41 .0960	398	796	1194	1592	1990	2387	2785	3183	3581	3979	4377	4775	5172	5570	5968
40 .0980	390	780	1169	1559	1949	2339	2729	3118	3508	3898	4287	4677	5067	5457	5846
39 .0995	384	768	1152	1536	1920	2303	2687	3071	3455	3839	4222	4607	4991	5374	5758
38 .1015	376	753	1129	1505	1882	2258	2634	3010	3387	3763	4140	4516	4892	5269	5645
37 .1040	367	735	1102	1469	1837	2204	2571	2938	3306	3673	4040	4407	4775	5142	5509
36 .1065	359	717	1076	1435	1794	2152	2511	2870	3228	3587	3945	4304	4663	5021	5380
35 .1100	347	694	1042	1389	1736	2083	2430	2778	3125	3472	3821	4167	4514	4861	5209
34 .1110	344	688	1032	1376	1721	2065	2409	2753	3097	3442	3785	4129	4474	4818	5162
33 .1130	338	676	1014	1352	1690	2028	2366	2704	3042	3380	3718	4056	4394	4732	5070
32 .1160	329	659	988	1317	1647	1976	2305	2634	2964	3293	3622	3951	4281	4610	4939
31 .1200	318	637	955	1273	1592	1910	2228	2546	2865	3183	3501	3821	4138	4456	4775
30 .1285	297	595	892	1189	1487	1784	2081	2378	2676	2973	3270	3567	3864	4162	4459
29 .1360	281	562	843	1124	1405	1685	1966	2247	2528	2809	3090	33701	3651	3932	4213
28 .1405	272	544	816	1088	1360	1631	1903	2175	2447	2719	2990	3262	3534	3806	4078
27 .1440	265	531	796	1061	1327	1592	1857	2122	2388	2653	2919	3183	3448	3714	3979
26 .1470	260	520	779	1039	1299	1559	1819	2078	2338	2598	2858	3118	3378	3638	3898
25 .1495	256	511	767	1022	1276	1533	1789	2044	2300	2555	2810	3066	3322	3577	3832
24 .1520	251	503	754	1005	1257	1508	1759	2010	2262	2513	2764	3016	3267	3518	3769
23 .1540	248	496	744	992	1240	1488	1736	1984	2232	2480	2728	2976	3224	3472	3720
22 .1570	243	487	730	973	1217	1460	1703	1946	2190	2433	2676	2920	3164	3406	3649
21 .1590	240	480	721	961	1201	1441	1681	1922	2162	2402	2644	2883	3123	3363	3604
20 .1610	237	475	712	949	1186	1423	1660	1898	2135	2372	2610	2847	3084	3322	3559
19 .1660	230	460	690	920	1151	1381	1611	1841	2071	2301	2531	2761	2991	3222	3453
18 .1695	226	452	678	904	1130	1356	1582	1808	2034	2260	2479	2704	2930	3155	3380
17 .1730	221	442	662	883	1104	1325	1546	1766	1987	2208	2429	2650	2870	3091	3313
16 .1770	216	432	647	863	1079	1295	1511	1726	1942	2158	2374	2590	2806	3021	3237
15 .1800	213	425	638	851	1064	1276	1489	1702	1914	2127	2334	2546	2759	2971	3183
14 .1820	210	420	630	840	1050	1259	1469	1679	1889	2099	2309	2518	2728	2938	3148
13 .1850	206	413	620	826	1032	1239	1450	1652	1859	2065	2271	2479	2684	2891	3097
12 .1890	202	404	606	808	1010	1213	1415	1617	1819	2021	2223	2425	2627	2829	3032
11 .1910	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3001
10 .1935	197	395	592	790	987	1184	1382	1579	1777	1974	2171	2369	2566	2764	2961
9 .1960	195	390	585	780	975	1169	1364	1559	1754	1949	2144	2339	2534	2728	2923
8 .1990	192	384	576	768	960	1151	1343	1535	1727	1919	2111	2303	2495	2687	2879
7 .2010	190	380	570	760	950	1140	1330	1520	1710	1900	2090	2281	2470	2660	2850
6 .2040	187	374	562	749	936	1123	1310	1498	1685	1872	2060	2247	2434	2621	2809
5 .2055	186	372	558	744	930	1115	1301	1487	1673	1859	2045	2230	2416	2602	2788
4 .2090	183	365	548	731	914	1097	1280	1462	1645	1828	2010	2193	2376	2560	2741
3 .213	179	359	538	717	897	1076	1255	1434	1614	1793	1974	2152	2331	2511	2690
2 .2210	173	345	518	691	864	1037	1210	1382	1555	1728	1901	2074	2247	2420	2593
1 .2280	168	335	503	670	838	1005	1173	1340	1508	1675	1843	2010	2179	2346	2513

TECHNICAL INFORMATION

DIMENSIONAL SPECIFICATIONS

01

DRILLS

CONVERSION FORMULAS: INCH = MM X .03937 METRIC = INCH X 25.4

INCH DRILL SIZES													
DRILL SIZES	DECIMAL EQUIV.	SCREW MACHINE LENGTH				JOBBER LENGTH				TAPER LENGTH			
		flute length		overall length		flute length		overall length		flute length		overall length	
		fraction	decimal	fraction	decimal	fraction	decimal	fraction	decimal	fraction	decimal	fraction	decimal
1/64	.0156	—	—	—	—	3/16	.1875	3/4	.7500	5/16	.3125	1-1/2	1.5000
80	.0135	—	—	—	—	1/8	.1250	3/4	.7500	5/16	.3125	1-1/2	1.5000
79	.0145	—	—	—	—	1/8	.1250	3/4	.7500	5/16	.3125	1-1/2	1.5000
78	.0160	—	—	—	—	3/16	.1875	7/8	.8750	5/16	.3125	1-1/2	1.5000
77	.0180	—	—	—	—	3/16	.1875	7/8	.8750	5/16	.3125	1-1/2	1.5000
76	.0200	—	—	—	—	3/16	.1875	7/8	.8750	5/16	.3125	1-1/2	1.5000
75	.0210	—	—	—	—	1/4	.2500	1	1.0000	5/16	.3125	1-1/2	1.5000
74	.0225	—	—	—	—	1/4	.2500	1	1.0000	5/16	.3125	1-1/2	1.5000
73	.0240	—	—	—	—	5/16	.3125	1-1/8	1.1250	5/16	.3125	1-1/2	1.5000
72	.0250	—	—	—	—	5/16	.3125	1-1/8	1.1250	5/16	.3125	1-1/2	1.5000
71	.0260	—	—	—	—	3/8	.3750	1-1/4	1.2500	3/4	.7500	2	2.0000
70	.0280	—	—	—	—	3/8	.3750	1-1/4	1.2500	3/4	.7500	2	2.0000
69	.0292	—	—	—	—	1/2	.5000	1-3/8	1.3750	3/4	.7500	2	2.0000
68	.0310	—	—	—	—	1/2	.5000	1-3/8	1.3750	3/4	.7500	2	2.0000
1/32	.0312	1/2	.5000	1-3/8	1.3750	1/2	.5000	1-3/8	1.3750	3/4	.7500	2	2.0000
67	.0320	—	—	—	—	1/2	.5000	1-3/8	1.3750	3/4	.7500	2	2.0000
66	.0330	—	—	—	—	1/2	.5000	1-3/8	1.3750	3/4	.7500	2	2.0000
65	.0350	—	—	—	—	5/8	.6250	1-1/2	1.5000	3/4	.7500	2	2.0000
64	.0360	—	—	—	—	5/8	.6250	1-1/2	1.5000	3/4	.7500	2	2.0000
63	.0370	—	—	—	—	5/8	.6250	1-1/2	1.5000	3/4	.7500	2	2.0000
62	.0380	—	—	—	—	5/8	.6250	1-1/2	1.5000	3/4	.7500	2	2.0000
61	.0390	—	—	—	—	11/16	.6875	1-5/8	1.6250	1-1/8	1.1250	2-1/4	2.2500
60	.0400	1/2	.5000	1-3/8	1.3750	11/16	.6875	1-5/8	1.6250	1-1/8	1.1250	2-1/4	2.2500
59	.0410	1/2	.5000	1-3/8	1.3750	11/16	.6875	1-5/8	1.6250	1-1/8	1.1250	2-1/4	2.2500
58	.0420	1/2	.5000	1-3/8	1.3750	11/16	.6875	1-5/8	1.6250	1-1/8	1.1250	2-1/4	2.2500
57	.0430	1/2	.5000	1-3/8	1.3750	3/4	.7500	1-3/4	1.7500	1-1/8	1.1250	2-1/4	2.2500
56	.0465	1/2	.5000	1-3/8	1.3750	3/4	.7500	1-3/4	1.7500	1-1/8	1.1250	2-1/4	2.2500
3/64	.0469	1/2	.5000	1-3/8	1.3750	3/4	.7500	1-3/4	1.7500	1-1/8	1.1250	2-1/4	2.2500
55	.0520	5/8	.6250	1-5/8	1.6250	7/8	.8750	1-7/8	1.8750	1-3/4	1.7500	3	3.0000
54	.0550	5/8	.6250	1-5/8	1.6250	7/8	.8750	1-7/8	1.8750	1-3/4	1.7500	3	3.0000
53	.0595	5/8	.6250	1-5/8	1.6250	7/8	.8750	1-7/8	1.8750	1-3/4	1.7500	3	3.0000
1/16	.0625	5/8	.6250	1-5/8	1.6250	7/8	.8750	1-7/8	1.8750	1-3/4	1.7500	3	3.0000
52	.0635	11/16	.6875	1-11/16	1.6875	7/8	.8750	1-7/8	1.8750	2	2.0000	3-3/4	3.7500
51	.0670	11/16	.6875	1-11/16	1.6875	1	1.0000	2	2.0000	2	2.0000	3-3/4	3.7500
50	.0700	11/16	.6875	1-11/16	1.6875	1	1.0000	2	2.0000	2	2.0000	3-3/4	3.7500
49	.0730	11/16	.6875	1-11/16	1.6875	1	1.0000	2	2.0000	2	2.0000	3-3/4	3.7500
48	.0760	11/16	.6875	1-11/16	1.6875	1	1.0000	2	2.0000	2	2.0000	3-3/4	3.7500
5/64	.0781	11/16	.6875	1-11/16	1.6875	1	1.0000	2	2.0000	2	2.0000	3-3/4	3.7500
47	.0785	3/4	.7500	1-3/4	1.7500	1	1.0000	2	2.0000	2-1/4	2.2500	4-1/4	4.2500
46	.0810	3/4	.7500	1-3/4	1.7500	1-1/8	1.1250	2-1/8	2.1250	2-1/4	2.2500	4-1/4	4.2500
45	.0820	3/4	.7500	1-3/4	1.7500	1-1/8	1.1250	2-1/8	2.1250	2-1/4	2.2500	4-1/4	4.2500
44	.0860	3/4	.7500	1-3/4	1.7500	1-1/8	1.1250	2-1/8	2.1250	2-1/4	2.2500	4-1/4	4.2500
43	.0890	3/4	.7500	1-3/4	1.7500	1-1/4	1.2500	2-1/4	2.2500	2-1/4	2.2500	4-1/4	4.2500
42	.0935	3/4	.7500	1-3/4	1.7500	1-1/4	1.2500	2-1/4	2.2500	2-1/4	2.2500	4-1/4	4.2500
3/32	.0938	3/4	.7500	1-3/4	1.7500	1-1/4	1.2500	2-1/4	2.2500	2-1/4	2.2500	4-1/4	4.2500
41	.0960	13/16	.8125	1-13/16	1.8125	1-3/8	1.3750	2-3/8	2.3750	2-1/2	2.5000	4-5/8	4.6250
40	.0980	13/16	.8125	1-13/16	1.8125	1-3/8	1.3750	2-3/8	2.3750	2-1/2	2.5000	4-5/8	4.6250
39	.0995	13/16	.8125	1-13/16	1.8125	1-3/8	1.3750	2-3/8	2.3750	2-1/2	2.5000	4-5/8	4.6250
38	.1015	13/16	.8125	1-13/16	1.8125	1-7/16	1.4375	2-1/2	2.5000	2-1/2	2.5000	4-5/8	4.6250
37	.1040	13/16	.8125	1-13/16	1.8125	1-7/16	1.4375	2-1/2	2.5000	2-1/2	2.5000	4-5/8	4.6250
36	.1065	13/16	.8125	1-13/16	1.8125	1-7/16	1.4375	2-1/2	2.5000	2-1/2	2.5000	4-5/8	4.6250
7/64	.1094	13/16	.8125	1-13/16	1.8125	1-1/2	1.5000	2-5/8	2.6250	2-1/2	2.5000	4-5/8	4.6250
35	.1100	7/8	.8750	1-7/8	1.8750	1-1/2	1.5000	2-5/8	2.6250	2-3/4	2.7500	5-1/8	5.1250
34	.1110	7/8	.8750	1-7/8	1.8750	1-1/2	1.5000	2-5/8	2.6250	2-3/4	2.7500	5-1/8	5.1250
33	.1130	7/8	.8750	1-7/8	1.8750	1-1/2	1.5000	2-5/8	2.6250	2-3/4	2.7500	5-1/8	5.1250
32	.1160	7/8	.8750	1-7/8	1.8750	1-5/8	1.6250	2-3/4	2.7500	2-3/4	2.7500	5-1/8	5.1250

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TECHNICAL INFORMATION

DIMENSIONAL SPECIFICATIONS

CONVERSION FORMULAS: INCH = MM X .03937 METRIC = INCH X 25.4

INCH DRILL SIZES CONTINUED													
DRILL SIZES	DECIMAL EQUIV.	SCREW MACHINE LENGTH				JOBBER LENGTH				TAPER LENGTH			
		flute length		overall length		flute length		overall length		flute length		overall length	
		fraction	decimal	fraction	decimal	fraction	decimal	fraction	decimal	fraction	decimal	fraction	decimal
1/8	.1250	7/8	.8750	1-7/8	1.8750	1-5/8	1.6250	2-3/4	2.7500	2-3/4	2.7500	5-1/8	5.1250
30	.1285	15/16	.9375	1-15/16	1.9375	1-5/8	1.6250	2-3/4	2.7500	3	3.0000	5-3/8	5.3750
29	.1360	15/16	.9375	1-15/16	1.9375	1-3/4	1.7500	2-7/8	2.8750	3	3.0000	5-3/8	5.3750
28	.1405	15/16	.9375	1-15/16	1.9375	1-3/4	1.7500	2-7/8	2.8750	3	3.0000	5-3/8	5.3750
9/64	.1406	15/16	.9375	1-15/16	1.9375	1-3/4	1.7500	2-7/8	2.8750	3	3.0000	5-3/8	5.3750
27	.1440	1	1.0000	2-1/16	2.0625	1-7/8	1.8750	3	3.0000	3	3.0000	5-3/8	5.3750
26	.1470	1	1.0000	2-1/16	2.0625	1-7/8	1.8750	3	3.0000	3	3.0000	5-3/8	5.3750
25	.1495	1	1.0000	2-1/16	2.0625	1-7/8	1.8750	3	3.0000	3	3.0000	5-3/8	5.3750
24	.1520	1	1.0000	2-1/16	2.0625	2	2.0000	3-1/8	3.1250	3	3.0000	5-3/8	5.3750
23	.1540	1	1.0000	2-1/16	2.0625	2	2.0000	3-1/8	3.1250	3	3.0000	5-3/8	5.3750
5/32	.1562	1	1.0000	2-1/16	2.0625	2	2.0000	3-1/8	3.1250	3	3.0000	5-3/8	5.3750
22	.1570	1-1/16	1.0625	2-1/8	2.1250	2	2.0000	3-1/8	3.1250	3-3/8	3.3750	5-3/4	5.7500
21	.1590	1-1/16	1.0625	2-1/8	2.1250	2-1/8	2.1250	3-1/4	3.2500	3-3/8	3.3750	5-3/4	5.7500
20	.1610	1-1/16	1.0625	2-1/8	2.1250	2-1/8	2.1250	3-1/4	3.2500	3-3/8	3.3750	5-3/4	5.7500
19	.1660	1-1/16	1.0625	2-1/8	2.1250	2-1/8	2.1250	3-1/4	3.2500	3-3/8	3.3750	5-3/4	5.7500
18	.1695	1-1/16	1.0625	2-1/8	2.1250	2-1/8	2.1250	3-1/4	3.2500	3-3/8	3.3750	5-3/4	5.7500
11/64	.1719	1-1/16	1.0625	2-1/8	2.1250	2-1/8	2.1250	3-1/4	3.2500	3-3/8	3.3750	5-3/4	5.7500
17	.1730	1-1/8	1.2500	2-3/16	2.1875	2-3/16	2.1875	3-3/8	3.3750	3-3/8	3.3750	5-3/4	5.7500
16	.1770	1-1/8	1.2500	2-3/16	2.1875	2-3/16	2.1875	3-3/8	3.3750	3-3/8	3.3750	5-3/4	5.7500
15	.1800	1-1/8	1.2500	2-3/16	2.1875	2-3/16	2.1875	3-3/8	3.3750	3-3/8	3.3750	5-3/4	5.7500
14	.1820	1-1/8	1.2500	2-3/16	2.1875	2-3/16	2.1875	3-3/8	3.3750	3-3/8	3.3750	5-3/4	5.7500
13	.1850	1-1/8	1.2500	2-3/16	2.1875	2-5/16	2.3125	3-1/2	3.5000	3-3/8	3.3750	5-3/4	5.7500
3/16	.1875	1-1/8	1.2500	2-3/16	2.1875	2-5/16	2.3125	3-1/2	3.5000	3-3/8	3.3750	5-3/4	5.7500
12	.1890	1-3/16	1.1875	2-1/4	2.2500	2-5/16	2.3125	3-1/2	3.5000	3-5/8	3.6250	6	6.0000
11	.1910	1-3/16	1.1875	2-1/4	2.2500	2-5/16	2.3125	3-1/2	3.5000	3-5/8	3.6250	6	6.0000
10	.1935	1-3/16	1.1875	2-1/4	2.2500	2-7/16	2.4375	3-5/8	3.6250	3-5/8	3.6250	6	6.0000
9	.1960	1-3/16	1.1875	2-1/4	2.2500	2-7/16	2.4375	3-5/8	3.6250	3-5/8	3.6250	6	6.0000
8	.1990	1-3/16	1.1875	2-1/4	2.2500	2-7/16	2.4375	3-5/8	3.6250	3-5/8	3.6250	6	6.0000
7	.2010	1-3/16	1.1875	2-1/4	2.2500	2-7/16	2.4375	3-5/8	3.6250	3-5/8	3.6250	6	6.0000
13/64	.2031	1-3/16	1.1875	2-1/4	2.2500	2-7/16	2.4375	3-5/8	3.6250	3-5/8	3.6250	6	6.0000
6	.2040	1-1/4	1.2500	2-3/8	2.3750	2-1/2	2.5000	3-3/4	3.7500	3-5/8	3.6250	6	6.0000
5	.2055	1-1/4	1.2500	2-3/8	2.3750	2-1/2	2.5000	3-3/4	3.7500	3-5/8	3.6250	6	6.0000
4	.2090	1-1/4	1.2500	2-3/8	2.3750	2-1/2	2.5000	3-3/4	3.7500	3-5/8	3.6250	6	6.0000
3	.2130	1-1/4	1.2500	2-3/8	2.3750	2-1/2	2.5000	3-3/4	3.7500	3-5/8	3.6250	6	6.0000
7/32	.2188	1-1/4	1.2500	2-3/8	2.3750	2-1/2	2.5000	3-3/4	3.7500	3-5/8	3.6250	6	6.0000
2	.2210	1-5/16	1.3125	2-7/16	2.4375	2-5/8	2.6250	3-7/8	3.8750	3-3/4	3.7500	6-1/8	6.1250
1	.2280	1-5/16	1.3125	2-7/16	2.4375	2-5/8	2.6250	3-7/8	3.8750	3-3/4	3.7500	6-1/8	6.1250
A	.2340	1-5/16	1.3125	2-7/16	2.4375	2-5/8	2.6250	3-7/8	3.8750	3-3/4	3.7500	6-1/8	6.1250
15/64	.2344	1-5/16	1.3125	2-7/16	2.4375	2-5/8	2.6250	3-7/8	3.8750	3-3/4	3.7500	6-1/8	6.1250
B	.2380	1-3/8	1.3750	2-1/2	2.5000	2-3/4	2.7500	4	4.0000	3-3/4	3.7500	6-1/8	6.1250
C	.2420	1-3/8	1.3750	2-1/2	2.5000	2-3/4	2.7500	4	4.0000	3-3/4	3.7500	6-1/8	6.1250
D	.2460	1-3/8	1.3750	2-1/2	2.5000	2-3/4	2.7500	4	4.0000	3-3/4	3.7500	6-1/8	6.1250
1/4-E	.2500	1-3/8	1.3750	2-1/2	2.5000	2-3/4	2.7500	4	4.0000	3-3/4	3.7500	6-1/8	6.1250
F	.2570	1-7/16	1.4375	2-5/8	2.6250	2-7/8	2.8750	4-1/8	4.1250	3-3/4	3.7500	6-1/8	6.1250
G	.2610	1-7/16	1.4375	2-5/8	2.6250	2-7/8	2.8750	4-1/8	4.1250	3-3/4	3.7500	6-1/8	6.1250
17/64	.2656	1-7/16	1.4375	2-5/8	2.6250	2-7/8	2.8750	4-1/8	4.1250	3-7/8	3.8750	6-1/4	6.2500
H	.2660	1-1/2	1.5000	2-11/16	2.6875	2-7/8	2.8750	4-1/8	4.1250	3-7/8	3.8750	6-1/4	6.2500
I	.2720	1-1/2	1.5000	2-11/16	2.6875	2-7/8	2.8750	4-1/8	4.1250	3-7/8	3.8750	6-1/4	6.2500
J	.2770	1-1/2	1.5000	2-11/16	2.6875	2-7/8	2.8750	4-1/8	4.1250	3-7/8	3.8750	6-1/4	6.2500
9/32	.2812	1-1/2	1.5000	2-11/16	2.6875	2-15/16	2.9375	4-1/4	4.2500	3-7/8	3.8750	6-1/4	6.2500
K	.2812	1-1/2	1.5000	2-11/16	2.6875	2-15/16	2.9375	4-1/4	4.2500	3-7/8	3.8750	6-1/4	6.2500
L	.2900	1-9/16	1.5625	2-3/4	2.7500	2-15/16	2.9375	4-1/4	4.2500	3-7/8	3.8750	6-1/4	6.2500
M	.2950	1-9/16	1.5625	2-3/4	2.7500	3-1/16	3.0625	4-3/8	4.3750	4	4.0000	6-3/8	6.3750
19/64	.2969	1-9/16	1.5625	2-3/4	2.7500	3-1/16	3.0625	4-3/8	4.3750	4	4.0000	6-3/8	6.3750
N	.3020	1-5/8	1.6250	2-13/16	2.8125	3-1/16	3.0625	4-3/8	4.3750	4	4.0000	6-3/8	6.3750
5/16	.3125	1-5/8	1.6250	2-13/16	2.8125	3-3/16	3.1875	4-1/2	4.5000	4	4.0000	6-3/8	6.3750

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TECHNICAL INFORMATION

DIMENSIONAL SPECIFICATIONS

01

DRILLS

CONVERSION FORMULAS: INCH = MM X .03937 METRIC = INCH X 25.4

INCH DRILL SIZES CONTINUED													
DRILL SIZES	DECIMAL EQUIV.	SCREW MACHINE LENGTH				JOBBER LENGTH				TAPER LENGTH			
		flute length		overall length		flute length		overall length		flute length		overall length	
		fraction	decimal	fraction	decimal	fraction	decimal	fraction	decimal	fraction	decimal	fraction	decimal
O	.3160	1-11/16	1.6875	2-15/16	2.9375	3-3/16	3.1875	4-1/2	4.5000	4	4.0000	6-3/8	6.3750
P	.3230	1-11/16	1.6875	2-15/16	2.9375	3-5/16	3.1875	4-5/8	4.6250	4	4.0000	6-3/8	6.3750
21/64	.3281	1-11/16	1.6875	2-15/16	2.9375	3-5/16	3.1875	4-5/8	4.6250	4-1/8	4.1250	6-1/2	6.5000
Q	.3320	1-11/16	1.6875	3	3.0000	3-7/16	3.4375	4-3/4	4.7500	4-1/8	4.1250	6-1/2	6.5000
R	.3390	1-11/16	1.6875	3	3.0000	3-7/16	3.4375	4-3/4	4.7500	4-1/8	4.1250	6-1/2	6.5000
11/32	.3438	1-11/16	1.6875	3	3.0000	3-7/16	3.4375	4-3/4	4.7500	4-1/8	4.1250	6-1/2	6.5000
S	.3480	1-3/4	1.7500	3-1/16	3.0625	3-1/2	3.5000	4-7/8	4.8750	4-1/4	4.2500	6-3/4	6.7500
T	.3580	1-3/4	1.7500	3-1/16	3.0625	3-1/2	3.5000	4-7/8	4.8750	4-1/4	4.2500	6-3/4	6.7500
23/64	.3594	1-3/4	1.7500	3-1/16	3.0625	3-1/2	3.5000	4-7/8	4.8750	4-1/4	4.2500	6-3/4	6.7500
U	.3680	1-13/16	1.8125	3-1/8	3.1250	3-5/8	3.6250	5	5.0000	4-1/4	4.2500	6-3/4	6.7500
3/8	.3750	1-13/16	1.8125	3-1/8	3.1250	3-5/8	3.6250	5	5.0000	4-1/4	4.2500	6-3/4	6.7500
V	.3770	1-7/8	1.8750	3-1/4	3.2500	3-5/8	3.6250	5	5.0000	4-1/4	4.2500	6-3/4	6.7500
W	.3860	1-7/8	1.8750	3-1/4	3.2500	3-3/4	3.7500	5-1/8	5.1250	4-1/4	4.2500	6-3/4	6.7500
25/64	.3906	1-7/8	1.8750	3-1/4	3.2500	3-3/4	3.7500	5-1/8	5.1250	4-3/8	4.3750	7	7.0000
X	.3970	1-15/16	1.9375	3-5/16	3.3125	3-3/4	3.7500	5-1/8	5.1250	4-3/8	4.3750	7	7.0000
Y	.4040	1-15/16	1.9375	3-5/16	3.3125	3-7/8	3.8750	5-1/4	5.2500	4-3/8	4.3750	7	7.0000
13/32	.4062	1-15/16	1.9375	3-5/16	3.3125	3-7/8	3.8750	5-1/4	5.2500	4-3/8	4.3750	7	7.0000
Z	.4130	2	2.0000	3-3/8	3.3750	3-7/8	3.8750	5-1/4	5.2500	4-5/8	4.6250	7-1/4	7.2500
27/64	.4219	2	2.0000	3-3/8	3.3750	3-15/16	3.9375	5-3/8	5.3750	4-5/8	4.6250	7-1/4	7.2500
7/16	.4375	2-1/16	2.0625	3-7/16	3.4375	4-1/16	4.0625	5-1/2	5.5000	4-5/8	4.6250	7-1/4	7.2500
29/64	.4531	2-1/8	2.1250	3-9/16	3.5625	4-3/16	4.1875	5-5/8	5.6250	4-3/4	4.7500	7-1/2	7.5000
15/32	.4688	2-1/8	2.1250	3-5/8	3.6250	4-5/16	4.3125	5-3/4	5.7500	4-3/4	4.7500	7-1/2	7.5000
31/64	.4844	2-3/16	2.1875	3-11/16	3.6875	4-3/8	4.3750	5-7/8	5.8750	4-3/4	4.7500	7-3/4	7.7500
1/2	.5000	2-1/4	2.2500	3-3/4	3.7500	4-1/2	4.5000	6	6.0000	4-3/4	4.7500	7-3/4	7.7500
33/64	.5156	2-3/8	2.3750	3-7/8	3.8750	4-13/16	4.8125	6-5/8	6.6250	4-3/4	4.7500	8	8.0000
17/32	.5312	2-3/8	2.3750	3-7/8	3.8750	4-13/16	4.8125	6-5/8	6.6250	4-3/4	4.7500	8	8.0000
35/64	.5469	2-1/2	2.5000	4	4.0000	4-13/16	4.8125	6-5/8	6.6250	4-7/8	4.8750	8-1/4	8.2500
9/16	.5625	2-1/2	2.5000	4	4.0000	4-13/16	4.8125	6-5/8	6.6250	4-7/8	4.8750	8-1/4	8.2500
37/64	.5781	2-5/8	2.6250	4-1/8	4.1250	4-13/16	4.8125	6-5/8	6.6250	4-7/8	4.8750	8-3/4	8.7500
19/32	.5938	2-5/8	2.6250	4-1/8	4.1250	5-3/16	5.1875	7-1/8	7.1250	4-7/8	4.8750	8-3/4	8.7500
39/64	.6094	2-3/4	2.7500	4-1/4	4.2500	5-3/16	5.1875	7-1/8	7.1250	4-7/8	4.8750	8-3/4	8.7500
5/8	.6250	2-3/4	2.7500	4-1/4	4.2500	5-3/16	5.1875	7-1/8	7.1250	4-7/8	4.8750	8-3/4	8.7500
41/64	.6406	2-7/8	2.8750	4-1/2	4.5000	5-3/16	5.1875	7-1/8	7.1250	5-1/8	5.1250	9	9.0000
21/32	.6562	2-7/8	2.8750	4-1/2	4.5000	5-3/16	5.1875	7-1/8	7.1250	5-1/8	5.1250	9	9.0000
43/64	.6719	2-7/8	2.8750	4-5/8	4.6250	5-5/8	5.6250	7-5/8	7.6250	5-3/8	5.3750	9-1/4	9.2500
11/16	.6875	2-7/8	2.8750	4-5/8	4.6250	5-5/8	5.6250	7-5/8	7.6250	5-3/8	5.3750	9-1/4	9.2500
45/64	.7031	3	3.0000	4-3/4	4.7500	—	—	—	—	5-5/8	5.6250	9-1/2	9.5000
23/32	.7188	3	3.0000	4-3/4	4.7500	—	—	—	—	5-5/8	5.6250	9-1/2	9.5000
47/64	.7344	3-1/8	3.1250	5	5.0000	—	—	—	—	5-7/8	5.8750	9-3/4	9.7500
3/4	.7500	3-1/8	3.1250	5	5.0000	—	—	—	—	5-7/8	5.8750	9-3/4	9.7500
49/64	.7656	3-1/4	3.2500	5-1/8	5.1250	—	—	—	—	6	6.0000	9-7/8	9.8750
25/32	.7812	3-1/4	3.2500	5-1/8	5.1250	—	—	—	—	6	6.0000	9-7/8	9.8750
51/64	.7969	3-3/8	3.3750	5-1/4	5.2500	—	—	—	—	6-1/8	6.1250	10	10.0000
13/16	.8125	3-3/8	3.3750	5-1/4	5.2500	—	—	—	—	6-1/8	6.1250	10	10.0000
53/64	.8281	3-1/2	3.5000	5-3/8	5.3750	—	—	—	—	6-1/8	6.1250	10	10.0000
27/32	.8438	3-1/2	3.5000	5-3/8	5.3750	—	—	—	—	6-1/8	6.1250	10	10.0000
55/64	.8594	3-1/2	3.5000	5-1/2	5.5000	—	—	—	—	6-1/8	6.1250	10	10.0000
7/8	.8750	3-1/2	3.5000	5-1/2	5.5000	—	—	—	—	6-1/8	6.1250	10	10.0000
57/64	.8906	3-5/8	3.6250	5-5/8	5.6250	—	—	—	—	6-1/8	6.1250	10	10.0000
29/32	.9062	3-5/8	3.6250	5-5/8	5.6250	—	—	—	—	6-1/8	6.1250	10	10.0000
59/64	.9219	3-3/4	3.7500	5-3/4	5.7500	—	—	—	—	6-1/8	6.1250	10-3/4	10.7500
15/16	.9375	3-3/4	3.7500	5-3/4	5.7500	—	—	—	—	6-1/8	6.1250	10-3/4	10.7500
61/64	.9531	3-7/8	3.8750	5-7/8	5.8750	—	—	—	—	6-3/8	6.3750	11	11.0000
31/32	.9688	3-7/8	3.8750	5-7/8	5.8750	—	—	—	—	6-3/8	6.3750	11	11.0000
63/64	.9844	4	4.0000	6	6.0000	—	—	—	—	6-3/8	6.3750	11	11.0000
1	1.0000	4	4.0000	6	6.0000	—	—	—	—	6-3/8	6.3750	11	11.0000

TECHNICAL INFORMATION

DIMENSIONAL SPECIFICATIONS

CONVERSION FORMULAS: INCH = MM X .03937 METRIC = INCH X 25.4

METRIC DRILL SIZES							
DRILL SIZE (MM)	DECIMAL EQUIVALENT (IN)	SCREW MACHINE LENGTH DIN 1897		JOBBER LENGTH DIN 338		TAPER LENGTH DIN 340	
		flute length mm	overall length mm	flute length mm	overall length mm	flute length mm	overall length mm
0.2	.0079	1.5	19	2.5	19	—	—
0.22	.0087	1.5	19	2.5	19	—	—
0.25	.0098	1.5	19	3	19	—	—
0.28	.0110	1.5	19	3	19	—	—
0.3	.0118	1.5	19	3	19	—	—
0.32	.0126	2	19	4	19	—	—
0.35	.0138	2	19	4	19	—	—
0.38	.0150	2	19	4	19	—	—
0.4	.0157	2.5	19	5	20	—	—
0.42	.0165	2.5	19	5	20	—	—
0.45	.0177	2.5	19	5	20	—	—
0.48	.0189	2.5	19	5	20	—	—
0.5	.0197	3	20	6	22	—	—
0.52	.0205	3	20	6	22	—	—
0.55	.0217	3.5	21	7	24	—	—
0.58	.0228	3.5	21	7	24	—	—
0.6	.0236	3.5	21	7	24	—	—
0.62	.0244	4	22	8	26	—	—
0.65	.0256	4	22	8	26	—	—
0.68	.0268	4.5	23	9	28	—	—
0.7	.0276	4.5	23	9	28	—	—
0.72	.0283	4.5	23	9	28	—	—
0.75	.0295	4.5	23	9	28	—	—
0.78	.0307	5	24	10	30	—	—
0.8	.0315	5	24	10	30	—	—
0.82	.0322	5	24	10	30	—	—
0.85	.0335	5	24	10	30	—	—
0.88	.0346	5.5	25	11	32	—	—
0.9	.0354	5.5	25	11	32	—	—
0.92	.0362	5.5	25	11	32	—	—
0.95	.0374	5.5	25	11	32	—	—
0.98	.0385	6	26	12	34	—	—
1.0	.0394	6	26	12	34	33	56
1.05	.0413	6	26	12	34	—	—
1.1	.0433	7	28	14	36	37	60
1.15	.0453	7	28	14	36	—	—
1.2	.0472	8	30	16	38	41	65
1.25	.0492	8	30	16	38	—	—
1.3	.0512	8	30	16	38	41	65
1.35	.0531	9	32	18	40	—	—
1.4	.0551	9	32	18	40	45	70
1.45	.0571	9	32	18	40	—	—
1.5	.0591	9	32	18	40	45	70
1.55	.0610	10	34	20	43	—	—
1.6	.0630	10	34	20	43	50	76
1.65	.0650	10	34	20	43	—	—
1.7	.0669	10	34	20	43	50	76
1.75	.0689	11	36	22	46	—	—
1.8	.0709	11	36	22	46	53	80
1.85	.0728	11	36	22	46	—	—
1.9	.0748	11	36	22	46	53	80
1.95	.0767	12	38	24	49	—	—
2.0	.0787	12	38	24	49	56	85
2.05	.0807	12	38	24	49	—	—
2.1	.0827	12	38	24	49	56	85
2.15	.0846	13	40	27	53	—	—

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TECHNICAL INFORMATION

DIMENSIONAL SPECIFICATIONS

01

DRILLS

CONVERSION FORMULAS: INCH = MM X .03937 METRIC = INCH X 25.4

METRIC DRILL SIZES CONTINUED

DRILL SIZE (MM)	DECIMAL EQUIVALENT (IN)	SCREW MACHINE LENGTH DIN 1897		JOBBER LENGTH DIN 338		TAPER LENGTH DIN 340	
		flute length mm	overall length mm	flute length mm	overall length mm	flute length mm	overall length mm
2.2	.0866	13	40	27	53	59	90
2.25	.0886	13	40	27	53	—	—
2.3	.0906	13	40	27	53	59	90
2.35	.0925	13	40	27	53	—	—
2.4	.0945	14	43	30	57	62	95
2.45	.0964	14	43	30	57	—	—
2.5	.0984	14	43	30	57	62	95
2.55	.1003	14	43	30	57	—	—
2.6	.1024	14	43	30	57	62	95
2.65	.1043	14	43	30	57	—	—
2.7	.1062	16	46	33	61	66	100
2.75	.1082	16	46	33	61	—	—
2.8	.1102	16	46	33	61	66	100
2.85	.1122	16	46	33	61	—	—
2.9	.1142	16	46	33	61	66	100
2.95	.1161	16	46	33	61	—	—
3.0	.1181	16	46	33	61	66	100
3.1	.1220	18	49	36	65	69	106
3.2	.1260	18	49	36	65	69	106
3.3	.1299	18	49	36	65	69	106
3.4	.1339	20	52	39	70	73	112
3.5	.1378	20	52	39	70	73	112
3.6	.1417	20	52	39	70	73	112
3.7	.1457	20	52	39	70	73	112
3.8	.1496	22	55	43	75	78	119
3.9	.1535	22	55	43	75	78	119
4.0	.1575	22	55	43	75	78	119
4.1	.1614	22	55	43	75	78	119
4.2	.1654	22	55	43	75	78	119
4.3	.1692	24	58	47	80	82	126
4.4	.1732	24	58	47	80	82	126
4.5	.1772	24	58	47	80	82	126
4.6	.1811	24	58	47	80	82	126
4.7	.1850	24	58	47	80	82	126
4.8	.1890	26	62	52	86	87	132
5.0	.1969	26	62	52	86	87	132
5.1	.2008	26	62	52	86	87	132
5.2	.2047	26	62	52	86	87	132
5.3	.2086	26	62	52	86	87	132
5.4	.2125	28	66	57	93	91	139
5.5	.2165	28	66	57	93	91	139
5.6	.2205	28	66	57	93	91	139
5.7	.2244	28	66	57	93	91	139
5.8	.2283	28	66	57	93	91	139
5.9	.2322	28	66	57	93	91	139
6.0	.2362	28	66	57	93	91	139
6.1	.2401	31	70	63	101	97	148
6.2	.2440	31	70	63	101	97	148
6.3	.2480	31	70	63	101	97	148
6.4	.2520	31	70	63	101	97	148
6.5	.2559	31	70	63	101	97	148
6.6	.2598	31	70	63	101	97	148
6.7	.2638	31	70	63	101	97	148
6.8	.2677	34	74	69	109	102	156
6.9	.2717	34	74	69	109	102	156
7.0	.2756	34	74	69	109	102	156

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TECHNICAL INFORMATION

DIMENSIONAL SPECIFICATIONS

CONVERSION FORMULAS: INCH = MM X .03937 METRIC = INCH X 25.4

METRIC DRILL SIZES CONTINUED

DRILL SIZE (MM)	DECIMAL EQUIVALENT (IN)	SCREW MACHINE LENGTH DIN 1897		JOBBER LENGTH DIN 338		TAPER LENGTH DIN 340	
		flute length mm	overall length mm	flute length mm	overall length mm	flute length mm	overall length mm
7.1	.2795	34	74	69	109	102	156
7.2	.2835	34	74	69	109	102	156
7.3	.2874	34	74	69	109	102	156
7.4	.2913	34	74	69	109	102	156
7.5	.2953	34	74	69	109	102	156
7.6	.2992	37	79	75	117	109	165
7.7	.3031	37	79	75	117	109	165
7.8	.3070	37	79	75	117	109	165
7.9	.3110	37	79	75	117	109	165
8.0	.3150	37	79	75	117	109	165
8.1	.3189	37	79	75	117	109	165
8.2	.3228	37	79	75	117	109	165
8.3	.3267	37	79	75	117	109	165
8.4	.3307	37	79	75	117	109	165
8.5	.3346	37	79	75	117	109	165
8.6	.3386	40	84	81	125	115	175
8.7	.3425	40	84	81	125	115	175
8.8	.3464	40	84	81	125	115	175
8.9	.3503	40	84	81	125	115	175
9.0	.3543	40	84	81	125	115	175
9.1	.3582	40	84	81	125	115	175
9.2	.3622	40	84	81	125	115	175
9.3	.3661	40	84	81	125	115	175
9.4	.3700	40	84	81	125	115	175
9.5	.3740	40	84	81	125	115	175
9.6	.3779	43	89	87	133	121	184
9.7	.3817	43	89	87	133	121	184
9.8	.3858	43	89	87	133	121	184
9.9	.3897	43	89	87	133	121	184
10.0	.3937	43	89	87	133	121	184
10.1	.3976	43	89	87	133	121	184
10.2	.4016	43	89	87	133	121	184
10.3	.4055	43	89	87	133	121	184
10.4	.4094	43	89	87	133	121	184
10.5	.4134	43	89	87	133	121	184
10.6	.4173	43	89	87	133	121	184
10.7	.4212	47	95	94	142	128	195
10.8	.4252	47	95	94	142	128	195
10.9	.4291	47	95	94	142	128	195
11.0	.4331	47	95	94	142	128	195
11.1	.4370	47	95	94	142	128	195
11.2	.4409	47	95	94	142	128	195
11.3	.4448	47	95	94	142	128	195
11.4	.4488	47	95	94	142	128	195
11.5	.4527	47	95	94	142	128	195
11.6	.4566	47	95	94	142	128	195
11.7	.4606	47	95	94	142	128	195
11.8	.4645	47	95	94	142	128	195
11.9	.4685	51	102	101	151	134	205
12.0	.4724	51	102	101	151	134	205
12.1	.4763	51	102	101	151	134	205
12.2	.4823	51	102	101	151	134	205
12.3	.4842	51	102	101	151	134	205
12.4	.4881	51	102	101	151	134	205
12.5	.4921	51	102	101	151	134	205
12.6	.4960	51	102	101	151	134	205

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TECHNICAL INFORMATION

DIMENSIONAL SPECIFICATIONS

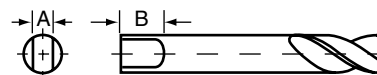
CONVERSION FORMULAS: INCH = MM X .03937 METRIC = INCH X 25.4

METRIC DRILL SIZES CONTINUED

DRILL SIZE (MM)	DECIMAL EQUIVALENT (IN)	SCREW MACHINE LENGTH DIN 1897		JOBBER LENGTH DIN 338		TAPER LENGTH DIN 340	
		flute length mm	overall length mm	flute length mm	overall length mm	flute length mm	overall length mm
12.7	.5000	51	102	101	151	134	205
12.8	.5039	51	102	101	151	134	205
12.9	.5078	51	102	101	151	134	205
13.0	.5118	51	102	101	151	134	205
13.1	.5157	51	102	101	151	134	205
13.2	.5197	51	102	101	151	134	205
13.3	.5236	54	107	108	160	140	214
13.4	.5118	54	107	108	160	140	214
13.5	.5315	54	107	108	160	140	214
13.6	.5354	54	107	108	160	140	214
13.7	.5394	54	107	108	160	140	214
13.8	.5433	54	107	108	160	140	214
13.9	.5472	54	107	108	160	140	214
14.0	.5512	54	107	108	160	140	214
14.25	.5610	56	111	114	169	144	220
14.5	.5709	56	111	114	169	144	220
14.75	.5807	56	111	114	169	144	220
15.0	.5906	56	111	114	169	144	220
15.25	.6004	58	115	120	178	149	227
15.5	.6102	58	115	120	178	149	227
15.75	.6201	58	115	120	178	149	227
16.0	.6299	58	115	120	178	149	227

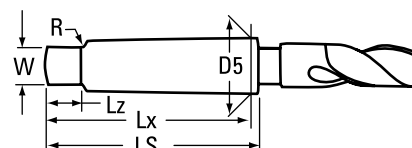
SHANK / TANG

SHANK DIAMETER (INCHES)		TANG DIMENSIONS (INCHES)	
from	to	A width	B length
1/8	3/16	.092	9/32
over 3/16	1/4	.120	5/16
over 1/4	5/16	.160	11/32
over 5/16	3/8	.201	3/8
over 3/8	15/32	.241	7/16
over 15/32	9/16	.300	1/2
over 9/16	21/32	.370	9/16
over 21/32	3/4	.440	5/8
over 3/4	7/8	.511	11/16
over 7/8	1	.605	3/4
over 1-3/16	1-3/8	.813	7/8



MORSE TAPER SHANK

morse taper shank number	taper per foot	taper per inch	D5 maximum shank dia.	LS length of shank	Lx length of shank to gauge line	Lz length of tang	W thickness of tang	R radius
1	.5985	.0498	.475	2.56	2.44	.37	.20	.19
2	.5994	.0499	.700	3.12	2.94	.44	.25	.25
3	.6023	.0501	.938	3.87	3.69	.56	.31	.28
4	.6232	.0519	1.231	4.87	4.62	.62	.47	.31
5	.6315	.0526	1.749	6.12	5.87	.75	.62	.37
6	.6256	.0521	2.494	8.56	8.25	1.12	.75	.50



TECHNICAL INFORMATION

TROUBLE SHOOTING

DRILL GUIDE		
TROUBLE	POSSIBLE CAUSES	CORRECTIONS
Drill Breaks	Spring or back lash in press or work	Test press and work for rigidity and alignment
	Too little lip relief	Regrind properly
	Speed too low in proportion to the feed	Increase or decrease speed
	Dull drill	Sharpen drill
	Possible chip congestion	Peck drill
Outer Corner Breakdown	Uneven hardness in work material	Reduce speed
	Too much Speed	Reduce Speed
	Improper cutting compound	Use proper cutting compound
Drill Breaks in Brass or Wood	Chips clog up flutes	Increase speed. Use drills designed for these materials
Cutting Lips Chipped	Too much feed	Reduce feed
	Too much lip relief	Regrind properly
Cracking or Checking in Cutting Edges	Heated and cooled too quickly	Warm slowly before using. Do not throw cold water on hot drill while grinding or drilling
	Too much feed	Reduce feed
Hole too Large	Unequal angle or length of the cutting edges or both	Regrind properly
	Loose spindle	Test spindle for rigidity
Only One Lip Cutting	Unequal length or angle of cutting lips or both	Regrind drill properly
Drill Splits up Center	Too little lip relief	Regrind with proper relief
	Too much feed	Reduce feed
Rough Hole	Dull or improperly ground drill	Regrind properly
	Lack of lubricant or wrong lubricant	Lubricate or change lubricant
	Improper set-up	Check set-up
	Too much feed	Reduce feed

02

TAPS





GENERAL PURPOSE TAPS

HAND TAPS

HIGH SPEED STEEL

Bright Finish

Type	Series	Page Number
Taper/Plug/Bottoming	0401, 0402 0403, 0404	369



SPIRAL POINT TAPS

HIGH SPEED STEEL

Bright Finish

Type	Series	Page Number
Plug	0411	406



PIPE TAPS

HIGH SPEED STEEL

Bright Finish

Type	Series	Page Number
NPT	0462, 0464	460
NPS	0463	460



GENERAL PURPOSE TAPS

HAND TAPS

HIGH SPEED STEEL

Bright Finish

Type	Series	Page Number
Taper/Plug/Bottoming	2000, 2800	372
Taper/Plug/Bottoming	2000E, 2800E	399



HIGH SPEED STEEL

Black Oxide Finish

Type	Series	Page Number
Taper/Plug/Bottoming	2000N	371



CARBON

Bright Finish

Type	Series	Page Number
Taper/Plug/Bottoming	2000C	402



OVERSIZE HAND TAPS

HIGH SPEED STEEL

Bright Finish

Type	Series	Page Number
Plug/Bottoming	2005, 2003	375



SPIRAL POINT TAPS

HIGH SPEED STEEL

Black Oxide Finish

Type	Series	Page Number
Plug	2100N	407



HIGH SPEED STEEL

Bright Finish

Type	Series	Page Number
Plug	2100 2850	408 409



OVERSIZE SPIRAL POINT TAPS

HIGH SPEED STEEL

Bright Finish

Type	Series	Page Number
Plug	2105, 2103	409



COMBINED DRILL & TAPS

HIGH SPEED STEEL

Bright Finish

Type	Series	Page Number
	0450	379



MULTI-APPLICATION

SPIRAL FLUTE TAPS

HIGH SPEED STEEL

Bright Finish

Type	Series	Page Number
Plug/Bottoming	2000F	441
Bottoming	2000PF	441



HIGH PERFORMANCE TAPS

DIN/ANSI PRODUCTION TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug	2100PS	410



SPIRAL POINT TAPS

PREMIUM HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Plug	2150N	430



PREMIUM HIGH SPEED STEEL		
TiCN Finish		
Type	Series	Page Number
Plug	2250N	431



SPIRAL FLUTE TAPS

PREMIUM HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Bottoming	2160N	448



PREMIUM HIGH SPEED STEEL		
TiCN Finish		
Type	Series	Page Number
Bottoming	2260N	449



PIPE TAPS

GENERAL PURPOSE

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
NPT	2900	461
	2900E	468
NPS	2950, 2930	461



PIPE TAPS

GENERAL PURPOSE

CARBON STEEL		
Bright Finish		
Type	Series	Page Number
NPT	2700E	468



FORMING TAPS

GENERAL PURPOSE

HIGH SPEED STEEL		
TiCN Finish		
Type	Series	Page Number
Bottoming	2270N	456
Plug/Bottoming	2090	457



SPECIAL PURPOSE TAPS

LEFT HAND TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Taper/Plug/Bottoming	2300	376



8 PITCH HAND TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Taper/Plug/Bottoming	2500	376



SCREW THREAD INSERT (STI)

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug/Bottoming	2020	377



PULLEY STYLE HAND TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug	2400	378



6-INCH EXTENSION HAND TAPS

HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Plug/Bottoming	2060	378



COMBINED TAP & DRILL

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Through or blind hole	2050	380





GENERAL PURPOSE TAPS

STRAIGHT FLUTE HAND TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Taper/Plug/Bottoming	HTGP	381



HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Plug	HTGP	384



HIGH SPEED STEEL		
TiN Finish		
Type	Series	Page Number
Taper/Plug/Bottoming	HTGP	385



STRAIGHT FLUTE HAND TAPS

HIGH SPEED STEEL		
TiCN Finish		
Type	Series	Page Number
Plug	HTGP	387



LEFT HAND HAND TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug	HTGPL	387



CNC STRAIGHT FLUTE HAND TAPS

PREMIUM HIGH SPEED STEEL		
Oxide over Nitride		
Type	Series	Page Number
Bottoming	HTHM	389



PREMIUM HIGH SPEED STEEL		
TiCN Finish		
Type	Series	Page Number
Bottoming	HTHM	389



SPIRAL POINT TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug/Bottoming	SPGP	411
Plug	SPGP5	417



SPIRAL POINT TAPS

HIGH SPEED STEEL		
TiN Finish		
Type	Series	Page Number
Plug/Bottoming	SPGP	413



HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Plug	SPGP	415
Plug	SPGP5	418



HIGH SPEED STEEL		
TiCN Finish		
Type	Series	Page Number
Plug	SPGP	415



SPIRAL POINT EXTENDED LENGTH TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug	SPGPX	419
Plug (plus 5)	SPGPX5	419



HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Plug (plus 5)	SPGPX5	420



GENERAL PURPOSE TAPS

SPIRAL POINT LOW SHEAR TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug	SPLS	420



SPIRAL POINT AEROSPACE FASTENER TAPS

HIGH SPEED STEEL		
TiN Finish		
Type	Series	Page Number
Plug	SPAR	421



CNC HEAVY DUTY SPIRAL POINT TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug	SPHD	421



HIGH SPEED STEEL		
TiN Finish		
Type	Series	Page Number
Plug	SPHD	422



PRODUCTION TAPS

HIGH PERFORMANCE SPIRAL POINT TAPS

PREMIUM HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Plug	SPS	432



GENERAL PURPOSE SPIRAL FLUTE TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug/Bottoming	SFGP	443



HIGH SPEED STEEL		
TiN Finish		
Type	Series	Page Number
Plug/Bottoming	SFGP	443



GENERAL PURPOSE SPIRAL FLUTE TAPS

HIGH SPEED STEEL		
TiCN Finish		
Type	Series	Page Number
Plug/Bottoming	SFGP	444
Bottoming (Oversize)	SFGP5	444



HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Bottoming (Oversize)	SFGP5	445



HEAVY DUTY SPIRAL FLUTE TAPS

HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Plug/Bottoming	SFHD	445





PIPE TAPS

GENERAL PURPOSE TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
NPT/NPTF	PTT	462
NPT/NPTF (Extra Length)	ELPTT	462
NPT/NPTF (Interrupted Thread)	PTTI	463
NPS/NPSF	PTS	463



HIGH SPEED STEEL		
TiN Finish		
Type	Series	Page Number
NPT/NPTF	PTT	462
NPT/NPTF (Interrupted Thread)	PTTI	463



FORMING TAPS

GENERAL PURPOSE TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug/Bottoming	FTGP	458



HIGH SPEED STEEL		
TiN Finish		
Type	Series	Page Number
Plug/Bottoming/302 blanks	FTGP-TN	458



GENERAL PURPOSE TAPS

HAND TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Taper/Plug/Bottoming	1001, 1002 1003, 1004	390



HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Plug	1002SO	394



HIGH SPEED STEEL		
TiN Finish		
Type	Series	Page Number
Taper/Plug/Bottoming	1001TN, 1002TN 1003TN, 1004TN	394



HAND TAPS

HIGH SPEED STEEL		
TiCN Finish		
Type	Series	Page Number
Plug	1002TC	396



LEFT HAND TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug	1002L	396



CAST IRON TAPS

PREMIUM HIGH SPEED STEEL		
Oxide over Nitride Finish		
Type	Series	Page Number
Plug	CI-1000	404



PREMIUM HIGH SPEED STEEL		
TiCN Finish		
Type	Series	Page Number
Plug	CI-1000-TC	404



SPIRAL POINT TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug/Bottoming	1011, 1012	423



GENERAL PURPOSE TAPS

SPIRAL POINT TAPS

HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Plug	1011S0	425



HIGH SPEED STEEL		
TiN Finish		
Type	Series	Page Number
Plug/Bottoming	1011TN, 1012TN	426



HIGH SPEED STEEL		
TiCN Finish		
Type	Series	Page Number
Plug	1011TC	427



LOW SHEAR SPIRAL POINT TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug	1053	428



EXTENDED LENGTH SPIRAL POINT TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug	1011E	428



PRODUCTION TAPS

HIGH PERFORMANCE SPIRAL POINT TAPS

PREMIUM HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Plug	T-101	433



PREMIUM HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Plug	PRO-961SP	434



PREMIUM HIGH SPEED STEEL		
TiAlN Finish		
Type	Series	Page Number
Plug	PRO-861SP	435



HIGH PERFORMANCE SPIRAL POINT TAPS

PREMIUM HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Plug	PER-862SP	437



PREMIUM HIGH SPEED STEEL		
Hardlube		
Type	Series	Page Number
Plug	PER-960SP	438



GENERAL PURPOSE SPIRAL FLUTE TAPS

HIGH SPEED STEEL		
Bright Finish		
Type	Series	Page Number
Plug/Bottoming	1093/1094	446



HIGH SPEED STEEL		
TiN Finish		
Type	Series	Page Number
Plug/Bottoming	1093/1094	446



HIGH SPEED STEEL		
TiCN Finish		
Type	Series	Page Number
Plug/Bottoming	1093/1094	447





PRODUCTION TAPS

HIGH PERFORMANCE SPIRAL FLUTE TAPS

HIGH SPEED STEEL

Black Oxide Finish

Type	Series	Page Number
Plug/Bottoming	1095/1096	447



HIGH PERFORMANCE SPIRAL FLUTE TAPS

PREMIUM HIGH SPEED STEEL

Hardlube

Type	Series	Page Number
Bottoming	PRO-980SF	454



PREMIUM HIGH SPEED STEEL

Black Oxide Finish

Type	Series	Page Number
Mod Bottoming	PRO-981SF	450
Mod Bottoming	PRO-983SF	453



PREMIUM HIGH SPEED STEEL

TiAlN Finish

Type	Series	Page Number
Mod Bottoming	PRO-892SF	451



PIPE TAPS

GENERAL PURPOSE

HIGH SPEED STEEL

Bright Finish

Type	Series	Page Number
NPT/NPTF	965B/975	465
NPT/NPTF (Interrupted Thread)	964B/966B	466
NPS/NPSF	963B/967B	466



HIGH SPEED STEEL

TiN Finish

Type	Series	Page Number
NPT/NPTF (Large Shank)	965TN/975TN	465



FORMING TAPS

GENERAL PURPOSE

HIGH SPEED STEEL

Bright Finish

Type	Series	Page Number
Plug/Bottoming	1091	459



WALTER

GENERAL PURPOSE TAPS

HAND TAPS

HIGH SPEED STEEL

Bronze Finish

Type	Series	Page Number
Taper/Plug/Bottoming	03A, 03B	405



SPIRAL POINT TAPS

HIGH SPEED STEEL

Bronze Oxide Finish

Type	Series	Page Number
Plug	03A, 03B	429



PIPE TAPS

GENERAL PURPOSE

CARBON

Bright Finish

Type	Series	Page Number
NPT	02C	464



TAP WRENCHES

Series	Page Number
240, 242, 243, 244, 245	469 - 471



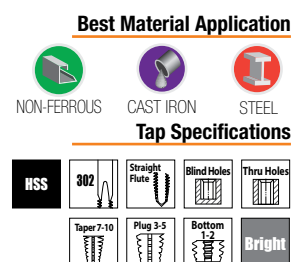
GENERAL PURPOSE HAND TAPS

0401 / 0402 / 0403 / 0404 SERIES

HIGH SPEED STEEL

Taper / Plug / Bottoming / Bright Finish

Cle-Line® 0401 hand taps general-purpose HSS taps designed for easy thread starting and smooth cutting action. Featuring a bright finish and traditional straight-flute design, they provide reliable performance in steel, cast iron, and non-ferrous materials. Ideal for hand tapping or low-speed applications, the long taper chamfer helps reduce starting torque and improves alignment in through or blind holes.



Fractional										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
0-80	UNF	.0600	2	H1	5/16	1-5/8	C00761	C00766	C00770	—
1-64	UNC	.0730	2	H1	3/8	1-11/16	C00762	C00767	C00771	—
1-72	UNF	.0730	2	H1	3/8	1-11/16	C00763	C00700	C00772	—
2-56	UNC	.0860	3	H2	7/16	1-3/4	C00764	C00768	C00701	C00323
2-64	UNF	.0860	3	H2	7/16	1-3/4	C00765	C00769	C00773	—
3-48	UNC	.0990	3	H2	1/2	1-13/16	C00702	C00703	C00704	C00325
3-56	UNF	.0990	3	H2	1/2	1-13/16	C00705	C00706	C00707	C00326
4-40	UNC	.1120	3	H2	9/16	1-7/8	C62001	C62002	C62003	C62004
4-48	UNF	.1120	3	H2	9/16	1-7/8	C00708	C00709	C00710	C00327
5-40	UNC	.1250	2	H2	5/8	1-15/16	—	C00711	C00712	—
5-40	UNC	.1250	3	H2	5/8	1-15/16	C62005	C62006	C62007	C62008
5-44	UNF	.1380	3	H2	5/8	1-15/16	C00713	C00714	C00715	C00328
6-32	UNC	.1380	3	H2	11/16	2	C00716	C00717	C00718	C00329
6-32	UNC	.1380	3	H3	11/16	2	C62009	C62010	C62011	C62012
6-40	UNF	.1380	3	H2	11/16	2	C00719	C00720	C00721	C00330
8-32	UNC	.1640	4	H2	3/4	2-1/8	C00722	C00723	C00724	C00331
8-32	UNC	.1640	4	H3	3/4	2-1/8	C62013	C62014	C62015	C62016
8-36	UNF	.1640	4	H2	3/4	2-1/8	C00725	C00726	C00727	C00332
10-24	UNC	.1900	4	H2	7/8	2-3/8	C00728	C00729	C00730	C00333
10-24	UNC	.1900	4	H3	7/8	2-3/8	C62017	C62018	C62019	C62020
10-32	UNF	.1900	4	H2	7/8	2-3/8	C00731	C00732	C00733	C00334
10-32	UNF	.1900	4	H3	7/8	2-3/8	C62021	C62022	C62023	C62024
12-24	UNC	.2160	4	H3	15/16	2-3/8	C62025	C62026	C62027	C62028
12-28	UNF	.2160	4	H3	15/16	2-3/8	C00734	C00735	C00736	C00335
1/4-20	UNC	.2500	4	H3	1	2-1/2	C62029	C62030	C62031	C62032
1/4-20	UNC	.2500	4	H5	1	2-1/2	—	C00737	C00738	—
1/4-28	UNF	.2500	4	H2	1	2-1/2	—	C00739	C00740	—
1/4-28	UNF	.2500	4	H3	1	2-1/2	C62033	C62034	C62035	C62036
5/16-18	UNC	.3125	4	H3	1-1/8	2-23/32	C62037	C62038	C62039	C62040
5/16-18	UNC	.3125	4	H5	1-1/8	2-23/32	—	C00741	C00742	—
5/16-24	UNF	.3125	4	H3	1-1/8	2-23/32	C62041	C62042	C62043	C62044
3/8-16	UNC	.3750	4	H3	1-1/4	2-15/16	C62045	C62046	C62047	C62048
3/8-16	UNC	.3750	4	H5	1-1/4	2-15/16	—	C00743	C00744	—
3/8-24	UNF	.3750	4	H3	1-1/4	2-15/16	C62049	C62050	C62051	C62052
7/16-14	UNC	.4375	4	H3	1-7/16	3-5/32	C62053	C62054	C62055	C62056
7/16-14	UNC	.4375	4	H5	1-7/16	3-5/32	—	C00745	C00746	—
7/16-20	UNF	.4375	4	H3	1-7/16	3-5/32	C62057	C62058	C62059	C62060
7/16-20	UNF	.4375	4	H5	1-7/16	3-5/32	—	C00747	C00748	—

continued on next page

GENERAL PURPOSE HAND TAPS

0401 / 0402 / 0403 / 0404 SERIES continued



Fractional										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
1/2-13	UNC	.5000	4	H3	1-21/32	3-3/8	C62061	C62062	C62063	C62064
1/2-13	UNC	.5000	4	H5	1-21/32	3-3/8	—	C00749	C00750	—
1/2-20	UNF	.5000	4	H3	1-21/32	3-3/8	C62065	C62066	C62067	C62068
1/2-20	UNF	.5000	4	H5	1-21/32	3-3/8	—	C00751	—	—
9/16-12	UNC	.5625	4	H3	1-21/32	3-19/32	C62069	C62070	C62071	C62072
9/16-18	UNF	.5625	4	H3	1-21/32	3-19/32	C62073	C62074	C62075	C62076
5/8-11	UNC	.6250	4	H3	1-13/16	3-13/16	C62077	C62078	C62079	C62080
5/8-11	UNC	.6250	4	H5	1-13/16	3-13/16	—	C00752	C00753	—
5/8-18	UNF	.6250	4	H3	1-13/16	3-13/16	C62081	C62082	C62083	C62084
11/16-11	UNS	.6875	4	H3	1-13/16	4-1/32	C00754	C00756	C00757	C00336
11/16-16	UNS	.6875	4	H3	1-13/16	4-1/32	C00758	C00759	C00760	C00337
3/4-10	UNC	.7500	4	H3	2	4-1/4	C62085	C62086	C62087	C62088
3/4-16	UNF	.7500	4	H3	2	4-1/4	C62089	C62090	C62091	C62092
7/8-9	UNC	.8750	4	H4	2-7/32	4-11/16	C62093	C62094	C62095	C62096
7/8-14	UNF	.8750	4	H4	2-7/32	4-11/16	C62097	C62098	C62099	C62100
1-8	UNC	1.0000	4	H4	2-1/2	5-1/8	C62101	C62102	C62103	C62104
1-12	UNF	1.0000	4	H4	2-1/2	5-1/8	C62105	C62106	C62107	C62108
1-14	UNS	1.0000	4	H4	2-1/2	5-1/8	C62109	C62110	C62111	C62112

Metric									
Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number			
						Taper	Plug	Bottoming	Set
M3 x 0.5	.1181	3	D3	16	49	C63201	C63202	C63203	C63204
M4 x 0.7	.1575	4	D4	19	54	C63209	C63210	C63211	C63212
M5 x 0.8	.1969	4	D4	22	60	C63217	C63218	C63219	C63220
M6 x 1	.2362	4	D5	25.4	63.5	C63221	C63222	C63223	C63224
M7 x 1	.2756	4	D5	29	69	C63225	C63226	C63227	C63228
M8 x 1.25	.3150	4	D5	29	69	C63229	C63230	C63231	C63232
M10 x 1.5	.3937	4	D6	31.75	75	C63233	C63234	C63235	C63236
M12 x 1.75	.4724	4	D6	42	86	C63237	C63238	C63239	C63240
M14 x 2	.5512	4	D7	42	91	C63241	C63242	C63243	C63244
M16 x 2	.6299	4	D7	46	96	C63245	C63246	C63247	C63248
M18 x 2.5	.7087	4	D7	46	102	C63249	C63250	C63251	C63252
M20 x 2.5	.7874	4	D7	50.8	113.5	C63253	C63254	C63255	C63256



20 cutting sizes
#C00608

Corresponding Sets							
Hand Tap & Die Sets Quick-Set Die Sets							
Cutting Sizes	Set Number	Tap: 0402 Thread Sizes		Collet Number 055	Wrench Number	Die Stock Number 0550	Order Number
		UNC	UNF				
20	558	1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10, 7/8-9, 1-8	1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16, 7/8-14, 1-14 NS	—	#5, #7	#1, #5	C00608
7	559	4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20		A1	T9, A1	A1	C00609
5	5510	1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13		1	#5	#1	C00610
10	5511	1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10, 7/8-9, 1-8		5	#5, #7	5A	C00611
10	5512	1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13	1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20	1	#5	#1	C00612
20	5513	1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10, 7/8-9, 1-8	1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16, 7/8-14, 1-14	1,5	#5, #7	#1, #5B	*C00613

All use Cap Style #0551 and Guide style #0552, unless noted with an asterisks.

*No Cap included

GENERAL PURPOSE HAND TAPS

SERIES 2000N

HIGH SPEED STEEL

Taper / Plug / Bottoming / Black Oxide Finish

Drillco® 2000N Nitro taps are general-purpose HSS hand taps featuring a straight-flute design for reliable thread production in a wide range of materials. Designed for hand tapping or low-speed applications, the 2000N series offers smooth cutting action, consistent thread quality, and dependable performance in steel, cast iron, and non-ferrous materials. Available in standard chamfer styles to suit through-hole and blind-hole operations.

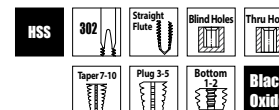
NITRO®

Best Material Application



CAST IRON STEEL

Tap Specifications



Fractional										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
0-80	UNF	.0600	2	H1	3/8	1-11/16	20N000FT	20N000FP	20N000FB	20N000FS
1-64	UNC	.0730	2	H1	3/8	1-11/16	20N001CT	20N001CP	20N001CB	20N001CS
1-72	UNF	.0730	2	H1	3/8	1-11/16	20N001FT	20N001FP	20N001FB	20N001FS
2-56	UNC	.0860	3	H2	7/16	1-3/4	20N002CT	20N002CP	20N002CB	20N002CS
2-64	UNF	.0860	3	H2	7/16	1-3/4	20N002FT	20N002FP	20N002FB	20N002FS
3-48	UNC	.0990	3	H2	1/2	1-13/16	20N003CT	20N003CP	20N003CB	20N003CS
3-56	UNF	.0990	3	H2	1/2	1-13/16	20N003FT	20N003FP	20N003FB	20N003FS
4-40	UNC	.1120	3	H2	9/16	1-7/8	20N004CT	20N004CP	20N004CB	20N004CS
4-36	UNC	.1120	3	H2	9/16	1-7/8	20N004ST	20N004SP	20N004SB	20N004SS
4-48	UNF	.1120	3	H2	9/16	1-7/8	20N004FT	20N004FP	20N004FB	20N004FS
5-40	UNC	.1250	3	H2	5/8	1-15/16	20N005CT	20N005CP	20N005CB	20N005CS
5-44	UNF	.1380	3	H2	5/8	1-15/16	20N005FT	20N005FP	20N005FB	20N005FS
6-32	UNC	.1380	3	H3	11/16	2	20N006CT	20N006CP	20N006CB	20N006CS
6-40	UNF	.1380	3	H2	11/16	2	20N006FT	20N006FP	20N006FB	20N006FS
8-32	UNC	.1640	4	H3	3/4	2-1/8	20N008CT	20N008CP	20N008CB	20N008CS
8-36	UNF	.1640	4	H2	3/4	2-1/8	20N008FT	20N008FP	20N008FB	20N008FS
10-24	UNC	.1900	4	H3	7/8	2-3/8	20N010CT	20N010CP	20N010CB	20N010CS
10-32	UNF	.1900	4	H3	7/8	2-3/8	20N010FT	20N010FP	20N010FB	20N010FS
12-24	UNC	.2160	4	H3	15/16	2-3/8	20N012CT	20N012CP	20N012CB	20N012CS
12-28	UNF	.2160	4	H3	15/16	2-3/8	20N012FT	20N012FP	20N012FB	20N012FS
1/4-20	UNC	.2500	4	H3	1	2-1/2	20N116CT	20N116CP	20N116CB	20N116CS
1/4-28	UNF	.2500	4	H3	1	2-1/2	20N116FT	20N116FP	20N116FB	20N116FS
5/16-18	UNC	.3125	4	H3	1-1/8	2-23/32	20N120CT	20N120CP	20N120CB	20N120CS
5/16-24	UNF	.3125	4	H3	1-1/8	2-23/32	20N120FT	20N120FP	20N120FB	20N120FS
3/8-16	UNC	.3750	4	H3	1-1/4	2-15/16	20N124CT	20N124CP	20N124CB	20N124CS
3/8-24	UNF	.3750	4	H3	1-1/4	2-15/16	20N124FT	20N124FP	20N124FB	20N124FS
7/16-14	UNC	.4375	4	H3	1-7/16	3-5/32	20N128CT	20N128CP	20N128CB	20N128CS
7/16-20	UNF	.4375	4	H3	1-7/16	3-5/32	20N128FT	20N128FP	20N128FB	20N128FS
1/2-13	UNC	.5000	4	H3	1-21/32	3-3/8	20N132CT	20N132CP	20N132CB	20N132CS
1/2-20	UNF	.5000	4	H3	1-21/32	3-3/8	20N132FT	20N132FP	20N132FB	20N132FS
9/16-12	UNC	.5625	4	H3	1-21/32	3-19/32	20N136CT	20N136CP	20N136CB	20N136CS
9/16-18	UNF	.5625	4	H3	1-21/32	3-19/32	20N136FT	20N136FP	20N136FB	20N136FS
5/8-11	UNC	.6250	4	H3	1-13/16	3-13/16	20N140CT	20N140CP	20N140CB	20N140CS
5/8-18	UNF	.6250	4	H3	1-13/16	3-13/16	20N140FT	20N140FP	20N140FB	20N140FS
11/16-11	UNS	.6875	4	H3	1-13/16	4-1/32	20N144CT	20N144CP	20N144CB	20N144CS
11/16-16	UNS	.6875	4	H3	1-13/16	4-1/32	20N144FT	20N144FP	20N144FB	20N144FS
3/4-10	UNC	.7500	4	H3	2	4-1/4	20N148CT	20N148CP	20N148CB	20N148CS
3/4-16	UNF	.7500	4	H3	2	4-1/4	20N148FT	20N148FP	20N148FB	20N148FS
7/8-9	UNC	.8750	4	H4	2-7/32	4-11/16	20N156CT	20N156CP	20N156CB	20N156CS
7/8-14	UNF	.8750	4	H4	2-7/32	4-11/16	20N156FT	20N156FP	20N156FB	20N156FS

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GENERAL PURPOSE HAND TAPS

SERIES 2000N continued



Fractional										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
1-8	UNC	1.0000	4	H4	2-1/2	5-1/8	20N164CT	20N164CP	20N164CB	20N164CS
1-12	UNF	1.0000	4	H4	2-1/2	5-1/8	20N164FT	20N164FP	20N164FB	20N164FS
1-14	UNS	1.0000	4	H4	2-1/2	5-1/8	20N164ST	20N164SP	20N164SB	20N164SS
1-1/8-7	UNC	1.1250	4	H4	2-9/16	5-7/16	20N208CT	20N208CP	20N208CB	20N208CS
1-1/8-12	UNF	1.1250	4	H4	2-9/16	5-7/16	20N208FT	20N208FP	20N208FB	20N208FS
1-1/4-7	UNC	1.2500	4	H4	2-9/16	5-3/4	20N216CT	20N216CP	20N216CB	20N216CS
1-1/4-12	UNF	1.2500	6	H4	2-9/16	5-3/4	20N216FT	20N216FP	20N216FB	20N216FS
1-3/8-6	UNC	1.3750	4	H4	3	6-1/16	20N224CT	20N224CP	20N224CB	20N224CS
1-3/8-12	UNF	1.3750	6	H4	3	6-1/16	20N224FT	20N224FP	20N224FB	20N224FS
1-1/2-6	UNC	1.5000	4	H4	3	6-3/8	20N232CT	20N232CP	20N232CB	20N232CS
1-1/2-12	UNF	1.5000	6	H4	3	6-3/8	20N232FT	20N232FP	20N232FB	20N232FS

2000 / 2800 SERIES

HIGH SPEED STEEL

Taper / Plug / Bottoming / Bright Finish

Best Material Application



NON-FERROUS

CAST IRON

STEEL



Fractional										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
0-80	UNF	.0600	2	H1	5/16	1-5/8	20A000FT	20A000FP	20A000FB	20A000FS
1-64	UNC	.0730	2	H1	3/8	1-11/16	20A001CT	20A001CP	20A001CB	20A001CS
1-72	UNF	.0730	2	H1	3/8	1-11/16	20A001FT	20A001FP	20A001FB	20A001FS
2-56	UNC	.0860	3	H2	7/16	1-3/4	20A002CT	20A002CP	20A002CB	20A002CS
2-64	UNF	.0860	3	H2	7/16	1-3/4	20A002FT	20A002FP	20A002FB	20A002FS
3-48	UNC	.0990	3	H2	1/2	1-13/16	20A003CT	20A003CP	20A003CB	20A003CS
3-56	UNF	.0990	3	H2	1/2	1-13/16	20A003FT	20A003FP	20A003FB	20A003FS
4-40	UNC	.1120	3	H2	9/16	1-7/8	20A004CT	20A004CP	20A004CB	20A004CS
4-36	UNC	.1120	3	H2	9/16	1-7/8	20A004ST	20A004SP	20A004SB	20A004SS
4-48	UNF	.1120	3	H2	9/16	1-7/8	20A004FT	20A004FP	20A004FB	20A004FS
5-40	UNC	.1250	3	H2	5/8	1-15/16	20A005CT	20A005CP	20A005CB	20A005CS
5-44	UNF	.1380	3	H2	5/8	1-15/16	20A005FT	20A005FP	20A005FB	20A005FS
6-32	UNC	.1380	3	H3	11/16	2	20A006CT	20A006CP	20A006CB	20A006CS
6-40	UNF	.1380	3	H2	11/16	2	20A006FT	20A006FP	20A006FB	20A006FS
8-32	UNC	.1640	4	H3	3/4	2-1/8	20A008CT	20A008CP	20A008CB	20A008CS
8-36	UNF	.1640	4	H2	3/4	2-1/8	20A008FT	20A008FP	20A008FB	20A008FS
10-24	UNC	.1900	4	H3	7/8	2-3/8	20A010CT	20A010CP	20A010CB	20A010CS
10-32	UNF	.1900	4	H3	7/8	2-3/8	20A010FT	20A010FP	20A010FB	20A010FS
12-24	UNC	.2160	4	H3	15/16	2-3/8	20A012CT	20A012CP	20A012CB	20A012CS
12-28	UNF	.2160	4	H3	15/16	2-3/8	20A012FT	20A012FP	20A012FB	20A012FS

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GENERAL PURPOSE HAND TAPS

02

TAPS

2000 / 2800 SERIES continued



Fractional										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
1/4-20	UNC	.2500	4	H3	1	2-1/2	20A116CT	20A116CP	20A116CB	20A116CS
1/4-28	UNF	.2500	4	H3	1	2-1/2	20A116FT	20A116FP	20A116FB	20A116FS
5/16-18	UNC	.3125	4	H3	1-1/8	2-23/32	20A120CT	20A120CP	20A120CB	20A120CS
5/16-24	UNF	.3125	4	H3	1-1/8	2-23/32	20A120FT	20A120FP	20A120FB	20A120FS
3/8-16	UNC	.3750	4	H3	1-1/4	2-15/16	20A124CT	20A124CP	20A124CB	20A124CS
3/8-24	UNF	.3750	4	H3	1-1/4	2-15/16	20A124FT	20A124FP	20A124FB	20A124FS
7/16-14	UNC	.4375	4	H3	1-7/16	3-5/32	20A128CT	20A128CP	20A128CB	20A128CS
7/16-20	UNF	.4375	4	H3	1-7/16	3-5/32	20A128FT	20A128FP	20A128FB	20A128FS
1/2-13	UNC	.5000	4	H3	1-21/32	3-3/8	20A132CT	20A132CP	20A132CB	20A132CS
1/2-20	UNF	.5000	4	H3	1-21/32	3-3/8	20A132FT	20A132FP	20A132FB	20A132FS
9/16-12	UNC	.5625	4	H3	1-21/32	9/16	20A136CT	20A136CP	20A136CB	20A136CS
9/16-18	UNF	.5625	4	H3	1-21/32	9/16	20A136FT	20A136FP	20A136FB	20A136FS
5/8-11	UNC	.6250	4	H3	1-13/16	3-13/16	20A140CT	20A140CP	20A140CB	20A140CS
5/8-18	UNF	.6250	4	H3	1-13/16	3-13/16	20A140FT	20A140FP	20A140FB	20A140FS
11/16-11	UNS	.6875	4	H3	1-13/16	4-1/32	20A144CT	20A144CP	20A144CB	20A144CS
11/16-16	UNS	.6875	4	H3	1-13/16	4-1/32	20A144FT	20A144FP	20A144FB	20A144FS
3/4-10	UNC	.7500	4	H3	2	4-1/4	20A148CT	20A148CP	20A148CB	20A148CS
3/4-16	UNF	.7500	4	H3	2	4-1/4	20A148FT	20A148FP	20A148FB	20A148FS
7/8-9	UNC	.8750	4	H4	2-7/32	4-11/16	20A156CT	20A156CP	20A156CB	20A156CS
7/8-14	UNF	.8750	4	H4	2-7/32	4-11/16	20A156FT	20A156FP	20A156FB	20A156FS
1-8	UNC	1.0000	4	H4	2-1/2	5-1/8	20A164CT	20A164CP	20A164CB	20A164CS
1-12	UNF	1.0000	4	H4	2-1/2	5-1/8	20A164FT	20A164FP	20A164FB	20A164FS
1-14	UNS	1.0000	4	H4	2-1/2	5-1/8	20A164ST	20A164SP	20A164SB	20A164SS
1-1/8-7	UNC	1.1250	4	H4	2-9/16	5-7/16	20A208CT	20A208CP	20A208CB	20A208CS
1-1/8-12	UNF	1.1250	4	H4	2-9/16	5-7/16	20A208FT	20A208FP	20A208FB	20A208FS
1-1/4-7	UNC	1.2500	4	H4	2-9/16	5-3/4	20A216CT	20A216CP	20A216CB	20A216CS
1-1/4-12	UNF	1.2500	6	H4	2-9/16	5-3/4	20A216FT	20A216FP	20A216FB	20A216FS
1-3/8-6	UNC	1.3750	4	H4	3	6-1/16	20A224CT	20A224CP	20A224CB	20A224CS
1-3/8-12	UNF	1.3750	6	H4	3	6-1/16	20A224FT	20A224FP	20A224FB	20A224FS
1-1/2-6	UNC	1.5000	4	H4	3	6-3/8	20A232CT	20A232CP	20A232CB	20A232CS
1-1/2-12	UNF	1.5000	6	H4	3	6-3/8	20A232FT	20A232FP	20A232FB	20A232FS
Metric										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
M1.6 x 0.35	—	0.063	2	D3	5/16"	1-5/8"	28A016AT	28A016AP	28A016AB	28A016AS
M1.8 x 0.35	—	0.079	2	D3	3/8"	1-11/16"	28A018AT	28A018AP	28A018AB	28A018AS
M2 x 0.40	—	0.079	3	D3	7/16"	1-3/4"	28A020AT	28A020AP	28A020AB	28A020AS
M2.2 x 0.45	—	0.087	3	D3	7/16"	1-3/4"	28A022AT	28A022AP	28A022AB	28A022AS
M2.5 x 0.45	—	0.098	3	D3	1/2"	1-13/16"	28A025AT	28A025AP	28A025AB	28A025AS
M3 x 0.50	—	0.118	3	D3	5/8"	1-15/16"	28A030AT	28A030AP	28A030AB	28A030AS
M3.5 x 0.60	—	0.138	3	D4	11/16"	2"	28A035AT	28A035AP	28A035AB	28A035AS
M4 x 0.7	—	0.158	4	D4	3/4"	2-1/8"	28A040AT	28A040AP	28A040AB	28A040AS
M4.5 x 0.75	—	0.177	4	D4	7/8"	2-3/8"	28A045AT	28A045AP	28A045AB	28A045AS
M5 x 0.8	—	0.197	4	D4	7/8"	2-3/8"	28A050AT	28A050AP	28A050AB	28A050AS
M6 x 1	—	0.236	4	D5	1"	2-1/2"	28A060AT	28A060AP	28A060AB	28A060AS
M6.3 x 1	—	0.248	4	D5	1"	2-1/2"	28A063AT	28A063AP	28A063AB	28A063AS
M7 x 1	—	0.276	4	D5	1-1/8"	2-23/32"	28A070AT	28A070AP	28A070AB	28A070AS
M8 x 1	—	0.315	4	D5	1-1/8"	2-23/32"	28A080BT	28A080BP	28A080BB	28A080BS
M8 x 1.25	—	0.315	4	D5	1-1/8"	2-23/32"	28A080AT	28A080AP	28A080AB	28A080AS
M10 x 1.25	—	0.394	4	D5	1-1/4"	2-15/16"	28A100BT	28A100BP	28A100BB	28A100BS
M10 x 1.5	—	0.394	4	D5	1-1/4"	2-15/16"	28A100AT	28A100AP	28A100AB	28A100AS
M12 x 1.25	—	0.472	4	D5	1-21/32"	3-3/8"	28A120CT	28A120CP	28A120CB	28A120CS
M12 x 1.75	—	0.472	4	D6	1-21/32"	3-3/8"	28A120AT	28A120AP	28A120AB	28A120AS

DRILCO | WALTER

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GENERAL PURPOSE HAND TAPS

TAPS

2000 / 2800 SERIES continued



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Metric			
							Order Number			
							Taper	Plug	Bottoming	Set
M14 x 1.5	—	0.551	4	D6	1-21/32"	3-19/32"	28A140BT	28A140BP	28A140BB	28A140BS
M14 x 2	—	0.551	4	D7	1-21/32"	3-19/32"	28A140AT	28A140AP	28A140AB	28A140AS
M16 x 1.5	—	0.630	4	D6	1-13/16"	3-13/16"	28A160BT	28A160BP	28A160BB	28A160BS
M16 x 2	—	0.630	4	D7	1-13/16"	3-13/16"	28A160AT	28A160AP	28A160AB	28A160AS
M18 x 1.5	—	0.709	4	D6	1-13/16"	4-1/32"	28A180DT	28A180DP	28A180DB	28A180DS
M18 x 2	—	0.709	4	D6	1-13/16"	4-1/32"	28A180CT	28A180CP	28A180CB	28A180CS
M18 x 2.5	—	0.709	4	D7	1-13/16"	4-1/32"	28A180AT	28A180AP	28A180AB	28A180AS
M20 x 1.5	—	0.787	4	D6	2"	4-15/32"	28A200BT	28A200BP	28A200BB	28A200BS
M20 x 2.5	—	0.787	4	D7	2"	4-15/32"	28A200AT	28A200AP	28A200AB	28A200AS
M22 x 1.5	—	0.8681	4	D6	2-7/32"	4-11/16"	28A220BT	28A220BP	28A220BB	28A220BS
M22 x 2.5	—	0.8681	4	D7	2-7/32"	4-11/16"	28A220AT	28A220AP	28A220AB	28A220AS
M24 x 2	—	0.945	4	D7	2-7/32"	4-29/32"	28A240BT	28A240BP	28A240BB	28A240BS
M24 x 3	—	0.945	4	D8	2-7/32"	4-29/32"	28A240AT	28A240AP	28A240AB	28A240AS
M27 x 2	—	1.063	4	D7	2-1/2"	5-1/8"	28A270BT	28A270BP	28A270BB	28A270BS
M27 x 3	—	1.063	4	D8	2-1/2"	5-1/8"	28A270AT	28A270AP	28A270AB	28A270AS
M30 x 2	—	1.181	4	D7	2-9/16"	5-7/16"	28A300BT	28A300BP	28A300BB	28A300BS
M30 x 3.5	—	1.181	4	D9	2-9/16"	5-7/16"	28A300AT	28A300AP	28A300AB	28A300AS
M33 x 2	—	1.299	4	D7	2-9/16"	5-3/4"	28A330BT	28A330BP	28A330BB	28A330BS
M33 x 3.5	—	1.299	4	D9	2-9/16"	5-3/4"	28A330AT	28A330AP	28A330AB	28A330AS
M36 x 3	—	1.417	4	D8	3"	6-1/16"	28A360BT	28A360BP	28A360BB	28A360BS
M36 x 4	—	1.417	4	D9	3"	6-1/16"	28A360AT	28A360AP	28A360AB	28A360AS
M39 x 3	—	1.535	6	D8	3-3/16"	6-11/16"	28A390BT	28A390BP	28A390BB	28A390BS
M39 x 4	—	1.535	6	D9	3-3/16"	6-11/16"	28A390AT	28A390AP	28A390AB	28A390AS

GENERAL PURPOSE HAND TAPS

02

TAPS

2000N / 2000 / 2800 SERIES continued SETS



Corresponding Sets High Speed Steel Hand Tap Sets				
Cutting Sizes	Brand	Coating / Finish	Thread Sizes	Order Number
10	Nitro®	Black Oxide Finish	1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20"	2000N10
10	USA	Bright Finish	1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20	2000A10
High Speed Steel Hand Tap & Drill Sets				
18	Nitro®	Black Oxide Finish	Taps: 6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13 with corresponding 400N series drills	400NC2018
18	Nitro®	Black Oxide Finish	Taps: 6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20 with corresponding 400N series drills	400NF2018
18	USA	Bright Finish	Taps: 6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13 w/ corresponding 200 series drills	200C2018
18	USA	Bright Finish	Taps: 6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20 w/ corresponding 200 series drills	200F2018
18	USA	Bright Finish	Taps: M2.5, M3.0, M3.5, M4.0, M5.0, M6.0, M8.0, M10.0, M12.0 w/ corresponding 800 series drills	800A2018

Tap Dispensers (Empty)		
Description	Sizes	Order Number
Fractional Tap Dispenser	1/4" – 1"	2000FDX
Metric Tap Dispenser	3 mm - 24 mm	2800DX

Tap Index Cases (Empty)		
Pieces	Description	Order Number
10	Tap Index	10TDX
18	UNC Tap & Drill Index	18CDX
18	UNF Tap & Drill Index	18FDX
18	Metric Tap & Drill Index	18MDX

2005 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

.005" Oversize / Plug / Bottoming / Through or Blind Hole / Bright Finish

Best Material Application



Fractional					
Size (Inch)	Thread (NC)	Limit	No. of Flutes	Order Number	
				Plug	Bottoming
1/4"	20	H11	4	205A116CP	—
5/16"	18	H11	4	205A120CP	205A120CB
3/8"	16	H11	4	205A124CP	205A124CB
7/16"	14	H11	4	205A128CP	205A128CB
1/2"	13	H11	4		205A132CB
5/8"	11	H11	4	205A140CP	205A140CB

DRILCO

WALTER

GENERAL PURPOSE SPECIAL TAPS

2500 SERIES

OVERSIZE HIGH SPEED STEEL

8-Pitch / Taper / Plug / Bottoming / Bright Finish

8-pitch hand taps are mainly used in oil field, gas exploration equipment, and power generation plants. They are of a larger diameter, with standard sizes up to 4".

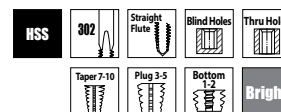
- ▷ *Taper – 7-10 pitch chamfer length. Starts the thread square with the workpiece*
- ▷ *Plug – 3-5 pitch chamfer length. Generally used in through holes*
- ▷ *Bottoming – 1-2 pitch chamfer length. Generates the thread to the bottom*
- ▷ *All sizes are individually packaged*



Best Material Application



Tap Specifications



Fractional						
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Order Number		
				Taper	Plug	Bottoming
1-1/8	8	1.1250	4	25A208T	25A208P	25A208B
1-1/4	8	1.2500	4	25A216T	25A216P	25A216B
1-3/8	8	1.3750	4	25A224T	25A224P	25A224B
1-1/2	8	1.5000	4	25A232T	25A232P	25A232B
1-5/8	8	1.6250	6	25A240T	25A240P	25A240B
1-3/4	8	1.7500	6	25A248T	25A248P	25A248B
1-7/8	8	1.8750	6	25A256T	25A256P	25A256B
2	8	2.0000	6	25A264T	25A264P	25A264B
2-1/8	8	2.1250	6	25A308T	25A308P	25A308B

Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Order Number		
				Taper	Plug	Bottoming
2-1/4	8	2.2500	6	25A316T	25A316P	25A316B
2-3/8	8	2.3750	6	25A324T	25A324P	25A324B
2-1/2	8	2.5000	6	25A332T	25A332P	25A332B
2-5/8	8	2.6250	6	25A340T	25A340P	25A340B
2-3/4	8	2.7500	6	25A348T	25A348P	25A348B
2-7/8	8	2.8750	6	25A356T	25A356P	25A356B
3	8	3.0000	6	25A364T	25A364P	25A364B
3-1/4	8	3.2500	6	25A416T	25A416P	25A416B
3-1/2	8	3.5000	6	25A432T	25A432P	25A432B
3-3/4	8	3.3750	6	25A448T	25A448P	25A448B
4	8	4.0000	8	25A464T	25A464P	25A464B

2300 SERIES

SPECIAL PURPOSE HIGH SPEED STEEL

Left Hand / Taper / Plug / Bottoming / Bright Finish

Left hand taps are used just like normal hand taps except they are rotated counterclockwise to cut left-handed threads in the workpiece. They are for general use in production tapping or hand operations in a wide range of application material groups.

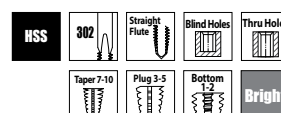
- ▷ *Taper – 7-10 pitch chamfer length. Starts the thread square with the workpiece*
- ▷ *Plug – 3-5 pitch chamfer length. Generally used in through holes*
- ▷ *Bottoming – 1-2 pitch chamfer length. Generates the thread to the bottom*



Best Material Application



Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Overall Length (Inch)	Order Number		
						Taper	Plug	Bottoming
6-32	UNC	.1380	4	H3	2	23A006CT	23A006CP	23A006CB
8-32	UNC	.1640	4	H3	2-1/8	23A008CT	23A008CP	23A008CB
10-24	UNC	.1900	4	H3	2-3/8	23A010CT	23A010CP	23A010CB
10-32	UNF	.1900	4	H3	2-3/8	23A010FT	23A010FP	23A010FB
1/4-20	UNC	.2500	4	H3	2-1/2	23A116CT	23A116CP	23A116CB
1/4-28	UNF	.2500	4	H3	2-1/2	23A116FT	23A116FP	23A116FB
5/16-18	UNC	.3125	4	H3	2-23/32	23A120CT	23A120CP	23A120CB
5/16-24	UNF	.3125	4	H3	2-23/32	23A120FT	23A120FP	23A120FB
3/8-16	UNC	.3750	4	H3	2-5/16	23A124CT	23A124CP	23A124CB
3/8-24	UNF	.3750	4	H3	2-5/16	23A124FT	23A124FP	23A124FB
7/16-14	UNC	.4375	4	H3	3-5/32	23A128CT	23A128CP	23A128CB

continued on next page

GENERAL PURPOSE SPECIAL TAPS

02

TAPS

2300 SERIES continued

Left Hand



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Overall Length (Inch)	Order Number		
						Taper	Plug	Bottoming
7/16-20	UNF	.4375	4	H3	3-5/32	23A128FT	23A128FP	23A128FB
1/2-13	UNC	.5000	4	H3	3-3/8	23A132CT	23A132CP	23A132CB
1/2-20	UNF	.5000	4	H3	3-3/8	23A132FT	23A132FP	23A132FB
9/16-12	UNC	.5625	4	H3	3-19/32	23A136CT	23A136CP	23A136CB
9/16-18	UNF	.5625	4	H3	3-19/32	23A136FT	23A136FP	23A136FB
5/8-11	UNC	.6250	4	H3	3-3/16	23A140CT	23A140CP	23A140CB
5/8-18	UNF	.6250	4	H3	3-3/16	23A140FT	23A140FP	23A140FB
3/4-10	UNC	.7500	4	H3	4-1/4	23A148CT	23A148CP	23A148CB
3/4-16	UNF	.7500	4	H3	4-1/4	23A148FT	23A148FP	23A148FB
7/8-9	UNC	.8750	4	H4	4-11/16	23A156CT	23A156CP	23A156CB
7/8-14	UNF	.8750	4	H4	4-11/16	23A156FT	23A156FP	23A156FB
1-8	UNC	1.0000	4	H4	5-1/8	23A164CT	23A164CP	23A164CB
1-12	UNF	1.0000	4	H4	5-1/8	23A164FT	23A164FP	23A164FB
1-14	UNS	1.0000	4	H4	5-1/8	23A164ST	23A164SP	23A164SB
1-1/8-7	UNC	1.1250	4	H4	5-7/16	23A208CT	23A208CP	23A208CB
1-1/8-12	UNF	1.1250	4	H4	5-7/16	23A208FT	23A208FP	23A208FB
1-1/4-7	UNC	1.2500	4	H4	5-3/4	23A216CT	23A216CP	23A216CB
1-1/4-12	UNF	1.2500	6	H4	5-3/4	23A216FT	23A216FP	23A216FB
1-3/8-6	UNC	1.3750	4	H4	6	23A224CT	23A224CP	23A224CB
1-3/8-12	UNF	1.3750	6	H4	6	23A224FT	23A224FP	23A224FB
1-1/2-6	UNC	1.5000	4	H4	6-1/4	23A232CT	23A232CP	23A232CB
1-1/2-12	UNF	1.5000	6	H4	6-1/4	23A232FT	23A232FP	23A232FB

2020 SERIES

SPECIAL PURPOSE

Plug / Bottoming / Screw Thread Insert (STI) / Bright Finish

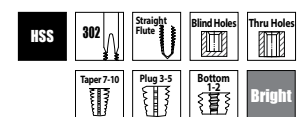
Screw Thread Insert (STI) taps are dimensionally oversize and utilize a larger tap drill size so that thread they produce will accommodate a helical screw thread insert.

▷ All sizes are individually packaged

Best Material Application



Tap Specifications



DRILCO
WALTER

Fractional					
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Order Number	
				Plug	Bottoming
4-40	UNC	.1120	3	202A004CP	202A004CB
6-32	UNC	.1380	3	202A006CP	202A006CB
8-32	UNC	.1640	3	202A008CP	202A008CB
10-24	UNC	.1900	3	202A010CP	202A010CB
10-32	UNF	.1900	3	202A010FP	202A010FB
1/4-20	UNC	.2500	3	202A116CP	202A116CB
1/4-28	UNF	.2500	3	202A116FP	202A116FB

Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Order Number	
				Plug	Bottoming
5/16-18	UNC	.3125	4	202A120CP	202A120CB
5/16-24	UNF	.3125	4	202A120FP	202A120FB
3/8-16	UNC	.3750	4	202A124CP	202A124CB
3/8-24	UNF	.3750	4	202A124FP	202A124FB
1/2-13	UNC	.5000	4	202A132CP	202A132CB
1/2-20	UNF	.5000	4	202A132FP	202A132FB

GENERAL PURPOSE SPECIAL TAPS

2060 SERIES

HIGH SPEED STEEL

6" Extension / Plug / Bottoming / Bright & Black Finish

The long shank is ideal for reaching holes inaccessible with standard length taps. The thread length is the same length as a standard tap.

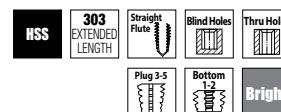
▷ All sizes are individually packaged



Best Material Application



Tap Specifications



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Order Number	
				Plug	Bottoming
6-32	UNC	.1380	3	206A006CP	206A006CB
8-32	UNC	.1640	4	206A008CP	206A008CB
10-24	UNC	.1900	4	206A010CP	206A010CB
10-32	UNF	.1900	4	206A010FP	206A010FB
1/4-20	UNC	.2500	4	206A116CP	206A116CB
*1/4-20	UNC	.2500	4	206A116SP	—
1/4-28	UNF	.2500	4	206A116FP	206A116FB

*Reduced neck

Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Order Number	
				Plug	Bottoming
5/16-18	UNC	.3125	4	206A120CP	206A120CB
*5/16-18	UNC	.3125	4	206A120SP	—
5/16-24	UNF	.3125	4	206A120FP	206A120FB
3/8-16	UNC	.3750	4	206A124CP	206A124CB
*3/8-16	UNC	.3750	4	206A124SP	—
3/8-24	UNF	.3750	4	206A124FP	206A124FB
7/16-14	UNC	.4375	4	206A128CP	206A128CB
7/16-20	UNF	.4375	4	206A128FP	206A128FB
1/2-13	UNC	.5000	4	206A132CP	206A132CB
1/2-20	UNF	.5000	4	206A132FP	—

2400 SERIES

HIGH SPEED STEEL

Pulley Style / Plug / Bright & Black Finish

Pulley taps are used for tapping the hubs of pulleys for oil caps or set screws. The long shank is also ideal for reaching holes inaccessible with standard length taps. The thread length is the same length as a standard tap.

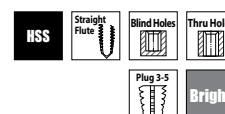
▷ All sizes are individually packaged



Best Material Application



Tap Specifications



Size	Thread	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Plug
1/4-20	UNC	.2500	1	6	24A116C6
1/4-20	UNC	.2500	1	8	24A116C8
5/16-18	UNC	.3125	1-1/8	6	24A120C6
5/16-18	UNC	.3125	1-1/8	8	24A120C8
3/8-16	UNC	.3750	1-1/4	10	24A124C10
3/8-16	UNC	.3750	1-1/4	6	24A124C6
3/8-16	UNC	.3750	1-1/4	8	24A124C8
7/16-14	UNC	.4375	1-7/16	6	24A128C6
7/16-14	UNC	.4375	1-7/16	8	24A128C8

Size	Thread	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Order Number Plug
1/2-13	UNC	.5000	1-21/32	10	24A132C10
1/2-13	UNC	.5000	1-21/32	12	24A132C12
1/2-13	UNC	.5000	1-21/32	6	24A132C6
1/2-13	UNC	.5000	1-21/32	8	24A132C8
5/8-11	UNC	.6250	1-13/16	10	24A140C10
5/8-11	UNC	.6250	1-13/16	12	24A140C12
5/8-11	UNC	.6250	1-13/16	6	24A140C6
5/8-11	UNC	.6250	1-13/16	8	24A140C8
3/4-10	UNC	.7500	2	10	24A148C10
3/4-10	UNC	.7500	2	12	24A148C12

GENERAL PURPOSE SPECIAL TAPS

02

TAPS

0450 SERIES

HIGH SPEED STEEL

Bright Finish

Cle-Line® 0450 combination drill & taps feature a one-piece HSS design with a square shank, allowing drilling and tapping in a single operation. With a bright finish for smooth cutting action, they are ideal for steel and non-ferrous materials where efficiency and portability are required. Designed for maintenance, repair, and general shop use, the 0450 series reduces tool changes and improves productivity.

Best Material Application



NON-FERROUS



CAST IRON



STEEL

Tap Specifications



Fractional								
Tap Size	Thread	Decimal Equiv.	No. of Flutes	Drill Length	Drill Size	Thread Length (Inch)	Overall Length (Inch)	Order Number
6-32	UNC	.1380	2	5/16	.1095	7/16	2	C64937
8-32	UNC	.1640	2	3/8	.1360	1/2	2-1/8	C64960
10-24	UNC	.1900	2	13/32	.1545	5/8	2.375	C29186
10-32	UNF	.1900	2	13/32	.1610	5/8	2-3/8	C64961
12-24	UNC	.2160	2	15/32	.1805	21/32	2.375	C29187
1/4-20	UNC	.2500	2	17/32	.2010	25/32	2-1/2	C64949
1/4-28	UNF	.2500	2	17/32	.2220	25/32	2.500	C29188
5/16-18	UNC	.3125	2	11/16	.2570	15/16	3	C64952
5/16-24	UNF	.3125	2	11/16	.2770	15/16	2.844	C29200
3/8-16	UNC	.3750	2	13/16	.3225	1-1/16	3-1/2	C64955
3/8-24	UNF	.3750	2	13/16	.3395	1-1/16	3.375	C29189
1/2-13	UNF	.5000	2	1-1/8	.4350	1-3/8	4.062	C29190
1/2-20	UNF	.5000	2	1-1/8	.4580	1-3/8	4.062	C29191

CLE-LINE

WALTER

GENERAL PURPOSE SPECIAL TAPS

2050 SERIES

HIGH SPEED STEEL

Combined Tap & Drill / Bright Finish

Drills and Taps in a single pass, reducing cycle time, and therefore reducing the manufacturing cost of a part. Self-centering point eliminates the need for center drilling or center punching. The drill part of the tool produces a hole correctly sized for approximately 75% of the thread. Can be used in a handheld power tool or a fixed spindle machine tool.

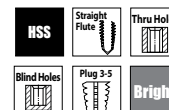
- ▷ *Electrical Contractors*
- ▷ *Maintenance Depts.*
- ▷ *Utility Crews*
- ▷ *Mechanics*
- ▷ *Installation Crews*



Best Material Application



Tap Specifications



Size	Thread	Fractional			Order Number
		Decimal Equiv. (Inch)	Thread Length (Inch)		
4-40	UNC	.1120	9/16		205A004C
4-48	UNF	.1120	9/16		205A004F
5-40	UNC	.1250	5/8		205A005C
5-44	UNF	.1380	5/8		205A005F
6-32	UNC	.1380	11/16		205A006C
6-40	UNF	.1380	11/16		205A006F
8-32	UNC	.1640	3/4		205A008C
8-36	UNF	.1640	3/4		205A008F
10-24	UNC	.1900	7/8		205A010C
10-32	UNF	.1900	7/8		205A010F

Size	Thread	Decimal Equiv. (Inch)	Thread Length (Inch)	Order Number
12-24	UNC	.2160	7/8	205A012C
12-28	UNF	.2160	7/8	205A012F
1/4-20	UNC	.2500	15/16	205A116C
1/4-28	UNF	.2500	15/16	205A116F
5/16-18	UNC	.3125	1-1/8	205A120C
5/16-24	UNF	.3125	1-1/8	205A120F
3/8-16	UNC	.3750	1-1/4	205A124C
3/8-24	UNF	.3750	1-1/4	205A124F
7/16-14	UNC	.4375	1-7/16	205A128C
7/16-20	UNF	.4375	1-7/16	205A128F
1/2-13	UNC	.5000	1-21/32	205A132C
1/2-20	UNF	.5000	1-21/32	205A132F



Tap Dispensers (Empty)		
Number of Pieces	Description	Order Number
6	6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20	205A6

GENERAL PURPOSE STRAIGHT FLUTE HAND TAPS

HTGP SERIES

GENERAL PURPOSE HIGH SPEED STEEL

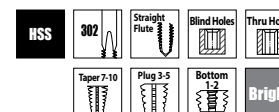
Taper / Plug / Bottoming / Bright Finish

Chicago-Latrobe HTGP Taps are general-purpose straight flute hand taps for through or blind holes. In HSS with a bright finish, and available in taper, plug, and bottoming styles. Optimized for precise tapping speeds.

Best Material Application



Tap Specifications



Fractional										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
0-80	UNF	0.060	2	H1	0.313	1.625	330004	330016	330066	—
0-80	UNF	0.060	2	H2	0.313	1.625	173055	300041	300058	173203
1-64	UNC	0.073	2	H1	0.375	1.688	330005	330017	330067	173204
1-64	UNC	0.073	2	H2	0.375	1.688	173056	173092	173151	—
1-72	UNF	0.073	2	H1	0.375	1.688	330006	300165	330068	173205
1-72	UNF	0.073	2	H2	0.375	1.688	173057	173093	173152	—
2-56	UNC	0.086	2	H2	0.438	1.750	173058	330018	330069	—
2-56	UNC	0.086	3	H1	0.438	1.750	330007	330019	300264	—
2-56	UNC	0.086	3	H2	0.438	1.750	300272	300280	300299	341573
2-64	UNF	0.086	3	H2	0.438	1.750	330008	330020	330070	173206
3-48	UNC	0.099	3	H2	0.500	1.813	300512	300520	300538	341599
3-56	UNF	0.099	3	H2	0.500	1.813	300637	300645	300652	341607
4-36	UNF	0.112	3	H2	0.563	1.880	—	172952	—	—
4-40	UNC	0.112	2	H1	0.563	1.875	—	330021	—	—
4-40	UNC	0.112	2	H2	0.563	1.875	—	300769	300778	—
4-40	UNC	0.112	3	H1	0.563	1.875	172949	172950	172951	—
4-40	UNC	0.112	3	H2	0.563	1.875	300819	300827	300835	341623
4-48	UNF	0.112	3	H2	0.563	1.875	300934	300942	300959	341649
5-40	UNC	0.125	2	H2	0.625	1.938	—	301007	301015	—
5-40	UNC	0.125	3	H1	0.625	1.938	—	172953	172954	—
5-40	UNC	0.125	3	H2	0.625	1.938	301056	301064	301072	341664
5-44	UNF	0.125	3	H2	0.625	1.938	301171	301189	301197	341672
6-32	UNC	0.138	2	H2	0.688	2.000	173059	301247	301254	173207
6-32	UNC	0.138	2	H3	0.688	2.000	173060	301270	301288	173208
6-32	UNC	0.138	3	H1	0.688	2.000	173955	172956	172957	—
6-32	UNC	0.138	3	H2	0.688	2.000	301320	301338	301346	341698
6-32	UNC	0.138	3	H3	0.688	2.000	301353	301361	301379	341706
6-32	UNC	0.138	3	H7	0.688	2.000	—	172958	172959	—
6-40	UNF	0.138	2	H2	0.688	2.000	—	172960	—	—
6-40	UNF	0.138	3	H2	0.688	2.000	301478	301486	301494	341714
8-32	UNC	0.164	2	H1	0.750	2.125	—	330022	173153	—
8-32	UNC	0.164	2	H2	0.750	2.125	173061	301544	301551	173209
8-32	UNC	0.164	2	H3	0.750	2.125	173062	301577	301585	173210
8-32	UNC	0.164	3	H1	0.750	2.125	—	172961	—	—
8-32	UNC	0.164	3	H2	0.750	2.125	—	301635	301643	—
8-32	UNC	0.164	3	H3	0.750	2.125	173063	301668	301676	173211
8-32	UNC	0.164	3	H7	0.750	2.125	—	172965	172966	—
8-32	UNC	0.164	4	H1	0.750	2.125	172962	172963	172964	—
8-32	UNC	0.164	4	H2	0.750	2.125	301718	301726	301734	341730
8-32	UNC	0.164	4	H3	0.750	2.125	301742	301759	301767	341748
8-36	UNF	0.164	4	H1	0.750	2.125	—	172967	—	—
8-36	UNF	0.164	4	H2	0.750	2.125	301924	301933	301940	341755

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GENERAL PURPOSE STRAIGHT FLUTE HAND TAPS

HTGP SERIES continued



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Fractional			
							Taper	Plug	Bottoming	Set
10-24	UNC	0.190	2	H2	0.875	2.375	—	301999	173154	—
10-24	UNC	0.190	2	H3	0.875	2.375	173064	302021	302039	173212
10-24	UNC	0.190	3	H1	0.875	2.375	—	172968	—	—
10-24	UNC	0.190	3	H2	0.875	2.375	—	172971	—	—
10-24	UNC	0.190	3	H3	0.875	2.375	173065	302112	302120	173213
10-24	UNC	0.190	3	H7	0.875	2.375	—	172972	172973	—
10-24	UNC	0.190	4	H1	0.875	2.375	172969	172970	—	—
10-24	UNC	0.190	4	H2	0.875	2.375	302161	302179	302187	341771
10-24	UNC	0.190	4	H3	0.875	2.375	302195	302203	302211	341789
10-24	UNC	0.190	4	H7	0.875	2.375	—	172974	172975	—
10-32	UNF	0.190	2	H1	0.875	2.375	—	172976	172977	—
10-32	UNF	0.190	2	H2	0.875	2.375	173066	302260	302278	—
10-32	UNF	0.190	2	H3	0.875	2.375	173067	302294	302302	173214
10-32	UNF	0.190	3	H1	0.875	2.375	—	172978	—	—
10-32	UNF	0.190	3	H2	0.875	2.375	—	173094	173155	—
10-32	UNF	0.190	3	H3	0.875	2.375	—	302385	302393	—
10-32	UNF	0.190	4	H1	0.875	2.375	172979	172980	172981	—
10-32	UNF	0.190	4	H2	0.875	2.375	302435	302443	302450	341805
10-32	UNF	0.190	4	H3	0.875	2.375	302468	302476	302484	341813
12-24	UNC	0.216	4	H3	0.938	2.375	302526	302534	302542	341821
12-28	UNF	0.216	4	H3	0.938	2.375	302583	302591	302609	341839
1/4-20	UNC	0.250	2	H3	1.000	2.500	173068	326004	326012	173215
1/4-20	UNC	0.250	3	H1	1.000	2.500	—	172982	—	—
1/4-20	UNC	0.250	3	H2	1.000	2.500	—	330024	173156	—
1/4-20	UNC	0.250	3	H3	1.000	2.500	173069	326160	326178	173216
1/4-20	UNC	0.250	3	H5	1.000	2.500	—	330025	173157	—
1/4-20	UNC	0.250	4	H1	1.000	2.500	305008	305016	305024	330080
1/4-20	UNC	0.250	4	H2	1.000	2.500	305033	305040	305057	342514
1/4-20	UNC	0.250	4	H3	1.000	2.500	305065	305073	305081	342522
1/4-20	UNC	0.250	4	H5	1.000	2.500	173070	305107	305115	173217
1/4-20	UNC	0.250	4	H11	1.000	2.500	—	330026	—	—
1/4-28	UNF	0.250	2	H3	1.000	2.500	—	326087	326095	—
1/4-28	UNF	0.250	3	H3	1.000	2.500	—	326244	326251	—
1/4-28	UNF	0.250	4	H1	1.000	2.500	—	172983	172984	—
1/4-28	UNF	0.250	4	H2	1.000	2.500	—	305198	305206	—
1/4-28	UNF	0.250	4	H3	1.000	2.500	305214	305222	305230	342530
1/4-28	UNF	0.250	4	H4	1.000	2.500	—	173095	173158	—
5/16-18	UNC	0.313	2	H3	1.125	2.719	173071	326285	326293	173218
5/16-18	UNC	0.313	3	H3	1.125	2.719	173072	326368	326376	—
5/16-18	UNC	0.313	3	H5	1.125	2.719	—	173096	173159	—
5/16-18	UNC	0.313	4	H1	1.125	2.719	172985	172986	172987	—
5/16-18	UNC	0.313	4	H2	1.125	2.719	305371	305370	305388	—
5/16-18	UNC	0.313	4	H3	1.125	2.719	305396	305404	305412	342555
5/16-18	UNC	0.313	4	H5	1.125	2.719	—	305438	305446	—
5/16-18	UNC	0.313	4	H11	1.125	2.719	—	330027	—	—
5/16-24	UNF	0.313	3	H3	1.125	2.719	—	326442	326459	—
5/16-24	UNF	0.313	4	H1	1.125	2.719	—	172988	172989	—
5/16-24	UNF	0.313	4	H2	1.125	2.719	173073	173097	173160	—
5/16-24	UNF	0.313	4	H3	1.125	2.719	305511	305529	305537	342563
5/16-24	UNF	0.313	4	H4	1.125	2.719	—	305552	305560	—
3/8-16	UNC	0.375	3	H1	1.250	2.938	—	172990	—	—
3/8-16	UNC	0.375	3	H3	1.250	2.938	173074	326525	326533	173219
3/8-16	UNC	0.375	3	H5	1.250	2.938	—	173098	173161	—
3/8-16	UNC	0.375	4	H2	1.250	2.938	305676	305677	305685	—
3/8-16	UNC	0.375	4	H3	1.250	2.938	305693	305701	305719	342589
3/8-16	UNC	0.375	4	H5	1.250	2.938	—	305735	305743	—

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GENERAL PURPOSE STRAIGHT FLUTE HAND TAPS

02

TAPS

HTGP SERIES continued



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Fractional			
							Taper	Plug	Bottoming	Set
3/8-24	UNF	0.375	3	H3	1.250	2.938	—	326608	326616	—
3/8-24	UNF	0.375	4	H2	1.250	2.938	—	173099	173162	—
3/8-24	UNF	0.375	4	H3	1.250	2.938	305818	305826	305834	342597
3/8-24	UNF	0.375	4	H4	1.250	2.938	—	172991	172992	—
3/8-24	UNF	0.375	4	H5	1.250	2.938	—	173100	173163	—
7/16-14	UNC	0.438	3	H3	1.438	3.156	—	173101	173164	—
7/16-14	UNC	0.438	4	H2	1.438	3.156	—	173102	173165	—
7/16-14	UNC	0.438	4	H3	1.438	3.156	305990	306006	306014	342605
7/16-14	UNC	0.438	4	H5	1.438	3.156	—	306030	306048	—
7/16-20	UNF	0.438	3	H3	1.438	3.156	—	173103	173166	—
7/16-20	UNF	0.438	4	H2	1.438	3.156	—	173104	173167	—
7/16-20	UNF	0.438	4	H3	1.438	3.156	306113	306121	306139	342613
7/16-20	UNF	0.438	4	H5	1.438	3.156	—	306154	306162	—
1/2-13	UNC	0.500	3	H3	1.656	3.375	173075	326681	326699	173220
1/2-13	UNC	0.500	4	H1	1.656	3.375	—	306246	172993	—
1/2-13	UNC	0.500	4	H2	1.656	3.375	173076	173105	173168	—
1/2-13	UNC	0.500	4	H3	1.656	3.375	306295	306303	306311	342621
1/2-13	UNC	0.500	4	H5	1.656	3.375	—	306337	306345	—
1/2-20	UNF	0.500	3	H3	1.656	3.375	—	326707	—	—
1/2-20	UNF	0.500	4	H1	1.656	3.375	172994	—	172995	—
1/2-20	UNF	0.500	4	H3	1.656	3.375	306444	306451	306469	342639
1/2-20	UNF	0.500	4	H5	1.656	3.375	—	306485	—	—
9/16-12	UNC	0.563	4	H2	1.656	3.594	—	172996	—	—
9/16-12	UNC	0.563	4	H3	1.656	3.594	306626	306634	306642	342647
9/16-12	UNC	0.563	4	H5	1.656	3.594	—	173106	173169	—
9/16-18	UNF	0.563	4	H2	1.656	3.594	—	172997	—	—
9/16-18	UNF	0.563	4	H3	1.656	3.594	306741	306758	306766	342654
9/16-18	UNF	0.563	4	H5	1.656	3.594	—	173107	173170	—
5/8-11	UNC	0.625	4	H2	1.813	3.813	—	173108	173171	—
5/8-11	UNC	0.625	4	H3	1.813	3.813	306923	306931	306949	342662
5/8-11	UNC	0.625	4	H5	1.813	3.813	—	306964	306972	—
5/8-18	UNF	0.625	4	H2	1.813	3.813	—	172998	172999	—
5/8-18	UNF	0.625	4	H3	1.813	3.813	307046	307053	307061	342670
5/8-18	UNF	0.625	4	H5	1.813	3.813	—	173109	173172	—
11/16-11	UNS	0.688	4	H3	1.813	4.031	307160	307178	307186	342688
11/16-16	UNS	0.688	4	H3	1.813	4.031	307194	307202	307210	342696
3/4-10	UNC	0.750	4	H2	2.000	4.250	—	173110	173173	—
3/4-10	UNC	0.750	4	H3	2.000	4.250	307343	307350	307368	342704
3/4-10	UNC	0.750	4	H5	2.000	4.250	—	173111	173174	—
3/4-16	UNF	0.750	4	H2	2.000	4.250	—	173112	173175	—
3/4-16	UNF	0.750	4	H3	2.000	4.250	307467	307475	307483	342712
3/4-16	UNF	0.750	4	H5	2.000	4.250	—	173113	173176	—
7/8-9	UNC	0.875	4	H4	2.219	4.468	307707	307715	307723	342720
7/8-9	UNC	0.875	4	H6	2.219	4.468	—	173114	173177	—
7/8-14	UNF	0.875	4	H4	2.219	4.468	307822	307830	307848	342738
7/8-14	UNF	0.875	4	H6	2.219	4.468	—	173115	173178	—
1-8	UNC	1.000	4	H4	2.500	5.125	308069	308077	308085	342746
1-12	UNF	1.000	4	H4	2.500	5.125	308184	308192	308200	—
1-14	UNS	1.000	4	H4	2.500	5.125	308275	308283	308291	342761
1-1/8-7	UNC	1.125	4	H4	2.563	5.438	308424	308432	308440	—
1-1/8-12	UNF	1.125	4	H4	2.563	5.438	308457	308465	308473	—
1-1/4-7	UNC	1.250	4	H4	2.563	5.750	308549	308556	308564	—
1-1/4-12	UNF	1.250	6	H4	2.563	5.750	308572	308580	308598	—
1-3/8-6	UNC	1.375	4	H4	3.000	6.063	—	308671	—	—
1-3/8-12	UNF	1.375	6	H4	3.000	6.063	—	308705	308713	—
1-1/2-6	UNC	1.500	4	H4	3.000	6.375	308788	308796	308804	—
1-1/2-12	UNF	1.500	6	H4	3.000	6.375	308812	308820	308838	—

Chicago-Latrobe

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GENERAL PURPOSE STRAIGHT FLUTE HAND TAPS

HTGP SERIES continued



Metric										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number			
							Taper	Plug	Bottoming	Set
M1.6 x 0.35	—	0.063	2	D3	0.313	1.625	173239	328018	330071	—
M2 x 0.4	—	0.079	3	D3	0.438	1.750	328067	328075	328083	174516
M2.5 x 0.45	—	0.098	3	D3	0.500	1.813	328158	328166	328174	174559
M3 x 0.5	—	0.118	3	D3	0.625	1.938	328182	328190	328208	174519
M3.5 x 0.6	—	0.138	3	D4	0.688	2.000	328240	328257	328265	174560
M4 x 0.7	—	0.158	4	D4	0.750	2.125	328273	328281	328299	174520
M4.5 x 0.75	—	0.177	4	D4	0.875	2.375	328331	328349	328356	174561
M5 x 0.8	—	0.197	4	D4	0.875	2.375	328364	328372	328380	174521
M6 x 1.0	—	0.236	4	D5	1.000	2.500	328422	328430	328448	174522
M7 x 1.0	—	0.276	4	D5	1.125	2.719	330009	328497	330072	—
M8 x 1.0	—	0.315	4	D5	1.125	2.719	330010	330028	330073	173221
M8 x 1.25	—	0.315	4	D5	1.125	2.719	328547	328554	328562	174524
M10 x 1.25	—	0.394	4	D5	1.250	2.938	330011	330029	330074	173222
M10 x 1.5	—	0.394	4	D6	1.250	2.938	328604	328612	328620	174548
M12 x 1.25	—	0.472	4	D5	1.656	3.375	330012	330030	330075	173223
M12 x 1.75	—	0.472	4	D6	1.656	3.375	328661	328679	328687	174549
M14 x 1.5	—	0.551	4	D6	1.656	3.594	330013	330031	330076	173224
M14 x 2.0	—	0.551	4	D7	1.656	3.594	328752	328760	328778	174550
M16 x 1.5	—	0.630	4	D6	1.813	3.813	330014	330032	330077	—
M16 x 2.0	—	0.630	4	D7	1.813	3.813	328810	328828	328836	174551
M18 x 1.5	—	0.709	4	D6	1.813	4.031	330015	330033	173180	—
M18 x 2.5	—	0.709	4	D7	1.813	4.031	328877	328885	328893	174552
M20 x 1.5	—	0.787	4	D6	2.000	4.469	173077	330034	330078	173225
M20 x 2.5	—	0.787	4	D7	2.000	4.469	328935	328943	328950	174553
M24 x 3.0	—	0.945	4	D8	2.219	4.906	329057	329065	329073	173226
M30 x 3.5	—	1.181	4	D9	2.563	5.438	—	329180	173181	—



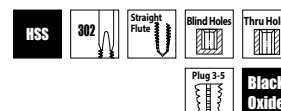
Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
6-32	UNC	0.138	3	H3	0.688	2.000	330037
8-32	UNC	0.164	4	H3	0.750	2.125	330039
10-24	UNC	0.190	4	H3	0.875	2.375	330041
10-32	UNF	0.190	4	H3	0.875	2.375	330043
1/4-20	UNC	0.250	4	H3	1.000	2.500	330047
1/4-28	UNF	0.250	4	H3	1.000	2.500	330049
5/16-18	UNC	0.313	4	H3	1.125	2.719	330052
3/8-16	UNC	0.375	4	H3	1.250	2.938	330055
3/8-24	UNF	0.375	4	H3	1.250	2.938	330058
1/2-13	UNC	0.500	4	H3	1.656	3.375	330059
5/8-11	UNC	0.625	4	H3	1.813	3.813	330061

Best Material Application



CAST IRON STEEL

Tap Specifications



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GENERAL PURPOSE STRAIGHT FLUTE HAND TAPS

HTGP SERIES

Taper / Plug / Bottoming / TiN



Best Material Application



STAINLESS



CAST IRON



STEEL

Tap Specifications



HSS



302



Straight
Flute



Blind Holes



Thru Holes



Taper 7-10



Plug 3-5



Bottoming



TiN

TAPS

Chicago-Latrobe

WALTER

Fractional										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
0-80	UNF	0.060	2	H2	0.313	1.625	—	300047	300054	—
1-64	UNC	0.073	2	H1	0.375	1.688	—	173117	173182	—
1-72	UNF	0.073	2	H1	0.375	1.688	—	173118	173183	—
2-56	UNC	0.086	3	H2	0.438	1.750	300278	300286	300294	174511
3-48	UNC	0.099	3	H2	0.500	1.813	339044	300526	339045	355802
3-56	UNF	0.099	3	H2	0.500	1.813	339046	339047	339048	355803
4-40	UNC	0.112	3	H2	0.563	1.875	300815	300823	300831	174530
4-48	UNF	0.112	3	H2	0.563	1.875	300930	300948	300955	174531
5-40	UNC	0.125	3	H2	0.625	1.938	301052	301060	301078	174536
5-44	UNF	0.125	3	H2	0.625	1.938	301177	173119	301193	174537
6-32	UNC	0.138	2	H2	0.688	2.000	—	173120	173184	—
6-32	UNC	0.138	2	H3	0.688	2.000	173078	173121	173185	173227
6-32	UNC	0.138	3	H2	0.688	2.000	173079	330062	173186	173228
6-32	UNC	0.138	3	H3	0.688	2.000	301359	301367	301375	174538
6-40	UNF	0.138	3	H2	0.688	2.000	301474	301482	301490	174539
8-32	UNC	0.164	2	H2	0.750	2.125	173080	173122	—	—
8-32	UNC	0.164	2	H3	0.750	2.125	173081	173123	173187	173229
8-32	UNC	0.164	3	H3	0.750	2.125	—	173124	173188	—
8-32	UNC	0.164	4	H2	0.750	2.125	173082	330063	—	—
8-32	UNC	0.164	4	H3	0.750	2.125	301748	301755	301763	174544
8-36	UNF	0.164	4	H2	0.750	2.125	301920	301938	301946	174545
10-24	UNC	0.190	2	H3	0.875	2.375	—	173125	173189	—
10-24	UNC	0.190	3	H3	0.875	2.375	—	173126	173190	—
10-24	UNC	0.190	4	H3	0.875	2.375	302191	302209	302217	174508
10-32	UNF	0.190	2	H2	0.875	2.375	—	173127	—	—
10-32	UNF	0.190	2	H3	0.875	2.375	173083	173128	173191	173230
10-32	UNF	0.190	3	H2	0.875	2.375	—	173129	—	—
10-32	UNF	0.190	3	H3	0.875	2.375	—	330045	—	—
10-32	UNF	0.190	4	H2	0.875	2.375	173084	173130	173192	173231
10-32	UNF	0.190	4	H3	0.875	2.375	302464	302472	302480	174509
12-24	UNC	0.216	4	H3	0.938	2.375	302522	302530	302548	174510
12-28	UNF	0.216	4	H3	0.938	2.375	—	330046	330079	—
1/4-20	UNC	0.250	2	H3	1.000	2.500	173085	173131	173193	173233
1/4-20	UNC	0.250	3	H3	1.000	2.500	173086	173132	173194	173234
1/4-20	UNC	0.250	4	H3	1.000	2.500	305061	305079	305087	174506
1/4-20	UNC	0.250	4	H5	1.000	2.500	—	305103	305111	—
1/4-28	UNF	0.250	3	H3	1.000	2.500	—	326240	—	—
1/4-28	UNF	0.250	4	H2	1.000	2.500	—	—	305209	—
1/4-28	UNF	0.250	4	H3	1.000	2.500	305210	305228	305236	174507
5/16-18	UNC	0.313	2	H3	1.125	2.719	—	173133	173195	—
5/16-18	UNC	0.313	3	H3	1.125	2.719	—	173134	173196	—
5/16-18	UNC	0.313	4	H3	1.125	2.719	305392	305403	305418	174532
5/16-24	UNF	0.313	4	H3	1.125	2.719	305517	305525	305533	174533
3/8-16	UNC	0.375	3	H3	1.250	2.938	—	326521	326539	—
3/8-16	UNC	0.375	4	H2	1.250	2.938	—	173135	—	—
3/8-16	UNC	0.375	4	H3	1.250	2.938	305699	305707	305715	174528
3/8-16	UNC	0.375	4	H5	1.250	2.938	—	305731	305749	—
3/8-24	UNF	0.375	4	H3	1.250	2.938	305814	305822	305830	174529

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GENERAL PURPOSE STRAIGHT FLUTE HAND TAPS

HTGP SERIES continued



Fractional										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
7/16-14	UNC	0.438	4	H3	1.438	3.156	305996	306002	306010	174540
7/16-14	UNC	0.438	4	H5	1.438	3.156	—	306036	306044	—
7/16-20	UNF	0.438	4	H3	1.438	3.156	306119	306127	306135	174541
7/16-20	UNF	0.438	4	H5	1.438	3.156	—	306157	306165	—
1/2-13	UNC	0.500	3	H3	1.656	3.375	—	173136	173197	—
1/2-13	UNC	0.500	4	H5	1.656	3.375	—	—	306341	—
1/2-20	UNF	0.500	4	H3	1.656	3.375	306440	306457	306465	174505
9/16-12	UNC	0.563	4	H3	1.656	3.594	306622	306630	306648	174546
9/16-18	UNF	0.563	4	H3	1.656	3.594	—	306754	306762	—
5/8-11	UNC	0.625	4	H3	1.813	3.813	306929	306937	306945	174534
5/8-11	UNC	0.625	4	H5	1.813	3.813	—	—	306978	—
5/8-18	UNF	0.625	4	H3	1.813	3.813	307042	307059	307067	174535
3/4-10	UNC	0.750	4	H3	2.000	4.250	307349	307356	307364	174513
3/4-16	UNF	0.750	4	H3	2.000	4.250	307463	307471	307489	174514
7/8-9	UNC	0.875	4	H4	2.219	4.468	307703	307711	307729	174543
7/8-14	UNF	0.875	4	H4	2.219	4.468	307828	307836	307844	174542
1-8	UNC	1.000	4	H4	2.500	5.125	308065	308073	308081	174503
1-12	UNF	1.000	4	H4	2.500	5.125	—	330065	—	—
Metric										
Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number				
						Taper	Plug	Bottoming	Set	
M2 x 0.4	0.079	3	D3	0.438	1.750	328684	328685	328686	343502	
M2.5 x 0.45	0.098	3	D3	0.500	1.813	328688	328689	328690	343503	
M3 x 0.5	0.118	3	D3	0.625	1.938	328691	328188	328205	343504	
M3.5 x 0.6	0.138	3	D4	0.688	2.000	173087	328693	173198	173235	
M4 x 0.7	0.158	4	D4	0.750	2.125	328695	328287	328295	343506	
M4.5 x 0.75	0.177	4	D4	0.875	2.375	—	328697	—	—	
M5 x 0.8	0.197	4	D4	0.875	2.375	328698	328378	328386	343508	
M6 x 1.0	0.236	4	D5	1.000	2.500	328699	328436	328444	343509	
M8 x 1.0	0.315	4	D5	1.125	2.719	173088	173137	173199	—	
M8 x 1.25	0.315	4	D5	1.125	2.719	328703	328550	328568	343511	
M10 x 1.25	0.394	4	D5	1.250	2.938	173089	173138	173200	173236	
M10 x 1.5	0.394	4	D6	1.250	2.938	328704	328618	328626	343512	
M12 x 1.25	0.472	4	D5	1.656	3.375	173090	173139	173201	173237	
M12 x 1.75	0.472	4	D6	1.656	3.375	328705	328675	328683	343513	
M14 x 1.5	0.551	4	D6	1.656	3.594	173091	173140	173202	173238	
M14 x 2.0	0.551	4	D7	1.656	3.594	328706	328707	328708	343514	
M16 x 2.0	0.630	4	D7	1.813	3.813	328709	328710	328711	343515	
M20 x 2.5	0.787	4	D7	2.000	4.469	—	328716	328717	—	
M24 x 3.0	0.945	4	D8	2.219	4.906	—	328719	328720	—	

GENERAL PURPOSE STRAIGHT FLUTE HAND TAPS

HTGP SERIES continued

GENERAL PURPOSE HIGH SPEED STEEL

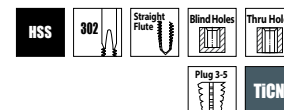
Plug / TiCN



Best Material Application



Tap Specifications



Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
2-56	UNC	0.086	3	H2	0.438	1.750	330035
4-40	UNC	0.112	3	H2	0.563	1.875	330036
6-32	UNC	0.138	2	H3	0.688	2.000	173141
6-32	UNC	0.138	3	H3	0.688	2.000	330038
8-32	UNC	0.164	2	H3	0.750	2.125	173142
8-32	UNC	0.164	4	H3	0.750	2.125	330040
10-24	UNC	0.190	4	H3	0.875	2.375	330042
10-32	UNF	0.190	2	H3	0.875	2.375	173143
10-32	UNF	0.190	4	H3	0.875	2.375	330044
1/4-20	UNC	0.250	2	H3	1.000	2.500	173144
1/4-20	UNC	0.250	3	H3	1.000	2.500	173145
1/4-20	UNC	0.250	4	H3	1.000	2.500	330048
1/4-28	UNF	0.250	4	H3	1.000	2.500	330051
5/16-18	UNC	0.313	4	H3	1.125	2.719	330053
3/8-16	UNC	0.375	4	H3	1.250	2.938	330057
3/8-24	UNF	0.375	4	H3	1.250	2.938	173146
7/16-14	UNC	0.438	4	H3	1.438	3.156	173147
1/2-13	UNC	0.500	4	H3	1.656	3.375	330060
5/8-11	UNC	0.625	4	H3	1.813	3.813	173148
3/4-10	UNC	0.750	4	H3	2.000	4.250	173149
7/8-14	UNF	0.875	4	H4	2.219	4.468	173150

HTGPL SERIES

GENERAL PURPOSE HIGH SPEED STEEL

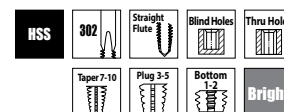
Left Hand / Taper / Plug / Bottoming / Bright Finish



Best Material Application



Tap Specifications



Fractional								Order Number			
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)		Taper	Plug	Bottoming	Set
6-32	UNC	.1380	3	H3	.688	2.000	—	—	313010	313028	—
8-32	UNC	.1640	4	H3	.750	2.125	313036	313044	313051	341912	—
10-24	UNC	.1900	4	H3	.875	2.375	313069	313077	313085	—	—
10-32	UNF	.1900	4	H3	.875	2.375	313093	313102	313119	341938	—
1/4-20	UNC	.2500	4	H3	1.000	2.500	—	—	317516	—	—
1/4-28	UNF	.2500	4	H3	1.000	2.500	317532	317540	317557	318779	—
5/16-18	UNC	.3125	4	H3	1.125	2.719	—	—	317573	—	—
5/16-24	UNF	.3125	4	H3	1.125	2.719	—	—	317607	—	—
3/8-16	UNC	.3750	4	H3	1.250	2.938	—	—	317631	—	—
3/8-24	UNF	.3750	4	H3	1.250	2.938	—	—	317664	—	—
7/16-20	UNF	.4375	4	H3	1.438	3.156	—	—	317722	—	—
1/2-13	UNC	.5000	4	H3	1.656	3.375	—	—	317755	—	—
1/2-20	UNF	.5000	4	H3	1.656	3.375	—	—	317789	—	—
5/8-18	UNF	.6250	4	H3	1.813	3.813	—	—	317904	—	—
3/4-10	UNC	.7500	4	H3	2.000	4.250	—	—	317995	—	—
3/4-16	UNF	.7500	4	H3	2.000	4.250	—	—	318027	—	—

GENERAL PURPOSE STRAIGHT FLUTE HAND TAPS

HTGP SERIES continued

GENERAL PURPOSE HIGH SPEED STEEL

Corresponding Sets Plug Hand Tap Set				
Pieces	Type	Coating / Finish	Thread Sizes	Order Number
10	H3, 4 Flute	Bright Finish	1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20	330082
Jobber Drill, Plug Hand Tap Set				
18	Jobber	Bright Finish	#33, #29, #25, #21, #3, LET-I, LET-Q, 25/64, 29/64 6-40 H2 (3f), 8-36 H2 (4f), 10-24 H3 (4f), 10-32 H3 (4f), 1/4-28 H3 (4f), 5/16-24 H3 (4f), 3/8-24 H3 (4f), 7/16-20 H3 (4f), 1/2-20 H3 (4f)	330001
18	Jobber H3, 4 Flute	Bright Finish	5/16, 27/64, LET-F, LET-U, #7, #21, #25, #29, #36 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 6-32, 8-32, 10-24, 10-32	330083
Jobber Drill, Plug Hand Tap Set				
18	Jobber (Titanium) H3, 4 Flute	TiN	5/16, 27/64, #7, #21, #25, #29, #36, LET-F, LET-U 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 6-32, 8-32, 10-24, 10-32	330084
Jobber Drill, Plug NC/NF Hand Tap Set				
36	Jobber	Bright Finish	5/16, 25/64, 27/64, 29/64, LET-F, LET-I, LET-Q, LET-U, #3, #7, #15, #16, #21, #25, #29, #33, #36	330086
	H2, 3 Flute		6-40	
	H2, 4 Flute		8-36	
	H3, 3 Flute		6-32	
	H3, 4 Flute		1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 8-32, 10-24, 10-32, 12-24, 12-28	
Screw Machine Drill, Plug Hand Tap Set				
20	Screw Mach	Bright Finish	5/16, 27/64, #7, #25, #29, #36, #39, #44, LET-F, LET-U	330087
	H2, 3 Flute		4-40, 5-40	
	H3, 3 Flute		6-32	
	H3, 4 Flute		1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 8-32, 10-24	
Metric Jobber Drill, Plug Hand Tap Set				
18	Jobber	Black Oixde	2.05, 2.50, 2.90, 3.30, 4.20, 5.00, 6.70, 8.5, 10.20	330088
	D3, 3 Flute		M2.5x0.45, M3x0.5	
	D4, 3 Flute		M3.5x0.6, M4x0.7,	
	D4, 4 Flute		M5x0.8	
	D5, 4 Flute		M6X1.0, M8X1.25,	
	D6, 4 Flute		M10x1.5, M12x1.75	



330082



330083



330084



330086



330087



330088

GENERAL PURPOSE CNC STRAIGHT FLUTE HAND TAPS

HTHM SERIES

PREMIUM HIGH SPEED STEEL

Bottoming / CNC Straight Flute / Oxide over Nitride

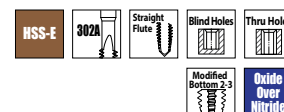
Chicago-Latrobe HTHM CNC Straight Flute Taps, made from HSS-E with an Oxide over Nitride coating, are ideal for through or blind holes in cast iron and harder materials. Available in UNC, UNF, and metric thread.



Best Material Application



Tap Specifications



Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Bottoming
10-24	UNC	.1900	4	H3	.875	2.375	330259
10-32	UNF	.1900	4	H3	.875	2.375	330260
1/4-20	UNC	.2500	4	H3	1.000	2.500	330261
1/4-20	UNC	.2500	4	H5	1.000	2.500	330278
1/4-28	UNF	.2500	4	H3	1.000	2.500	330262
5/16-18	UNC	.3125	4	H3	1.125	2.719	330263
5/16-18	UNC	.3125	4	H5	1.125	2.719	330279
5/16-24	UNF	.3125	4	H3	1.125	2.719	330264
3/8-16	UNC	.3750	4	H3	1.250	2.938	330265
3/8-16	UNC	.3750	4	H5	1.250	2.938	330280
7/16-14	UNC	.4375	4	H3	1.438	3.156	330267
7/16-14	UNC	.4375	4	H5	1.438	3.156	330281
1/2-13	UNC	.5000	4	H3	1.656	3.375	330269
1/2-13	UNC	.5000	4	H5	1.656	3.375	330283
1/2-20	UNF	.5000	4	H5	1.656	3.375	330284
3/4-16	UNF	.7500	6	H5	2.000	4.250	330290
Metric							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number Bottoming
M5 x 0.8	—	0.197	4	D4	.875	2.375	330291
M6 x 1	—	0.236	4	D5	1.000	2.500	330292
M8 x 1.25	—	0.315	4	D5	1.125	2.719	330293
M10 x 1.5	—	0.394	4	D6	1.250	2.938	330294
M12 x 1.25	—	0.472	4	D6	1.656	3.375	330295
M12 x 1.75	—	0.472	4	D6	1.656	3.375	330296
M14 x 1.5	—	0.551	4	D6	1.656	3.594	330298

HTHM SERIES

PREMIUM HIGH SPEED STEEL

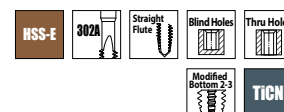
Bottoming / Straight Flute / TiCN



Best Material Application



Tap Specifications



Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Bottoming
1/4-20	UNC	.2500	4	H3	1.000	2.500	300216
5/16-18	UNC	.3125	4	H3	1.125	2.719	300217
Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Bottoming
M10 x 1.5	—	0.394	4	D6	1.250	2.938	300218
M12 x 1.75	—	0.472	4	D6	1.656	3.375	300219

GENERAL PURPOSE HAND TAPS

1001 / 1002 / 1003 / 1004 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Taper / Plug / Bottoming / Bright Finish

Taper Hand Taps with HSS, bright finish, and straight flute design ensures versatile performance in tapping blind holes. Suitable for low carbon steel, stainless steel, and aluminum.

Best Material Application

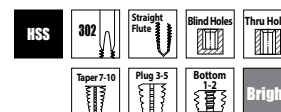


NON-FERROUS

CAST IRON

STEEL

Tap Specifications



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
*0-80	UNF	.0600	2	H1	.313	1.625	C54025	C54026	C54027	—
*0-80	UNF	.0600	2	H2	.313	1.625	C83360	C54029	C54030	C83982
*1-64	UNC	.0730	2	H1	.375	1.688	C54055	C54056	C54057	C83983
*1-64	UNC	.0730	2	H2	.375	1.688	C83361	C83817	C83899	—
*1-72	UNF	.0730	2	H1	.375	1.688	C54060	C54061	C54062	C83984
*1-72	UNF	.0730	2	H2	.375	1.688	C83362	C83818	C83900	—
*2-56	UNC	.0860	2	H2	.375	1.750	C83363	C54087	C54088	—
*2-56	UNC	.0860	3	H1	.375	1.750	C54083	C54084	C54085	—
*2-56	UNC	.0860	3	H2	.375	1.750	C54089	C54090	C54091	C54092
*2-64	UNF	.0860	3	H2	.438	1.750	C54093	C54094	C54095	C83985
*3-48	UNC	.0990	3	H2	.500	1.813	C54115	C54116	C54117	C54118
*3-56	UNF	.0990	3	H2	.500	1.813	C54120	C54121	C54122	C54123
4-40	UNC	.1120	2	H1	.563	1.875	—	C54142	—	—
4-40	UNC	.1120	2	H2	.563	1.875	—	C54147	C54148	—
4-40	UNC	.1120	3	H1	.563	1.875	C54134	C54135	C54136	—
4-40	UNC	.1120	3	H2	.563	1.875	C54149	C54150	C54151	C54152
4-36	UNC	.1120	3	H2	.563	1.875	—	C54140	—	—
4-48	UNF	.1120	3	H2	.563	1.875	C54153	C54154	C54155	C54156
5-40	UNC	.1250	2	H2	.625	1.938	—	C54186	C54187	—
5-40	UNC	.1250	3	H1	.625	1.938	—	C54185	C54184	—
5-40	UNC	.1250	3	H2	.625	1.938	C54188	C54189	C54190	C54191
5-44	UNF	.1250	3	H2	.625	1.938	C54192	C54193	C54194	C54195
6-32	UNC	.1380	2	H2	.688	2.000	C83364	C54215	C54216	C83986
6-32	UNC	.1380	2	H3	.688	2.000	C83365	C54221	C54222	C83987
6-32	UNC	.1380	3	H1	.688	2.000	C54211	C54212	C54213	—
6-32	UNC	.1380	3	H3	.688	2.000	C54223	C54224	C54225	C54226
6-32	UNC	.1380	3	H7	.688	2.000	—	C54227	C54228	—
6-40	UNF	.1380	2	H2	.688	2.000	—	C54229	—	—
6-40	UNF	.1380	3	H2	.688	2.000	C54232	C54233	C54234	C54235
8-32	UNC	.1640	2	H1	.750	2.125	—	C54256	C83901	—
8-32	UNC	.1640	2	H2	.750	2.125	C83366	C54264	C54265	C83988
8-32	UNC	.1640	2	H3	.750	2.125	C83367	C54273	C54274	C83989
8-32	UNC	.1640	3	H1	.750	2.125	—	C54258	—	—
8-32	UNC	.1640	3	H2	.750	2.125	C83368	C54267	C54268	—
8-32	UNC	.1640	3	H3	.750	2.125	C83500	C54275	C54276	C83990
8-32	UNC	.1640	3	H7	.750	2.125	—	C54285	C54282	—
8-32	UNC	.1640	4	H1	.750	2.125	C54260	C54261	C54262	—
8-32	UNC	.1640	4	H2	.750	2.125	C54269	C54270	C54271	C54272
8-32	UNC	.1640	4	H3	.750	2.125	C54277	C54278	C54279	C54280

continued on next page

GENERAL PURPOSE HAND TAPS

02

TAPS

1001 / 1002 / 1003 / 1004 SERIES continued



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Fractional		Order Number			
					Thread Length (Inch)	Overall Length (Inch)	Taper	Plug	Bottoming	Set
8-36	UNF	.1640	4	H1	.750	2.125	—	C54288	—	—
8-36	UNF	.1640	4	H2	.750	2.125	C54289	C54290	C54291	C54292
10-24	UNC	.1900	2	H2	.875	2.375	—	C54318	C83902	—
10-24	UNC	.1900	2	H3	.875	2.375	C83369	C54325	C54326	C83991
10-24	UNC	.1900	3	H1	.875	2.375	—	C54335	—	—
10-24	UNC	.1900	3	H2	.875	2.375	—	C54320	—	—
10-24	UNC	.1900	3	H3	.875	2.375	C83370	C54327	C54328	C83992
10-24	UNC	.1900	3	H7	.875	2.375	—	C54336	C54334	—
10-24	UNC	.1900	4	H1	.875	2.375	C54314	C54315	—	—
10-24	UNC	.1900	4	H2	.875	2.375	C54321	C54322	C54323	C54324
10-24	UNC	.1900	4	H3	.875	2.375	C54329	C54330	C54331	C54332
10-24	UNC	.1900	4	H7	.875	2.375	—	C54333	C54334	—
10-32	UNF	.1900	2	H1	.875	2.375	—	C54338	C54345	—
10-32	UNF	.1900	2	H2	.875	2.375	C83370	C54343	C83903	—
10-32	UNF	.1900	2	H3	.875	2.375	C83372	C54352	C54353	C83993
10-32	UNF	.1900	3	H1	.875	2.375	—	C54364	—	—
10-32	UNF	.1900	3	H2	.875	2.375	—	C83819	C83904	—
10-32	UNF	.1900	3	H3	.875	2.375	—	C54354	C54355	—
10-32	UNF	.1900	4	H1	.875	2.375	C54339	C54340	C54341	—
10-32	UNF	.1900	4	H2	.875	2.375	C54348	C54349	C54350	C54351
10-32	UNF	.1900	4	H3	.875	2.375	C54356	C54357	C54358	C54359
12-24	UNC	.2160	4	H3	.938	2.375	C54385	C54386	C54387	C54388
12-28	UNF	.2160	4	H3	.938	2.375	C54389	C54390	C54391	C54392
1/4-20	UNC	.2500	2	H3	1.000	2.500	C83373	C54456	C54457	C83994
1/4-20	UNC	.2500	3	H1	1.000	2.500	—	C54446	—	—
1/4-20	UNC	.2500	3	H2	1.000	2.500	—	C54451	C83905	—
1/4-20	UNC	.2500	3	H3	1.000	2.500	C83374	C54458	C54459	C83995
1/4-20	UNC	.2500	3	H5	1.000	2.500	—	C54463	C83906	—
1/4-20	UNC	.2500	4	H1	1.000	2.500	C54443	C54444	C54445	C54447
1/4-20	UNC	.2500	4	H2	1.000	2.500	C54448	C54449	C54450	C54452
1/4-20	UNC	.2500	4	H3	1.000	2.500	C54453	C54454	C54455	C54460
1/4-20	UNC	.2500	4	H5	1.000	2.500	C83375	C54461	C54462	C83996
1/4-20	UNC	.2500	4	H11	1.000	2.500	—	C54464	—	—
1/4-28	UNF	.2500	2	H3	1.000	2.500	—	C54472	C54473	—
1/4-28	UNF	.2500	3	H3	1.000	2.500	—	C54474	C54475	—
1/4-28	UNF	.2500	4	H1	1.000	2.500	—	C54465	C54466	—
1/4-28	UNF	.2500	4	H2	1.000	2.500	—	C54467	C54468	—
1/4-28	UNF	.2500	4	H3	1.000	2.500	C54469	C54470	C54471	C54476
1/4-28	UNF	.2500	4	H4	1.000	2.500	—	C83820	C83907	—
5/16-18	UNC	.3125	2	H3	1.125	2.719	C83376	C54507	C54508	C83997
5/16-18	UNC	.3125	3	H3	1.125	2.719	C83377	C54509	C54510	—
5/16-18	UNC	.3125	3	H5	1.125	2.719	—	C83821	C83908	—
5/16-18	UNC	.3125	4	H1	1.125	2.719	C54498	C54499	C54500	—
5/16-18	UNC	.3125	4	H2	1.125	2.719	C54501	C54502	C54503	—
5/16-18	UNC	.3125	4	H3	1.125	2.719	C54504	C54505	C54506	C54511
5/16-18	UNC	.3125	4	H5	1.125	2.719	—	C54512	C54513	—
5/16-18	UNC	.3125	4	H11	1.125	2.719	—	C54514	—	—
5/16-24	UNF	.3125	3	H3	1.125	2.719	—	C54521	C54522	—
5/16-24	UNF	.3125	4	H1	1.125	2.719	—	C54515	C54516	—
5/16-24	UNF	.3125	4	H2	1.125	2.719	C83378	C83822	C83909	—
5/16-24	UNF	.3125	4	H3	1.125	2.719	C54518	C54519	C54520	C54523
5/16-24	UNF	.3125	4	H4	1.125	2.719	—	C54524	C54525	—

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CLEVELAND | WALTER

GENERAL PURPOSE HAND TAPS

1001 / 1002 / 1003 / 1004 SERIES continued



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Fractional		Order Number			
					Thread Length (Inch)	Overall Length (Inch)	Taper	Plug	Bottoming	Set
3/8-16	UNC	.3750	3	H1	1.250	2.938	—	C54576	—	—
3/8-16	UNC	.3750	3	H3	1.250	2.938	C83379	C54585	C54586	C83998
3/8-16	UNC	.3750	3	H5	1.250	2.938	—	C83823	C83910	—
3/8-16	UNC	.3750	4	H2	1.250	2.938	C54579	C54580	C54581	—
3/8-16	UNC	.3750	4	H3	1.250	2.938	C54582	C54583	C54584	C54587
3/8-16	UNC	.3750	4	H5	1.250	2.938	—	C54588	C54589	—
3/8-24	UNF	.3750	3	H3	1.250	2.938	—	C54598	C54599	—
3/8-24	UNF	.3750	4	H2	1.250	2.938	—	C83824	C83911	—
3/8-24	UNF	.3750	4	H3	1.250	2.938	C54595	C54596	C54597	C54600
3/8-24	UNF	.3750	4	H4	1.250	2.938	—	C54601	C54602	—
3/8-24	UNF	.3750	4	H5	1.250	2.938	—	C83825	C83912	—
7/16-14	UNC	.4375	3	H3	1.438	3.156	—	C83826	C83913	—
7/16-14	UNC	.4375	4	H2	1.438	3.156	—	C83827	C83914	—
7/16-14	UNC	.4375	4	H3	1.438	3.156	C54652	C54653	C54654	C54656
7/16-14	UNC	.4375	4	H5	1.438	3.156	—	C54658	C54659	—
7/16-20	UNF	.4375	3	H3	1.438	3.156	—	C83828	C83915	—
7/16-20	UNF	.4375	4	H2	1.438	3.156	—	C83829	C83916	—
7/16-20	UNF	.4375	4	H3	1.438	3.156	C54661	C54662	C54663	C54665
7/16-20	UNF	.4375	4	H5	1.438	3.156	—	C54666	C54667	—
1/2-13	UNC	.5000	3	H3	1.656	3.375	C83380	C54729	C54730	C83999
1/2-13	UNC	.5000	4	H1	1.656	3.375	—	C54724	C54725	—
1/2-13	UNC	.5000	4	H2	1.656	3.375	C83381	C83830	C83917	—
1/2-13	UNC	.5000	4	H3	1.656	3.375	C54726	C54727	C54728	C54731
1/2-13	UNC	.5000	4	H5	1.656	3.375	—	C54732	C54733	—
1/2-20	UNF	.5000	3	H3	1.656	3.375	—	C54740	—	—
1/2-20	UNF	.5000	4	H1	1.656	3.375	C54743	—	C54736	—
1/2-20	UNF	.5000	4	H3	1.656	3.375	C54737	C54738	C54739	C54741
1/2-20	UNF	.5000	4	H5	1.656	3.375	—	C54742	—	—
9/16-12	UNC	.5625	4	H2	1.656	3.594	—	C54770	—	—
9/16-12	UNC	.5625	4	H3	1.656	3.594	C54759	C54760	C54761	C54762
9/16-12	UNC	.5625	4	H5	1.656	3.594	—	C83831	C83918	—
9/16-18	UNF	.5625	4	H2	1.656	3.594	—	C54764	—	—
9/16-18	UNF	.5625	4	H3	1.656	3.594	C54765	C54766	C54767	C54768
9/16-18	UNF	.5625	4	H5	1.656	3.594	—	C83832	C83919	—
5/8-11	UNC	.6250	4	H2	1.813	3.813	—	C83833	C83920	—
5/8-11	UNC	.6250	4	H3	1.813	3.813	C54779	C54780	C54781	C54782
5/8-11	UNC	.6250	4	H5	1.813	3.813	—	C54783	C54784	—
5/8-18	UNF	.6250	4	H2	1.813	3.813	—	C54786	C54793	—
5/8-18	UNF	.6250	4	H3	1.813	3.813	C54787	C54788	C54789	C54790
5/8-18	UNF	.6250	4	H5	1.813	3.813	—	C83834	C83921	—
11/16-11	UNS	.6875	4	H3	1.813	4.031	C54813	C54814	C54815	C54816
11/16-16	UNS	.6875	4	H3	1.813	4.031	C54817	C54818	C54819	C54820
3/4-10	UNC	.7500	4	H2	2.000	4.250	—	C83835	C83922	—
3/4-10	UNC	.7500	4	H3	2.000	4.250	C54838	C54839	C54840	C54841
3/4-10	UNC	.7500	4	H5	2.000	4.250	—	C83836	C83923	—
3/4-16	UNF	.7500	4	H2	2.000	4.250	—	C83837	C83924	—
3/4-16	UNF	.7500	4	H3	2.000	4.250	C54846	C54847	C54848	C54849
3/4-16	UNF	.7500	4	H5	2.000	4.250	—	C83838	C83925	—
7/8-9	UNC	.8750	4	H4	2.219	4.688	C54884	C54885	C54886	C54887
7/8-9	UNC	.8750	4	H6	2.219	4.688	—	C83839	C83926	—
7/8-14	UNF	.8750	4	H4	2.219	4.688	C54890	C54891	C54892	C54893
7/8-14	UNF	.8750	4	H6	2.219	4.688	—	C83840	C83927	—

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GENERAL PURPOSE HAND TAPS

02

TAPS

1001 / 1002 / 1003 / 1004 SERIES continued



Fractional										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
1-8	UNC	1.0000	4	H4	2.500	5.125	C54923	C54924	C54925	C54926
1-12	UNF	1.0000	4	H4	2.500	5.125	C54928	C54929	C54930	—
1-14	UNS	1.0000	4	H4	2.500	5.125	C54933	C54934	C54935	C54936
*1-1/8-7	UNC	1.1250	4	H4	2.563	5.438	C54965	C54966	C54967	—
*1-1/8-12	UNF	1.1250	4	H4	2.563	5.438	C54971	C54972	C54973	—
*1-1/4-7	UNC	1.2500	4	H4	2.563	5.750	C54994	C54995	C54996	—
*1-1/4-12	UNF	1.2500	6	H4	2.563	5.750	C55000	C55001	C55002	—
*1-3/8-6	UNC	1.3750	4	H4	3.000	6.0625	—	C55028	—	—
*1-3/8-12	UNF	1.3750	6	H4	3.000	6.0625	—	C55031	C55032	—
*1-1/2-6	UNC	1.5000	4	H4	3.000	6.375	C55057	C55058	C55059	—
*1-1/2-12	UNF	1.5000	6	H4	3.000	6.375	C55063	C55064	C55065	—

Metric									
Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number			
						Taper	Plug	Bottoming	Set
*M1.6 x 0.35	.0630	2	D3	7.94	41.28	C54043	C54044	C54045	—
*M2 x 0.4	.0787	3	D3	11.11	44.45	C54073	C54074	C54075	C84210
*M2.5 x 0.45	.0984	3	D3	12.70	46.04	C54131	C54132	C54133	C84211
M3 x 0.5	.1181	3	D3	15.88	49.21	C54164	C54165	C54166	C54167
M3.5 x 0.6	.1378	3	D4	17.46	50.80	C54203	C54204	C54205	C84212
M4 x 0.7	.1575	4	D4	19.05	53.98	C54246	C54247	C54248	C54249
M4.5 x 0.75	.1771	4	D4	22.23	60.33	C54303	C54304	C54305	C84213
M5 x 0.8	.1968	4	D4	22.23	60.33	C54374	C54375	C54376	C54377
M6 x 1	.2362	4	D5	25.40	63.50	C54413	C54414	C54415	C54416
M7 x 1	.2756	4	D5	28.58	69.06	C54489	C54490	C54491	—
M8 x 1	.3150	4	D5	28.58	69.06	C54536	C54537	C54538	C84214
M8 x 1.25	.3150	4	D5	28.58	69.06	C54546	C54547	C54548	C54539
M10 x 1.25	.3937	4	D5	31.75	74.61	C54617	C54618	C54619	C84215
M10 x 1.5	.3937	4	D6	31.75	74.61	C54624	C54625	C54626	C54627
M12 x 1.25	.4724	4	D5	42.07	85.73	C54675	C54676	C54677	C84216
M12 x 1.75	.4724	4	D6	42.07	85.73	C54689	C54690	C54691	C54692
M14 x 1.5	.5512	4	D6	42.07	91.28	C54751	C54752	C54753	C84217
M14 x 2	.5512	4	D7	42.07	91.28	C54755	C54756	C54757	C54758
M16 x 1.5	.6299	4	D6	46.04	96.84	C54797	C54798	C54799	—
M16 x 2	.6299	4	D7	46.04	96.84	C54801	C54802	C54803	C54804
M18 x 1.5	.7087	4	D6	46.04	102.39	C54825	C54826	C83929	—
M18 x 2.5	.7087	4	D7	46.04	102.39	C54833	C54834	C54835	C84218
M20 x 1.5	.7874	4	D6	50.80	113.51	C83382	C54857	C54858	C84219
M20 x 2.5	.7874	4	D7	50.80	113.51	C54864	C54865	C54866	C54867
M24 x 3	.9449	4	D8	56.36	124.62	C54907	C54908	C54909	C84220
M30 x 3.5	1.1811	4	D9	65.09	138.11	—	C54991	C83930	—

*M1.6-M2.5 and larger than M25: 302 blank style

Corresponding Set		
Number of Pieces	Sizes	Order Number
10 Bright Finish	1/4-20NC, 1/4-28NF, 5/16-18NC, 5/16-24NF, 3/8-16NC, 3/8-24NF, 7/16-14NC, 7/16-20NF, 1/2-13NC, 1/2-20NF	C55090



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GENERAL PURPOSE HAND TAPS

1002SO SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Plug / Black Oxide Finish

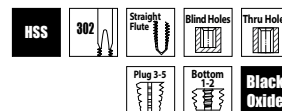


Best Material Application

CAST IRON

STEEL

Tap Specifications



Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number
6-32	UNC	.1380	3	H3	.688	2.000	C56000
8-32	UNC	.1640	4	H3	.750	2.125	C56002
10-24	UNC	.1900	4	H3	.875	2.375	C56004
10-32	UNF	.1900	4	H3	.875	2.375	C56006
1/4-20	UNC	.2500	4	H3	1.000	2.500	C56008

Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number
1/4-28	UNF	.2500	4	H3	1.000	2.500	C56010
5/16-18	UNC	.3125	4	H3	1.125	2.719	C56012
3/8-16	UNC	.3750	4	H3	1.250	2.938	C56014
3/8-24	UNF	.3750	4	H3	1.250	2.938	C56016
1/2-13	UNC	.5000	4	H3	1.656	3.375	C56020
5/8-11	UNC	.6250	4	H3	1.813	3.813	C56028

1001TN / 1002TN / 1003TN / 1004TN SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Taper / Plug / Bottoming / TiN



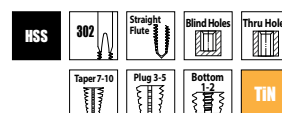
Best Material Application

STAINLESS

CAST IRON

STEEL

Tap Specifications



Fractional										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
*0-80	UNF	.0600	2	H2	.313	1.625	—	C55156	C83931	—
*1-64	UNC	.0730	2	H1	.375	1.688	—	C83842	C83932	—
*1-72	UNF	.0730	2	H1	.375	1.688	—	C83843	C83933	—
*2-56	UNC	.0860	3	H2	.375	1.750	C83383	C55158	C83934	C84221
*3-48	UNC	.0990	3	H2	.500	1.813	C83384	C83844	C83935	C84222
*3-56	UNF	.0990	3	H2	.500	1.813	C83385	C83845	C83936	C84223
4-40	UNC	.1120	3	H2	.563	1.875	C83386	C55160	C83937	C84224
4-48	UNF	.1120	3	H2	.563	1.875	C83387	C83846	C83938	C84225
5-40	UNC	.1250	3	H2	.625	1.938	C83388	C55162	C83939	C84226
5-44	UNF	.1250	3	H2	.625	1.938	C83389	C83847	C83940	C84227
6-32	UNC	.1380	2	H2	.688	2.000	—	C83848	C83941	—
6-32	UNC	.1380	2	H3	.688	2.000	C83390	C83849	C83942	C84228
6-32	UNC	.1380	3	H2	.688	2.000	C83391	—	C83943	C84229
6-32	UNC	.1380	3	H3	.688	2.000	C83392	C55100	C55200	C84230
6-40	UNF	.1380	3	H2	.688	2.000	C83393	C55102	C55202	C84231
8-32	UNC	.1640	2	H2	.750	2.125	C83394	C83850	—	—
8-32	UNC	.1640	2	H3	.750	2.125	—	—	C83944	C84232
8-32	UNC	.1640	3	H2	.750	2.125	C83395	C83851	—	—
8-32	UNC	.1640	3	H3	.750	2.125	—	C83852	C83945	—
8-32	UNC	.1640	4	H2	.750	2.125	C83396	C55166	—	—
8-32	UNC	.1640	4	H3	.750	2.125	C54307	C55104	C55204	C84233
8-36	UNF	.1640	4	H2	.750	2.125	C83397	C55106	C83946	C84234
10-24	UNC	.1900	2	H3	.875	2.375	—	C83853	C83947	—
10-24	UNC	.1900	3	H3	.875	2.375	—	C83854	C83948	—
10-24	UNC	.1900	4	H3	.875	2.375	C83398	C55108	C55208	C84235
10-32	UNF	.1900	2	H2	.875	2.375	—	C83855	—	—
10-32	UNF	.1900	2	H3	.875	2.375	C83399	C83856	C83949	C84236
10-32	UNF	.1900	3	H2	.875	2.375	—	C83857	—	—

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GENERAL PURPOSE HAND TAPS

02

TAPS

1001TN / 1002TN / 1003TN / 1004TN SERIES continued

TiN



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number			
							Taper	Plug	Bottoming	Set
10-32	UNF	.1900	3	H3	.875	2.375	—	C55170	—	—
10-32	UNF	.1900	4	H2	.875	2.375	C83400	C83858	C83950	C84237
10-32	UNF	.1900	4	H3	.875	2.375	C54309	C55110	C55210	C84238
12-24	UNC	.2160	4	H3	.938	2.375	C83480	C55112	C55212	C84239
12-28	UNF	.2160	4	H3	.938	2.375	—	C55114	C55214	—
1/4-20	UNC	.2500	2	H3	1.000	2.500	C83481	C83859	C83951	C84241
1/4-20	UNC	.2500	3	H3	1.000	2.500	C83482	C83860	C83952	C84242
1/4-20	UNC	.2500	4	H3	1.000	2.500	C83483	C55116	C55216	C84243
1/4-20	UNC	.2500	4	H5	1.000	2.500	—	C83861	C83953	—
1/4-28	UNF	.2500	3	H3	1.000	2.500	—	C83862	—	—
1/4-28	UNF	.2500	4	H2	1.000	2.500	—	—	C83954	—
1/4-28	UNF	.2500	4	H3	1.000	2.500	C83484	C55118	C55218	C84244
5/16-18	UNC	.3125	2	H3	1.125	2.719	—	C83863	C83955	—
5/16-18	UNC	.3125	3	H3	1.125	2.719	—	C83864	C83956	—
5/16-18	UNC	.3125	4	H3	1.125	2.719	C83485	C55120	C55220	C84245
5/16-24	UNF	.3125	4	H3	1.125	2.719	C83486	C55122	C55222	C84246
3/8-16	UNC	.3750	3	H3	1.250	2.938	—	C55180	C83957	—
3/8-16	UNC	.3750	4	H2	1.250	2.938	—	C55124	—	—
3/8-16	UNC	.3750	4	H3	1.250	2.938	C83487	C83865	C55224	C84247
3/8-16	UNC	.3750	4	H5	1.250	2.938	—	C83866	C83958	—
3/8-24	UNF	.3750	4	H3	1.250	2.938	C83488	C55126	C55226	C84248
7/16-14	UNC	.4375	4	H3	1.438	3.156	C83489	C55128	C55228	C84249
7/16-14	UNC	.4375	4	H5	1.438	3.156	—	C83867	C83959	—
7/16-20	UNF	.4375	4	H3	1.438	3.156	C83490	C55130	C55230	C84250
7/16-20	UNF	.4375	4	H5	1.438	3.156	—	C83868	C83960	—
1/2-13	UNC	.5000	3	H3	1.656	3.375	—	C83869	C83961	—
1/2-13	UNC	.5000	4	H3	1.656	3.375	C83491	C55132	C55232	C84251
1/2-13	UNC	.5000	4	H5	1.656	3.375	—	—	C83962	—
1/2-20	UNF	.5000	4	H3	1.656	3.375	C83492	C55134	C55234	C84252
9/16-12	UNC	.5625	4	H3	1.656	3.594	C83493	C55136	C55236	C84253
9/16-18	UNF	.5625	4	H3	1.656	3.594	—	C55138	C55238	—
5/8-11	UNC	.6250	4	H3	1.813	3.813	C83494	C55140	C55240	C84254
5/8-11	UNC	.6250	4	H5	1.813	3.813	—	—	C83963	—
5/8-18	UNF	.6250	4	H3	1.813	3.813	C83495	C55142	C55242	C84255
3/4-10	UNC	.7500	4	H3	2.000	4.250	C83496	C55144	C55244	C84256
3/4-16	UNF	.7500	4	H3	2.000	4.250	C83497	C55146	C55246	C84257
7/8-9	UNC	.8750	4	H4	2.219	4.688	C83498	C55148	C55248	C84258
7/8-14	UNF	.8750	4	H4	2.219	4.688	C83499	C55150	C55250	C84259
1-8	UNC	1.0000	4	H4	2.500	5.125	C83800	C55152	C55252	C84260

CLEVELAND | WALTER

Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number			
						Taper	Plug	Bottoming	Set
*M2 x 0.4	.0787	3	D3	11.11	44.45	C83801	C83870	C83964	C84261
*M2.5 x 0.45	.0984	3	D3	12.70	46.04	C83802	C83871	C83965	C84262
M3 x 0.5	.1181	3	D3	15.88	49.21	C83803	C83872	C83966	C84263
M3.5 x 0.6	.1378	3	D4	17.46	50.80	C83804	C83873	C83967	C84264
M4 x 0.7	.1575	4	D4	19.05	53.98	C83805	C83874	C83968	C84265
M4.5 x 0.75	.1771	4	D4	22.23	60.33	—	C83875	—	—
M5 x 0.8	.1968	4	D4	22.23	60.33	C83806	C83876	C83969	C84266

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GENERAL PURPOSE HAND TAPS

1001TN / 1002TN / 1003TN / 1004TN SERIES continued

TiN

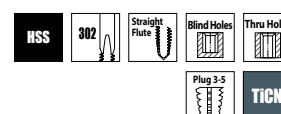


Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Metric		Order Number			
				Thread Length (mm)	Overall Length (mm)	Taper	Plug	Bottoming	Set
M6 x 1	.2362	4	D5	25.40	63.50	C83807	C83877	C83970	C84267
M8 x 1	.3150	4	D5	28.58	69.06	C83808	C83878	C83971	—
M8 x 1.25	.3150	4	D5	28.58	69.06	C83809	C83879	C83972	C84268
M10 x 1.25	.3937	4	D5	31.75	74.61	C83810	C83880	C83973	C84269
M10 x 1.5	.3937	4	D6	31.75	74.61	C83811	C83881	C83974	C84270
M12 x 1.25	.4724	4	D5	42.07	85.73	C83812	C83882	C83975	C84271
M12 x 1.75	.4724	4	D6	42.07	85.73	C83813	C83883	C83976	C84272
M14 x 1.5	.5512	4	D6	42.07	91.28	C83814	C83884	C83977	C84273
M14 x 2	.5512	4	D7	42.07	91.28	C83815	C83885	C83978	C84274
M16 x 2	.6299	4	D7	46.04	96.84	C83816	C83886	C83979	C84275
M20 x 2.5	.7874	4	D7	50.80	113.51	—	C83887	C83980	—
M24 x 3	.9449	4	D8	56.36	124.62	—	C83888	C83981	—

Best Material Application



Tap Specifications



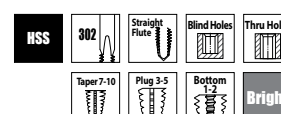
Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number
*2-56	UNC	.0860	3	H2	.375	1.750	C56050
4-40	UNC	.1120	3	H2	.563	1.875	C56052
6-32	UNC	.1380	2	H3	.688	2.000	C83889
6-32	UNC	.1380	3	H3	.688	2.000	C56054
8-32	UNC	.1640	2	H3	.750	2.125	C83890
8-32	UNC	.1640	4	H3	.750	2.125	C56056
10-24	UNC	.1900	4	H3	.875	2.375	C56058
10-32	UNF	.1900	2	H3	.875	2.375	C83891
10-32	UNF	.1900	4	H3	.875	2.375	C56060
1/4-20	UNC	.2500	2	H3	1.000	2.500	C83892

Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number
1/4-20	UNC	.2500	3	H3	1.000	2.500	C83893
1/4-20	UNC	.2500	4	H3	1.000	2.500	C56062
1/4-28	UNF	.2500	4	H3	1.000	2.500	C56064
5/16-18	UNC	.3125	4	H3	1.125	2.719	C56066
3/8-16	UNC	.3750	4	H3	1.250	2.938	C56070
3/8-24	UNF	.3750	4	H3	1.250	2.938	C83894
7/16-14	UNC	.4375	4	H3	1.438	3.156	C83895
1/2-13	UNC	.5000	4	H3	1.656	3.375	C56076
5/8-11	UNC	.6250	4	H3	1.813	3.813	C83896
3/4-10	UNC	.7500	4	H3	2.000	4.250	C83897
7/8-14	UNF	.8750	4	H4	2.219	4.688	C83898

Best Material Application



Tap Specifications



1002L

GENERAL PURPOSE HIGH SPEED STEEL

Left Hand / Plug / Bright Finish

Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number
#10-32	UNF	.1900	4	H3	.8750	2.3750	C60732
1/4-20	UNC	.2500	4	H3	1.0000	2.5000	C60748
1/4-28	UNF	.2500	4	H3	1.0000	2.5000	C60752
5/16-18	UNC	.3125	4	H3	1.1250	2.7190	C60760
5/16-24	UNF	.3125	4	H3	1.1250	2.7190	C60764
3/8-16	UNC	.3750	4	H3	1.2500	2.9380	C60776

Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number
3/8-24	UNF	.3750	4	H3	1.2500	2.9380	C60780
7/16-20	UNF	.4375	4	H3	1.4380	3.1560	C60796
1/2-13	UNC	.5000	4	H3	1.6560	3.3750	C60808
1/2-20	UNF	.5000	4	H3	1.6560	3.3750	C60812
5/8-18	UNF	.6250	4	H3	1.8130	3.8130	C60831
3/4-10	UNC	.7500	4	H3	2.0000	4.2500	C60835
3/4-16	UNF	.7500	4	H3	2.0000	4.2500	C60866

GENERAL PURPOSE HAND TAPS

1690 / 1691 / 1692 / 1693 SERIES

HIGH SPEED STEEL

Taper / Plug / Bottoming / Bright Finish

CLE-FORCE 1690 Straight Flute Maintenance Hand Tap with HSS and bright finish provide efficient, general-purpose taper and chamfer threading on steel, aluminum, and cast iron.



Fractional									
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Thread Length (Inch)	Overall Length (Inch)	Order Number			
						Taper	Plug	Bottoming	Set
4-40	UNC	.1120	3	9/16	1-7/8	C69079	C69080	C69081	C69082
5-40	UNC	.1250	3	5/8	1-15/16	C69083	C69084	C69085	C69086
6-32	UNC	.1380	3	11/16	2	C69087	C69088	C69089	C69090
8-32	UNC	.1640	4	3/4	2-1/8	C69091	C69092	C69093	C69094
10-24	UNC	.1900	4	7/8	2-3/8	C69095	C69096	C69097	C69098
10-32	UNF	.1900	4	7/8	2-3/8	C69099	C69100	C69101	C69102
12-24	UNC	.2160	4	15/16	2-3/8	C69103	C69104	C69105	C69106
1/4-20	UNC	.2500	4	1	2-1/2	C69107	C69108	C69109	C69110
1/4-28	UNF	.2500	4	1	2-1/2	C69111	C69112	C69113	C69114
5/16-18	UNC	.3125	4	1-1/8	2-23/32	C69115	C69116	C69117	C69118
5/16-24	UNF	.3125	4	1-1/8	2-23/32	C69119	C69120	C69121	C69122
3/8-16	UNC	.3750	4	1-1/4	2-15/16	C69123	C69124	C69125	C69126
3/8-24	UNF	.3750	4	1-1/4	2-15/16	C69127	C69128	C69129	C69130
7/16-14	UNC	.4375	4	1-7/16	3-5/32	C69131	C69132	C69133	C69134
7/16-20	UNF	.4375	4	1-7/16	3-5/32	C69135	C69136	C69137	C69138
1/2-13	UNC	.5000	4	1-21/32	3-3/8	C69139	C69140	C69141	C69142
1/2-20	UNF	.5000	4	1-21/32	3-3/8	C69143	C69144	C69145	C69146
9/16-12	UNC	.5625	4	1-21/32	3-19/32	C69147	C69148	C69149	C69150
9/16-18	UNF	.5625	4	1-21/32	3-19/32	C69151	C69152	C69153	C69154
5/8-11	UNC	.6250	4	1-13/16	3-13/16	C69155	C69156	C69157	C69158
5/8-18	UNF	.6250	4	1-13/16	3-13/16	C69159	C69160	C69161	C69162
3/4-10	UNC	.7500	4	2	4-1/4	C69163	C69164	C69165	C69166
3/4-16	UNF	.7500	4	2	4-1/4	C69167	C69168	C69169	C69170
7/8-9	UNC	.8750	4	2-7/32	4-11/16	C69171	C69172	C69173	C69174
7/8-14	UNF	.8750	4	2-7/32	4-11/16	C69175	C69176	C69177	C69178
1-8	UNC	1.0000	4	2-1/2	5-1/8	C69179	C69180	C69181	C69182
1-12	UNF	1.0000	4	2-1/2	5-1/8	C69183	C69184	C69185	C69186
1-14	UNS	1.0000	4	2-1/2	5-1/8	C69187	C69188	C69189	C69190

Fractional								
Size	Decimal Equiv. (Inch)	No. of Flutes	Thread Length (Inch)	Overall Length (Inch)	Order Number			
					Taper	Plug	Bottoming	Set
M3 x 0.5	.1181	3	16	49	C69267	C69268	C69269	C69270
M4 x 0.7	.1575	4	19	54	C69271	C69272	C69273	C69274
M5 x 0.8	.1969	4	22	60	C69275	C69276	C69277	C69278
M6 x 1	.2362	4	25.4	63.5	C69279	C69280	C69281	C69282
M7 x 1	.2756	4	29	69	C69283	C69284	C69285	C69286
M8 x 1.25	.3150	4	29	69	C69287	C69288	C69289	C69290
M10 x 1.5	.3937	4	31.75	75	C69291	C69292	C69293	C69294
M12 x 1.75	.4724	4	42	86	C69295	C69296	C69297	C69298
M14 x 2	.5512	4	42	91	C69299	C69300	C69301	C69302
M16 x 2	.6299	4	46	96	C69303	C69304	C69305	C69306
M18 x 2.5	.7087	4	46	102	C69307	C69308	C69309	C69310
M20 x 2.5	.7874	4	50.8	113.5	C69311	C69312	C69313	C69314

GENERAL PURPOSE HAND TAPS

1696 / 1697 / 1698 / 1699 SERIES

CARBON STEEL

Taper / Plug / Bottoming / Bright Finish

CLE-FORCE 1696 Straight Flute Maintenance hand tap made with carbon steel with a bright finish includes a taper chamfer, perfect for reliable hand operations on steel, cast iron, and aluminum.



Fractional									
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Thread Length (Inch)	Overall Length (Inch)	Order Number			
						Taper	Plug	Bottoming	Set
1/4-20	UNC	.2500	4	1	2-1/2	C69409	C69410	C69411	C69412
1/4-28	UNF	.2500	4	1	2-1/2	C69413	C69414	C69415	C69416
5/16-18	UNC	.3125	4	1-1/8	2-23/32	C69417	C69418	C69419	C69420
5/16-24	UNF	.3125	4	1-1/8	2-23/32	C69421	C69422	C69423	C69424
3/8-16	UNC	.3750	4	1-1/4	2-15/16	C69425	C69426	C69427	C69428
3/8-24	UNF	.3750	4	1-1/4	2-15/16	C69429	C69430	C69431	C69432
7/16-14	UNC	.4375	4	1-7/16	3-5/32	C69433	C69434	C69435	C69436
7/16-20	UNF	.4375	4	1-7/16	3-5/32	C69437	C69438	C69439	C69440
1/2-13	UNC	.5000	4	1-21/32	3-3/8	C69441	C69442	C69443	C69444
1/2-20	UNF	.5000	4	1-21/32	3-3/8	C69445	C69446	C69447	C69448
9/16-12	UNC	.5625	4	1-21/32	3-19/32	C69449	C69450	C69451	C69452
9/16-18	UNF	.5625	4	1-21/32	3-19/32	C69453	C69454	C69455	C69456
5/8-11	UNC	.6250	4	1-13/16	3-13/16	C69457	C69458	C69459	C69460
5/8-18	UNF	.6250	4	1-13/16	3-13/16	C69461	C69462	C69463	C69464
3/4-10	UNC	.7500	4	2	4-1/4	C69465	C69466	C69467	C69468
3/4-16	UNF	.7500	4	2	4-1/4	C69469	C69470	C69471	C69472
7/8-14	UNF	.8750	4	2-7/32	4-11/16	C69473	C69474	C69475	C69476
1-8	UNC	1.0000	4	2-1/2	5-1/8	C69477	C69478	C69479	C69480
1-12	UNF	1.0000	4	2-1/2	5-1/8	C69481	C69482	C69483	C69484
1-14	UNS	1.0000	4	2-1/2	5-1/8	—	C69485	—	—

Metric								
Size	Decimal Equiv. (Inch)	No. of Flutes	Thread Length (Inch)	Overall Length (Inch)	Order Number			
					Taper	Plug	Bottoming	Set
M3 x 0.5	.1181	3	16	49	C69513	C69514	C69515	C69516
M4 x 0.7	.1575	4	19	54	C69517	C69518	C69519	C69520
M5 x 0.8	.1969	4	22	60	C69521	C69522	C69523	C69524
M6 x 1	.2362	4	25.4	63.5	C69526	C69527	C69528	C69529
M8 x 1.25	.3150	4	29	69	C69531	C69532	C69533	C69534
M10 x 1.5	.3937	4	31.75	75	C69535	C69536	C69537	C69538
M12 x 1.75	.4724	4	42	86	C69539	C69540	C69541	C69542
M14 x 2	.5512	4	42	91	C69543	C69544	C69545	C69546
M16 x 2	.6299	4	46	96	C69547	C69548	C69549	C69550
M20 x 2.5	.7874	4	50.8	113.5	C69551	C69552	C69553	C69554

#0 thru 1/4" - 12 per pack, 5/16" thru 1/2" - 6 per pack, 9/16" thru 1" - 3 per pack

GENERAL PURPOSE HAND TAPS

2000E / 2800E SERIES

HIGH SPEED STEEL

Taper / Plug / Bottoming / Bright Finish

Straight Flute "Hand Taps" are the most popular and versatile style of taps in general machine tapping operations. They are for general use in production tapping or hand operations in a wide range of application material groups.

- ▷ Taper, plug, and bottoming geometries for maximum versatility
- ▷ Made from general purpose HSS with tap wrenches
- ▷ Bright finish for optimal lubricity

Best Material Application



Fractional										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number 2000E			
							Taper	Plug	Bottoming	Set
1/4-20	UNC	.2500	4	H3	1"	2-1/2"	20E116CT	20E116CP	20E116CB	20E116CS
1/4-28	UNF	.2500	4	H3	1"	2-1/2"	20E116FT	20E116FP	20E116FB	20E116FS
5/16-18	UNC	.3125	4	H3	1-1/8"	2-23/32"	20E120CT	20E120CP	20E120CB	20E120CS
5/16-24	UNF	.3125	4	H3	1-1/8"	2-23/32"	20E120FT	20E120FP	20E120FB	20E120FS
3/8-16	UNC	.3750	4	H3	1-1/4"	2-15/16"	20E124CT	20E124CP	20E124CB	20E124CS
3/8-24	UNF	.3750	4	H3	1-1/4"	2-15/16"	20E124FT	20E124FP	20E124FB	20E124FS
7/16-14	UNC	.4375	4	H3	1-7/16"	3-5/32"	20E128CT	20E128CP	20E128CB	20E128CS
7/16-20	UNF	.4375	4	H3	1-7/16"	3-5/32"	20E128FT	20E128FP	20E128FB	20E128FS
1/2-13	UNC	.5000	4	H3	1-21/32"	3-3/8"	20E132CT	20E132CP	20E132CB	20E132CS
1/2-20	UNF	.5000	4	H3	1-21/32"	3-3/8"	20E132FT	20E132FP	20E132FB	20E132FS
9/16-12	UNC	.5625	4	H3	1-21/32"	3-19/32"	20E136CT	20E136CP	20E136CB	20E136CS
9/16-18	UNF	.5625	4	H3	1-21/32"	3-19/32"	20E136FT	20E136FP	20E136FB	20E136FS
5/8-11	UNC	.6250	4	H3	1-13/16"	3-13/16"	20E140CT	20E140CP	20E140CB	20E140CS
5/8-18	UNF	.6250	4	H3	1-13/16"	3-13/16"	20E140FT	20E140FP	20E140FB	20E140FS
11/16-11	UNS	.6875	4	H3	1-13/16"	4-1/32"	20E144CT	20E144CP	20E144CB	20E144CS
11/16-16	UNS	.6875	4	H3	1-13/16"	4-1/32"	20E144FT	20E144FP	20E144FB	20E144FS
3/4-10	UNC	.7500	4	H3	2"	4-1/4"	20E148CT	20E148CP	20E148CB	20E148CS
3/4-16	UNF	.7500	4	H3	2"	4-1/4"	20E148FT	20E148FP	20E148FB	20E148FS
7/8-9	UNC	.8750	4	H4	2-7/32"	4-11/16"	20E156CT	20E156CP	20E156CB	20E156CS
7/8-14	UNF	.8750	4	H4	2-7/32"	4-11/16"	20E156FT	20E156FP	20E156FB	20E156FS
1-8	UNC	1.0000	4	H4	2-1/2"	5-1/8"	20E164CT	20E164CP	20E164CB	20E164CS
1-12	UNF	1.0000	4	H4	2-1/2"	5-1/8"	20E164FT	20E164FP	20E164FB	20E164FS
1-14	UNS	1.0000	4	H4	2-1/2"	5-1/8"	20E164ST	20E164SP	20E164SB	20E164SS
1-1/8-7	UNC	1.1250	4	H4	2-9/16"	5-7/16"	20E208CT	20E208CP	20E208CB	20E208CS
1-1/8-12	UNF	1.1250	4	H4	2-9/16"	5-7/16"	20E208FT	20E208FP	20E208FB	20E208FS
1-1/4-7	UNC	1.2500	6	H4	2-9/16"	5-3/4"	20E216CT	20E216CP	20E216CB	20E216CS
1-1/4-12	UNF	1.2500	6	H4	2-9/16"	5-3/4"	20E216FT	20E216FP	20E216FB	20E216FS
1-3/8-6	UNC	1.3750	4	H4	3"	6-1/16"	20E224CT	20E224CP	20E224CB	20E224CS
1-3/8-12	UNF	1.3750	6	H4	3"	6-1/16"	20E224FT	20E224FP	20E224FB	20E224FS
1-1/2-6	UNC	1.5000	4	H4	3"	6-3/8"	20E232CT	20E232CP	20E232CB	20E232CS
1-1/2-12	UNF	1.5000	6	H4	3"	6-3/8"	20E232FT	20E232FP	20E232FB	20E232FS
Wire										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number 2000E			
							Taper	Plug	Bottoming	Set
0-80	UNF	.0600	2	H1	5/16"	1-5/8"	20E000FT	20E000FP	20E000FB	20E000FS
1-64	UNC	.0730	2	H1	3/8"	1-11/16"	20E001CT	20E001CP	20E001CB	20E001CS
1-72	UNF	.0730	2	H1	3/8"	1-11/16"	20E001FT	20E001FP	20E001FB	20E001FS
2-56	UNC	.0860	3	H2	7/16"	1-3/4"	20E002CT	20E002CP	20E002CB	20E002CS
2-64	UNF	.0860	3	H2	7/16"	1-3/4"	20E002FT	20E002FP	20E002FB	20E002FS
3-48	UNC	.0990	3	H2	1/2"	1-13/16"	20E003CT	20E003CP	20E003CB	20E003CS
3-56	UNF	.0990	3	H2	1/2"	1-13/16"	20E003FT	20E003FP	20E003FB	20E003FS

#0 thru 1/4" - 12 per pack, 5/16" thru 1/2" - 6 per pack, 9/16" thru 1" - 3 per pack

GENERAL PURPOSE HAND TAPS

2000E / 2800E SERIES continued

Wire										
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number 2000E			
							Taper	Plug	Bottoming	Set
4-40	UNC	.1120	3	H2	9/16"	1-7/8"	20E004CT	20E004CP	20E004CB	20E004CS
4-36	UNC	.1120	3	H2	9/16"	1-7/8"	20E004ST	20E004SP	20E004SB	20E004SS
4-48	UNF	.1120	3	H2	9/16"	1-7/8"	20E004FT	20E004FP	20E004FB	20E004FS
5-40	UNC	.1250	3	H2	5/8"	1-15/16"	20E005CT	20E005CP	20E005CB	20E005CS
5-44	UNF	.1250	3	H2	5/8"	1-15/16"	20E005FT	20E005FP	20E005FB	20E005FS
6-32	UNC	.1380	3	H3	11/16"	2"	20E006CT	20E006CP	20E006CB	20E006CS
6-40	UNF	.1380	3	H2	11/16"	2"	20E006FT	20E006FP	20E006FB	20E006FS
8-32	UNC	.1640	4	H3	3/4"	2-1/8"	20E008CT	20E008CP	20E008CB	20E008CS
8-36	UNF	.1640	4	H2	3/4"	2-1/8"	20E008FT	20E008FP	20E008FB	20E008FS
10-24	UNC	.1900	4	H3	7/8"	2-3/8"	20E010CT	20E010CP	20E010CB	20E010CS
10-32	UNF	.1900	4	H3	7/8"	2-3/8"	20E010FT	20E010FP	20E010FB	20E010FS
12-24	UNC	.2160	4	H3	15/16"	2-3/8"	20E012CT	20E012CP	20E012CB	20E012CS
12-28	UNF	.2160	4	H3	15/16"	2-3/8"	20E012FT	20E012FP	20E012FB	20E012FS

Metric									
Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number 2800E			
						Taper	Plug	Bottoming	Set
M1.5x.035	0,059	2	D2	5/16"	1-5/8"	28E015AT	28E015AP	28E015AB	28E015AS
M1.6x0.35	0,063	2	D2	5/16"	1-5/8"	28E016AT	28E016AP	28E016AB	28E016AS
M1.8x0.35	0,071	2	D2	3/8"	1-11/16"	28E018AT	28E018AP	28E018AB	28E018AS
M2x0.40	0,079	3	D3	3/8"	1-11/16"	28E020AT	28E020AP	28E020AB	28E020AS
M2x0.45	0,079	3	D3	7/16"	1-3/4"	28E020BT	28E020BP	28E020BB	28E020BS
M2.2x0.45	0,087	3	D3	7/16"	1-3/4"	28E022AT	28E022AP	28E022AB	28E022AS
M2.3x0.40	0,091	3	D3	7/16"	1-3/4"	28E023AT	28E023AP	28E023AB	28E023AS
M2.5x0.45	0,098	3	D3	1/2"	1-13/16"	28E025AT	28E025AP	28E025AB	28E025AS
M2.6x0.45	0,102	3	D3	1/2"	1-13/16"	28E026AT	28E026AP	28E026AB	28E026AS
M3x0.50	0,118	3	D3	5/8"	1-15/16"	28E030AT	28E030AP	28E030AB	28E030AS
M3x0.60	0,118	3	D3	5/8"	1-15/16"	28E030BT	28E030BP	28E030BB	28E030BS
M3.5x0.60	0,138	3	D4	11/16"	2"	28E035AT	28E035AP	28E035AB	28E035AS
M4x0.50	0,158	4	D4	3/4"	2-1/8"	28E040BT	28E040BP	28E040BB	28E040BS
M4x0.70	0,158	4	D4	3/4"	2-1/8"	28E040AT	28E040AP	28E040AB	28E040AS
M4.5x0.75	0,177	4	D4	7/8"	2-3/8"	28E045AT	28E045AP	28E045AB	28E045AS
M5x0.50	0,197	4	D3	7/8"	2-3/8"	28E050CT	28E050CP	28E050CB	28E050CS
M5x0.80	0,197	4	D4	7/8"	2-3/8"	28E050AT	28E050AP	28E050AB	28E050AS
M5x0.90	0,197	4	D4	7/8"	2-3/8"	28E050BT	28E050BP	28E050BB	28E050BS
M5.5x0.90	0,217	4	D4	15/16"	2-3/8"	28E055AT	28E055AP	28E055AB	28E055AS
M6x0.75	0,236	4	D4	1"	2-1/2"	28E060BT	28E060BP	28E060BB	28E060BS
M6x1.00	0,236	4	D5	1"	2-1/2"	28E060AT	28E060AP	28E060AB	28E060AS
M6.3x1.00	0,248	4	D5	1"	2-1/2"	28E063AT	28E063AP	28E063AB	28E063AS
M7x1.00	0,276	4	D5	1-1/8"	2-23/32"	28E070AT	28E070AP	28E070AB	28E070AS
M8x1.00	0,315	4	D5	1-1/8"	2-23/32"	28E080BT	28E080BP	28E080BB	28E080BS
M8x1.25	0,315	4	D5	1-1/8"	2-23/32"	28E080AT	28E080AP	28E080AB	28E080AS
M10x1.00	0,394	4	D5	1-1/4"	2-15/16"	28E100CT	28E100CP	28E100CB	28E100CS
M10x1.25	0,394	4	D5	1-1/4"	2-15/16"	28E100BT	28E100BP	28E100BB	28E100BS
M10x1.50	0,394	4	D6	1-1/4"	2-15/16"	28E100AT	28E100AP	28E100AB	28E100AS
M11x1.50	0,433	4	D6	1-7/16"	3-5/32"	28E110AT	28E110AP	28E110AB	28E110AS
M12x1.25	0,472	4	D5	1-21/32"	3-3/8"	28E120CT	28E120CP	28E120CB	28E120CS
M12x1.50	0,472	4	D5	1-21/32"	3-3/8"	28E120BT	28E120BP	28E120BB	28E120BS
M12x1.75	0,472	4	D6	1-21/32"	3-3/8"	28E120AT	28E120AP	28E120AB	28E120AS
M14x1.25	0,551	4	D6	1-21/32"	3-19/32"	28E140CT	28E140CP	28E140CB	28E140CS
M14x1.50	0,551	4	D6	1-21/32"	3-19/32"	28E140BT	28E140BP	28E140BB	28E140BS
M14x2.00	0,551	4	D7	1-21/32"	3-19/32"	28E140AT	28E140AP	28E140AB	28E140AS
M16x1.50	0,63	4	D6	1-13/16"	3-13/16"	28E160BT	28E160BP	28E160BB	28E160BS

M1.5 thru M6.3 - 12 per pack, M7 thru M12 - 6 per pack,
M14 thru M27 - 3 per pack, M30 and up - individually package

continued on next page

GENERAL PURPOSE HAND TAPS

02

TAPS

2000E / 2800E SERIES continued

Bright Finish

Metric									
Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number 2800E			
						Taper	Plug	Bottoming	Set
M16x2.00	0,63	4	D7	1-13/16"	3-13/16"	28E160AT	28E160AP	28E160AB	28E160AS
M18x1.00	0,709	4	D6	1-13/16"	4-1/32"	28E180CT	28E180CP	28E180CB	28E180CS
M18x1.50	0,709	4	D6	1-13/16"	4-1/32"	28E180DT	28E180DP	28E180DB	28E180DS
M18x2.00	0,709	4	D6	1-13/16"	4-1/32"	28E180BT	28E180BP	28E180BB	28E180BS
M18x2.50	0,709	4	D7	1-13/16"	4-1/32"	28E180AT	28E180AP	28E180AB	28E180AS
M20x1.00	0,787	4	D6	2"	4-1/4"	28E200CT	28E200CP	28E200CB	28E200CS
M20x1.50	0,787	4	D6	2"	4-1/4"	28E200BT	28E200BP	28E200BB	28E200BS
M20x2.00	0,787	4	D6	2"	4-1/4"	28E200DT	28E200DP	28E200DB	28E200DS
M20x2.50	0,787	4	D7	2"	4-1/4"	28E200AT	28E200AP	28E200AB	28E200AS
M22x1.50	0,866	4	D6	2-7/32"	4-11/16"	28E220BT	28E220BP	28E220BB	28E220BS
M22x2.50	0,866	4	D7	2-7/32"	4-11/16"	28E220AT	28E220AP	28E220AB	28E220AS
M24x1.50	0,945	4	D7	2-7/32"	4-29/32"	28E240CT	28E240CP	28E240CB	28E240CS
M24x2.00	0,945	4	D7	2-7/32"	4-29/32"	28E240BT	28E240BP	28E240BB	28E240BS
M24x3.00	0,945	4	D8	2-7/32"	4-29/32"	28E240AT	28E240AP	28E240AB	28E240AS
M27x2.00	1,062	4	D7	2-1/2"	5-1/8"	28E270BT	28E270BP	28E270BB	28E270BS
M27x3.00	1,062	4	D8	2-1/2"	5-1/8"	28E270AT	28E270AP	28E270AB	28E270AS
M30x1.50	1,181	4	D7	2-9/16"	5-7/16"	28E300CT	28E300CP	28E300CB	28E300CS
M30x2.00	1,181	4	D7	2-9/16"	5-7/16"	28E300BT	28E300BP	28E300BB	28E300BS
M30x3.50	1,181	4	D9	2-9/16"	5-7/16"	28E300AT	28E300AP	28E300AB	28E300AS
M32x2.00	1,259	4	D9	2-9/16"	5-3/4"	28E320AT	28E320AP	28E320AB	28E320AS
M33x2.00	1,299	4	D7	2-9/16"	5-3/4"	28E330BT	28E330BP	28E330BB	28E330BS
M33x3.50	1,299	4	D9	2-9/16"	5-3/4"	28E330AT	28E330AP	28E330AB	28E330AS
M36x3.00	1,417	4	D8	3"	6-1/16"	28E360BT	28E360BP	28E360BB	28E360BS
M36x4.00	1,417	4	D9	3"	6-1/16"	28E360AT	28E360AP	28E360AB	28E360AS
M39x3.00	1,535	6	D8	3-3/16"	6-11/16"	28E390BT	28E390BP	28E390BB	28E390BS
M39x4.00	1,535	6	D9	3-3/16"	6-11/16"	28E390AT	28E390AP	28E390AB	28E390AS
M42x1.50	1,653	6	D8	3-3/16"	7"	28E420BT	28E420BP	28E420BB	28E420BS
M42x4.50	1,653	6	D9	3-3/16"	7"	28E420AT	28E420AP	28E420AB	28E420AS
M45x1.50	1,771	6	D8	3-9/16"	7-5/16"	28E450BT	28E450BP	28E450BB	28E450BS
M45x4.50	1,771	6	D9	3-9/16"	7-5/16"	28E450AT	28E450AP	28E450AB	28E450AS
M48x1.50	1,889	6	D8	3-9/16"	7-5/8"	28E480BT	28E480BP	28E480BB	28E480BS
M48x5.00	1,889	6	D9	3-9/16"	7-5/8"	28E480AT	28E480AP	28E480AB	28E480AS
M52x1.50	2,047	6	D8	3-9/16"	8"	28E520BT	28E520BP	28E520BB	28E520BS
M52x5.00	2,047	6	D9	3-9/16"	8"	28E520AT	28E520AP	28E520AB	28E520AS

M1.5 thru M6.3 - 12 per pack, M7 thru M12 - 6 per pack,
M14 thru M27 - 3 per pack, M30 and up - individually package

DRILCO

WALTER

GENERAL PURPOSE HAND TAPS

2000C SERIES

GENERAL PURPOSE CARBON

Taper / Plug / Bottoming / Bright Finish

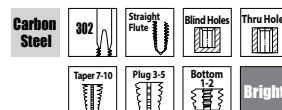
Carbon Steel taps are used to rethread damaged or jammed threads or to thread mild steels.

- ▷ *Taper - 7-10pitch chamfer length. Starts the thread square with the workpiece*
- ▷ *Plug - 3-5 pitch chamfer length. generally used in through holes*
- ▷ *Bottoming - 1-2 pitch chamfer length. generates the thread to the bottom*

Best Material Application



Tap Specifications



Fractional									
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number		
							Taper	Plug	Bottoming
0-80	UNF	.0600	2	H1	5/16	1-5/8	20C000FT	20C000FP	20C000FB
1-64	UNC	.0730	2	H1	3/8	1-11/16	20C001CT	20C001CP	20C001CB
1-72	UNF	.0730	2	H1	3/8	1-11/16	20C001FT	20C001FP	20C001FB
2-56	UNC	.0860	3	H2	7/16	1-3/4	20C002CT	20C002CP	20C002CB
2-64	UNF	.0860	3	H2	7/16	1-3/4	20C002FT	20C002FP	20C002FB
3-48	UNC	.0990	3	H2	1/2	1-13/16	20C003CT	20C003CP	20C003CB
3-56	UNF	.0990	3	H2	1/2	1-13/16	20C003FT	20C003FP	20C003FB
4-40	UNC	.1120	3	H2	9/16	1-7/8	20C004CT	20C004CP	20C004CB
4-36	UNC	.1120	3	H2	9/16	1-7/8	20C004AT	20C004AP	20C004AB
4-48	UNF	.1120	3	H2	9/16	1-7/8	20C004FT	20C004FP	20C004FB
5-40	UNC	.1250	3	H2	5/8	1-15/16	20C005CT	20C005CP	20C005CB
5-44	UNF	.1380	3	H2	5/8	1-15/16	20C005FT	20C005FP	20C005FB
6-32	UNC	.1380	3	H3	11/16	2	20C006CT	20C006CP	20C006CB
6-40	UNF	.1380	3	H3	11/16	2	20C006FT	20C006FP	20C006FB
8-32	UNC	.1640	4	H3	3/4	2-1/8	20C008CT	20C008CP	20C008CB
8-36	UNF	.1640	4	H2	3/4	2-1/8	20C008FT	20C008FP	20C008FB
10-24	UNC	.1900	4	H2	7/8	2-3/8	20C010CT	20C010CP	20C010CB
10-32	UNF	.1900	4	H3	7/8	2-3/8	20C010FT	20C010FP	20C010FB
12-24	UNC	.2160	4	H3	15/16	2-3/8	20C012CT	20C012CP	20C012CB
12-28	UNF	.2160	4	H3	15/16	2-3/8	20C012FT	20C012FP	20C012FB
1/4-20	UNC	.2500	4	H3	1	2-1/2	20C116CT	20C116CP	20C116CB
1/4-28	UNF	.2500	4	H3	1	2-1/2	20C116FT	20C116FP	20C116FB
5/16-18	UNC	.3125	4	H3	1-1/8	2-23/32	20C120CT	20C120CP	20C120CB
5/16-24	UNF	.3125	4	H3	1-1/8	2-23/32	20C120FT	20C120FP	20C120FB
3/8-16	UNC	.3750	4	H3	1-1/4	2-15/16	20C124CT	20C124CP	20C124CB
3/8-24	UNF	.3750	4	H3	1-1/4	2-15/16	20C124FT	20C124FP	20C124FB
7/16-14	UNC	.4375	4	H3	1-7/16	3-5/32	20C128CT	20C128CP	20C128CB
7/16-20	UNF	.4375	4	H4	1-7/16	3-5/32	20C128FT	20C128FP	20C128FB
1/2-13	UNC	.5000	4	H4	1-21/32	3-3/8	20C132CT	20C132CP	20C132CB
1/2-20	UNF	.5000	4	H4	1-21/32	3-3/8	20C132FT	20C132FP	20C132FB
9/16-12	UNC	.5625	4	H4	1-21/32	3-19/32	20C136CT	20C136CP	20C136CB
9/16-18	UNF	.5625	4	H4	1-21/32	3-19/32	20C136FT	20C136FP	20C136FB
5/8-11	UNC	.6250	4	H4	1-13/16	3-13/16	20C140CT	20C140CP	20C140CB
5/8-18	UNF	.6250	4	H4	1-13/16	3-13/16	20C140FT	20C140FP	20C140FB
3/4-10	UNC	.7500	4	H4	2	4-1/4	20C148CT	20C148CP	20C148CB
3/4-16	UNF	.7500	4	H4	2	4-1/4	20C148FT	20C148FP	20C148FB
7/8-9	UNC	.8750	4	H4	2-7/32	4-11/16	20C156CT	20C156CP	20C156CB
7/8-14	UNF	.8750	4	H4	2-7/32	4-11/16	20C156FT	20C156FP	20C156FB
1-8	UNC	1.0000	4	H4	2-1/2	5-1/8	20C164CT	20C164CP	20C164CB
1-12	UNF	1.0000	4	H4	2-1/2	5-1/8	20C164FT	20C164FP	20C164FB
1-1/8-7	UNC	1.1250	4	H4	2-9/16	5-7/16	20C208CT	20C208CP	20C208CB
1-1/8-12	UNF	1.1250	4	H4	2-9/16	5-7/16	20C208FT	20C208FP	20C208FB

#0 thru 1/4" - 12 per pack, 5/16" thru 1/2" - 6 per pack, 9/16" thru 1" - 3 per pack

continued on next page

GENERAL PURPOSE HAND TAPS

02

TAPS

2000C SERIES continued



Fractional									
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number		
							Taper	Plug	Bottoming
1-1/4-7	UNC	1.2500	4	H4	2-9/16	5-3/4	20C216CT	20C216CP	20C216CB
1-1/4-12	UNF	1.2500	6	H4	2-9/16	5-3/4	20C216FT	20C216FP	20C216FB
1-3/8-6	UNC	1.3750	6	H4	3	6-1/16	20C224CT	20C224CP	20C224CB
1-3/8-12	UNF	1.3750	6	H4	3	6-1/16	20C224FT	20C224FP	20C224FB
1-1/2-6	UNC	1.5000	6	H4	3	6-3/8	20C232CT	20C232CP	20C232CB
1-1/2-12	UNF	1.5000	6	H4	3	6-3/8	20C232FT	20C232FP	20C232FB
Metric									
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number		
							Taper	Plug	Bottoming
M4 x 0.7	—	0.518	4	D4	5/16	2-1/4	20C040AT	20C040AP	20C040AB
M5 x 0.8	—	0.197	4	D4	3/8	2-1/2	20C050AT	20C050AP	20C050AB
M6 x 1	—	0.236	4	D5	3/8	2-1/2	20C060AT	20C060AP	20C060AB
M8 x 1	—	0.315	4	D5	7/16	2-3/4	20C080AT	20C080AP	20C080AB
M8 x 1.25	—	0.315	4	D6	7/16	2-3/4	20C080BT	20C080BP	20C080BB
M10 x 1.0	—	0.394	4	D5	1/2	3	20C100AT	20C100AP	20C100AB
M10 x 1.25	—	0.394	4	D6	1/2	3	20C100BT	20C100BP	20C100BB
M10 x 1.5	—	0.394	4	D6	9/16	3	20C100CT	20C100CP	20C100CB
M12 x 1.50	—	0.472	4	D5	9/16	3-1/4	20C120AT	20C120AP	20C120AB
M12 x 1.75	—	0.472	4	D6	9/16	3-1/4	20C120BT	20C120BP	20C120BB
M14 x 2	—	0.551	4	D7	5/8	3-5/8	20C140AT	20C140AP	20C140AB
M16 x 2	—	0.630	4	D7	11/16	3-3/4	20C160AT	20C160AP	20C160AB

DRILCO

WALTER

GENERAL PURPOSE CAST IRON TAPS

CI-1000 SERIES

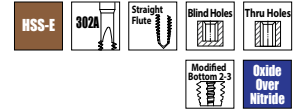
PREMIUM HIGH SPEED STEEL

Plug / Oxide over Nitride

Best Material Application



Tap Specifications



Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number
10-24	UNC	.1900	4	H3	.875	2.375	C27636
10-32	UNF	.1900	4	H3	.875	2.375	C27637
1/4-20	UNC	.2500	4	H3	1.000	2.500	C27638
1/4-20	UNC	.2500	4	H5	1.000	2.500	C27655
1/4-28	UNF	.2500	4	H3	1.000	2.500	C27639
5/16-18	UNC	.3125	4	H3	1.125	2.719	C27640
5/16-18	UNC	.3125	4	H5	1.125	2.719	C27656
5/16-24	UNF	.3125	4	H3	1.125	2.719	C27641
3/8-16	UNC	.3750	4	H3	1.250	2.938	C27642
3/8-16	UNC	.3750	4	H5	1.250	2.938	C27657
7/16-14	UNC	.4375	4	H3	1.438	3.156	C27644
7/16-14	UNC	.4375	4	H5	1.438	3.156	C27658
1/2-13	UNC	.5000	4	H3	1.656	3.375	C27646
1/2-13	UNC	.5000	4	H5	1.656	3.375	C27660
1/2-20	UNF	.5000	4	H5	1.656	3.375	C27661
3/4-16	UNF	.7500	6	H5	2.000	4.250	C27667

Metric						
Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number
M5x0.8	0.1968	4	D4	22.23	60.33	C27668
M6x1	0.2362	4	D5	25.4	63.50	C27669
M8x1.25	0.3150	4	D5	28.58	69.06	C27670
M10x1.5	0.3937	4	D6	31.75	74.61	C27671
M12x1.25	0.4724	4	D6	42.06	85.73	C27672
M12x1.75	0.4724	4	D6	42.06	85.73	C27673
M14x1.5	0.5512	4	D6	42.06	91.28	C27675

CI-1000-TC SERIES

PREMIUM HIGH SPEED STEEL

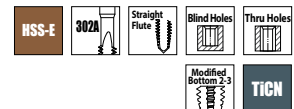
Plug / TiCN

CLEVELAND CI1000-TC Straight flute hand taps with TiCN finish and modified bottom enhance threading performance for cast iron and hardened materials.

Best Material Application



Tap Specifications



Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number
1/4-20	UNC	.2500	4	H3	1.000	2.500	C28022
5/16-18	UNC	.3125	4	H3	1.125	2.719	C28024

Metric						
Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number
M10x1.5	0.3937	4	D6	31.75	74.61	C28055
M12x1.75	0.4724	4	D6	42.06	85.73	C28057

GENERAL PURPOSE HAND TAPS

02

03A SERIES SST+

HIGH SPEED STEEL

Taper / Plug / Bottoming / Bronze

Made from premium quality high speed steel with ground threads, hardened and tempered or longest life in a variety of materials.

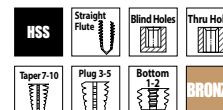
- ▷ Precision ground threads with eccentric relief for free cutting action
- ▷ Three and four flute designs
- ▷ Available in three chamfer lengths for through or blind hole tapping
- ▷ Special bronze SST surface treatment to improve life and tapping speed
- ▷ Packaged in reusable plastic packaging



Best Material Application



Tap Specifications



TAPS

WALTER

Fractional								
Size	Thread	Decimal Equiv. (Inch)	Drill Size	Order Number			Tube Qty.	Bulk Qty.
				Taper	Plug	Bottoming		
4-40	UNC	.1120	#43	03A041	03A042	03A043	3	30
5-40	UNC	.1250	#38	03A051	03A052	03A053	3	30
6-32	UNC	.1380	#36	03A061	03A062	03A063	3	30
8-32	UNC	.1640	#29	03A081	03A082	03A083	3	30
10-24	UNC	.1900	#25	03A101	03A102	03A103	3	30
10-32	UNF	.1900	#21	03A104	03A105	03A106	3	30
12-24	UNC	.2160	#16	03A121	03A122	03A123	3	30
1/4-20	UNC	.2500	#7	03B041	03B042	03B043	3	30
1/4-28	UNF	.2500	#3	03B044	03B045	03B046	3	30
5/16-18	UNC	.3125	F	03B051	03B052	03B053	3	30
5/16-24	UNF	.3125	17/64	03B054	03B055	03B056	3	30
3/8-16	UNC	.3750	5/16	03B061	03B062	03B063	3	30
3/8-24	UNF	.3750	21/64	03B064	03B065	03B066	3	30
7/16-14	UNC	.4375	U	03B071	03B072	03B073	3	30
7/16-20	UNC	.4375	25/64	03B074	03B075	03B076	3	30
1/2-13	UNC	.5000	27/64	03B081	03B082	03B083	3	30
1/2-20	UNF	.5000	29/64	03B084	03B085	03B086	3	30
9/16-12	UNC	.5625	31/64	03B091	03B092	03B093	1	10
9/16-18	UNF	.5625	33/64	03B094	03B095	03B096	1	10
5/8-11	UNC	.6250	17/32	03B101	03B102	03B103	1	10
5/8-18	UNF	.6250	37/64	03B104	03B105	03B106	1	10
3/4-10	UNC	.7500	21/32	03B121	03B122	03B123	1	10
3/4-16	UNF	.7500	11/16	03B124	03B125	03B126	1	10
7/8-9	UNC	.8750	49/64	03B141	03B142	03B143	1	10
7/8-14	UNF	.8750	13/16	03B144	03B145	03B146	1	10
1-8	UNC	1.0000	7/8	03B161	03B162	03B163	1	10
1-12	UNF	1.0000	7/8	03B164	03B165	03B166	1	10

GENERAL PURPOSE SPIRAL POINT TAPS

0411

HIGH SPEED STEEL

Plug / Bright Finish

Spiral Point Tap with HSS and bright finish designed for efficient threading in through holes in steel, cast iron, and aluminum applications.



Best Material Application



NON-FERROUS



CAST IRON



STEEL

Tap Specifications



HSS



302



Spiral Point



Thru Holes



Plug 3-5



Bright

Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number
0-80	UNF	.0600	2	H2	3/8	1-11/16	C00775
1-64	UNC	.0730	2	H2	3/8	1-11/16	C00776
1-72	UNF	.0730	2	H2	3/8	1-11/16	C00777
2-56	UNC	.0860	2	H2	7/16	1-3/4	C00778
2-64	UNF	.0860	2	H2	7/16	1-3/4	C00779
3-48	UNC	.0990	2	H2	1/2	1-13/16	C00780
3-56	UNF	.0990	2	H2	1/2	1-13/16	C00781
4-40	UNC	.1120	2	H2	9/16	1-7/8	C62151
4-48	UNF	.1120	2	H2	9/16	1-7/8	C00782
5-40	UNC	.1250	2	H2	5/8	1-15/16	C62152
6-32	UNC	.1380	2	H2	11/16	2	C00783
6-32	UNC	.1380	2	H3	11/16	2	C62153
6-40	UNF	.1380	2	H2	11/16	2	C00784
8-32	UNC	.1640	2	H2	3/4	2-1/8	C00785
8-32	UNC	.1640	2	H3	3/4	2-1/8	C62154
8-36	UNF	.1640	2	H2	3/4	2-1/8	C00786
10-24	UNC	.1900	2	H2	7/8	2-3/8	C00787
10-24	UNC	.1900	2	H3	7/8	2-3/8	C62155
10-32	UNF	.1900	2	H2	7/8	2-3/8	C00788
10-32	UNF	.1900	2	H3	7/8	2-3/8	C62156
12-24	UNC	.2160	2	H3	15/16	2-3/8	C62157
12-28	UNF	.2160	2	H3	15/16	2-3/8	C00789
1/4-20	UNC	.2500	2	H3	1	2-1/2	C62158
1/4-20	UNC	.2500	3	H3	1	2-1/2	C00790
1/4-20	UNC	.2500	3	H5	1	2-1/2	C00791
1/4-28	UNF	.2500	2	H3	1	2-1/2	C62159
5/16-18	UNC	.3125	2	H3	1-1/8	2-23/32	C62160
5/16-18	UNC	.3125	3	H3	1-1/8	2-23/32	C00793

Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
5/16-24	UNF	.3125	2	H3	1-1/8	2-23/32	C62161	
3/8-16	UNC	.3750	3	H3	1-1/4	2-15/16	C62162	
3/8-16	UNC	.3750	3	H5	1-1/4	2-15/16	C00795	
3/8-24	UNF	.3750	3	H3	1-1/4	2-15/16	C62163	
7/16-14	UNC	.4375	3	H3	1-7/16	3-5/32	C00796	
7/16-14	UNC	.4375	3	H5	1-7/16	3-5/32	C00797	
7/16-20	UNF	.4375	3	H3	1-7/16	3-5/32	C00798	
7/16-20	UNF	.4375	3	H5	1-7/16	3-5/32	C00799	
1/2-13	UNC	.5000	3	H3	1-21/32	3-3/8	C62164	
1/2-13	UNC	.5000	3	H5	1-21/32	3-3/8	C00800	
1/2-20	UNF	.5000	3	H3	1-21/32	3-3/8	C00801	
5/8-11	UNC	.6250	3	H3	1-13/16	3-13/16	C00802	
5/8-11	UNC	.6250	3	H5	1-13/16	3-13/16	C00803	
5/8-18	UNF	.6250	3	H3	1-13/16	3-13/16	C00804	
3/4-10	UNC	.7500	3	H3	2	4-1/4	C00805	
3/4-10	UNC	.7500	3	H5	2	4-1/4	C00806	
3/4-16	UNF	.7500	3	H3	2	4-1/4	C00774	

Metric							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number
M2x0.4	—	.0787	2	D3	11	44	C62172
M3x0.5	—	.1181	2	D3	16	49	C62175
M4x0.7	—	.1575	2	D4	19	54	C62177
M5x0.8	—	.1969	2	D4	22	60	C62179
M6x1	—	.2362	2	D5	25.4	63.5	C62180
M8x1.25	—	.3150	2	D5	29	69	C62183
M10x1.5	—	.3937	3	D6	31.75	75	C62185
M12x1.75	—	.4724	3	D6	42	86	C62187
M16 x 2	—	.6299	3	D7	46	96	C62191

Corresponding Sets
Spiral Point Tap & Die SETS

Cutting Sizes	Set Number	Thread Sizes	Collet Number 055	Wrench Number	Die Stock Number 380	Order Number
7	448	M2.5 x 0.45, M3 x 0.5, M3.5 x 0.6, M4 x 0.7, M4.5 x 0.75, M5 x 0.8, M6 x 1.0				C00448
5	449	M6 x 1.0, M7 x 1.0, M8 x 1.25, M10 x 1.5, M12 x 1.75				C00449
7	5514	M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75, *M14 x 2, M16 x 2, *M18 x 2.5	5	#6	#5	C00614

Spiral Point Tap, Die, & Drill SETS						
Cutting Sizes	Set Number	Thread Sizes	Collet Number 055	Wrench Number	Die Stock Number 380	Order Number
5	451	M6 x 1.0, M7 x 1.0, M8 x 1.25, M10 x 1.5, M12 x 1.75 Drill Sizes: 5.0, 6.0, 6.7, 8.5, 10.2	—	—	—	C00451



C00614



C00451

*Uses Cleveland® Brand Tap Style #1002

GENERAL PURPOSE SPIRAL POINT TAPS

2100N SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Plug / Black Oxide Finish

The angular flutes at the front end of these taps propel the chips ahead of the tap. This reduces loading and clogging in the flutes. Spiral Point taps are ideal for production tapping through holes. Sometimes referred to as "Gun Taps," spiral point taps "shoot" the chips ahead of the tap.

▷ *Spiral point taps eject chips ahead of the tap for reduced loading and clogging in flutes*



Best Material Application



CAST IRON



STEEL

Tap Specifications



Fractional								
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
0-80	UNF	.0600	2	H1	5/16"	1-5/8"	21N000FP	1
1-64	UNC	.0730	2	H1	3/8"	1-11/16"	21N001CP	1
1-72	UNF	.0730	2	H1	3/8"	1-11/16"	21N001FP	1
2-56	UNC	.0860	2	H2	7/16"	1-3/4"	21N002CP	1
2-64	UNF	.0860	2	H2	7/16"	1-3/4"	21N002FP	1
3-48	UNC	.0990	2	H2	1/2"	1-13/16"	21N003CP	1
3-56	UNF	.0990	2	H2	1/2"	1-13/16"	21N003FP	1
4-40	UNC	.1120	2	H2	9/16"	1-7/8"	21N004CP	1
4-48	UNF	.1120	2	H2	9/16"	1-7/8"	21N004FP	1
4-36	UNC	.1120	2	H2	9/16"	1-7/8"	21N004SP	1
5-40	UNC	.1250	2	H2	5/8"	1-15/16"	21N005CP	1
5-44	UNF	.1250	2	H2	5/8"	1-15/16"	21N005FP	1
6-32	UNC	.1380	2	H3	11/16"	2"	21N006CP	1
6-40	UNF	.1380	2	H2	11/16"	2"	21N006FP	1
8-32	UNC	.1640	2	H3	3/4"	2-1/8"	21N008CP	1
8-36	UNF	.1640	2	H2	3/4"	2-1/8"	21N008FP	1
10-24	UNC	.1900	2	H3	7/8"	2-3/8"	21N010CP	1
10-32	UNF	.1900	2	H3	7/8"	2-3/8"	21N010FP	1
12-24	UNC	.2160	2	H3	15/16"	2-3/8"	21N012CP	1
12-28	UNF	.2160	2	H3	15/16"	2-3/8"	21N012FP	1
1/4-20	UNC	.2500	2	H3	1"	2-1/2"	21N116CP	1
1/4-28	UNF	.2500	2	H3	1"	2-1/2"	21N116FP	1
5/16-18	UNC	.3125	2	H3	1-1/8"	2-23/32"	21N120CP	1
5/16-24	UNF	.3125	2	H3	1-1/8"	2-23/32"	21N120FP	1
3/8-16	UNC	.3750	3	H3	1-1/4"	2-15/16"	21N124CP	1
3/8-24	UNF	.3750	3	H3	1-1/4"	2-15/16"	21N124FP	1
7/16-14	UNC	.4375	3	H3	1-7/16"	3-5/32"	21N128CP	1
7/16-20	UNF	.4375	3	H3	1-7/16"	3-5/32"	21N128FP	1
1/2-13	UNC	.5000	3	H3	1-21/32"	3-3/8"	21N132CP	1
1/2-20	UNF	.5000	3	H3	1-21/32"	3-3/8"	21N132FP	1
9/16-12	UNC	.5625	3	H3	1-21/32"	3-19/32"	21N136CP	1
9/16-18	UNF	.5625	3	H3	1-21/32"	3-19/32"	21N136FP	1
5/8-11	UNC	.6250	3	H3	1-13/16"	3-13/16"	21N140CP	1
5/8-18	UNF	.6250	3	H3	1-13/16"	3-13/16"	21N140FP	1
3/4-10	UNC	.7500	3	H3	2"	4-1/4"	21N148CP	1
3/4-16	UNF	.7500	3	H3	2"	4-1/4"	21N148FP	1

GENERAL PURPOSE SPIRAL POINT TAPS

2100 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Plug / Bright Finish

Best Material Application



NON-FERROUS



CAST IRON



STEEL

Tap Specifications



Fractional								
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	Pack Qty.
0-80	UNF	.0600	2	H1	5/16"	1-5/8"	21A000FP	1
1-64	UNC	.0730	2	H1	3/8"	1-11/16"	21A001CP	1
1-72	UNF	.0730	2	H1	3/8"	1-11/16"	21A001FP	1
2-56	UNC	.0860	2	H2	7/16"	1-3/4"	21A002CP	1
2-64	UNF	.0860	2	H2	7/16"	1-3/4"	21A002FP	1
3-48	UNC	.0990	2	H2	1/2"	1-13/16"	21A003CP	1
3-56	UNF	.0990	2	H2	1/2"	1-13/16"	21A003FP	1
4-40	UNC	.1120	2	H2	9/16"	1-7/8"	21A004CP	1
4-36	UNC	.1120	2	H2	9/16"	1-7/8"	21A004SP	1
4-48	UNF	.1120	2	H2	9/16"	1-7/8"	21A004FP	1
5-40	UNC	.1250	2	H2	5/8"	1-15/16"	21A005CP	1
5-44	UNF	.1250	2	H2	5/8"	1-15/16"	21A005FP	1
6-32	UNC	.1380	2	H3	11/16"	2"	21A006CP	1
6-40	UNF	.1380	2	H2	11/16"	2"	21A006FP	1
8-32	UNC	.1640	2	H3	3/4"	2-1/8"	21A008CP	1
8-36	UNF	.1640	2	H2	3/4"	2-1/8"	21A008FP	1
10-24	UNC	.1900	2	H3	7/8"	2-3/8"	21A010CP	1
10-32	UNF	.1900	2	H3	7/8"	2-3/8"	21A010FP	1
12-24	UNC	.2160	2	H3	15/16"	2-3/8"	21A012CP	1
12-28	UNF	.2160	2	H3	15/16"	2-3/8"	21A012FP	1
1/4-20	UNC	.2500	2	H3	1"	2-1/2"	21A116CP	1
1/4-28	UNF	.2500	2	H3	1"	2-1/2"	21A116FP	1
5/16-18	UNC	.3125	2	H3	1-1/8"	2-23/32"	21A120CP	1
5/16-24	UNF	.3125	2	H3	1-1/8"	2-23/32"	21A120FP	1
3/8-16	UNC	.3750	3	H3	1-1/4"	2-15/16"	21A124CP	1
3/8-24	UNF	.3750	3	H3	1-1/4"	2-15/16"	21A124FP	1
7/16-14	UNC	.4375	3	H3	1-7/16"	3-5/32"	21A128CP	1
7/16-20	UNF	.4375	3	H3	1-7/16"	3-5/32"	21A128FP	1
1/2-13	UNC	.5000	3	H3	1-21/32"	3-3/8"	21A132CP	1
1/2-20	UNF	.5000	3	H3	1-21/32"	3-3/8"	21A132FP	1
9/16-12	UNC	.5625	3	H3	1-21/32"	3-19/32"	21A136CP	1
9/16-18	UNF	.5625	3	H3	1 21/32	3-19/32"	21A136FP	1
5/8-11	UNC	.6250	3	H3	1-13/16"	3-13/16"	21A140CP	1
5/8-18	UNF	.6250	3	H3	1-13/16"	3-13/16"	21A140FP	1
3/4-10	UNC	.7500	3	H3	2"	4-1/4"	21A148CP	1
3/4-16	UNF	.7500	3	H3	2"	4-1/4"	21A148FP	1

GENERAL PURPOSE SPIRAL POINT TAPS

2850 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

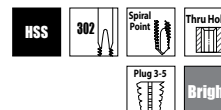
Plug / Bright Finish



Best Material Application



Tap Specifications



Fractional						
Size (mm)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Order Number	Pack Qty.
M1.6 x 0.35	—	0.063	2	D3	285A016A	1
M1.8 x 0.35	—	0.070	2	D3	285A018A	1
M2 x 0.4	—	0.079	2	D3	285A020A	1
M2.2 x 0.45	—	0.086	2	D3	285A022A	1
M2.5 x 0.45	—	0.098	2	D3	285A025A	1
M3 x 0.5	—	0.118	2	D3	285A030A	1
M3.5 x 0.6	—	0.138	2	D4	285A035A	1
M4 x 0.7	—	0.158	2	D4	285A040A	1
M4.5 x 0.75	—	0.177	2	D4	285A045A	1
M5 x 0.8	—	0.197	2	D4	285A050A	1
M6 x 1	—	0.236	2	D5	285A060A	1
M6.3 x 1	—	0.248	2	D5	285A063A	1
M7 x 1	—	0.276	2	D5	285A070A	1
M8 x 1	—	0.315	2	D5	285A080B	1
M8 x 1.25	—	0.315	2	D5	285A080A	1
M10 x 1.25	—	0.394	3	D5	285A100B	1
M10 x 1.5	—	0.394	3	D6	285A100A	1
M12 x 1.25	—	0.472	3	D5	285A120C	1
M12 x 1.75	—	0.472	3	D6	285A120A	1
M14 x 1.5	—	0.551	3	D6	285A140B	1
M14 x 2	—	0.551	3	D7	285A140A	1
M16 x 1.5	—	0.630	3	D6	285A160B	1
M16 x 2	—	0.630	3	D7	285A160A	1
M18 x 2.5	—	0.709	4	D7	285A180A	1
M20 x 1.5	—	0.787	4	D6	285A200B	1
M20 x 2.5	—	0.797	4	D7	285A200A	1

2105 SERIES

GENERAL PURPOSE HIGH SPEED STEEL

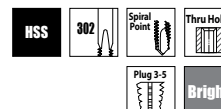
Plug / .005" Oversize / Bright Finish



Best Material Application



Tap Specifications



Fractional					
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Order Number	Pack Qty.
5/16-18	UNC	.3125	2	215A120CP	1
3/8-16	UNC	.3750	3	215A124CP	1
7/16-14	UNC	.4375	3	215A128CP	1
1/2-13	UNC	.5000	3	215A132CP	1
5/8-11	UNC	.6250	3	215A140CP	1

GENERAL PURPOSE MULTI-APPLICATION SPIRAL POINT TAPS

2100PS SERIES

HIGH SPEED STEEL

Plug / Bright Finish

These taps are designed for machine tapping in a wide range of material groups, including difficult-to-machine materials such as stainless steel. The NITRO® multi-application tap improves thread quality and aids in chip evacuation, eliminating bird nesting.

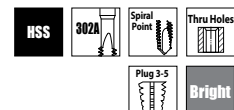
- ▷ Available in both spiral point and spiral flute designs, in fractional and metric sizes
- ▷ Spiral point taps eject chips ahead of the tap
- ▷ A good choice for CNC and machine tapping
- ▷ Bright finish for increased lubricity
- ▷ All sizes are individually packaged



Best Material Application



Tap Specifications



Fractional					
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Order Number
4-40	UNC	.1120	2	H2	21PS004C
4-48	UNF	.1120	2	H2	21PS004F
5-40	UNC	.1250	3	H2	21PS005C
5-44	UNF	.1250	3	H2	21PS005F
6-32	UNC	.1380	3	H3	21PS006C
6-40	UNF	.1380	3	H2	21PS006F
8-32	UNC	.1640	3	H3	21PS008C
8-36	UNF	.1640	3	H2	21PS008F
10-24	UNC	.1900	3	H3	21PS010C
10-32	UNF	.1900	3	H3	21PS010F
12-24	UNC	.2160	3	H3	21PS012C
12-28	UNF	.2160	3	H3	21PS012F
1/4-20	UNC	.2500	3	H3	21PS116C
1/4-28	UNF	.2500	3	H3	21PS116F
5/16-18	UNC	.3125	3	H3	21PS120C
5/16-24	UNF	.3125	3	H5	21PS120F
3/8-16	UNC	.3750	3	H3	21PS124C
3/8-24	UNF	.3750	3	H3	21PS124F
7/16-14	UNC	.4375	3	H3	21PS128C
7/16-20	UNF	.4375	3	H3	21PS128F
1/2-13	UNC	.5000	3	H5	21PS132C
1/2-20	UNF	.5000	3	H5	21PS132F
9/16-12	UNC	.5625	3	H5	21PS136C
9/16-18	UNF	.5625	3	H5	21PS136F
5/8-11	UNC	.6250	3	H5	21PS140C
5/8-18	UNF	.6250	3	H5	21PS140F
3/4-10	UNC	.7500	3	H5	21PS148C
3/4-16	UNF	.7500	3	H5	21PS148F
7/8-9	UNC	0.875	3	H6	21PS156C
7/8-14	UNF	0.875	3	H6	21PS156F
1-8	UNC	1.000	3	H6	21PS164C
1-12	UNF	1.000	3	H6	21PS164F

Metric				
Size (mm)	Decimal Equiv. (Inch)	No. of Flutes	Limit	Order Number
M3 x 0.5	0.118	3	D3	21PS030A
M3.5 x 0.6	0.138	3	D4	21PS035A
M4 x 0.7	0.158	3	D4	21PS040A
M5 x 0.8	0.197	3	D4	21PS050A
M6 x 1.0	0.236	3	D5	21PS060A
M7 x 1.0	0.276	3	D5	21PS070A
M8 x 1.0	0.315	3	D5	21PS080B
M8 x 1.25	0.315	3	D5	21PS080A
M10 x 1.5	0.394	3	D6	21PS100A
M12 x 1.25	0.472	3	D6	21PS120B
M12 x 1.75	0.472	3	D5	21PS120A
M14 x 1.5	0.551	3	D7	21PS140B
M14 x 2.0	0.551	3	D6	21PS140A
M16 x 1.5	0.630	3	D7	21PS160B
M16 x 2.0	0.630	3	D6	21PS160A
M18 x 1.5	0.709	3	D7	21PS180D
M18 x 2.5	0.709	3	D6	21PS180A
M20 x 1.5	0.787	3	D7	21PS200B
M20 x 2.5	0.787	3	D6	21PS200A
M22 x 1.5		3	D7	21PS220B
M22 x 2.5		3	D6	21PS220A
M24 x 3.0	0.945	3	D8	21PS240A

GENERAL PURPOSE SPIRAL POINT TAPS

SPGP SERIES

HIGH SPEED STEEL

Plug / Bottoming / Bright Finish

The Chicago-Latrobe SGP Spiral Point Taps are general-purpose plug taps for bottoming holes. Made with HSS with a bright finish, and designed with 2 flutes that ensure efficient chip ejection and precision threading.

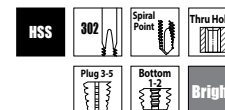


Best Material Application



NON-FERROUS CAST IRON STEEL

Tap Specifications



Fractional								
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
							Plug	Bottoming
0-80	UNF	0.060	2	H1	0.313	1.625	356002	—
0-80	UNF	0.060	2	H2	0.313	1.625	356027	356035
1-64	UNC	0.073	2	H2	0.375	1.688	356068	—
1-72	UNF	0.073	2	H1	0.375	1.688	356084	—
1-72	UNF	0.073	2	H2	0.375	1.688	356102	—
2-56	UNC	0.086	2	H1	0.438	1.750	173000	—
2-56	UNC	0.086	2	H2	0.438	1.750	356142	356159
2-64	UNF	0.086	2	H2	0.438	1.750	356183	—
3-48	UNC	0.099	2	H2	0.500	1.813	356225	—
3-56	UNF	0.099	2	H2	0.500	1.813	356266	—
4-40	UNC	0.112	2	H1	0.563	1.875	356308	—
4-40	UNC	0.112	2	H2	0.563	1.875	356324	356332
4-48	UNF	0.112	2	H2	0.563	1.875	356365	—
5-40	UNC	0.125	2	H1	0.625	1.938	173001	—
5-40	UNC	0.125	2	H2	0.625	1.938	356407	356415
6-32	UNC	0.138	2	H1	0.688	2.000	356421	—
6-32	UNC	0.138	2	H2	0.688	2.000	356422	356498
6-32	UNC	0.138	2	H3	0.688	2.000	356506	356514
6-32	UNC	0.138	2	H7	0.688	2.000	359005	—
6-40	UNF	0.138	2	H2	0.688	2.000	356548	—
8-32	UNC	0.164	2	H1	0.750	2.125	173002	—
8-32	UNC	0.164	2	H2	0.750	2.125	356589	173024
8-32	UNC	0.164	2	H3	0.750	2.125	356633	356634
8-32	UNC	0.164	2	H7	0.750	2.125	359047	—
8-36	UNF	0.164	2	H2	0.750	2.125	356647	—
10-24	UNC	0.190	2	H1	0.875	2.375	356662	—
10-24	UNC	0.190	2	H2	0.875	2.375	356688	173025
10-24	UNC	0.190	2	H3	0.875	2.375	356704	356712
10-24	UNC	0.190	2	H7	0.875	2.375	359088	—
10-32	UNF	0.190	2	H1	0.875	2.375	173003	—
10-32	UNF	0.190	2	H2	0.875	2.375	356746	173026
10-32	UNF	0.190	2	H3	0.875	2.375	356761	356779
10-32	UNF	0.190	2	H7	0.875	2.375	359120	—
12-24	UNC	0.216	2	H1	0.938	2.375	173004	—
12-24	UNC	0.216	2	H3	0.938	2.375	356803	173027
12-28	UNF	0.216	2	H3	0.938	2.375	356845	—
1/4-20	UNC	0.250	2	H1	1.000	2.500	357009	—
1/4-20	UNC	0.250	2	H2	1.000	2.500	357025	—
1/4-20	UNC	0.250	2	H3	1.000	2.500	357041	357058
1/4-20	UNC	0.250	2	H5	1.000	2.500	357066	—

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GENERAL PURPOSE SPIRAL POINT TAPS

SPGP SERIES continued



Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
							Plug	Bottoming
1/4-20	UNC	0.250	2	H11	1.000	2.500	330111	—
1/4-20	UNC	0.250	3	H3	1.000	2.500	357082	173029
1/4-20	UNC	0.250	3	H5	1.000	2.500	357108	—
1/4-20	UNC	0.250	2	H13	1.000	2.500	358494	—
1/4-28	UNF	0.250	2	H2	1.000	2.500	330113	—
1/4-28	UNF	0.250	2	H3	1.000	2.500	357165	357173
1/4-28	UNF	0.250	3	H2	1.000	2.500	330115	—
5/16-18	UNC	0.313	2	H1	1.125	2.719	357249	—
5/16-18	UNC	0.313	2	H2	1.125	2.719	357264	—
5/16-18	UNC	0.313	2	H3	1.125	2.719	357280	357298
5/16-18	UNC	0.313	2	H5	1.125	2.719	357306	—
5/16-18	UNC	0.313	3	H3	1.125	2.719	357322	300016
5/16-18	UNC	0.313	3	H5	1.125	2.719	357348	—
5/16-18	UNC	0.313	3	H13	1.125	2.719	358510	—
5/16-24	UNF	0.313	2	H1	1.125	2.719	357363	—
5/16-24	UNF	0.313	2	H2	1.125	2.719	173005	—
5/16-24	UNF	0.313	2	H3	1.125	2.719	357405	357413
5/16-24	UNC	0.313	3	H4	1.125	2.719	330119	—
3/8-16	UNC	0.375	3	H2	1.250	2.938	357504	—
3/8-16	UNC	0.375	3	H3	1.250	2.938	357520	173030
3/8-16	UNC	0.375	3	H5	1.250	2.938	357546	—
3/8-24	UNF	0.375	3	H1	1.250	2.938	357561	—
3/8-24	UNF	0.375	3	H2	1.250	2.938	357587	—
3/8-24	UNF	0.375	3	H3	1.250	2.938	357603	173031
3/8-24	UNF	0.375	3	H4	1.250	2.938	357629	—
7/16-14	UNC	0.438	3	H2	1.438	3.156	357660	—
7/16-14	UNC	0.438	3	H3	1.438	3.156	357686	173032
7/16-14	UNC	0.438	3	H5	1.438	3.156	357702	—
7/16-20	UNF	0.438	3	H3	1.438	3.156	357769	173033
7/16-20	UNF	0.438	3	H5	1.438	3.156	357785	—
1/2-13	UNC	0.500	3	H2	1.656	3.375	357819	—
1/2-13	UNC	0.500	3	H3	1.656	3.375	357827	173034
1/2-13	UNC	0.500	3	H5	1.656	3.375	357835	—
1/2-20	UNF	0.500	3	H2	1.656	3.375	173006	—
1/2-20	UNF	0.500	3	H3	1.656	3.375	357868	173035
1/2-20	UNF	0.500	3	H5	1.656	3.375	173007	—
9/16-12	UNC	0.563	3	H3	1.656	3.594	173008	—
9/16-12	UNC	0.563	3	H5	1.656	3.594	173009	—
9/16-18	UNF	0.563	3	H3	1.656	3.594	173010	—
5/8-11	UNC	0.625	3	H3	1.813	3.813	357926	173036
5/8-11	UNC	0.625	3	H5	1.813	3.813	357934	—
5/8-18	UNF	0.625	3	H3	1.813	3.813	357942	—
3/4-10	UNC	0.750	3	H3	2.000	4.250	357967	173037
3/4-10	UNC	0.750	3	H5	2.000	4.250	357975	—
3/4-16	UNF	0.750	3	H3	2.000	4.250	330130	—

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GENERAL PURPOSE SPIRAL POINT TAPS

SPGP SERIES continued



Metric								
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
							Plug	Bottoming
M1.6 x 0.35	—	1.60	2	D3	0.313	1.625	360755	173038
M1.8 x 0.35	—	1.80	2	D3	0.375	1.688	330131	—
M2 x 0.4	—	2.00	2	D3	0.438	1.750	360771	173039
M2.2 x 0.45	—	2.20	2	D3	0.438	1.750	330132	—
M2.5 x 0.45	—	2.50	2	D3	0.500	1.813	360797	173040
M3 x 0.5	—	3.00	2	D3	0.625	1.938	360805	173041
M3.5 x 0.6	—	3.50	2	D4	0.688	2.000	360821	—
M4 x 0.7	—	4.00	2	D4	0.750	2.125	360839	173042
M4.5 x 0.75	—	4.50	2	D4	0.875	2.375	360854	—
M5 x 0.8	—	5.00	2	D4	0.875	2.375	360862	173043
M6 x 1.0	—	6.00	2	D5	1.000	2.500	360888	173044
M7 x 1.0	—	7.00	2	D5	1.125	2.719	360904	—
M8 x 1.0	—	8.00	2	D5	1.125	2.719	330133	173045
M8 x 1.25	—	8.00	2	D5	1.125	2.719	360920	173046
M10 x 1.25	—	10.00	3	D5	1.250	2.938	330134	173047
M10 x 1.5	—	10.00	3	D6	1.250	2.938	360946	173048
M12 x 1.25	—	12.00	3	D5	1.656	3.375	330135	—
M12 x 1.75	—	12.00	3	D6	1.656	3.375	360961	173049
M14 x 1.5	—	14.00	3	D6	1.656	3.594	330136	—
M14 x 2	—	14.00	3	D7	1.656	3.594	360995	—
M16 x 1.5	—	16.00	3	D6	1.813	3.813	330137	—
M16 x 2	—	16.00	3	D7	1.813	3.813	361019	—
M18 x 2.5	—	18.00	3	D7	1.813	4.031	173011	—
M20 x 2.5	—	20.00	3	D7	2.000	4.469	361050	—

SPGP SERIES

HIGH SPEED STEEL

Plug / Bottoming / TiN

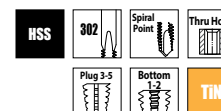


Fractional								
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
							Plug	Bottoming
0-80	UNF	0.060	2	H2	0.313	1.625	356023	—
1-64	UNC	0.073	2	H2	0.375	1.688	356061	—
1-72	UNF	0.073	2	H2	0.375	1.688	356106	—
2-56	UNC	0.086	2	H2	0.438	1.750	356148	—
3-48	UNC	0.099	2	H2	0.500	1.813	356221	—
3-56	UNF	0.099	2	H2	0.500	1.813	356262	—
4-40	UNC	0.112	2	H2	0.563	1.875	356320	356338
4-48	UNF	0.112	2	H2	0.563	1.875	356361	—
5-40	UNC	0.125	2	H2	0.625	1.938	356403	—
6-32	UNC	0.138	2	H2	0.688	2.000	356486	—
6-32	UNC	0.138	2	H3	0.688	2.000	356502	356510
6-40	UNF	0.138	2	H2	0.688	2.000	356544	—
8-32	UNC	0.164	2	H2	0.750	2.125	356585	—
8-32	UNC	0.164	2	H3	0.750	2.125	356602	356635

Best Material Application



Tap Specifications



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GENERAL PURPOSE SPIRAL POINT TAPS

SPGP SERIES continued

TiN



Fractional								
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
							Plug	Bottoming
8-32	UNC	0.164	2	H7	0.750	2.125	330138	—
8-36	UNF	0.164	2	H2	0.750	2.125	330139	—
10-24	UNC	0.190	2	H2	0.875	2.375	330140	—
10-24	UNC	0.190	2	H3	0.875	2.375	356703	356718
10-24	UNC	0.190	2	H7	0.875	2.375	330141	—
10-32	UNF	0.190	2	H2	0.875	2.375	356742	—
10-32	UNF	0.190	2	H3	0.875	2.375	356767	356775
10-32	UNF	0.190	2	H7	0.875	2.375	330142	—
12-24	UNC	0.216	2	H3	0.938	2.375	356809	173050
12-28	UNF	0.216	2	H3	0.938	2.375	356841	—
1/4-20	UNC	0.250	2	H1	1.000	2.500	330143	—
1/4-20	UNC	0.250	2	H2	1.000	2.500	357021	—
1/4-20	UNC	0.250	2	H3	1.000	2.500	357047	357054
1/4-20	UNC	0.250	2	H5	1.000	2.500	357062	—
1/4-20	UNC	0.250	3	H3	1.000	2.500	357088	173051
1/4-20	UNC	0.250	3	H5	1.000	2.500	357101	—
1/4-20	UNC	0.250	2	H13	1.000	2.500	358490	—
1/4-28	UNF	0.250	2	H3	1.000	2.500	357161	357179
5/16-18	UNC	0.313	2	H2	1.125	2.719	330144	—
5/16-18	UNC	0.313	2	H3	1.125	2.719	357286	173052
5/16-18	UNC	0.313	2	H5	1.125	2.719	330145	—
5/16-18	UNC	0.313	3	H3	1.125	2.719	357328	357294
5/16-18	UNC	0.313	3	H5	1.125	2.719	357344	—
5/16-24	UNF	0.313	2	H3	1.125	2.719	357401	—
3/8-16	UNC	0.375	3	H2	1.250	2.938	330146	—
3/8-16	UNC	0.375	3	H3	1.250	2.938	357526	173053
3/8-16	UNC	0.375	3	H5	1.250	2.938	357542	—
3/8-24	UNF	0.375	3	H3	1.250	2.938	357609	—
7/16-14	UNC	0.438	3	H3	1.438	3.156	357682	—
7/16-20	UNF	0.438	3	H3	1.438	3.156	357765	—
1/2-13	UNC	0.500	3	H3	1.656	3.375	357823	173054
1/2-13	UNC	0.500	3	H5	1.656	3.375	357831	—
1/2-20	UNF	0.500	3	H3	1.656	3.375	357864	—
5/8-11	UNC	0.625	3	H3	1.813	3.813	357922	—
5/8-11	UNC	0.625	3	H5	1.813	3.813	357930	—
3/4-10	UNC	0.750	3	H3	2.000	4.250	357963	—

Metric						
Size (mm)	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M1.6 x 0.35	1.60	2	D3	0.313	1.625	173015
M2 x 0.4	2.00	2	D3	0.438	1.750	360774
M2.5 x 0.45	2.50	2	D3	0.500	1.813	173016
M3 x 0.5	3.00	2	D3	0.625	1.938	360801
M4 x 0.7	4.00	2	D4	0.750	2.125	360835
M5 x 0.8	5.00	2	D4	0.875	2.375	360868
M6 x 1.0	6.00	2	D5	1.000	2.500	360884
M8 x 1.0	8.00	2	D5	1.125	2.719	173017
M8 x 1.25	8.00	2	D5	1.125	2.719	360926
M10 x 1.25	10.00	3	D5	1.250	2.938	173018
M10 x 1.5	10.00	3	D6	1.250	2.938	360942
M12 x 1.25	12.00	3	D5	1.656	3.375	330147
M12 x 1.75	12.00	3	D6	1.656	3.375	360967

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GENERAL PURPOSE SPIRAL POINT TAPS

SPGP SERIES continued

Plug / Black Oxide Finish



Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
0-80	UNF	0.060	2	H2	0.313	1.625	330100
2-56	UNC	0.086	2	H2	0.438	1.750	330101
4-40	UNC	0.112	2	H2	0.563	1.875	330102
5-40	UNC	0.125	2	H2	0.625	1.938	330103
6-32	UNC	0.138	2	H2	0.688	2.000	330104
6-32	UNC	0.138	2	H3	0.688	2.000	330105
8-32	UNC	0.164	2	H2	0.750	2.125	330106
8-32	UNC	0.164	2	H3	0.750	2.125	330107
10-24	UNC	0.190	2	H3	0.875	2.375	173012
10-32	UNF	0.190	2	H3	0.875	2.375	173013
12-24	UNC	0.216	2	H3	0.938	2.375	330108
1/4-20	UNC	0.250	2	H2	1.000	2.500	330109
1/4-20	UNC	0.250	2	H3	1.000	2.500	330110
1/4-20	UNC	0.250	3	H3	1.000	2.500	330112
1/4-28	UNF	0.250	2	H3	1.000	2.500	330114
5/16-18	UNC	0.313	2	H3	1.125	2.719	330116
5/16-18	UNC	0.313	3	H3	1.125	2.719	330117
5/16-24	UNF	0.313	2	H3	1.125	2.719	330118
3/8-16	UNC	0.375	3	H3	1.250	2.938	330120
3/8-24	UNF	0.375	3	H3	1.250	2.938	330121
7/16-14	UNC	0.438	3	H3	1.438	3.156	330122
1/2-13	UNC	0.500	3	H3	1.656	3.375	330123
1/2-20	UNF	0.500	3	H3	1.656	3.375	330125
5/8-11	UNC	0.625	3	H3	1.813	3.813	330126
5/8-18	UNF	0.625	3	H3	1.813	3.813	330128
3/4-10	UNC	0.750	3	H3	2.000	4.250	330129

SPGP SERIES

Plug / TiCN



Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
0-80	UNF	0.060	2	H2	0.313	1.625	330148
2-56	UNC	0.086	2	H2	0.438	1.750	330149
4-40	UNC	0.112	2	H2	0.563	1.875	330150
5-40	UNC	0.125	2	H2	0.625	1.938	330151
6-32	UNC	0.138	2	H2	0.688	2.000	173019
6-32	UNC	0.138	2	H3	0.688	2.000	330152
8-32	UNC	0.164	2	H2	0.750	2.125	173014
8-32	UNC	0.164	2	H3	0.750	2.125	330153
10-24	UNC	0.190	2	H3	0.875	2.375	330154
10-32	UNF	0.190	2	H3	0.875	2.375	330155
12-24	UNC	0.216	2	H3	0.938	2.375	330156

Best Material Application



STAINLESS



CAST IRON



STEEL

Tap Specifications



Best Material Application



STAINLESS



NON-FERROUS



CAST IRON



STEEL

Tap Specifications



continued on next page

GENERAL PURPOSE SPIRAL POINT TAPS

SPGP SERIES continued

TiCN



Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
1/4-20	UNC	0.250	2	H2	1.000	2.500	173020
1/4-20	UNC	0.250	2	H3	1.000	2.500	173021
1/4-20	UNC	0.250	3	H3	1.000	2.500	330157
1/4-28	UNF	0.250	2	H3	1.000	2.500	173022
1/4-28	UNF	0.250	3	H2	1.000	2.500	330158
5/16-18	UNC	0.313	2	H3	1.125	2.719	173023
5/16-18	UNC	0.313	3	H3	1.125	2.719	330159
5/16-24	UNC	0.313	3	H4	1.125	2.719	330160
3/8-16	UNC	0.375	3	H3	1.250	2.938	330161
3/8-24	UNF	0.375	3	H3	1.250	2.938	330162
7/16-14	UNC	0.438	3	H2	1.438	3.156	330216
7/16-20	UNF	0.438	3	H3	1.438	3.156	330163
1/2-13	UNC	0.500	3	H3	1.656	3.375	330164
1/2-20	UNF	0.500	3	H3	1.656	3.375	330165
5/8-11	UNC	0.625	3	H3	1.813	3.813	330166
3/4-10	UNC	0.750	3	H3	2.000	4.250	330167
Metric							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
M3 x 0.5	—	3.00	2	D3	0.625	1.938	330168
M4 x 0.7	—	4.00	2	D4	0.750	2.125	330169
M5 x 0.8	—	5.00	2	D4	0.875	2.375	330170
M6 x 1.0	—	6.00	2	D5	1.000	2.500	330171
M8 x 1.25	—	8.00	2	D5	1.125	2.719	330172
M10 x 1.5	—	10.00	3	D6	1.250	2.938	330173
M12 x 1.75	—	12.00	3	D6	1.656	3.375	330174



Corresponding Sets			
Jobber Drill, Plug Spiral PT Tap Set			
No. of Pieces	Style Bright Finish	Thread Sizes	Order Number
18	Jobber	5/16, 27/64, LET-F, LET-U, #7, #21, #25, #29, #36	330085
	H3, 2 Flute	1/4-20, 5/16-18, 6-32, 8-32, 10-24, 10-32	
	H3, 3 Flute	3/8-16, 7/16-14, 1/2-13	

GENERAL PURPOSE SPIRAL POINT TAPS

02

SPGP5 SERIES

HIGH SPEED STEEL

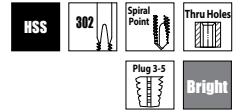
Plug / Plug / Oversized / Bright Finish

Chicago-Latrobe SPGP5 Spiral Point Taps are Oversized (.005) with H11 limits to ensure precise threading in plug holes. Made with HSS with a bright finish, offering durability and efficient chip ejection.

Best Material Application



Tap Specifications



TAPS



Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
6-32	UNF	.1065	2	H11	.6875	2.000	313610
8-32	UNF	.1360	2	H11	.7500	2.125	313611
10-24	UNC	.1470	2	H11	.8750	2.375	313612
10-32	UNF	.1590	2	H11	.8750	2.375	313613
1/4-20	UNC	.2500	3	H11	1.000	2.500	313500
1/4-28	UNF	.2500	3	H11	1.000	2.500	313501
5/16-18	UNC	.3125	3	H11	1.125	2.719	313502
5/16-24	UNF	.3125	3	H11	1.125	2.719	313503
3/8-16	UNC	.3750	3	H11	1.250	2.938	313504
3/8-24	UNF	.3750	3	H11	1.250	2.938	313505
7/16-14	UNC	.4375	3	H11	1.438	3.156	313506
7/16-20	UNF	.4375	3	H11	1.438	3.156	313507
1/2-13	UNC	.5000	3	H11	1.656	3.375	313508
1/2-20	UNF	.5000	3	H11	1.656	3.375	313509
5/8-11	UNC	.6250	3	H11	1.813	3.813	313510
5/8-18	UNF	.6250	3	H11	1.813	3.813	313511
3/4-10	UNC	.7500	4	H11	2.000	4.250	313512
3/4-16	UNF	.7500	4	H11	2.000	4.250	313513
Metric							
Size (mm)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M4x0.7	—	0.158	2	D11	.7500	2.125	313614
M5x0.8	—	0.197	2	D11	.8750	2.375	313615
M6x1	—	0.236	3	D11	1.000	2.500	313514
M8x1	—	0.315	3	D11	1.125	2.719	313515
M8x1.25	—	0.315	3	D11	1.125	2.719	313516
M10x1	—	0.394	3	D11	1.25	2.938	313517
M10x1.25	—	0.394	3	D11	1.25	2.938	313518
M10x1.5	—	0.394	3	D11	1.25	2.938	313519
M12x1.25	—	0.472	3	D11	1.656	3.375	313520
M12x1.5	—	0.472	3	D11	1.656	3.375	313521
M12x1.75	—	0.472	3	D11	1.656	3.375	313522
M16x1.5	—	0.630	3	D11	1.813	3.813	313523
M16x2	—	0.630	3	D11	1.813	3.813	313524

Chicago-Latrobe

WALTER

continued on next page

GENERAL PURPOSE SPIRAL POINT TAPS

SPGP5 SERIES

Plug / Oversized / Black Oxide Finish



Best Material Application



CAST IRON



STEEL

Tap Specifications



Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
6-32	UNF	.1065	2	H11	.6875	2.000	313616
8-32	UNF	.1360	2	H11	.7500	2.125	313617
10-24	UNC	.1470	3	H11	.8750	2.375	313618
10-32	UNF	.1590	2	H11	.8750	2.375	313619
1/4-20	UNC	.2500	3	H11	1.000	2.500	313555
1/4-28	UNF	.2500	3	H11	1.000	2.500	313556
5/16-18	UNC	.3125	3	H11	1.125	2.719	313557
5/16-24	UNF	.3125	3	H11	1.125	2.719	313558
3/8-16	UNC	.3750	3	H11	1.250	2.938	313559
3/8-24	UNF	.3750	3	H11	1.250	2.938	313560
7/16-14	UNC	.4375	3	H11	1.438	3.156	313561
7/16-20	UNF	.4375	3	H11	1.438	3.156	313562
1/2-13	UNC	.5000	3	H11	1.656	3.375	313563
1/2-20	UNF	.5000	3	H11	1.656	3.375	313564
5/8-11	UNC	.6250	3	H11	1.813	3.813	313565
5/8-18	UNF	.6250	3	H11	1.813	3.813	313566
3/4-10	UNC	.7500	4	H11	2.000	4.250	313567
3/4-16	UNF	.7500	4	H11	2.000	4.250	313568
Metric							
Size (mm)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M4x0.7	—	0.158	2	D11	.7500	2.125	313620
M5x0.8	—	0.197	2	D11	.8750	2.375	313621
M6x1	—	0.236	3	D11	1.000	2.500	313569
M8x1	—	0.315	3	D11	1.125	2.719	313570
M8x1.25	—	0.315	3	D11	1.125	2.719	313571
M10x1	—	0.394	3	D11	1.25	2.938	313572
M10x1.25	—	0.394	3	D11	1.25	2.938	313573
M10x1.5	—	0.394	3	D11	1.25	2.938	313574
M12x1.25	—	0.472	3	D11	1.656	3.375	313575
M12x1.5	—	0.472	3	D11	1.656	3.375	313576
M12x1.75	—	0.472	3	D11	1.656	3.375	313577
M16x1.5	—	0.630	3	D11	1.813	3.813	313578
M16x2	—	0.630	3	D11	1.813	3.813	313579

GENERAL PURPOSE SPIRAL POINT TAPS

SPGPX SERIES

HIGH SPEED STEEL

Extended Length Shank / Plug / Bright Finish

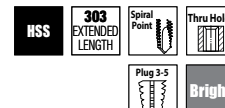
SPGPX Spiral Point Taps feature extended 6" length, 2 flutes, and H3 limits for general-purpose threading plug holes. Made from HSS with a Bright finish, ideal for precision and deep reach applications.



Best Material Application



Tap Specifications



Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
8-32	UNC	.1640	2	H3	.750	6.000	918932
10-24	UNC	.1900	2	H3	.875	6.000	918934
10-32	UNF	.1900	2	H3	.875	6.000	918935
1/4-20	UNC	.2500	2	H3	1.000	6.000	918936
1/4-28	UNF	.2500	2	H3	1.000	6.000	918937
5/16-18	UNC	.3125	2	H3	1.125	6.000	918938
5/16-24	UNF	.3125	2	H3	1.125	6.000	918939
3/8-16	UNC	.3750	3	H3	1.250	6.000	918940
3/8-24	UNF	.3750	3	H3	1.250	6.000	918941

SPGPX5 SERIES

HIGH SPEED STEEL

Extended Length Shank / Oversized / Plug / Bright Finish

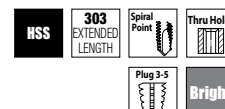
Chicago-Latrobe SPGPX5 Spiral Point Taps, with 6" length and H11/D11 limits, offer efficient threading for deep holes. Made with HSS with a bright finish, ideal for precision threading.



Best Material Application



Tap Specifications



Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
1/4-20	UNC	.2500	3	H11	1.0000	6	313544
5/16-18	UNC	.3125	3	H11	1.1250	6	313545
3/8-16	UNC	.3750	3	H11	1.2500	6	313546
7/16-14	UNC	.4375	3	H11	1.4375	6	313547
1/2-13	UNC	.5000	3	H11	1.6562	6	313548
5/8-11	UNC	.6250	3	H11	1.8125	6	313549
Metric							
Size (mm)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M6x1	—	0.236	3	D11	1.0000	6	313550
M8x1.25	—	0.315	3	D11	1.1250	6	313551
M10x1.5	—	0.394	3	D11	1.2500	6	313552
M12x1.75	—	0.472	3	D11	1.6562	6	313553
M16x2	—	0.630	3	D11	1.8125	6	313554

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GENERAL PURPOSE SPIRAL POINT TAPS

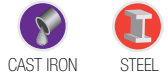
SPGPX5 SERIES continued

Plug / Oversized / Black Oxide Finish



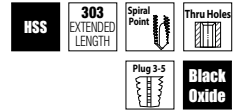
Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
1/4-20	UNC	.2500	3	H11	1.0000	6"	313599
5/16-18	UNC	.3125	3	H11	1.1250	6"	313600
3/8-16	UNC	.3750	3	H11	1.2500	6"	313601
7/16-14	UNC	.4375	3	H11	1.4375	6"	313602
1/2-13	UNC	.5000	3	H11	1.6562	6"	313603
5/8-11	UNC	.6250	3	H11	1.8125	6"	313604
Metric							
Size (mm)	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number Plug	
M6x1	0.236	3	D11	1.0000	6"	313605	
M8x1.25	0.315	3	D11	1.1250	6"	313606	
M10x1.5	0.394	3	D11	1.2500	6"	313607	
M12x1.75	0.472	3	D11	1.6562	6"	313608	
M16x2	0.630	3	D11	1.8125	6"	313609	

Best Material Application



CAST IRON STEEL

Tap Specifications



SPLS SERIES

HIGH SPEED STEEL

Low Shear / Plug / Bright Finish

Chicago-Latrobe SPLS General Purpose Low Shear Taps are designed for through and plug holes, featuring 2 flutes and H2/H3 limits. Made from HSS with a bright finish, they ensure precise and efficient threading.



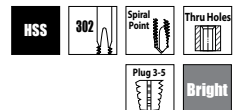
Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
4-40	UNC	.1120	2	H2	.563	1.875	330175
5-40	UNC	.1250	2	H2	.625	1.938	330176
6-32	UNC	.1380	2	H3	.688	2.000	330177
8-32	UNC	.1640	2	H3	.750	2.125	330178
10-24	UNF	.1900	2	H3	.875	2.375	330179
10-32	UNC	.1900	2	H3	.875	2.375	330180
12-24	UNC	.2160	2	H3	.938	2.375	330181
1/4-20	UNC	.2500	2	H1	1.000	2.500	330182
1/4-20	UNC	.2500	2	H2	1.000	2.500	330183
1/4-20	UNC	.2500	2	H3	1.000	2.500	330184
1/4-20	UNC	.2500	2	H11	1.000	2.500	330185
1/4-28	UNF	.2500	2	H3	1.000	2.500	330186
5/16-18	UNC	.3125	2	H3	1.125	2.719	330187
5/16-24	UNF	.3125	2	H3	1.125	2.719	330188
3/8-16	UNC	.3750	3	H3	1.250	2.938	330189
7/16-14	UNC	.4375	3	H3	1.438	3.156	330190
1/2-13	UNC	.5000	3	H3	1.656	3.375	330191
5/8-11	UNC	.6250	3	H3	1.813	3.813	330192

Best Material Application



NON-FERROUS CAST IRON STEEL

Tap Specifications



GENERAL PURPOSE SPIRAL POINT TAPS

SPAR SERIES

HIGH SPEED STEEL

Plug / TiN / Aerospace Fasteners

For tapping speeds - see Technical Section



NON-FERROUS



STAINLESS



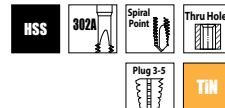
CAST IRON



STEEL

Best Material Application

Tap Specifications



Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
6-32	UNC	.1380	3	H3	.688	2.000	285057
8-32	UNC	.1640	3	H3	.750	2.125	285107
10-24	UNC	.1900	3	H3	.875	2.375	285156
10-32	UNF	.1900	3	H3	.875	2.375	285206
10-32	UNF	.1900	3	H5	.875	2.375	285222
1/4-20	UNC	.2500	3	H3	1.000	2.500	285255
1/4-28	UNF	.2500	3	H3	1.000	2.500	285354
1/4-28	UNF	.2500	3	H5	1.000	2.500	285370
5/16-18	UNC	.3125	3	H3	1.125	2.719	285404
5/16-24	UNF	.3125	3	H3	1.125	2.719	285453
5/16-24	UNF	.3125	3	H5	1.125	2.719	285479
3/8-16	UNC	.3750	3	H3	1.250	2.938	285503
3/8-16	UNC	.3750	3	H5	1.250	2.938	285552
3/8-24	UNF	.3750	3	H5	1.250	2.938	285628
7/16-14	UNC	.4375	3	H3	1.438	3.156	285651
7/16-20	UNF	.4375	3	H3	1.438	3.156	285701
1/2-13	UNC	.5000	3	H5	1.656	3.375	285801
1/2-20	UNF	.5000	3	H3	1.656	3.375	285859

SPHD SERIES

HIGH SPEED STEEL

CNC Heavy Duty / Plug / Bright Finish

Chicago-Latrobe SPHD Spiral Point Taps are CNC heavy duty taps for plug holes, featuring 3 flutes and H3/D5 limits for precise threading. Made from HSS with a bright finish, ideal for durability and performance in CNC machining operations.

For tapping speeds - see Technical Section



NON-FERROUS



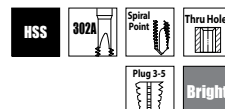
CAST IRON



STEEL

Best Material Application

Tap Specifications



Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
6-32	UNC	.1380	3	H3	2.000	.688	282108
8-32	UNC	.1640	3	H3	2.125	.750	282157
10-24	UNC	.1900	3	H3	2.375	.875	282207
10-32	UNF	.1900	3	H3	2.375	.875	282256
1/4-20	UNC	.2500	3	H3	2.500	1.000	282306
1/4-20	UNC	.2500	3	H5	2.500	1.000	282355
1/4-28	UNF	.2500	3	H3	2.500	1.000	282405
5/16-18	UNC	.3125	3	H3	2.719	1.125	282454

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GENERAL PURPOSE SPIRAL POINT TAPS

SPHD SERIES continued

Bright Finish



Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
5/16-18	UNC	.3125	3	H5	1.125	2.719	282470
5/16-24	UNF	.3125	3	H3	1.125	2.719	282504
3/8-16	UNC	.3750	3	H3	1.250	2.938	282553
3/8-16	UNC	.3750	3	H5	1.250	2.938	282603
3/8-24	UNF	.3750	3	H3	1.250	2.938	282652
1/2-13	UNC	.5000	3	H3	1.656	3.375	282801
1/2-13	UNC	.5000	3	H5	1.656	3.375	282850
1/2-20	UNF	.5000	3	H3	1.656	3.375	282901
5/8-11	UNC	.6250	3	H3	1.813	3.813	282959
Fractional							
Size (mm)	Thread	Decimal Equiv. (mm)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M6 x 1.0	0.236	6.00	3	D5	1.000	2.500	272550

SPHD SERIES continued

HIGH SPEED STEEL
CNC / Plug / TiN

SPHD TiN-coated taps are heavy duty CNC spiral point taps engineered for high-performance threading in through-hole applications. Manufactured from premium HSS and finished with Titanium Nitride (TiN), they offer increased hardness, reduced friction, improved chip flow, and extended tool life. Ideal for steel, stainless steel, and tough alloys in production environments requiring strength, consistency, and higher cutting speeds.



Best Material Application



STAINLESS



CAST IRON



STEEL

Tap Specifications



HSS



302A



Spiral Point



Thru Holes



Plug 3-5



TiN

Fractional							
Size (Inch)	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
6-32	UNC	.1380	3	H3	.688	2.000	280108
8-32	UNC	.1640	3	H3	.750	2.125	280157
10-24	UNC	.1900	3	H3	.875	2.375	280207
10-32	UNF	.1900	3	H3	.875	2.375	280256
1/4-20	UNC	.2500	3	H3	1.000	2.500	280306
1/4-20	UNC	.2500	3	H5	1.000	2.500	280355
1/4-28	UNF	.2500	3	H3	1.000	2.500	280405
5/16-18	UNC	.3125	3	H3	1.125	2.719	280454
5/16-18	UNC	.3125	3	H5	1.125	2.719	280470
5/16-24	UNF	.3125	3	H3	1.125	2.719	280504
3/8-16	UNC	.3750	3	H3	1.250	2.938	280553
3/8-16	UNC	.3750	3	H5	1.250	2.938	280603
3/8-24	UNF	.3750	3	H3	1.250	2.938	280652
1/2-13	UNC	.5000	3	H3	1.656	3.375	280801
1/2-13	UNC	.5000	3	H5	1.656	3.375	280850
1/2-20	UNF	.5000	3	H3	1.656	3.375	280901
5/8-11	UNC	.6250	3	H3	1.813	3.813	280959

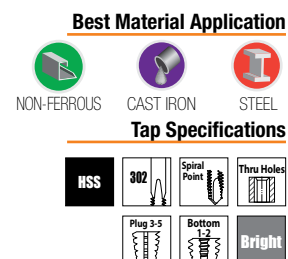
GENERAL PURPOSE SPIRAL POINT TAPS

1011 / 1012 SERIES

HIGH SPEED STEEL

Plug / Bottoming / Bright Finish

Cleveland® 1011 (plug chamfer) and 1012 (bottoming chamfer) taps are general-purpose HSS spiral point taps designed for efficient chip evacuation in through-hole applications. The spiral point geometry pushes chips forward for smoother cutting, reduced torque, and longer tool life. Suitable for steel, stainless steel, and a wide range of ferrous and non-ferrous materials, these taps deliver consistent thread quality in both manual and machine tapping operations.



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
							Plug	Bottoming
0-80	UNF	.0600	2	H1	.313	1.688	C57009	—
0-80	UNF	.0600	2	H2	.313	1.688	C57011	C57012
1-64	UNC	.0730	2	H2	.375	1.688	C57022	—
1-72	UNF	.0730	2	H1	.375	1.688	C57023	—
1-72	UNF	.0730	2	H2	.375	1.688	C57024	—
2-56	UNC	.0860	2	H1	.438	1.750	C83040	—
2-56	UNC	.0860	2	H2	.438	1.750	C57031	C57032
2-64	UNF	.0860	2	H2	.438	1.750	C57033	—
3-48	UNC	.0990	2	H2	.500	1.813	C57038	—
3-56	UNF	.0990	2	H2	.500	1.813	C57041	—
4-40	UNC	.1120	2	H1	.563	1.875	C57047	—
4-40	UNC	.1120	2	H2	.563	1.875	C57048	C57049
4-48	UNF	.1120	2	H2	.563	1.875	C57051	—
5-40	UNC	.1250	2	H1	.625	1.938	C83041	—
5-40	UNC	.1250	2	H2	.625	1.938	C57062	C57063
6-32	UNC	.1380	2	H1	.688	2.000	C57069	—
6-32	UNC	.1380	2	H2	.688	2.000	C57070	C83074
6-32	UNC	.1380	2	H3	.688	2.000	C57072	C57073
6-32	UNC	.1380	2	H7	.688	2.000	C57074	—
6-40	UNF	.1380	2	H2	.688	2.000	C57076	—
8-32	UNC	.1640	2	H1	.750	2.125	C83042	—
8-32	UNC	.1640	2	H2	.750	2.125	C57083	C83075
8-32	UNC	.1640	2	H3	.750	2.125	C57085	C57086
8-32	UNC	.1640	2	H7	.750	2.125	C57087	—
8-36	UNF	.1640	2	H2	.750	2.125	C57089	—
10-24	UNC	.1900	2	H1	.875	2.375	C57094	—
10-24	UNC	.1900	2	H2	.875	2.375	C57095	C83076
10-24	UNC	.1900	2	H3	.875	2.375	C57097	C57098
10-24	UNC	.1900	2	H7	.875	2.375	C57099	—
10-32	UNF	.1900	2	H1	.875	2.375	C83043	—
10-32	UNF	.1900	2	H2	.875	2.375	C57102	C83077
10-32	UNF	.1900	2	H3	.875	2.375	C57104	C57105
10-32	UNF	.1900	2	H7	.875	2.375	C57106	—
12-24	UNC	.2160	2	H1	.938	2.375	C83044	—
12-24	UNC	.2160	2	H3	.938	2.375	C57112	C83078
12-28	UNF	.2160	2	H3	.938	2.375	C57114	—
1/4-20	UNC	.2500	2	H1	1.000	2.500	C57127	—
1/4-20	UNC	.2500	2	H2	1.000	2.500	C57128	C83079
1/4-20	UNC	.2500	2	H3	1.000	2.500	C57129	C57131
1/4-20	UNC	.2500	2	H5	1.000	2.500	C57132	—

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GENERAL PURPOSE SPIRAL POINT TAPS

1011 / 1012 SERIES continued

Bright Finish



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
							Plug	Bottoming
1/4-20	UNC	.2500	2	H11	1.000	2.500	C57135	—
1/4-20	UNC	.2500	2	H13	1.000	2.500	C83045	—
1/4-20	UNC	.2500	3	H3	1.000	2.500	C57130	C83080
1/4-20	UNC	.2500	3	H5	1.000	2.500	C57133	—
1/4-28	UNF	.2500	2	H2	1.000	2.500	C57137	—
1/4-28	UNF	.2500	2	H3	1.000	2.500	C57139	C57140
1/4-28	UNF	.2500	3	H2	1.000	2.500	C57138	—
5/16-18	UNC	.3125	2	H1	1.125	2.719	C57149	—
5/16-18	UNC	.3125	2	H2	1.125	2.719	C57150	—
5/16-18	UNC	.3125	2	H3	1.125	2.719	C57151	C83081
5/16-18	UNC	.3125	2	H5	1.125	2.719	C57154	—
5/16-18	UNC	.3125	3	H3	1.125	2.719	C57152	C57153
5/16-18	UNC	.3125	3	H5	1.125	2.719	C57155	—
5/16-18	UNC	.3125	3	H13	1.125	2.719	C83046	—
5/16-24	UNF	.3125	2	H1	1.125	2.719	C57157	—
5/16-24	UNF	.3125	2	H2	1.125	2.719	C83047	—
5/16-24	UNF	.3125	2	H3	1.125	2.719	C57160	C57162
5/16-24	UNF	.3125	3	H4	1.125	2.719	C57164	—
3/8-16	UNC	.3750	3	H2	1.250	2.938	C57175	—
3/8-16	UNC	.3750	3	H3	1.250	2.938	C57176	C83082
3/8-16	UNC	.3750	3	H5	1.250	2.938	C57177	—
3/8-24	UNF	.3750	3	H1	1.250	2.938	C57179	—
3/8-24	UNF	.3750	3	H2	1.250	2.938	C57180	—
3/8-24	UNF	.3750	3	H3	1.250	2.938	C57181	C83083
3/8-24	UNF	.3750	3	H4	1.250	2.938	C57182	—
7/16-14	UNC	.4375	3	H2	1.438	3.156	C57191	—
7/16-14	UNC	.4375	3	H3	1.438	3.156	C57192	C83084
7/16-14	UNC	.4375	3	H5	1.438	3.156	C57193	—
7/16-20	UNF	.4375	3	H3	1.438	3.156	C57195	C83085
7/16-20	UNF	.4375	3	H5	1.438	3.156	C57196	—
1/2-13	UNC	.5000	3	H2	1.656	3.375	C57214	—
1/2-13	UNC	.5000	3	H3	1.656	3.375	C57215	C83086
1/2-13	UNC	.5000	3	H5	1.656	3.375	C57216	—
1/2-20	UNF	.5000	3	H2	1.656	3.375	C83048	—
1/2-20	UNF	.5000	3	H3	1.656	3.375	C57220	C83087
1/2-20	UNF	.5000	3	H5	1.656	3.375	C83049	—
9/16-12	UNC	.5625	3	H3	1.656	3.590	C83050	—
9/16-12	UNC	.5625	3	H5	1.656	3.590	C83051	—
9/16-18	UNF	.5625	3	H3	1.656	3.590	C83052	—
5/8-11	UNC	.6250	3	H3	1.813	3.813	C57230	C83088
5/8-11	UNC	.6250	3	H5	1.813	3.813	C57232	—
5/8-18	UNF	.6250	3	H3	1.813	3.813	C57555	—
3/4-10	UNC	.7500	3	H3	2.000	4.250	C57246	C83089
3/4-10	UNC	.7500	3	H5	2.000	4.250	C57247	—
3/4-16	UNF	.7500	3	H3	2.000	4.250	C60999	—

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GENERAL PURPOSE SPIRAL POINT TAPS

02

TAPS

CLEVELAND
WALTER

1011 / 1012 SERIES continued

Bright Finish



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Metric	
							Order Number	
							Plug	Bottoming
M1.6 x 0.35	—	.0630	2	D3	11.11	44.45	C57015	C83090
M1.8 x 0.35	—	.0709	2	D3	11.11	44.45	C57019	—
M2 x 0.4	—	.0787	2	D3	11.11	44.45	C57027	C83091
M2.2 x 0.45	—	.0866	2	D3	11.11	44.45	C57036	—
M2.5 x 0.45	—	.0984	2	D3	12.70	46.04	C57044	C83092
M3 x 0.5	—	.1181	2	D3	15.88	49.21	C57055	C83093
M3.5 x 0.6	—	.1378	2	D4	17.46	50.80	C57067	—
M4 x 0.7	—	.1575	2	D4	19.05	53.98	C57080	C83094
M4.5 x 0.75	—	.1771	2	D4	22.23	60.33	C57092	—
M5 x 0.8	—	.1968	2	D4	22.23	60.33	C57110	C83095
M6 x 1	—	.2362	2	D5	25.40	63.50	C57118	C83096
M7 x 1	—	.2756	2	D5	28.58	69.06	C57146	—
M8 x 1	—	.3150	2	D5	28.58	69.06	C57168	C83097
M8 x 1.25	—	.3150	2	D5	28.58	69.06	C57171	C83098
M10 x 1.25	—	.3937	3	D5	31.75	74.61	C57187	C83099
M10 x 1.5	—	.3937	3	D6	31.75	74.61	C57189	C83345
M12 x 1.25	—	.4724	3	D5	42.07	85.73	C57199	—
M12 x 1.75	—	.4724	3	D6	42.07	85.73	C57203	C83346
M14 x 1.5	—	.5512	3	D6	42.07	91.28	C57226	—
M14 x 2	—	.5512	3	D7	42.07	91.28	C57228	—
M16 x 1.5	—	.6299	3	D6	46.04	96.84	C57234	—
M16 x 2	—	.6299	3	D7	46.04	96.84	C57236	—
M18 x 2.5	—	.7087	3	D7	46.04	102.39	C83053	—
M20 x 2.5	—	.7874	3	D7	46.04	96.84	C57253	—

1011SO SERIES

Plug / Black Oxide Finish

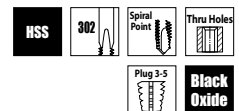


Best Material Application



CAST IRON STEEL

Tap Specifications



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Fractional	
							Order Number	Plug
0-80	UNF	.0600	2	H2	.313	1.688	C57600	
2-56	UNC	.0860	2	H2	.438	1.750	C57602	
4-40	UNC	.1120	2	H2	.563	1.875	C57604	
5-40	UNC	.1250	2	H2	.625	1.938	C57606	
6-32	UNC	.1380	2	H2	.688	2.000	C57608	
6-32	UNC	.1380	2	H3	.688	2.000	C57609	
8-32	UNC	.1640	2	H2	.750	2.125	C57610	
8-32	UNC	.1640	2	H3	.750	2.125	C57611	
10-24	UNC	.1900	2	H3	.875	2.375	C57001	
10-32	UNF	.1900	2	H3	.875	2.375	C57002	
12-24	UNC	.2160	2	H3	.938	2.375	C57616	
1/4-20	UNC	.2500	2	H2	1.000	2.500	C57618	
1/4-20	UNC	.2500	2	H3	1.000	2.500	C57619	

Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number
1/4-20	UNC	.2500	3	H3	1.000	2.500	C57620
1/4-28	UNF	.2500	2	H3	1.000	2.500	C57622
5/16-18	UNC	.3125	2	H3	1.125	2.719	C57624
5/16-18	UNC	.3125	3	H3	1.125	2.719	C57625
5/16-24	UNF	.3125	2	H3	1.125	2.719	C57626
3/8-16	UNC	.3750	3	H3	1.250	2.938	C57628
3/8-24	UNF	.3750	3	H3	1.250	2.938	C57630
7/16-14	UNC	.4375	3	H3	1.438	3.156	C57632
1/2-13	UNC	.5000	3	H3	1.656	3.375	C57636
1/2-20	UNF	.5000	3	H3	1.656	3.375	C57638
5/8-11	UNC	.6250	3	H3	1.813	3.813	C57640
5/8-18	UNF	.6250	3	H3	1.813	3.813	C57642
3/4-10	UNC	.7500	3	H3	2.000	4.250	C57644

GENERAL PURPOSE SPIRAL POINT TAPS

1011TN / 1012TN SERIES

HIGH SPEED STEEL
TiN / Plug / Bottoming

Best Material Application


STAINLESS



CAST IRON



STEEL

Tap Specifications


Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
							Plug	Bottoming
0-80	UNF	.0600	2	H2	.313	1.688	C55290	—
1-64	UNC	.0730	2	H2	.375	1.688	C83054	—
1-72	UNF	.0730	2	H2	.375	1.688	C83055	—
2-56	UNC	.0860	2	H2	.438	1.750	C55292	—
3-48	UNC	.0990	2	H2	.500	1.813	C55294	—
3-56	UNF	.0990	2	H2	.500	1.813	C83056	—
4-40	UNC	.1120	2	H2	.563	1.875	C55296	C83347
4-48	UNF	.1120	2	H2	.563	1.875	C83057	—
5-40	UNC	.1250	2	H2	.625	1.938	C55298	—
6-32	UNC	.1380	2	H2	.688	2.000	C55299	—
6-32	UNC	.1380	2	H3	.688	2.000	C55300	C83348
6-40	UNF	.1380	2	H2	.688	2.000	C55302	—
8-32	UNC	.1640	2	H2	.750	2.125	C55303	—
8-32	UNC	.1640	2	H3	.750	2.125	C55304	C83349
8-32	UNC	.1640	2	H7	.750	2.125	C55305	—
8-36	UNF	.1640	2	H2	.750	2.125	C55306	—
10-24	UNC	.1900	2	H2	.875	2.375	C55307	—
10-24	UNC	.1900	2	H3	.875	2.375	C55308	C83350
10-24	UNC	.1900	2	H7	.875	2.375	C55309	—
10-32	UNF	.1900	2	H2	.875	2.375	C55311	—
10-32	UNF	.1900	2	H3	.875	2.375	C55310	C83351
10-32	UNF	.1900	2	H7	.875	2.375	C55346	—
12-24	UNC	.2160	2	H3	.938	2.375	C55312	C83352
12-28	UNF	.2160	2	H3	.938	2.375	C55313	—
1/4-20	UNC	.2500	2	H1	1.000	2.500	C55348	—
1/4-20	UNC	.2500	2	H2	1.000	2.500	C55315	—
1/4-20	UNC	.2500	2	H3	1.000	2.500	C55316	C83353
1/4-20	UNC	.2500	2	H5	1.000	2.500	C55317	—
1/4-20	UNC	.2500	2	H13	1.000	2.500	C83060	—
1/4-20	UNC	.2500	3	H3	1.000	2.500	C83058	C83354
1/4-20	UNC	.2500	3	H5	1.000	2.500	C83059	—
1/4-28	UNF	.2500	2	H3	1.000	2.500	C55318	C83355
5/16-18	UNC	.3125	2	H2	1.125	2.719	C55319	—
5/16-18	UNC	.3125	2	H3	1.125	2.719	C55320	C83356
5/16-18	UNC	.3125	2	H5	1.125	2.719	C55354	—
5/16-18	UNC	.3125	3	H3	1.125	2.719	C55321	C83357
5/16-18	UNC	.3125	3	H5	1.125	2.719	C55355	—
5/16-24	UNF	.3125	2	H3	1.125	2.719	C55322	—
3/8-16	UNC	.3750	3	H2	1.250	2.938	C55323	—
3/8-16	UNC	.3750	3	H3	1.250	2.938	C55324	C83358
3/8-16	UNC	.3750	3	H5	1.250	2.938	C55325	—
3/8-24	UNF	.3750	3	H3	1.250	2.938	C55326	—
7/16-14	UNC	.4375	3	H3	1.438	3.156	C55328	—
7/16-20	UNF	.4375	3	H3	1.438	3.156	C55330	—
1/2-13	UNC	.5000	3	H3	1.656	3.375	C55332	C83359
1/2-13	UNC	.5000	3	H5	1.656	3.375	C55333	—
1/2-20	UNF	.5000	3	H3	1.656	3.375	C55334	—
5/8-11	UNC	.6250	3	H3	1.813	3.813	C55336	—
5/8-11	UNC	.6250	3	H5	1.813	3.813	C83061	—
3/4-10	UNC	.7500	3	H3	2.000	4.250	C55338	—

GENERAL PURPOSE SPIRAL POINT TAPS

1011TN / 1012TN SERIES continued

HIGH SPEED STEEL

TiN / Plug



Metric						
Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M1.6 x 0.35	.0630	2	D3	11.11	44.45	C83062
M2 x 0.4	.0787	2	D3	11.11	44.45	C83063
M2.5 x 0.45	.0984	2	D3	12.70	46.04	C83064
M3 x 0.5	.1181	2	D3	15.88	49.21	C55360
M4 x 0.7	.1575	2	D4	19.05	53.98	C55361
M5 x 0.8	.1968	2	D4	22.23	60.33	C83065
M6 x 1	.2362	2	D5	25.40	63.50	C55362
M8 x 1	.3150	2	D5	28.58	69.06	C83066
M8 x 1.25	.3150	2	D5	28.58	69.06	C55363
M10 x 1.25	.3937	3	D5	31.75	74.61	C83067
M10 x 1.5	.3937	3	D6	31.75	74.61	C55364
M12 x 1.25	.4724	3	D5	42.07	85.73	C83068
M12 x 1.75	.4724	3	D6	42.07	85.73	C55365

Best Material Application



HIGH TEMP. ALLOYS



HARDENED STEEL



STAINLESS



CAST IRON



STEEL

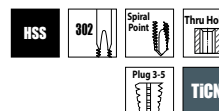
1011TC SERIES

HIGH SPEED STEEL

TiCN / Plug



Tap Specifications



Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
0-80	UNF	.0600	2	H2	.313	1.688	C55370
2-56	UNC	.0860	2	H2	.438	1.750	C55372
4-40	UNC	.1120	2	H2	.563	1.875	C55374
5-40	UNC	.1250	2	H2	.625	1.938	C55376
6-32	UNC	.1380	2	H2	.688	2.000	C83069
6-32	UNC	.1380	2	H3	.688	2.000	C55378
8-32	UNC	.1640	2	H3	.750	2.125	C55380
10-24	UNC	.1900	2	H3	.875	2.375	C55382
10-32	UNF	.1900	2	H3	.875	2.375	C55383
12-24	UNC	.2160	2	H3	.938	2.375	C55384
1/4-20	UNC	.2500	2	H2	1.000	2.500	C83070
1/4-20	UNC	.2500	2	H3	1.000	2.500	C83071
1/4-20	UNC	.2500	3	H3	1.000	2.500	C55386
1/4-28	UNF	.2500	2	H3	1.000	2.500	C83072
1/4-28	UNF	.2500	3	H2	1.000	2.500	C55387
5/16-18	UNC	.3125	2	H3	1.125	2.719	C83073
5/16-18	UNC	.3125	3	H3	1.125	2.719	C55388
5/16-24	UNF	.3125	3	H4	1.125	2.719	C55389
3/8-16	UNC	.3750	3	H3	1.250	2.938	C55390
3/8-24	UNF	.3750	3	H3	1.250	2.938	C55391

Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
7/16-14	UNC	.4375	3	H3	1.438	3.156	C55414
7/16-20	UNF	.4375	3	H3	1.438	3.156	C55392
1/2-13	UNC	.5000	3	H3	1.656	3.375	C55394
1/2-20	UNF	.5000	3	H3	1.656	3.375	C55395
5/8-11	UNC	.6250	3	H3	1.813	3.813	C55396
3/4-10	UNC	.7500	3	H3	2.000	4.250	C55398

Metric						
Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M3 x 0.5	.1181	2	D3	15.88	49.21	C55415
M4 x 0.7	.1575	2	D4	19.05	53.98	C55416
M5 x 0.8	.1968	2	D4	22.23	60.33	C55417
M6 x 1	.2362	2	D5	25.40	63.50	C55418
M8x1.25	.3150	2	D5	28.58	69.06	C55419
M10x1.5	.3937	3	D6	31.75	74.61	C55420
M12x1.75	.4724	3	D6	42.07	85.73	C55421

GENERAL PURPOSE SPIRAL POINT TAPS

1053 SERIES

HIGH SPEED STEEL

Low Shear / Plug / Bright Finish



Best Material Application



NON-FERROUS



CAST IRON



STEEL

Tap Specifications



Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
4-40	UNC	.1120	2	H2	.563	1.875	C57324
5-40	UNC	.1250	2	H2	.625	1.938	C57338
6-32	UNC	.1380	2	H3	.688	2.000	C57348
8-32	UNC	.1640	2	H3	.750	2.125	C57361
10-24	UNF	.1900	2	H3	.875	2.375	C57373
10-32	UNC	.1900	2	H3	.875	2.375	C57380
12-24	UNC	.2160	2	H3	.938	2.375	C57388
1/4-20	UNC	.2500	2	H1	1.000	2.500	C57403
1/4-20	UNC	.2500	2	H2	1.000	2.500	C57404
1/4-20	UNC	.2500	2	H3	1.000	2.500	C57406
1/4-20	UNC	.2500	2	H11	1.000	2.500	C57411
1/4-28	UNF	.2500	2	H3	1.000	2.500	C57415
5/16-18	UNC	.3125	2	H3	1.125	2.719	C57428
5/16-24	UNF	.3125	2	H3	1.125	2.719	C57437
3/8-16	UNC	.3750	3	H3	1.250	2.938	C57452
7/16-14	UNC	.4375	3	H3	1.438	3.156	C57469
1/2-13	UNC	.5000	3	H3	1.656	3.375	C57492
5/8-11	UNC	.6250	3	H3	1.813	3.813	C57507

1011E SERIES

HIGH SPEED STEEL

Extended Length Shank / Plug / Bright Finish



Best Material Application



NON-FERROUS



CAST IRON



STEEL

Tap Specifications



Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
#8-32	UNC	.1640	2	H3	.7500	6.0000	C59106
#10-24	UNC	.1900	2	H3	.8750	6.0000	C59109
#10-32	UNF	.1900	2	H3	.8750	6.0000	C59110
1/4-20	UNC	.2500	2	H3	1.0000	6.0000	C59117
1/4-28	UNF	.2500	2	H3	1.0000	6.0000	C59118
5/16-18	UNC	.3125	2	H3	1.1250	6.0000	C59121
5/16-24	UNF	.3125	2	H3	1.1250	6.0000	C59122
3/8-16	UNC	.3750	3	H3	1.2500	6.0000	C59126
3/8-24	UNF	.3750	3	H3	1.2500	6.0000	C59127

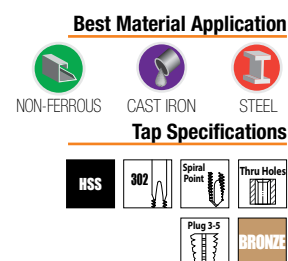
GENERAL PURPOSE SPIRAL POINT TAPS

SST POWER TAPS 03A / 03B SERIES

HIGH SPEED STEEL

Plug / Through Hole / Machine Screw / Bronze Oxide

Specifically designed for use on reversible portable drills, SST(TM) power taps are guaranteed to work faster and last longer than standard taps in steel, stainless steel and other non-ferrous or ferrous materials. SST™ power taps eliminate slow hand tapping to increase productivity and reduce overall production costs.



Fractional							
Size	Thread	Decimal Equiv. (Inch)	Drill Size	Overall Length (Inch)	Order Number Tube	Tube Qty.	Bulk Qty.
6-32	UNC	.1380	#36	2-1/2	03A561	1	10
6-40	UNF	.1380	#33	2-1/2	03A564	1	10
8-32	UNC	.1640	#29	2-13/16	03A581	1	10
8-36	UNF	.1640	#29	2-13/16	03A584	1	10
10-24	UNC	.1900	#25	2-13/16	03A601	1	10
10-32	UNF	.1900	#21	2-13/16	03A604	1	10
12-24	UNC	.2160	#16	3-3/16	03A621	1	10
12-28	UNF	.2160	#15	3-3/16	03A624	1	10
1/4-20	UNC	.2500	#7	3-3/16	03B541	1	10
1/4-28	UNF	.2500	#3	3-3/16	03B544	1	10
5/16-18	UNC	.3125	F	3-11/16	03B551	1	10
5/16-24	UNF	.3125	I	3-11/16	03B554	1	10
3/8-16	UNC	.3750	5/16	4-3/32	03B561	1	10
3/8-24	UNF	.3750	Q	4-3/32	03B564	1	10
7/16-14	UNC	.4375	U	4-3/32	03B571	1	10
7/16-20	UNF	.4375	25/64	3-15/16	03B574	1	10
1/2-13	UNC	.5000	27/64	4-5/16	03B581	1	10
1/2-20	UNF	.5000	29/64	4-5/16	03B584	1	10
9/16-12	UNC	.5625	31/64	4-5/16	03B591	1	10
9/16-18	UNF	.5625	33/64	4-5/16	03B594	1	10
5/8-11	UNC	.6250	17/32	4-5/16	03B601	1	10
5/8-18	UNF	.6250	37/64	4-5/16	03B604	1	10
3/4-10	UNC	.7500	21/32	4-5/16	03B621	1	10
3/4-16	UNF	.7500	11/16	4-5/16	03B624	1	10
7/8-9	UNC	.8750	49/64	4-5/16	03B641	1	10
7/8-14	UNF	.8750	13/16	4-5/16	03B644	1	10
1-8	UNC	1.0000	7/8	4-5/16	03B661	1	10
1-12	UNF	1.0000	59/64	4-5/16	03B664	1	10

Corresponding Set SST Power Taps and Drill Bit Sets		
Pieces	Description	Order Number
10	Power Taps: 10-24 NC, 10-32 NF, 1/4"-20 NC, 5/16"-18 NC and 3/8"-16 NC Drill Bits: #25, #21, #7, F and 5/16"	03B952

Corresponding Set NC SST Power Taps and Drill Bit Sets		
Pieces	Description	Order Number
10	Power Taps: 6-32 NC, 8-32 NC, 10-24 NC, 12-24 NC 1/4"-20 NC, 5/16"-18 NC, 3/8"-16 NC, 7/16"- 14 NC and 1/2"-13 NC Drill Bits: #36, #29, #25, #16, #7, F, 5/16", U and 27/64"	03B953

Corresponding Set NF SST Power Taps and Drill Bit Sets		
Pieces	Description	Order Number
10	Power Taps: 6-40 NF, 8-36 NF, 10-32 NF, 12-28 NF, 1/4"-28 NF, 5/16"-24 NF, 3/8"-24 NF, 7/16"- 20 NF and 1/2"-20 NF Drill Bits: #33, #29, #21, #15, #3, I, Q, 25/64" and 29/64"	03B954

HIGH PERFORMANCE SPIRAL POINT TAPS

2150N SERIES

PREMIUM HIGH SPEED STEEL

Plug / ANSI Production Taps / Black Oxide Finish

Produced with a reduced neck to allow for longer reach, improved coolant flow, and easier chip evacuation. Can be used in a wide range of material groups, including difficult-to-machine materials such as High Tensile Strength Steels and Stainless Steel.

Best Material Application



CAST IRON



STEEL

Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Square Size (Inch)	Overall Length (Inch)	Tap/Drill Size (75%)	Order Number Plug
6-32	UNC	.1380	2	H3	0.110	2	#36	215N006C
8-32	UNC	.1640	3	H3	0.131	2-1/8	#29	215N008C
10-24	UNC	.1900	3	H3	0.152	2-3/8	#25	215N010C
10-32	UNF	.1900	3	H3	0.152	2-3/8	#21	215N010F
1/4-20	UNC	.2500	3	H3	0.191	2-1/2	#7	215N116C
1/4-28	UNF	.2500	3	H3	0.191	2-1/2	#3	215N116F
5/16-18	UNC	.3125	3	H3	0.238	2-23/32	F	215N120C
5/16-24	UNF	.3125	3	H3	0.238	2-23/32		215N120F
3/8-16	UNC	.3750	3	H3	0.286	2-15/16	5/16	215N124C
3/8-24	UNF	.3750	3	H3	0.286	2-15/16	Q	215N124F
7/16-14	UNC	.4375	3	H3	0.242	3-5/32	U	215N128C
7/16-20	UNF	.4375	3	H3	0.242	3-5/32	W	215N128F
1/2-13	UNC	.5000	3	H3	0.275	3-3/8	27/64	215N132C
1/2-20	UNF	.5000	3	H3	0.275	3-3/8	29/64	215N132F
5/8-11	UNC	.6250	3	H3	0.360	3-13/16	17/32	215N140C
5/8-18	UNF	.6250	3	H3	0.360	3-13/16	37/64	215N140F
3/4-10	UNC	.7500	3	H3	0.442	4-1/4	21/32	215N148C
3/4-16	UNF	.7500	3	H3	0.442	4-1/4	11/16	215N148F
Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Square Size (Inch)	Overall Length (Inch)	Tap/Drill Size (75%)	Order Number Plug
M4 x 0.7	—	.1580	3	D4	0.131	2-1/8	#30	215N040A
M5 x 0.8	—	.1970	3	D4	0.152	2-3/8	#19	215N050A
M6 x 1	—	.2360	3	D5	0.191	2-1/2	#9	215N060A
M8 x 1.25	—	.3150	3	D5	0.238	2-23/32	H	215N080A
M10 x 1.5	—	.3940	3	D6	0.286	2-15/16	Q	215N100A
M12 x 1.75	—	.4720	3	D6	0.275	3-3/8	Y	215N120A

HIGH PERFORMANCE SPIRAL POINT TAPS

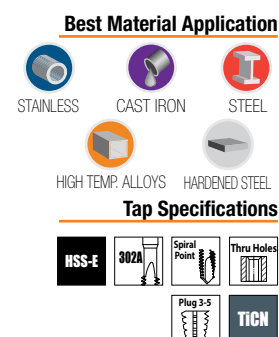
2250N SERIES

PREMIUM HIGH SPEED STEEL

DIN/ANSI Production Taps / Plug / TiCN

Nitro-Max taps are manufactured to DIN/ANSI specifications, with DIN lengths to allow for longer reach and deeper threading in a single pass. TiCN coating helps to hold sharp edges and reduces the coefficient of friction. For CNC applications.

- ▷ Made from premium grade HSS for extended life
- ▷ Available in plug geometry
- ▷ Spiral point is designed to eject chips through the bottom of the hole
- ▷ TiCN coating for extreme hardness and smoother operation
- ▷ Reduced neck for better clearance in deeper holes



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Square Size (Inch)	Overall Length (Inch)	Tap/Drill Size (75%)	Order Number Plug
4-40	UNC	.1120	2	H2	0.110	2.21	#43	225N004C
6-32	UNC	.1380	2	H3	0.110	2.21	#36	225N006C
8-32	UNC	.1640	3	H3	0.131	2.48	#29	225N008C
10-24	UNC	.1900	3	H3	0.152	2.76	#25	225N010C
10-32	UNF	.1900	3	H3	0.152	2.76	#21	225N010F
1/4-20	UNC	.2500	3	H3	0.191	3.15	#7	225N116C
1/4-28	UNF	.2500	3	H3	0.191	3.15	#3	225N116F
5/16-18	UNC	.3125	3	H3	0.238	3.54	F	225N120C
5/16-24	UNF	.3125	3	H3	0.238	3.54	I	225N120F
3/8-16	UNC	.3750	3	H3	0.286	3.94	5/16	225N124C
3/8-24	UNF	.3750	3	H3	0.286	3.94	Q	225N124F
7/16-14	UNC	.4375	3	H3	0.242	3.94	U	225N128C
7/16-20	UNF	.4375	3	H3	0.242	3.94	W	225N128F
1/2-13	UNC	.5000	3	H3	0.275	4.33	27/64	225N132C
1/2-20	UNF	.5000	3	H3	0.275	4.33	29/64	225N132F
5/8-11	UNC	.6250	3	H3	0.360	4.33	17/32	225N140C
5/8-18	UNF	.6250	3	H3	0.360	4.33	37/64	225N140F
3/4-10	UNC	.7500	3	H3	0.442	4.92	21/32	225N148C
3/4-16	UNF	.7500	3	H3	0.442	4.92	11/16	225N148F
Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Square Size (Inch)	Overall Length (Inch)	Tap/Drill Size (75%)	Order Number Plug
M4 x 1	—	.1580	3	D4	0.131	2.48	#30	225N040A
M5 x 1	—	.1970	3	D4	0.152	2.76	#19	225N050A
M6 x 1	—	.2360	3	D5	0.191	3.15	#9	225N060A
M8 x 1.25	—	.3150	3	D5	0.238	3.54	H	225N080A
M10 x 2	—	.3940	3	D6	0.286	3.94	Q	225N100A
M12 x 1.75	—	.4720	3	D6	0.275	4.33	Y	225N120A
M16 x 2	—	.6300	3	D7	0.360	4.33	35/64	225N160A

HIGH PERFORMANCE SPIRAL POINT TAPS

SPS SERIES

PREMIUM HIGH SPEED STEEL

Plug / Black Oxide Finish

SPS taps are CNC spiral point (gun) taps designed for efficient, high-speed threading in through-hole applications. The spiral point geometry pushes chips forward to prevent recutting, reducing torque and improving thread quality. Manufactured from premium HSS and available with performance coatings, SPS taps deliver consistent results in steel, stainless steel, and a wide range of ferrous and non-ferrous materials.



Best Material Application



CAST IRON



STEEL

Tap Specifications



Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Flute Length (Inch)	Overall Length (Inch)	Order Number Plug
8-32	UNC	.1640	3	H3	.750	2.125	330310
8-32	UNC	.1640	3	H5	.750	2.125	330333
10-24	UNC	.1900	3	H3	.875	2.375	330311
10-32	UNF	.1900	3	H3	.875	2.375	330312
1/4-20	UNC	.2500	3	H3	1.000	2.500	330313
1/4-20	UNC	.2500	3	H5	1.000	2.500	330336
5/16-18	UNC	.3125	3	H3	1.125	2.719	330315
5/16-24	UNF	.3125	3	H3	1.125	2.719	330316
3/8-16	UNC	.3750	3	H3	1.250	2.938	330317
1/2-13	UNC	.5000	3	H3	1.656	3.375	330321

HIGH PERFORMANCE SPIRAL POINT TAPS

T-101 SERIES

PREMIUM HIGH SPEED STEEL

Plug / Black Oxide Finish

Cleveland® T-101 taps are high-performance spiral point taps engineered for stainless steel and steel applications. Designed for through-hole threading, the spiral point geometry pushes chips forward to reduce recutting, lower torque, and improve thread quality. Manufactured from premium HSS for durability and consistency, T-101 taps deliver reliable performance in production and CNC environments.



Best Material Application



CAST IRON



STEEL

Tap Specifications



Size	Thread	Fractional			Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
		Decimal Equiv. (Inch)	No. of Flutes	Limit			
8-32	UNC	.1640	3	H3	.750	2.125	C27697
8-32	UNC	.1640	3	H5	.750	2.125	C27720
10-24	UNC	.1900	3	H3	.875	2.375	C27698
10-32	UNF	.1900	3	H3	.875	2.375	C27699
1/4-20	UNC	.2500	3	H3	1.000	2.500	C27700
1/4-20	UNC	.2500	3	H5	1.000	2.500	C27723
5/16-18	UNC	.3125	3	H3	1.125	2.719	C27702
5/16-24	UNF	.3125	3	H3	1.125	2.719	C27703
3/8-16	UNC	.3750	3	H3	1.250	2.938	C27704
1/2-13	UNC	.5000	3	H3	1.656	3.375	C27708

HIGH PERFORMANCE SPIRAL POINT TAPS

PRO-961SP SERIES

PREMIUM HIGH SPEED STEEL

Plug / Black Oxide Finish

PRO-961SP taps are premium universal spiral point (gun) taps engineered for high-efficiency through-hole threading. Manufactured from high-quality HSS and optimized for forward chip evacuation, they reduce torque, improve thread quality, and extend tool life. Designed to perform across a broad range of materials including steel, stainless steel, and non-ferrous alloys, PRO-961SP taps are ideal for CNC and production environments requiring versatility and consistency.

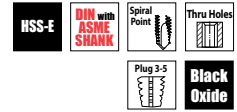


Best Material Application



CAST IRON STEEL

Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (Inch)	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
2-56	UNC	0.0860	3	2B	0.141	0.551	1.772	C96101
3-48	UNC	0.0990	3	2B	0.141	0.591	1.969	C96102
4-40	UNC	0.1120	3	2B	0.141	0.669	2.205	C96103
4-48	UNF	0.1120	3	2B	0.141	0.669	2.205	C96104
5-40	UNC	0.1250	3	2B	0.141	0.748	2.205	C96105
6-32	UNC	0.1380	3	2B	0.141	0.787	2.205	C96106
6-40	UNF	0.1380	3	2B	0.141	0.787	2.205	C96107
8-32	UNC	0.1640	3	2B	0.168	0.827	2.480	C96108
8-36	UNF	0.1640	3	2B	0.168	0.827	2.480	C96109
10-24	UNC	0.1900	3	2B	0.194	1.024	2.756	C96110
10-32	UNF	0.1900	3	2B	0.194	1.024	2.756	C96111
12-24	UNC	0.2160	3	2B	0.220	1.063	3.150	C96112
12-28	UNF	0.2160	3	2B	0.220	1.063	3.150	C96113
1/4-20	UNC	0.2500	3	2B	0.255	1.260	3.150	C96114
1/4-28	UNF	0.2500	3	2B	0.255	1.260	3.150	C96115
5/16-18	UNC	0.3125	3	2B	0.318	1.378	3.543	C96116
5/16-24	UNF	0.3125	3	2B	0.318	1.378	3.543	C96117
3/8-16	UNC	0.3750	3	2B	0.381	1.732	3.937	C96118
3/8-24	UNF	0.3750	3	2B	0.381	1.732	3.937	C96119
7/16-14	UNC	0.4375	3	2B	0.323	1.614	3.937	C96120
7/16-20	UNF	0.4375	3	2B	0.323	1.614	3.937	C96121
1/2-13	UNC	0.5000	3	2B	0.367	1.535	4.331	C96122
1/2-20	UNF	0.5000	3	2B	0.367	1.535	4.331	C96123
9/16-12	UNC	0.5625	3	2B	0.429	1.772	4.331	C96124
9/16-18	UNF	0.5625	3	2B	0.429	1.772	4.331	C96125
5/8-11	UNC	0.6250	3	2B	0.480	2.087	4.331	C96126
5/8-18	UNF	0.6250	3	2B	0.480	2.087	4.331	C96127
3/4-10	UNC	0.7500	4	2B	0.590	2.205	4.921	C96128
3/4-16	UNF	0.7500	4	2B	0.590	2.205	4.921	C96129
7/8-9	UNC	0.8750	4	2B	0.697	2.362	5.512	C96130
7/8-14	UNF	0.8750	4	2B	0.697	2.362	5.512	C96131
1-8	UNC	1.0000	4	2B	0.800	2.520	6.299	C96132
1-12	UNF	1.0000	4	2B	0.800	2.520	6.299	C96133
Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (mm)	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M2.5x0.45	M	0.0866	3	6H	3.58	19	56	C96152
M3x0.5	M	0.1181	3	6H	3.58	19	56	C96134
M3.5x0.6	M	0.1378	3	6H	3.58	20	56	C96135
M4x0.7	M	0.1575	3	6H	4.27	21	63	C96136

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HIGH PERFORMANCE SPIRAL POINT TAPS

PRO-961SP SERIES continued

Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (mm)	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M5x0.8	M	0.1969	3	6H	4.93	26	70	C96137
M6x1	M	0.2362	3	6H	6.48	32	80	C96138
M7x1	M	0.2756	3	6H	8.08	30	80	C96139
M8x1	M	0.3150	3	6H	8.08	35	90	C96140
M8x1.25	M	0.3150	3	6H	8.08	35	90	C96141
M10x1.25	M	0.3937	3	6H	9.68	40	100	C96142
M10x1.5	M	0.3937	3	6H	9.68	40	100	C96143
M12x1.25	M	0.4724	3	6H	9.32	40	110	C96144
M12x1.75	M	0.4724	3	6H	9.32	40	110	C96145
M14x1.5	M	0.5512	3	6H	10.9	45	110	C96146
M14x2	M	0.5512	3	6H	10.9	45	110	C96147
M16x1.5	M	0.6299	3	6H	12.19	53	110	C96148
M16x2	M	0.6299	3	6H	12.19	53	110	C96149
M18x1.5	M	0.7087	4	6H	13.77	55	125	C96150
M18x2.0	M	0.7087	4	6H	13.77	55	125	C96151

PRO-861SP SERIES

Plug / TiAlN

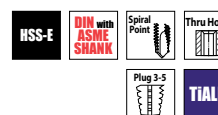
Universal for multiple materials.



Best Material Application



Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (Inch)	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
2-56	UNC	0.0860	3	2B	0.141	0.551	1.772	C86101
3-48	UNC	0.0990	3	2B	0.141	0.591	1.969	C86102
4-40	UNC	0.1120	3	2B	0.141	0.669	2.205	C86103
4-48	UNF	0.1120	3	2B	0.141	0.669	2.205	C86104
5-40	UNC	0.1250	3	2B	0.141	0.748	2.205	C86105
6-32	UNC	0.1380	3	2B	0.141	0.787	2.205	C86106
6-40	UNF	0.1380	3	2B	0.141	0.787	2.205	C86107
8-32	UNC	0.1640	3	2B	0.168	0.827	2.480	C86108
8-36	UNF	0.1640	3	2B	0.168	0.827	2.480	C86109
10-24	UNC	0.1900	3	2B	0.194	1.024	2.756	C86110
10-32	UNF	0.1900	3	2B	0.194	1.024	2.756	C86111
12-24	UNC	0.2160	3	2B	0.220	1.063	3.150	C86112
12-28	UNF	0.2160	3	2B	0.220	1.063	3.150	C86113
1/4-20	UNC	0.2500	3	2B	0.255	1.260	3.150	C86114
1/4-28	UNF	0.2500	3	2B	0.255	1.260	3.150	C86115
5/16-18	UNC	0.3125	3	2B	0.318	1.378	3.543	C86116
5/16-24	UNF	0.3125	3	2B	0.318	1.378	3.543	C86117
3/8-16	UNC	0.3750	3	2B	0.381	1.732	3.937	C86118
3/8-24	UNF	0.3750	3	2B	0.381	1.732	3.937	C86119
7/16-14	UNC	0.4375	3	2B	0.323	1.614	3.937	C86120
7/16-20	UNF	0.4375	3	2B	0.323	1.614	3.937	C86121
1/2-13	UNC	0.5000	3	2B	0.367	1.535	4.331	C86122
1/2-20	UNF	0.5000	3	2B	0.367	1.535	4.331	C86123

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HIGH PERFORMANCE SPIRAL POINT TAPS

PRO-861SP SERIES continued

TiAIN



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (Inch)	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
9/16-12	UNC	0.5625	3	2B	0.429	1.772	4.331	C86124
9/16-18	UNF	0.5625	3	2B	0.429	1.772	4.331	C86125
5/8-11	UNC	0.6250	3	2B	0.480	2.087	4.331	C86126
5/8-18	UNF	0.6250	3	2B	0.480	2.087	4.331	C86127
3/4-10	UNC	0.7500	4	2B	0.590	2.205	4.921	C86128
3/4-16	UNF	0.7500	4	2B	0.590	2.205	4.921	C86129
7/8-9	UNC	0.8750	4	2B	0.697	2.362	5.512	C86130
7/8-14	UNF	0.8750	4	2B	0.697	2.362	5.512	C86131
1-8	UNC	1.0000	4	2B	0.800	2.520	6.299	C86132
1-12	UNF	1.0000	4	2B	0.800	2.520	6.299	C86133
Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (mm)	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M2.5x0.45	M	0.0866	3	6H	3.58	19	56	C86152
M3x0.5	M	0.1181	3	6H	3.58	19	56	C86134
M3.5x0.6	M	0.1378	3	6H	3.58	20	56	C86135
M4x0.7	M	0.1575	3	6H	4.27	21	63	C86136
M5x0.8	M	0.1969	3	6H	4.93	26	70	C86137
M6x1	M	0.2362	3	6H	6.48	32	80	C86138
M7x1	M	0.2756	3	6H	8.08	30	80	C86139
M8x1	M	0.3150	3	6H	8.08	35	90	C86140
M8x1.25	M	0.3150	3	6H	8.08	35	90	C86141
M10x1.25	M	0.3937	3	6H	9.68	40	100	C86142
M10x1.5	M	0.3937	3	6H	9.68	40	100	C86143
M12x1.25	M	0.4724	3	6H	9.32	40	110	C86144
M12x1.75	M	0.4724	3	6H	9.32	40	110	C86145
M14x1.5	M	0.5512	3	6H	10.9	45	110	C86146
M14x2	M	0.5512	3	6H	10.9	45	110	C86147
M16x1.5	M	0.6299	3	6H	12.19	53	110	C86148
M16x2	M	0.6299	3	6H	12.19	53	110	C86149
M18x1.5	M	0.7087	4	6H	13.77	55	125	C86150
M18x2.0	M	0.7087	4	6H	13.77	55	125	C86151

HIGH PERFORMANCE SPIRAL POINT TAPS

02

TAPS

CLEVELAND | WALTER

PER-862SP SERIES

PREMIUM HIGH SPEED STEEL

Plug / Black Oxide Finish

Best Material Application



CAST IRON



STEEL

Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (Inch)	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
2-56	UNC	0.0860	3	2B	0.141	0.551	1.772	C86201
3-48	UNC	0.0990	3	2B	0.141	0.591	1.969	C86202
4-40	UNC	0.1120	3	2B	0.141	0.669	2.205	C86203
4-48	UNF	0.1120	3	2B	0.141	0.669	2.205	C86204
5-40	UNC	0.1250	3	2B	0.141	0.748	2.205	C86205
6-32	UNC	0.1380	3	2B	0.141	0.787	2.205	C86206
6-40	UNF	0.1380	3	2B	0.141	0.787	2.205	C86207
8-32	UNC	0.1640	3	2B	0.168	0.827	2.480	C86208
8-36	UNF	0.1640	3	2B	0.168	0.827	2.480	C86209
10-24	UNC	0.1900	3	2B	0.194	1.024	2.756	C86210
10-32	UNF	0.1900	3	2B	0.194	1.024	2.756	C86211
12-24	UNC	0.2160	3	2B	0.220	1.063	3.150	C86212
12-28	UNF	0.2160	3	2B	0.220	1.063	3.150	C86213
1/4-20	UNC	0.2500	3	2B	0.255	1.260	3.150	C86214
1/4-28	UNF	0.2500	3	2B	0.255	1.260	3.150	C86215
5/16-18	UNC	0.3125	3	2B	0.318	1.378	3.543	C86216
5/16-24	UNF	0.3125	3	2B	0.318	1.378	3.543	C86217
3/8-16	UNC	0.3750	3	2B	0.381	1.732	3.937	C86218
3/8-24	UNF	0.3750	3	2B	0.381	1.732	3.937	C86219
7/16-14	UNC	0.4375	3	2B	0.323	1.614	3.937	C86220
7/16-20	UNF	0.4375	3	2B	0.323	1.614	3.937	C86221
1/2-13	UNC	0.5000	3	2B	0.367	1.535	4.331	C86222
1/2-20	UNF	0.5000	3	2B	0.367	1.535	4.331	C86223
9/16-12	UNC	0.5625	3	2B	0.429	1.772	4.331	C86224
9/16-18	UNF	0.5625	3	2B	0.429	1.772	4.331	C86225
5/8-11	UNC	0.6250	3	2B	0.480	2.087	4.331	C86226
5/8-18	UNF	0.6250	3	2B	0.480	2.087	4.331	C86227
3/4-10	UNC	0.7500	4	2B	0.590	2.205	4.921	C86228
3/4-16	UNF	0.7500	4	2B	0.590	2.205	4.921	C86229
7/8-9	UNC	0.8750	4	2B	0.697	2.362	5.512	C86230
7/8-14	UNF	0.8750	4	2B	0.697	2.362	5.512	C86231
1-8	UNC	1.0000	4	2B	0.800	2.520	6.299	C86232
1-12	UNF	1.0000	4	2B	0.800	2.520	6.299	C86233
Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (mm)	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M2.5x.045	M	0.0866	3	6H	3.58	19	56	C86252
M3x0.5	M	0.1181	3	6H	3.58	19	56	C86234
M3.5x0.6	M	0.1378	3	6H	3.58	20	56	C86235
M4x0.7	M	0.1575	3	6H	4.27	21	63	C86236

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HIGH PERFORMANCE SPIRAL POINT TAPS

PER-862SP SERIES continued



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Metric		Shank Diameter (mm)	Thread Length (mm)	Overall Length (mm)	Order Number Plug
				Limit					
M5x0.8	M	0.1969	3	6H		4.93	26	70	C86237
M6x1	M	0.2362	3	6H		6.48	32	80	C86238
M7x1	M	0.2756	3	6H		8.08	30	80	C86239
M8x1	M	0.3150	3	6H		8.08	35	90	C86240
M8x1.25	M	0.3150	3	6H		8.08	35	90	C86241
M10x1.25	M	0.3937	3	6H		9.68	40	100	C86242
M10x1.5	M	0.3937	3	6H		9.68	40	100	C86243
M12x1.25	M	0.4724	3	6H		9.32	40	110	C86244
M12x1.75	M	0.4724	3	6H		9.32	40	110	C86245
M14x1.5	M	0.5512	3	6H		10.9	45	110	C86246
M14x2	M	0.5512	3	6H		10.9	45	110	C86247
M16x1.5	M	0.6299	3	6H		12.19	53	110	C86248
M16x2	M	0.6299	3	6H		12.19	53	110	C86249
M18x1.5	M	0.7087	4	6H		13.77	55	125	C86250
M18x2.0	M	0.7087	4	6H		13.77	55	125	C86251

PER-960SP SERIES

Plug / Hardlube

Designed for stainless steel, hardened steel and high-temp alloys



HIGH TEMP. ALLOYS



HARDENED STEEL



STAINLESS



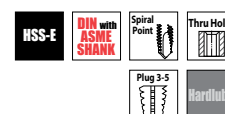
CAST IRON



STEEL

Best Material Application

Tap Specifications



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Fractional		Shank Diameter (Inch)	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
				Limit					
2-56	UNC	0.0860	3	2B		0.141	0.551	1.772	C96001
3-48	UNC	0.0990	3	2B		0.141	0.591	1.969	C96002
4-40	UNC	0.1120	3	2B		0.141	0.669	2.205	C96003
4-48	UNF	0.1120	3	2B		0.141	0.669	2.205	C96004
5-40	UNC	0.1250	3	2B		0.141	0.748	2.205	C96005
6-32	UNC	0.1380	3	2B		0.141	0.787	2.205	C96006
6-40	UNF	0.1380	3	2B		0.141	0.787	2.205	C96007
8-32	UNC	0.1640	3	2B		0.168	0.827	2.480	C96008
8-36	UNF	0.1640	3	2B		0.168	0.827	2.480	C96009
10-24	UNC	0.1900	3	2B		0.194	1.024	2.756	C96010
10-32	UNF	0.1900	3	2B		0.194	1.024	2.756	C96011
12-24	UNC	0.2160	3	2B		0.220	1.063	3.150	C96012
12-28	UNF	0.2160	3	2B		0.220	1.063	3.150	C96013
1/4-20	UNC	0.2500	3	2B		0.255	1.260	3.150	C96014
1/4-28	UNF	0.2500	3	2B		0.255	1.260	3.150	C96015
5/16-18	UNC	0.3125	3	2B		0.318	1.378	3.543	C96016
5/16-24	UNF	0.3125	3	2B		0.318	1.378	3.543	C96017
3/8-16	UNC	0.3750	3	2B		0.381	1.732	3.937	C96018
3/8-24	UNF	0.3750	3	2B		0.381	1.732	3.937	C96019
7/16-14	UNC	0.4375	3	2B		0.323	1.614	3.937	C96020
7/16-20	UNF	0.4375	3	2B		0.323	1.614	3.937	C96021
1/2-13	UNC	0.5000	3	2B		0.367	1.535	4.331	C96022
1/2-20	UNF	0.5000	3	2B		0.367	1.535	4.331	C96023

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HIGH PERFORMANCE SPIRAL POINT TAPS

02

TAPS

PER-960SP SERIES continued

PREMIUM HIGH SPEED STEEL
Plug / Hardlube

Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (Inch)	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
9/16-12	UNC	0.5625	3	2B	0.429	1.772	4.331	C96024
9/16-18	UNF	0.5625	3	2B	0.429	1.772	4.331	C96025
5/8-11	UNC	0.6250	3	2B	0.480	2.087	4.331	C96026
5/8-18	UNF	0.6250	3	2B	0.480	2.087	4.331	C96027
3/4-10	UNC	0.7500	4	2B	0.590	2.205	4.921	C96028
3/4-16	UNF	0.7500	4	2B	0.590	2.205	4.921	C96029
7/8-9	UNC	0.8750	4	2B	0.697	2.362	5.512	C96030
7/8-14	UNF	0.8750	4	2B	0.697	2.362	5.512	C96031
1-8	UNC	1.0000	4	2B	0.800	2.520	6.299	C96032
1-12	UNF	1.0000	4	2B	0.800	2.520	6.299	C96033
Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (mm)	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M2.5x.045	M	0.0866	3	6H	3.58	19	56	C96052
M3x0.5	M	0.1181	3	6H	3.58	19	56	C96034
M3.5x0.6	M	0.1378	3	6H	3.58	20	56	C96035
M4x0.7	M	0.1575	3	6H	4.27	21	63	C96036
M5x0.8	M	0.1969	3	6H	4.93	26	70	C96037
M6x1	M	0.2362	3	6H	6.48	32	80	C96038
M7x1	M	0.2756	3	6H	8.08	30	80	C96039
M8x1	M	0.3150	3	6H	8.08	35	90	C96040
M8x1.25	M	0.3150	3	6H	8.08	35	90	C96041
M10x1.25	M	0.3937	3	6H	9.68	40	100	C96042
M10x1.5	M	0.3937	3	6H	9.68	40	100	C96043
M12x1.25	M	0.4724	3	6H	9.32	40	110	C96044
M12x1.75	M	0.4724	3	6H	9.32	40	110	C96045
M14x1.5	M	0.5512	3	6H	10.9	45	110	C96046
M14x2	M	0.5512	3	6H	10.9	45	110	C96047
M16x1.5	M	0.6299	3	6H	12.19	53	110	C96048
M16x2	M	0.6299	3	6H	12.19	53	110	C96049
M18x1.5	M	0.7087	4	6H	13.77	55	125	C96050
M18x2.0	M	0.7087	4	6H	13.77	55	125	C96051

 CLEVELAND | WALTER

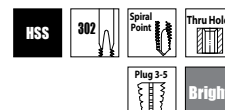
GENERAL PURPOSE SPIRAL POINT TAPS

1694 SERIES

HIGH SPEED STEEL

Plug / Bright Finish


Best Material Application

Tap Specifications


Fractional						
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Thread Length (Inch)	Overall Length (Inch)	Order Number
4-40	UNC	.1120	2	9/16	1-7/8	C69191
5-40	UNC	.1250	2	5/8	1-15/16	C69192
6-32	UNC	.1380	2	11/16	2	C69193
8-32	UNC	.1640	2	3/4	2-1/8	C69194
10-24	UNC	.1900	2	7/8	2-3/8	C69195
10-32	UNF	.1900	2	7/8	2-3/8	C69196
12-24	UNC	.2160	2	15/16	2-3/8	C69197
1/4-20	UNC	.2500	2	1	2-1/2	C69198
1/4-28	UNF	.2500	2	1	2-1/2	C69199
5/16-18	UNC	.3125	2	1-1/8	2-23/32	C69200
5/16-24	UNF	.3125	2	1-1/8	2-23/32	C69201
3/8-16	UNC	.3750	3	1-1/4	2-15/16	C69202
3/8-24	UNF	.3750	3	1-1/4	2-15/16	C69203
1/2-13	UNC	.5000	3	1-21/32	3-3/8	C69204

Metric					
Size (mm)	Decimal Equiv. (Inch)	No. of Flutes	Thread Length (mm)	Overall Length (mm)	Order Number
M2 x 0.4	.0787	2	11	44	C69205
M3 x 0.5	.1181	2	16	49	C69206
M4 x 0.7	.1575	2	19	54	C69207
M5 x 0.8	.1969	2	22	60	C69208
M6 x 1	.2362	2	25.4	63.5	C69209
M8 x 1.25	.3150	2	29	69	C69210
M10 x 1.5	.3937	3	31.75	75	C69211
M12 x 1.75	.4724	3	42	86	C69212
M16 x 2	.6299	3	46	96	C69213

2100E SERIES

GENERAL PURPOSE HIGH SPEED STEEL

Plug / Through Hole / Machine Screw / Bright Finish


Best Material Application


Fractional						
Size (Inch)	Thread		No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)
	NC	NF				
0	—	80	2	H1	5/16"	1-5/8"
1	64	—	2	H1	3/8"	1-11/16"
1	—	72	2	H1	3/8"	1-11/16"
2	56	—	2	H2	7/16"	1-3/4"
2	—	64	2	H2	7/16"	1-3/4"
3	48	—	2	H2	1/2"	1-13/16"
3	—	56	2	H2	1/2"	1-13/16"
4	40	—	2	H2	9/16"	1-7/8"
4	—	36	2	H2	9/16"	1-7/8"
4	—	48	2	H2	9/16"	1-7/8"
5	40	—	2	H2	5/8"	1-15/16"
5	—	44	2	H2	5/8"	1-15/16"
6	32	—	2	H3	11/16"	2"
6	—	40	2	H2	11/16"	2"
8	32	—	2	H3	3/4"	2-1/8"
8	—	36	2	H2	3/4"	2-1/8"
10	24	—	2	H3	7/8"	2-3/8"
10	—	32	2	H3	7/8"	2-3/8"
12	24	—	2	H3	15/16"	2-3/8"

#0 thru 1/4" - 12 per pack, 5/16" thru 1/2" - 6 per pack, 9/16" thru 1" - 3 per pack

Size (Inch)	Thread		No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number
	NC	NF					
12	—	28	2	H3	15/16"	2-3/8"	21E012FP
1/4"	20	—	2	H3	1"	2-1/2"	21E116CP
1/4"	—	28	2	H3	1"	2-1/2"	21E116FP
5/16"	18	—	2	H3	1-1/8"	2-23/32"	21E120CP
5/16"	—	24	2	H3	1-1/8"	2-23/32"	21E120FP
3/8"	16	—	3	H3	1-1/4"	2-15/16"	21E124CP
3/8"	—	24	3	H3	1-1/4"	2-15/16"	21E124FP
7/16"	14	—	3	H3	1-7/16"	3-5/32"	21E128CP
7/16"	—	20	3	H3	1-7/16"	3-5/32"	21E128FP
1/2"	13	—	3	H3	1-21/32"	3-3/8"	21E132CP
1/2"	—	20	3	H3	1-21/32"	3-3/8"	21E132FP
9/16"	12	—	3	H3	1-21/32"	3-19/32"	21E136CP
9/16"	—	18	3	H3	1-21/32"	3-19/32"	21E136FP
5/8"	11	—	3	H3	1-13/16"	3-13/16"	21E140CP
5/8"	—	18	3	H3	1-13/16"	3-13/16"	21E140FP
3/4"	10	—	3	H3	2"	4-1/4"	21E148CP
3/4"	—	16	3	H3	2"	4-1/4"	21E148FP
7/8"	9	—	3	H4	2-7/32"	4-11/16"	21E156CP
7/8"	—	14	3	H4	2-7/32"	4-11/16"	21E156FP
1"	8	—	3	H4	2-1/2"	5-1/8"	21E164CP
1"	—	12	3	H4	2-1/2"	5-1/8"	21E164FP
1"	—	14	3	H4	2-1/2"	5-1/8"	21E164SP

GENERAL PURPOSE MULTI-APPLICATION SPIRAL FLUTE TAPS

2000F SERIES

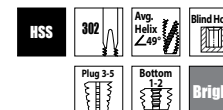
HIGH SPEED STEEL

Plug / Bottoming / Bright Finish

Best Material Application



Tap Specifications



Size	Thread	Fractional				Order Number	
		Decimal Equiv. (Inch)	No. of Flutes	Thread Length (Inch)		Plug	Bottoming
3-48	UNC	.0990	2	1/2		20F003CP	20F003CB
4-40	UNC	.1120	2	9/16		20F004CP	20F004CB
4-48	UNF	.1120	2	9/16		20F004FP	20F004FB
5-40	UNC	.1250	2	5/8		20F005CP	20F005CB
5-44	UNF	.1380	2	5/8		20F005FP	20F005FB
6-32	UNC	.1380	2	11/16		20F006CP	20F006CB
6-40	UNF	.1380	2	11/16		20F006FP	20F006FB
8-32	UNC	.1640	3	3/4		20F008CP	20F008CB
8-36	UNF	.1640	3	3/4		20F008FP	20F008FB
10-24	UNC	.1900	3	7/8		20F010CP	20F010CB
10-32	UNF	.1900	3	7/8		20F010FP	20F010FB
12-24	UNC	.2160	3	1		20F012CP	20F012CB
12-28	UNF	.2160	3	1		20F012FP	20F012FB

Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Thread Length (Inch)	Order Number	
					Plug	Bottoming
1/4-20	UNC	.2500	3	1	20F116CP	20F116CB
1/4-28	UNF	.2500	3	1	20F116FP	20F116FB
5/16-18	UNC	.3125	3	1-1/8	20F120CP	20F120CB
5/16-24	UNF	.3125	3	1-1/8	20F120FP	20F120FB
3/8-16	UNC	.3750	3	1-5/16	20F124CP	20F124CB
3/8-24	UNF	.3750	3	1-5/16	20F124FP	20F124FB
7/16-14	UNC	.4375	3	1-7/16	20F128CP	20F128CB
7/16-20	UNF	.4375	3	1-7/16	20F128FP	20F128FB
1/2-13	UNC	.5000	3	1-21/32	20F132CP	20F132CB
1/2-20	UNF	.5000	3	1-21/32	20F132FP	20F132FB
5/8-11	UNC	.6250	4	1-13/16	20F140CP	20F140CB
3/4-10	UNC	.7500	4	2-1/16	20F148CP	20F148CB

2000PF SERIES

HIGH SPEED STEEL

Bottoming / Bright Finish

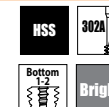
2000PF taps are general-purpose HSS spiral point (gun) taps designed for efficient through-hole threading. The spiral point geometry drives chips forward to reduce recutting, lower torque, and improve thread quality. Durable and versatile, they perform reliably in steel, cast iron, and non-ferrous materials for hand or machine tapping applications.



Best Material Application



Tap Specifications



Fractional					
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Order Number Bottoming
4-40	UNC	.1120	2	H2	20PF004C
4-48	UNF	.1120	2	H2	20PF004F
6-32	UNC	.1380	3	H3	20PF006C
8-32	UNC	.1640	3	H3	20PF008C
10-24	UNC	.1900	3	H3	20PF010C
10-32	UNF	.1900	3	H3	20PF010F

Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Order Number Bottoming
12-24	UNC	.2160	3	H3	20PF012C
12-28	UNF	.2160	3	H3	20PF012F
1/4-20	UNC	.2500	3	H3	20PF116C
1/4-28	UNF	.2500	3	H3	20PF116F
5/16-18	UNC	.3125	3	H3	20PF120C
5/16-24	UNF	.3125	3	H5	20PF120F

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GENERAL PURPOSE SPIRAL FLUTE TAPS

2000PF SERIES continued

Bottoming / Bright Finish



Fractional					
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Order Number Bottoming
3/8-16	UNC	.3750	3	H3	20PF124C
3/8-24	UNF	.3750	3	H3	20PF124F
7/16-14	UNC	.4375	3	H3	20PF128C
7/16-20	UNF	.4375	3	H3	20PF128F
1/2-13	UNC	.5000	3	H5	20PF132C
1/2-20	UNF	.5000	3	H5	20PF132F
9/16-12	UNC	.5625	3	H5	20PF136C
9/16-18	UNF	.5625	3	H5	20PF136F
5/8-11	UNC	.6250	4	H5	20PF140C
5/8-18	UNF	.6250	4	H5	20PF140F
3/4-10	UNC	.7500	4	H5	20PF148C
3/4-16	UNF	.7500	4	H5	20PF148F
7/8-9	UNC	.8750	4	H6	20PF156C
7/8-14	UNF	.8750	4	H6	20PF156F
1-8	UNC	1.0000	4	H6	20PF164C
1-12	UNF	1.0000	4	H6	20PF164F

Metric				
Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Order Number Bottoming
M3 x 0.50	.1181	3	D3	20PF030A
M3.5 x 0.60	.1378	3	D4	20PF035A
M4 x 0.7	.1575	3	D4	20PF040A
M5 x 0.8	.1969	3	D4	20PF050A
M6 x 1	.2362	3	D5	20PF060A
M7 x 1	.2756	3	D5	20PF070A
M8 x 1	.3150	3	D5	20PF080B
M8 x 1.25	.3150	3	D5	20PF080A
M10 x 1.5	.3937	3	D6	20PF100A
M12 x 1.25	.4724	3	D6	20PF120B
M12 x 1.75	.4724	3	D5	20PF120A
M14 x 1.5	.5512	3	D7	20PF140B
M14 x 2	.5512	3	D6	20PF140A
M16 x 1.5	.6299	3	D7	20PF160B
M16 x 2	.6299	3	D6	20PF160A
M18 x 1.5	.7087	4	D7	20PF180D
M18 x 2.5	.7087	4	D6	20PF180A
M20 x 1.5	.7874	4	D7	20PF200B
M20 x 2.5	.7874	4	D6	20PF200A
M22 x 1.5	.8661	4	D7	20PF220B
M22 x 2.5	.8661	4	D6	20PF220A
M24 x 3	.9450	4	D8	20PF240A

GENERAL PURPOSE SPIRAL FLUTE TAPS

SFGP SERIES

HIGH SPEED STEEL

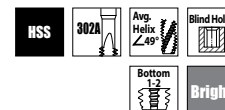
Plug / Bottoming / Bright Finish



Best Material Application



Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
							Plug	Bottoming
4-40	UNC	.1120	2	H2	.563	1.875	367149	367156
6-32	UNC	.1380	2	H3	.688	2.000	367222	367230
8-32	UNC	.1640	3	H3	.750	2.125	367263	367271
10-24	UNC	.1900	3	H3	.875	2.375	367305	367313
10-32	UNF	.1900	3	H3	.875	2.375	367321	367339
1/4-20	UNC	.2500	3	H3	1.000	2.500	367909	367917
1/4-28	UNF	.2500	3	H3	1.000	2.500	367925	367933
5/16-18	UNC	.3125	3	H3	1.125	2.719	367941	367958
5/16-24	UNF	.3125	3	H3	1.125	2.719	367966	367974
3/8-16	UNC	.3750	3	H3	1.250	2.938	367982	367990
3/8-24	UNF	.3750	3	H3	1.250	2.938	368006	368014
1/2-13	UNC	.5000	3	H3	1.656	3.375	368063	368071
1/2-20	UNF	.5000	3	H3	1.656	3.375	368089	368097

Metric							
Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number	
						Plug	Bottoming
M3 x 0.5	.1181	2	D3	.625	1.938	366110	366112
M4 x 0.7	.1575	3	D4	.750	2.125	366130	366132
M5 x 0.8	.1969	3	D4	.875	2.375	366140	366142
M6 x 1.0	.2362	3	D5	1.000	2.500	366150	366152
M8 x 1.25	.3150	3	D5	1.125	2.719	366160	366162
M10 x 1.5	.3937	3	D6	1.250	2.938	366170	366172
M12 x 1.75	.4724	3	D6	1.656	3.375	366180	366182

SFGP SERIES

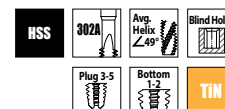
Plug / Bottoming / TiN



Best Material Application



Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number	
							Plug	Bottoming
4-40	UNC	.1120	2	H2	.563	1.875	—	330202
6-32	UNC	.1380	2	H3	.688	2.000	330193	330203
8-32	UNC	.1640	3	H3	.750	2.125	330194	330204
10-24	UNC	.1900	3	H3	.875	2.375	330195	—
10-32	UNF	.1900	3	H3	.875	2.375	330196	330205
1/4-20	UNC	.2500	3	H3	1.000	2.500	—	367913

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GENERAL PURPOSE SPIRAL FLUTE TAPS

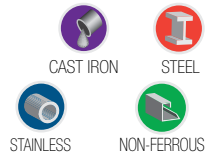
SFGP SERIES continued

Plug / Bottoming / TiCN

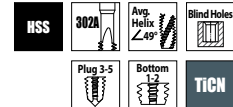


Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Metric			Order Number	
				Limit	Thread Length (mm)	Overall Length (mm)	Plug	Bottoming
M3 x 0.5	—	3.00	2	D3	.625	1.938	—	330206
M4 x 0.7	—	4.00	3	D4	.750	2.125	330197	330207
M5 x 0.8	—	5.00	3	D4	.875	2.375	330198	330208
M6 x 1.0	—	6.00	3	D5	1.000	2.500	330199	330209
M8 x 1.25	—	8.00	3	D5	1.125	2.719	330200	330210
M10 x 1.5	—	10.00	3	D6	1.250	2.938	330201	330211

Best Material Application



Tap Specifications



SFGP5 SERIES

HIGH SPEED STEEL

Oversize / Bottoming / Bright Finish

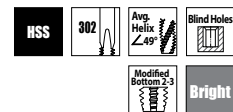
SFGP5 taps are high-spiral spiral flute, general-purpose taps with a +5 H-limit, designed for blind-hole threading. The high-helix geometry pulls chips up and out of the hole, reducing recutting and improving thread quality. Manufactured from premium HSS, the SFGP5 series is ideal for steel, stainless steel, and non-ferrous materials where controlled chip evacuation and consistent oversize threads are required.



Best Material Application



Tap Specifications



Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Bottoming
1/4-20	UNC	.2500	3	H11	2.500	1.000	313525
1/4-28	UNF	.2500	3	H11	2.500	1.000	313526
5/16-18	UNC	.3125	3	H11	2.719	1.125	313527
5/16-24	UNF	.3125	3	H11	2.719	1.125	313528
3/8-16	UNC	.3750	3	H11	2.938	1.250	313529
3/8-24	UNF	.3750	3	H11	2.938	1.250	313530
7/16-14	UNC	.4375	3	H11	3.156	1.438	313531
7/16-20	UNF	.4375	3	H11	3.156	1.438	313532
1/2-13	UNC	.5000	3	H11	3.375	1.656	313533
1/2-20	UNF	.5000	3	H11	3.375	1.656	313534
5/8-11	UNC	.6250	3	H11	3.813	1.813	313535
5/8-18	UNF	.6250	3	H11	3.813	1.813	313536
3/4-10	UNC	.7500	4	H11	4.250	2.000	313537
3/4-16	UNF	.7500	4	H11	4.250	2.000	313538
Metric							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M6x1	—	.2362	3	D11	1.00	2.500	313539
M8x1.25	—	.3150	3	D11	1.125	2.719	313540
M10x1.5	—	.3937	3	D11	1.25	2.938	313541
M12x1.75	—	.4724	3	D11	1.656	3.375	313542
M16x2	—	.6299	3	D11	1.813	3.813	313543

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GENERAL PURPOSE SPIRAL FLUTE TAPS

SFGP5 SERIES

Bottoming / Oversize / Black Oxide Finish



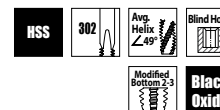
Fractional							
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number Bottoming
1/4-20	UNC	.2500	3	H11	2.500	1.000	313580
1/4-28	UNF	.2500	3	H11	2.500	1.000	313581
5/16-18	UNC	.3125	3	H11	2.719	1.125	313582
5/16-24	UNF	.3125	3	H11	2.719	1.125	313583
3/8-16	UNC	.3750	3	H11	2.938	1.250	313584
3/8-24	UNF	.3750	3	H11	2.938	1.250	313585
7/16-14	UNC	.4375	3	H11	3.156	1.438	313586
7/16-20	UNF	.4375	3	H11	3.156	1.438	313587
1/2-13	UNC	.5000	3	H11	3.375	1.656	313588
1/2-20	UNF	.5000	3	H11	3.375	1.656	313589
5/8-11	UNC	.6250	3	H11	3.813	1.813	313590
5/8-18	UNF	.6250	3	H11	3.813	1.813	313591
3/4-10	UNC	.7500	4	H11	4.250	2.000	313592
3/4-16	UNF	.7500	4	H11	4.250	2.000	313593
Metric							
Size	Thread	Decimal Equiv. (mm)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M6x1	—	.2362	3	D11	1.00	2.500	313594
M8x1.25	—	.3150	3	D11	1.125	2.719	313595
M10x1.5	—	.3937	3	D11	1.25	2.938	313596
M12x1.75	—	.4724	3	D11	1.656	3.375	313597
M16x2	—	.6299	3	D11	1.813	3.813	313598

Best Material Application



CAST IRON STEEL

Tap Specifications



SFHD SERIES

HIGH SPEED STEEL

Heavy Duty / Plug/ Bottoming / Black Oxide Finish



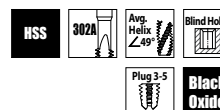
Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number	
							Plug	Bottoming
6-32	UNC	.1380	3	H3	.688	2.000	281957	282005
8-32	UNC	.1640	3	H3	.750	2.125	282054	282104
10-24	UNC	.1900	3	H3	.875	2.375	282062	282120
10-32	UNF	.1900	3	H3	.875	2.375	282153	282203
1/4-20	UNC	.2500	3	H3	1.000	2.500	282252	282302
1/4-28	UNF	.2500	3	H3	1.000	2.500	282351	282401
5/16-18	UNC	.3125	3	H3	1.125	2.719	282450	282501
5/16-24	UNF	.3125	3	H3	1.125	2.719	282468	282526
3/8-16	UNC	.3750	3	H3	1.250	2.938	282559	282609
3/8-24	UNF	.3750	3	H3	1.250	2.938	282567	282625
1/2-13	UNC	.5000	3	H3	1.656	3.375	282757	282807
1/2-20	UNF	.5000	3	H3	1.656	3.375	282765	282823

Best Material Application



CAST IRON STEEL

Tap Specifications



HIGH PERFORMANCE SPIRAL FLUTE TAPS

1093 / 1094 SERIES

HIGH SPEED STEEL

Plug / Bottoming / Bright Finish

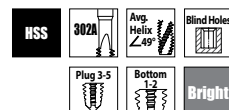
Cleveland® 1093 and 1094 taps are general-purpose spiral flute taps designed for efficient blind-hole threading. The spiral flute geometry pulls chips up and out of the hole, reducing recutting, lowering torque, and improving thread quality. Manufactured from premium HSS, these taps deliver reliable performance in steel, stainless steel, and non-ferrous materials for both CNC and machine tapping applications.



Best Material Application



Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
							Plug	Bottoming
4-40	UNC	.1120	2	H2	.563	1.875	C58515	C58516
6-32	UNC	.1380	2	H3	.688	2.000	C58532	C58533
8-32	UNC	.1640	3	H3	.750	2.125	C58538	C58539
10-24	UNC	.1900	3	H3	.875	2.375	C58544	C58545
10-32	UNF	.1900	3	H3	.875	2.375	C58546	C58547
1/4-20	UNC	.2500	3	H3	1.000	2.500	C58562	C58563
1/4-28	UNF	.2500	3	H3	1.000	2.500	C58564	C58565
5/16-18	UNC	.3125	3	H3	1.125	2.719	C58570	C58571
5/16-24	UNF	.3125	3	H3	1.125	2.719	C58572	C58573
3/8-16	UNC	.3750	3	H3	1.250	2.938	C58581	C58582
3/8-24	UNF	.3750	3	H3	1.250	2.938	C58583	C58584
1/2-13	UNC	.5000	3	H3	1.656	3.375	C58613	C58614
1/2-20	UNF	.5000	3	H3	1.656	3.375	C58615	C58616
Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number	
							Plug	Bottoming
M3 x 0.5	—	.1181	2	D3	15.88	49.21	C58800	C58801
M4 x 0.7	—	.1575	3	D4	19.05	53.98	C58804	C58805
M5 x 0.8	—	.1969	3	D4	22.23	60.33	C58806	C58807
M6 x 1.0	—	.2362	3	D5	25.40	63.50	C58808	C58809
M8 x 1.25	—	.3150	3	D5	28.58	69.06	C58810	C58811
M10 x 1.5	—	.3937	3	D6	31.75	74.61	C58812	C58813
M12x1.75	—	.4724	3	D6	42.07	85.73	—	C58815

1093 / 1094 SERIES

HIGH SPEED STEEL

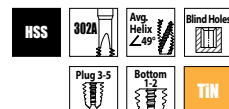
Plug / Bottoming / TiN



Best Material Application



Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number	
							Plug	Bottoming
4-40	UNC	.1120	2	H2	.563	1.875	—	C55566
6-32	UNC	.1380	2	H3	.688	2.000	C55571	C55570
8-32	UNC	.1640	3	H3	.750	2.125	C55573	C55572
10-24	UNC	.1900	3	H3	.875	2.375	C55575	—
10-32	UNF	.1900	3	H3	.875	2.375	C55577	C55576

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HIGH PERFORMANCE SPIRAL FLUTE TAPS

1093 / 1094 SERIES continued

HIGH SPEED STEEL

Plug / Bottoming / TiCN



Size	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (mm)	Overall Length (mm)	Order Number	
						Plug	Bottoming
M3 x 0.5	.1181	2	D3	15.88	49.21	—	C58901
M4 x 0.7	.1575	3	D4	19.05	53.98	C58904	C58905
M5 x 0.8	.1969	3	D4	22.23	60.33	C58906	C58907
M6 x 1.0	.2362	3	D5	25.40	63.50	C58908	C58909
M8 x 1.25	.3150	3	D5	28.58	69.06	C58910	C58911
M10 x 1.5	.3937	3	D6	31.75	74.61	C58912	C58913

Best Material Application



1095 / 1096 SERIES

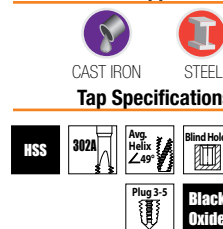
HIGH SPEED STEEL

Heavy Duty / Plug / Bottoming / Black Oxide Finish

Cleveland® 1095 and 1096 Heavy duty spiral flute taps are manufactured from premium HSS and designed for demanding CNC and machine-tapping applications. The spiral flute geometry promotes efficient chip evacuation, reducing torque and improving thread quality in tougher materials. Built for durability and consistency, the 1095/1096 series is ideal for steel, stainless steel, and other hard-to-machine alloys where reliability and tool life are critical.



Best Material Application



Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
							Plug	Bottoming
6-32	UNC	.1380	2	H3	.688	2.000	C58432	C58433
8-32	UNC	.1640	3	H3	.750	2.125	C58434	C58435
10-24	UNC	.1900	3	H3	.875	2.375	C58436	C58437
10-32	UNF	.1900	3	H3	.875	2.375	C58438	C58439
1/4-20	UNC	.2500	3	H3	1.000	2.500	C58440	C58441
1/4-28	UNF	.2500	3	H3	1.000	2.500	C58442	C58443
5/16-18	UNC	.3125	3	H3	1.125	2.719	C58444	C58445
5/16-24	UNF	.3125	3	H3	1.125	2.719	—	C58447
3/8-16	UNC	.3750	3	H3	1.250	2.938	C58448	C58449
3/8-24	UNF	.3750	3	H3	1.250	2.938	C58450	C58451
1/2-13	UNC	.5000	3	H3	1.656	3.375	C58452	C58453

HIGH PERFORMANCE SPIRAL FLUTE TAPS

2160N SERIES

PREMIUM HIGH SPEED STEEL

Bottoming / Black Oxide Finish

Drillco® 2160N taps are designed for reliable threading in through or blind holes. Featuring a bright finish and traditional straight-flute geometry, the 2160N series provides smooth cutting action, good chip control, and consistent thread quality in steel, cast iron, and non-ferrous materials. Well-suited for maintenance, repair, and general shop applications.



Best Material Application



CAST IRON



STEEL

Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Square Size (Inch)	Tap Drill Size (Inch)	Overall Length (Inch)	Order Number Bottoming
6-32	UNC	.1380	3	H3	0.110	#36	2	216N006C
8-32	UNC	.1640	3	H3	0.131	#29	2-1/8	216N008C
10-24	UNC	.1900	3	H3	0.152	#25	2-3/8	216N010C
10-32	UNF	.1900	3	H3	0.152	#21	2-3/8	216N010F
1/4-20	UNC	.2500	3	H3	0.191	#7	2-1/2	216N116C
1/4-28	UNF	.2500	3	H3	0.191	#3	2-1/2	216N116F
5/16-18	UNC	.3125	3	H3	0.238	F	2-23/32	216N120C
5/16-24	UNF	.3125	3	H3	0.238	I	2-23/32	216N120F
3/8-16	UNC	.3750	3	H3	0.286	5/16	2-15/16	216N124C
3/8-24	UNF	.3750	3	H3	0.286	Q	2-15/16	216N124F
7/16-14	UNC	.4375	3	H3	0.242	U	3-5/32	216N128C
7/16-20	UNF	.4375	3	H3	0.242	W	3-5/32	216N128F
1/2-13	UNC	.5000	3	H3	0.275	27/64	3-3/8	216N132C
1/2-20	UNF	.5000	3	H3	0.275	29/64	3-3/8	216N132F
5/8-11	UNC	.6250	4	H3	0.360	17/32	3-13/16	216N140C
5/8-18	UNF	.6250	4	H3	0.360	37/64	3-13/16	216N140F
3/4-10	UNC	.7500	4	H3	0.442	21/32	4-1/4	216N148C
3/4-16	UNF	.7500	4	H3	0.442	11/16	4-1/4	216N148F
Metric								
Size	Thread	Decimal Equiv. (mm)	No. of Flutes	Limit	Square Size (Inch)	Tap Drill Size (Inch)	Overall Length (Inch)	Order Number Bottoming
M4 x 0.7	—	.1575	3	D4	0.131	#30	2-1/8	216N040A
M5 x 0.8	—	.1969	3	D4	0.152	#19	2-3/8	216N050A
M6x1	—	.2362	3	D5	0.191	#9	2.1/2	216N060A
M8x1.25	—	.3150	3	D5	0.238	H	2.23/32	216N080A
M10x1.5	—	.3937	3	D6	0.286	Q	2.15/16	216N100A
M12x1.75	—	.4724	3	D6	0.275	Y	3.3/8	216N120A

HIGH PERFORMANCE SPIRAL FLUTE TAPS

2260N SERIES

PREMIUM HIGH SPEED STEEL

Bottoming / TiCN

DRILLCO® 2260N taps are production taps designed for reliable threading in through or blind holes. Manufactured for durability and consistent cutting performance, they provide smooth chip control and dependable thread quality in carbon steel, mild steel, cast iron, and non-ferrous materials. Ideal for maintenance, repair, and general shop use.

Best Material Application



STAINLESS



NON-FERROUS

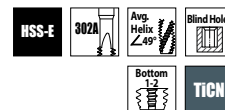


CAST IRON



STEEL

Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Square Size (Inch)	Tap Drill Size (Inch)	Overall Length (Inch)	Order Number Bottoming
4-40	UNC	.1120	3	H2	0.110	#43	2.21	226N004C
6-32	UNC	.1380	3	H3	0.110	#36	2.21	226N006C
8-32	UNC	.1640	3	H3	0.131	#29	2.48	226N008C
10-24	UNC	.1900	3	H3	0.152	#25	2.76	226N010C
10-32	UNF	.1900	3	H3	0.152	#21	2.76	226N010F
1/4-20	UNC	.2500	3	H3	0.191	#7	3.15	226N116C
1/4-28	UNF	.2500	3	H3	0.191	#3	3.15	226N116F
5/16-18	UNC	.3125	3	H3	0.238	F	3.54	226N120C
5/16-24	UNF	.3125	3	H3	0.238	I	3.54	226N120F
3/8-16	UNC	.3750	3	H3	0.286	5/16	3.94	226N124C
3/8-24	UNF	.3750	3	H3	0.286	Q	3.94	226N124F
7/16-14	UNC	.4375	3	H3	0.242	U	3.94	226N128C
7/16-20	UNF	.4375	3	H3	0.242	W	3.94	226N128F
1/2-13	UNC	.5000	3	H3	0.275	27/64	4.33	226N132C
1/2-20	UNF	.5000	3	H3	0.275	29/64	4.33	226N132F
5/8-11	UNC	.6250	4	H3	0.360	17/32	4.33	226N140C
5/8-18	UNF	.6250	4	H3	0.360	37/64	4.33	226N140F
3/4-10	UNC	.7500	4	H3	0.442	21/32	4.92	226N148C
3/4-16	UNF	.7500	4	H3	0.442	11/16	4.92	226N148F
Metric								
Size	Thread	Decimal Equiv. (mm)	No. of Flutes	Limit	Square Size (Inch)	Tap Drill Size (Inch)	Overall Length (Inch)	Order Number Bottoming
M4 x 0.7	—	.1575	3	D4	0.131	#30	2.48	226N040A
M5 x 0.8	—	.1969	3	D4	0.152	#19	2.76	226N050A
M6x1	—	.2362	3	D5	0.191	#9	3.15	226N060A
M8x1.25	—	.3150	3	D5	0.238	H	3.54	226N080A
M10x1.5	—	.3937	3	D6	0.286	Q	3.94	226N100A
M12x1.75	—	.4724	3	D6	0.275	Y	4.33	226N120A
M16 x 2.0	—	.6299	4	D7	0.360	35/64	4.33	226N160A

HIGH PERFORMANCE SPIRAL FLUTE TAPS

PRO-981SF SERIES

PREMIUM HIGH SPEED STEEL

Universal for Multiple Materials / Mod Bottoming / Black Oxide Finish

PRO-981SF taps are premium universal spiral flute taps engineered for efficient blind-hole threading across a wide range of materials. The spiral flute design lifts chips out of the hole to reduce packing and breakage, delivering smooth thread formation and consistent performance in both CNC and hand-guided tapping operations. Designed as a true all-around solution, the PRO-981SF Series balances tool life, reliability, and versatility for production and job-shop environments.



Best Material Application



CAST IRON



STEEL

Tap Specifications



HSS-E

DIN with
ASME
SHANKAvg.
Helix
25°

Blind Holes

Modified
Bottom 2,3Black
Oxide

Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (Inch)	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
2-56	UNC	0.0860	3	2B	0.141	0.551	1.772	C98101
3-48	UNC	0.0990	3	2B	0.141	0.591	1.969	C98102
4-40	UNC	0.1120	3	2B	0.141	0.669	2.205	C98103
4-48	UNF	0.1120	3	2B	0.141	0.669	2.205	C98104
5-40	UNC	0.1250	3	2B	0.141	0.748	2.205	C98105
6-32	UNC	0.1380	3	2B	0.141	0.787	2.205	C98106
6-40	UNF	0.1380	3	2B	0.141	0.787	2.205	C98107
8-32	UNC	0.1640	3	2B	0.168	0.827	2.480	C98108
8-36	UNF	0.1640	3	2B	0.168	0.827	2.480	C98109
10-24	UNC	0.1900	3	2B	0.194	1.024	2.756	C98110
10-32	UNF	0.1900	3	2B	0.194	1.024	2.756	C98111
12-24	UNC	0.2160	3	2B	0.220	1.063	3.150	C98112
12-28	UNF	0.2160	3	2B	0.220	1.063	3.150	C98113
1/4-20	UNC	0.2500	3	2B	0.255	1.260	3.150	C98114
1/4-28	UNF	0.2500	3	2B	0.255	1.260	3.150	C98115
5/16-18	UNC	0.3125	3	2B	0.318	1.378	3.543	C98116
5/16-24	UNF	0.3125	3	2B	0.318	1.378	3.543	C98117
3/8-16	UNC	0.3750	3	2B	0.381	1.732	3.937	C98118
3/8-24	UNF	0.3750	3	2B	0.381	1.732	3.937	C98119
7/16-14	UNC	0.4375	3	2B	0.323	1.614	3.937	C98120
7/16-20	UNF	0.4375	3	2B	0.323	1.614	3.937	C98121
1/2-13	UNC	0.5000	3	2B	0.367	1.535	4.331	C98122
1/2-20	UNF	0.5000	3	2B	0.367	1.535	4.331	C98123
9/16-12	UNC	0.5625	4	2B	0.429	1.772	4.331	C98124
9/16-18	UNF	0.5625	4	2B	0.429	1.772	4.331	C98125
5/8-11	UNC	0.6250	4	2B	0.480	2.087	4.331	C98126
5/8-18	UNF	0.6250	4	2B	0.480	2.087	4.331	C98127
3/4-10	UNC	0.7500	4	2B	0.590	2.205	4.921	C98128
3/4-16	UNF	0.7500	4	2B	0.590	2.205	4.921	C98129
7/8-9	UNC	0.8750	4	2B	0.697	2.362	5.512	C98130
7/8-14	UNF	0.8750	4	2B	0.697	2.362	5.512	C98131
1-8	UNC	1.0000	4	2B	0.800	2.520	6.299	C98132
1-12	UNF	1.0000	4	2B	0.800	2.520	6.299	C98133
Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (mm)	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M3x0.5	M	0.1181	3	6H	3.58	19	56	C98134
M3.5x0.6	M	0.1378	3	6H	3.58	20	56	C98135

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HIGH PERFORMANCE SPIRAL FLUTE TAPS

02

TAPS

PRO-981SF SERIES continued



Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (mm)	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M4x0.7	M	0.1575	3	6H	4.27	21	63	C98136
M5x0.8	M	0.1969	3	6H	4.93	26	70	C98137
M6x1	M	0.2362	3	6H	6.48	32	80	C98138
M7x1	M	0.2756	3	6H	8.08	30	80	C98139
M8x1	M	0.3150	3	6H	8.08	35	90	C98140
M8x1.25	M	0.3150	3	6H	8.08	35	90	C98141
M10x1.25	M	0.3937	3	6H	9.68	40	100	C98142
M10x1.5	M	0.3937	3	6H	9.68	40	100	C98143
M12x1.25	M	0.4724	3	6H	9.32	40	110	C98144
M12x1.75	M	0.4724	3	6H	9.32	40	110	C98145
M14x1.5	M	0.5512	3	6H	10.9	45	110	C98146
M14x2	M	0.5512	3	6H	10.9	45	110	C98147
M16x1.5	M	0.6299	4	6H	12.19	53	110	C98148
M16x2	M	0.6299	4	6H	12.19	53	110	C98149
M18x1.5	M	0.7087	4	6H	13.77	55	125	C98150
M18x2.5	M	0.7087	4	6H	13.77	55	125	C98151
M20x2.5	M	0.7874	4	6H	16.51	63	140	C98152
M22x2.5	M	0.8661	4	6H	17.70	60	140	C98153
M24x3.0	M	0.9449	4	6H	19.30	66	160	C98154

PRO-892SF SERIES

PREMIUM HIGH SPEED STEEL

Universal for Multiple Materials / Mod Bottoming / TiAlN



Best Material Application



Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (Inch)	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
2-56	UNC	0.0860	3	2B	0.141	0.551	1.772	C89201
3-48	UNC	0.0990	3	2B	0.141	0.591	1.969	C89202
4-40	UNC	0.1120	3	2B	0.141	0.669	2.205	C89203
4-48	UNF	0.1120	3	2B	0.141	0.669	2.205	C89204
5-40	UNC	0.1250	3	2B	0.141	0.748	2.205	C89205
6-32	UNC	0.1380	3	2B	0.141	0.787	2.205	C89206
6-40	UNF	0.1380	3	2B	0.141	0.787	2.205	C89207
8-32	UNC	0.1640	3	2B	0.168	0.827	2.480	C89208
8-36	UNF	0.1640	3	2B	0.168	0.827	2.480	C89209
10-24	UNC	0.1900	3	2B	0.194	1.024	2.756	C89210
10-32	UNF	0.1900	3	2B	0.194	1.024	2.756	C89211
12-24	UNC	0.2160	3	2B	0.220	1.063	3.150	C89212
12-28	UNF	0.2160	3	2B	0.220	1.063	3.150	C89213
1/4-20	UNC	0.2500	3	2B	0.255	1.260	3.150	C89214
1/4-28	UNF	0.2500	3	2B	0.255	1.260	3.150	C89215
5/16-18	UNC	0.3125	3	2B	0.318	1.378	3.543	C89216
5/16-24	UNF	0.3125	3	2B	0.318	1.378	3.543	C89217

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CLEVELAND

WALTER

HIGH PERFORMANCE SPIRAL FLUTE TAPS

PRO-892SF SERIES continued



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (Inch)	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
3/8-16	UNC	0.3750	3	2B	0.381	1.732	3.937	C89218
3/8-24	UNF	0.3750	3	2B	0.381	1.732	3.937	C89219
7/16-14	UNC	0.4375	3	2B	0.323	1.614	3.937	C89220
7/16-20	UNF	0.4375	3	2B	0.323	1.614	3.937	C89221
1/2-13	UNC	0.5000	3	2B	0.367	1.535	4.331	C89222
1/2-20	UNF	0.5000	3	2B	0.367	1.535	4.331	C89223
9/16-12	UNC	0.5625	4	2B	0.429	1.772	4.331	C89224
9/16-18	UNF	0.5625	4	2B	0.429	1.772	4.331	C89225
5/8-11	UNC	0.6250	4	2B	0.480	2.087	4.331	C89226
5/8-18	UNF	0.6250	4	2B	0.480	2.087	4.331	C89227
3/4-10	UNC	0.7500	4	2B	0.590	2.205	4.921	C89228
3/4-16	UNF	0.7500	4	2B	0.590	2.205	4.921	C89229
7/8-9	UNC	0.8750	4	2B	0.697	2.362	5.512	C89230
7/8-14	UNF	0.8750	4	2B	0.697	2.362	5.512	C89231
1-8	UNC	1.0000	4	2B	0.800	2.520	6.299	C89232
1-12	UNF	1.0000	4	2B	0.800	2.520	6.299	C89233
Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (mm)	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M3x0.5	M	0.1181	3	6H	3.58	19	56	C89234
M3.5x0.6	M	0.1378	3	6H	3.58	20	56	C89235
M4x0.7	M	0.1575	3	6H	4.27	21	63	C89236
M5x0.8	M	0.1969	3	6H	4.93	26	70	C89237
M6x1	M	0.2362	3	6H	6.48	32	80	C89238
M7x1	M	0.2756	3	6H	8.08	30	80	C89239
M8x1	M	0.3150	3	6H	8.08	35	90	C89240
M8x1.25	M	0.3150	3	6H	8.08	35	90	C89241
M10x1.25	M	0.3937	3	6H	9.68	40	100	C89242
M10x1.5	M	0.3937	3	6H	9.68	40	100	C89243
M12x1.25	M	0.4724	3	6H	9.32	40	110	C89244
M12x1.75	M	0.4724	3	6H	9.32	40	110	C89245
M14x1.5	M	0.5512	3	6H	10.9	45	110	C89246
M14x2	M	0.5512	3	6H	10.9	45	110	C89247
M16x1.5	M	0.6299	4	6H	12.19	53	110	C89248
M16x2	M	0.6299	4	6H	12.19	53	110	C89249
M18x1.5	M	0.7087	4	6H	13.77	55	125	C89250
M18x2.5	M	0.7087	4	6H	13.77	55	125	C89251
M20x2.5	M	0.7874	4	6H	16.51	63	140	C89252
M22x2.5	M	0.8661	4	6H	17.70	60	140	C89253
M24x3.0	M	0.9449	4	6H	19.30	66	160	C89254

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HIGH PERFORMANCE SPIRAL FLUTE TAPS

02

PRO-893SF SERIES

PREMIUM HIGH SPEED STEEL

Designed for Stainless Steel / Mod Bottoming / Black Oxide Finish



Best Material Application



CAST IRON



STEEL

Tap Specifications



HSS-E



DOUBLE FLUTE SHANK



Avg. Helix 38°



Blind Holes



Modified Bottom 2-3



Black Oxide

TAPS

CLEVELAND | **WALTER**

Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (Inch)	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
2-56	UNC	0.0860	3	2B	0.141	0.551	1.772	C89301
3-48	UNC	0.0990	3	2B	0.141	0.591	1.969	C89302
4-40	UNC	0.1120	3	2B	0.141	0.669	2.205	C89303
4-48	UNF	0.1120	3	2B	0.141	0.669	2.205	C89304
5-40	UNC	0.1250	3	2B	0.141	0.748	2.205	C89305
6-32	UNC	0.1380	3	2B	0.141	0.787	2.205	C89306
6-40	UNF	0.1380	3	2B	0.141	0.787	2.205	C89307
8-32	UNC	0.1640	3	2B	0.168	0.827	2.480	C89308
8-36	UNF	0.1640	3	2B	0.168	0.827	2.480	C89309
10-24	UNC	0.1900	3	2B	0.194	1.024	2.756	C89310
10-32	UNF	0.1900	3	2B	0.194	1.024	2.756	C89311
12-24	UNC	0.2160	3	2B	0.220	1.063	3.150	C89312
12-28	UNF	0.2160	3	2B	0.220	1.063	3.150	C89313
1/4-20	UNC	0.2500	3	2B	0.255	1.260	3.150	C89314
1/4-28	UNF	0.2500	3	2B	0.255	1.260	3.150	C89315
5/16-18	UNC	0.3125	3	2B	0.318	1.378	3.543	C89316
5/16-24	UNF	0.3125	3	2B	0.318	1.378	3.543	C89317
3/8-16	UNC	0.3750	3	2B	0.381	1.732	3.937	C89318
3/8-24	UNF	0.3750	3	2B	0.381	1.732	3.937	C89319
7/16-14	UNC	0.4375	3	2B	0.323	1.614	3.937	C89320
7/16-20	UNF	0.4375	3	2B	0.323	1.614	3.937	C89321
1/2-13	UNC	0.5000	3	2B	0.367	1.535	4.331	C89322
1/2-20	UNF	0.5000	3	2B	0.367	1.535	4.331	C89323
9/16-12	UNC	0.5625	4	2B	0.429	1.772	4.331	C89324
9/16-18	UNF	0.5625	4	2B	0.429	1.772	4.331	C89325
5/8-11	UNC	0.6250	4	2B	0.480	2.087	4.331	C89326
5/8-18	UNF	0.6250	4	2B	0.480	2.087	4.331	C89327
3/4-10	UNC	0.7500	4	2B	0.590	2.205	4.921	C89328
3/4-16	UNF	0.7500	4	2B	0.590	2.205	4.921	C89329
7/8-9	UNC	0.8750	4	2B	0.697	2.362	5.512	C89330
7/8-14	UNF	0.8750	4	2B	0.697	2.362	5.512	C89331
1-8	UNC	1.0000	4	2B	0.800	2.520	6.299	C89332
1-12	UNF	1.0000	4	2B	0.800	2.520	6.299	C89333
Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (mm)	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M3x0.5	M	0.1181	3	6H	3.58	19	56	C89334
M3.5x0.6	M	0.1378	3	6H	3.58	20	56	C89335
M4x0.7	M	0.1575	3	6H	4.27	21	63	C89336
M5x0.8	M	0.1969	3	6H	4.93	26	70	C89337
M6x1	M	0.2362	3	6H	6.48	32	80	C89338
M7x1	M	0.2756	3	6H	8.08	30	80	C89339
M8x1	M	0.3150	3	6H	8.08	35	90	C89340
M8x1.25	M	0.3150	3	6H	8.08	35	90	C89341
M10x1.25	M	0.3937	3	6H	9.68	40	100	C89342
M10x1.5	M	0.3937	3	6H	9.68	40	100	C89343
M12x1.25	M	0.4724	3	6H	9.32	40	110	C89344

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HIGH PERFORMANCE SPIRAL FLUTE TAPS

PRO-893SF SERIES continued



Size	Thread	Metric						
		Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (mm)	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M12x1.75	M	0.4724	3	6H	9.32	40	110	C89345
M14x1.5	M	0.5512	3	6H	10.9	45	110	C89346
M14x2	M	0.5512	3	6H	10.9	45	110	C89347
M16x1.5	M	0.6299	4	6H	12.19	53	110	C89348
M16x2	M	0.6299	4	6H	12.19	53	110	C89349
M18x1.5	M	0.7087	4	6H	13.77	55	125	C89350
M18x2.5	M	0.7087	4	6H	13.77	55	125	C89351
M20x2.5	M	0.7874	4	6H	16.51	63	140	C89352
M22x2.5	M	0.8661	4	6H	17.70	60	140	C89353
M24x3.0	M	0.9449	4	6H	19.30	66	160	C89354

PRO-980SF SERIES

PREMIUM HIGH SPEED STEEL

Hardlube



Best Material Application



Tap Specifications



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (Inch)	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
2-56	UNC	0.0860	3	2B	0.141	0.551	1.772	C98001
3-48	UNC	0.0990	3	2B	0.141	0.591	1.969	C98002
4-40	UNC	0.1120	3	2B	0.141	0.669	2.205	C98003
4-48	UNF	0.1120	3	2B	0.141	0.669	2.205	C98004
5-40	UNC	0.1250	3	2B	0.141	0.748	2.205	C98005
6-32	UNC	0.1380	3	2B	0.141	0.787	2.205	C98006
6-40	UNF	0.1380	3	2B	0.141	0.787	2.205	C98007
8-32	UNC	0.1640	3	2B	0.168	0.827	2.480	C98008
8-36	UNF	0.1640	3	2B	0.168	0.827	2.480	C98009
10-24	UNC	0.1900	3	2B	0.194	1.024	2.756	C98010
10-32	UNF	0.1900	3	2B	0.194	1.024	2.756	C98011
12-24	UNC	0.2160	3	2B	0.220	1.063	3.150	C98012
12-28	UNF	0.2160	3	2B	0.220	1.063	3.150	C98013
1/4-20	UNC	0.2500	3	2B	0.255	1.260	3.150	C98014
1/4-28	UNF	0.2500	3	2B	0.255	1.260	3.150	C98015
5/16-18	UNC	0.3125	3	2B	0.318	1.378	3.543	C98016
5/16-24	UNF	0.3125	3	2B	0.318	1.378	3.543	C98017
3/8-16	UNC	0.3750	3	2B	0.381	1.732	3.937	C98018
3/8-24	UNF	0.3750	3	2B	0.381	1.732	3.937	C98019
7/16-14	UNC	0.4375	3	2B	0.323	1.614	3.937	C98020
7/16-20	UNF	0.4375	3	2B	0.323	1.614	3.937	C98021
1/2-13	UNC	0.5000	3	2B	0.367	1.535	4.331	C98022
1/2-20	UNF	0.5000	3	2B	0.367	1.535	4.331	C98023
9/16-12	UNC	0.5625	4	2B	0.429	1.772	4.331	C98024
9/16-18	UNF	0.5625	4	2B	0.429	1.772	4.331	C98025
5/8-11	UNC	0.6250	4	2B	0.480	2.087	4.331	C98026
5/8-18	UNF	0.6250	4	2B	0.480	2.087	4.331	C98027
3/4-10	UNC	0.7500	4	2B	0.590	2.205	4.921	C98028
3/4-16	UNF	0.7500	4	2B	0.590	2.205	4.921	C98029

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HIGH PERFORMANCE SPIRAL FLUTE TAPS

02

TAPS

PRO-980SF SERIES continued

PREMIUM HIGH SPEED STEEL

Hardlube



Fractional								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (Inch)	Thread Length (Inch)	Overall Length (Inch)	Order Number Plug
7/8-9	UNC	0.8750	4	2B	0.697	2.362	5.512	C98030
7/8-14	UNF	0.8750	4	2B	0.697	2.362	5.512	C98031
1-8	UNC	1.0000	4	2B	0.800	2.520	6.299	C98032
1-12	UNF	1.0000	4	2B	0.800	2.520	6.299	C98033
Metric								
Size	Thread	Decimal Equiv. (Inch)	No. of Flutes	Limit	Shank Diameter (mm)	Thread Length (mm)	Overall Length (mm)	Order Number Plug
M3x0.5	M	0.1181	3	6H	3.58	19	56	C98034
M3.5x0.6	M	0.1378	3	6H	3.58	20	56	C98035
M4x0.7	M	0.1575	3	6H	4.27	21	63	C98036
M5x0.8	M	0.1969	3	6H	4.93	26	70	C98037
M6x1	M	0.2362	3	6H	6.48	32	80	C98038
M7x1	M	0.2756	3	6H	8.08	30	80	C98039
M8x1	M	0.3150	3	6H	8.08	35	90	C98040
M8x1.25	M	0.3150	3	6H	8.08	35	90	C98041
M10x1.25	M	0.3937	3	6H	9.68	40	100	C98042
M10x1.5	M	0.3937	3	6H	9.68	40	100	C98043
M12x1.25	M	0.4724	3	6H	9.32	40	110	C98044
M12x1.75	M	0.4724	3	6H	9.32	40	110	C98045
M14x1.5	M	0.5512	3	6H	10.9	45	110	C98046
M14x2	M	0.5512	3	6H	10.9	45	110	C98047
M16x1.5	M	0.6299	4	6H	12.19	53	110	C98048
M16x2	M	0.6299	4	6H	12.19	53	110	C98049
M18x1.5	M	0.7087	4	6H	13.77	55	125	C98050
M18x2.5	M	0.7087	4	6H	13.77	55	125	C98051
M20x2.5	M	0.7874	4	6H	16.51	63	140	C98052
M22x2.5	M	0.8661	4	6H	17.70	60	140	C98053
M24x3.0	M	0.9449	4	6H	19.30	66	160	C98054

CLEVELAND | WALTER

GENERAL PURPOSE FORM TAPS

2270N SERIES

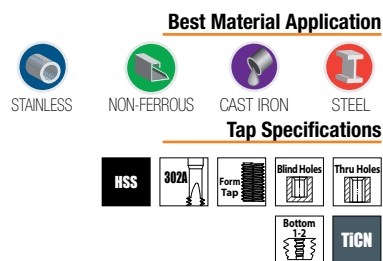
PREMIUM HIGH SPEED STEEL

Bottoming / TiCN

NITRO-MAX

Nitro Max 2270N Series taps are high-performance threading tools engineered for consistent, clean threads in production and maintenance environments. Built to run smoothly with reduced torque and dependable chip control, these taps help improve thread quality, extend tool life, and support repeatable results across a broad range of applications.

- ▷ *Optimized for smooth, reliable thread generation and consistent sizing*
- ▷ *Reduced friction for improved tool life and more stable tapping performance*
- ▷ *Designed for repeatable results in day-to-day production work*
- ▷ *Suitable for a wide range of ferrous and non-ferrous materials*
- ▷ *Available in common sizes and thread forms to match standard shop requirements*



Fractional					
Tap Size	Limit	Square Size	Overall Length (Inch)	Tap/Drill Size	Order Number
4-40	H5	0.110	2.21	#39	227N004C
6-32	H5	0.110	2.21	1/8	227N006C
8-32	H5	0.131	2.48	#25	227N008C
10-24	H6	0.152	2.76	11/64	227N010C
10-32	H6	0.152	2.76	#16	227N010F
1/4-20	H6	0.191	3.15	#1	227N116C
1/4-28	H6	0.191	3.15	A	227N116F
5/16-18	H7	0.238	3.54	7.3mm	227N120C
5/16-24	H7	0.238	3.54	M	227N120F
3/8-16	H7	0.286	3.94	S	227N124C
3/8-24	H7	0.286	3.94	T	227N124F
Metric					
Tap Size	Limit	Square Size	Overall Length (mm)	Tap/Drill Size	Order Number
M4 x 0.7	D7	0.131	2.48		227N040A
M5 x 0.8	D8	0.152"	2.76"	#14	227N050A
M6 x 1.0	D9	0.191"	3.15"	7/32"	227N060A
M8 x 1.25	D10	0.238"	3.54"	M	227N080A
M10 x 1.5	D11	0.286"	3.94"	LI	227N100A

GENERAL PURPOSE FORM TAPS

02

2090 SERIES

PRODUCTION HIGH SPEED STEEL

Plug / Bottoming / Through Hole / Blind Hole / Bright Finish

Best Material Application



NON-FERROUS



CAST IRON



STEEL

TAPS



Fractional				
Tap Size	Thread		Order Number	
	NC	NF	Plug	Bottoming
0	—	80	—	209A000FB
1	64	—	—	209A001CB
1	—	72	—	209A001FB
2	56	—	—	209A002CB
2	—	64	—	209A002FB
3	48	—	—	209A003CB
3	—	56	209A003FP	209A003FB
4	40	—	209A004CP	209A004CB
4	—	48	209A004FP	209A004FB
5	40	—	209A005CP	209A005CB
5	—	44	209A005FP	209A005FB
6	32	—	209A006CP	209A006CB
6	—	40	209A006FP	209A006FB
8	32	—	209A008CP	209A008CB
8	—	36	209A008FP	209A008FB
10	24	—	209A010CP	209A010CB
10	—	32	209A010FP	209A010FB
12	24	—	209A012CP	209A012CB
12	—	28	209A012FP	209A012FB
1/4"	20	—	209A116CP	209A116CB
1/4"	—	28	209A116FP	209A116FB
5/16"	18	—	209A120CP	209A120CB
5/16"	—	24	209A120FP	209A120FB
3/8"	16	—	209A124CP	209A124CB
3/8"	—	24	209A124FP	209A124FB
7/16"	14	—	209A128CP	209A128CB
7/16"	—	20	209A128FP	209A128FB
1/2"	13	—	209A132CP	209A132CB
1/2"	—	20	209A132FP	209A132FB
5/8"	11	—	209A140CP	209A140CB
5/8"	—	18	209A140FP	209A140FB
3/4"	10	—	209A148CP	209A148CB
3/4"	—	16	—	209A148FB

DRILCO

WALTER

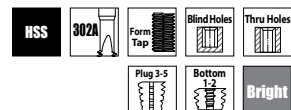
GENERAL PURPOSE FORM TAPS

FTGP SERIES

HIGH SPEED STEEL

Plug / Bottoming / Bright Finish


Best Material Application

Tap Specifications


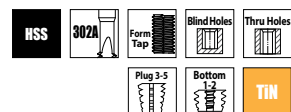
Fractional							
Tap Size	Thread	Diameter	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
						Plug	Bottoming
*0-80	UNF	.0600	H2	.313	1.625	—	330214
*2-56	UNC	.0860	H2	.438	1.750	—	330215
4-40	UNC	.1120	H3	.563	1.875	289004	289012
5-40	UNC	.1250	H3	.625	1.938	289087	289095
6-32	UNC	.1380	H3	.688	2.000	289202	289210
6-32	UNC	.1380	H5	.688	2.000	289228	289236
8-32	UNC	.1640	H3	.750	2.125	289269	289277
8-32	UNC	.1640	H5	.750	2.125	289285	289293
10-24	UNC	.1900	H4	.875	2.375	289368	289376
10-24	UNC	.1900	H6	.875	2.375	289384	289392
10-32	UNF	.1900	H4	.875	2.375	289426	289434
10-32	UNF	.1900	H6	.875	2.375	289442	289459
1/4-20	UNC	.2500	H4	1.000	2.500	289525	289533
1/4-20	UNC	.2500	H6	1.000	2.500	289541	289558
1/4-28	UNF	.2500	H4	1.000	2.500	289582	289590
5/16-18	UNC	.3125	H5	1.125	2.719	289640	289657
5/16-18	UNC	.3125	H7	1.125	2.719	289665	289673
3/8-16	UNC	.3750	H7	1.250	2.938	289780	289798
3/8-24	UNF	.3750	H5	1.250	2.938	330212	—
3/8-24	UNF	.3750	H7	1.250	2.938	330213	—
1/2-13	UNC	.5000	H8	1.656	3.375	289988	289996

FTGP-TN SERIES

HIGH SPEED STEEL

302 Blanks / Plug / Bottoming / TiN


Best Material Application

Tap Specifications


Fractional							
Tap Size	Thread	Diameter	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
						Plug	Bottoming
6-32	UNC	.1380	H3	.688	2.000	287004	287053
6-32	UNC	.1380	H5	.688	2.000	287103	287152
8-32	UNC	.1640	H3	.750	2.125	287202	287251
8-32	UNC	.1640	H5	.750	2.125	287301	287350
10-24	UNC	.1900	H4	.875	2.375	287400	287459
10-24	UNC	.1900	H6	.875	2.375	287509	287558
10-32	UNF	.1900	H6	.875	2.375	287608	287657
1/4-20	UNC	.2500	H6	1.000	2.500	287707	287756
5/16-18	UNC	.3125	H7	1.125	2.719	287905	287954
3/8-16	UNC	.3750	H7	1.250	2.938	288101	288150
1/2-13	UNC	.5000	H8	1.656	3.375	288408	288457

GENERAL PURPOSE FORM TAPS

1091 SERIES

HIGH SPEED STEEL

Plug / Bottoming / Bright Finish

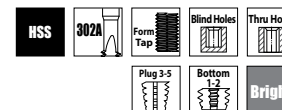
Cleveland® 1091 taps are general-purpose thread forming (roll) taps designed for strong, chip-free threading in ductile materials. The forming design displaces material rather than cutting, producing smooth, work-hardened threads with excellent strength and finish. Ideal for steel, stainless steel, and non-ferrous materials, 1091 taps deliver long tool life and consistent results in blind or through-hole applications.



Best Material Application



Tap Specifications



Fractional							
Tap Size	Thread	Diameter	Limit	Thread Length (Inch)	Overall Length (Inch)	Order Number	
						Plug	Bottoming
*0-80	UNF	.0600	H2	.313	1.625	—	C59159
*2-56	UNC	.0860	H2	.438	1.750	—	C59177
4-40	UNC	.1120	H3	.563	1.875	C59193	C59194
5-40	UNC	.1250	H3	.625	1.938	C59209	C59210
6-32	UNC	.1380	H3	.688	2.000	C59221	C59222
6-32	UNC	.1380	H5	.688	2.000	C59223	C59224
8-32	UNC	.1640	H3	.750	2.125	C59235	C59236
8-32	UNC	.1640	H5	.750	2.125	C59237	C59238
10-24	UNC	.1900	H4	.875	2.375	C59249	C59250
10-24	UNC	.1900	H6	.875	2.375	C59251	C59252
10-32	UNF	.1900	H4	.875	2.375	C59256	C59257
10-32	UNF	.1900	H6	.875	2.375	C59258	C59259
1/4-20	UNC	.2500	H4	1.000	2.500	C59282	C59283
1/4-20	UNC	.2500	H6	1.000	2.500	C59284	C59285
1/4-28	UNF	.2500	H4	1.000	2.500	C59289	C59290
5/16-18	UNC	.3125	H5	1.125	2.719	C59299	C59300
5/16-18	UNC	.3125	H7	1.125	2.719	C59301	C59302
3/8-16	UNC	.3750	H7	1.250	2.938	C59317	C59318
3/8-24	UNF	.3750	H5	1.250	2.938	C59321	—
3/8-24	UNF	.3750	H7	1.250	2.938	C59323	—
1/2-13	UNC	.5000	H8	1.656	3.375	C59361	C59362

*#0-#2: 302 blank style

GENERAL PURPOSE PIPE TAPS

0462 / 0464 SERIES

HIGH SPEED STEEL

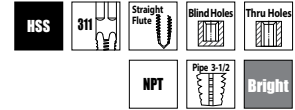
NPT / NPTI / Bright Finish



Best Material Application



Tap Specifications



Fractional										
Tap Size	TPI	Thread	Decimal Equiv.	Shank Diameter (Inch)	Thread Length	Overall Length (Inch)	Regular Threads		Interrupted Threads	
							No. of Flutes	Order Number	No. of Flutes	Order Number
1/16	27	NPT	.0625	0.3125	0.688	2.125	4	C29000	—	—
1/8	27	NPT	.1250	.3125	3/4	2-1/8	4	C64213	5	C64223
*1/8	27	NPT	.1250	.4375	3/4	2-1/8	4	C64214	5	C64224
1/4	18	NPT	.2500	.5626	1-1/16	2-7/16	4	C64215	5	C64225
3/8	18	NPT	.3750	.7000	1-1/16	2-9/16	4	C64216	5	C64226
1/2	14	NPT	.5000	.6875	1-3/8	3-1/8	4	C64217	5	C64227
3/4	14	NPT	.7500	.9063	1-3/8	3-5/8	5	C64218	5	C64228
1	11-1/2	NPT	1.0000	1.1250	1-3/4	3-3/4	5	C64219	5	C64229
1-1/4	11-1/2	NPT	1.2500	1.3125	1-3/4	4	5	C64220	5	C64230
1-1/2	11-1/2	NPT	1.5000	1.5000	1-3/4	4-1/4	7	C64221	—	—
2	11-1/2	NPT	2.0000	1.8750	1-3/4	4-1/2	7	C64222	—	—

0463 SERIES

HIGH SPEED STEEL

Large Shank / Straight / NPS / Bright Finish

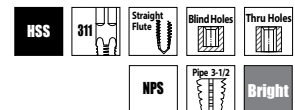
NPS also produces NPSC and NPSM threads



Best Material Application



Tap Specifications



Fractional									
Tap Size	TPI	Thread	Decimal Equiv.	No. of Flutes	Shank Diameter (Inch)	Thread Length	Overall Length (Inch)	Order Number	
1/8	27	NPS	.1250	4	.4375	3/4	2-1/8	C64231	
1/4	18	NPS	.2500	4	.5626	1-1/16	2-7/16	C64232	
3/8	18	NPS	.3750	4	.7000	1-1/16	2-9/16	C64233	
1/2	14	NPS	.5000	4	.6875	1-3/8	3-1/8	C64234	
3/4	14	NPS	.7500	5	.9063	1-3/8	3-1/4	C64235	
1	11-1/2	NPS	1.0000	5	1.1250	1-3/8	3-3/4	C64236	

GENERAL PURPOSE PIPE TAPS

2900 SERIES

HIGH SPEED STEEL

NPT / Bright Finish

NPT Taps are tapered to provide a tight seal and are used mainly with threaded pipes and pipe fittings. These taps are available in both HSS and carbon Steel materials. A carbon tap is used to re-thread damaged threads. These NPT taps have a bright finish to increase tool life and reduce chip loading in the flutes.

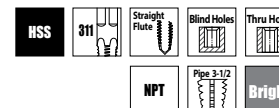
- ▷ Bright finish for prolonged life
- ▷ Most commonly used to produce a tight sealing thread
- ▷ Available in HSS and carbon steel
- ▷ All sizes are individually packaged



Best Material Application



Tap Specifications



Fractional						
Tap Size	TPI	Thread	No. of Flutes	Thread Length	Overall Length (Inch)	Order Number
1/16	27	NPT	4	11/16"	2-1/8"	290A104
1/8	27	NPT	4	3/4"	2-1/8"	290A108
1/4	18	NPT	4	1-1/16"	2-7/16"	290A116
3/8	18	NPT	4	1-1/16"	2-9/16"	290A124
1/2	14	NPT	4	1-3/8"	3-1/8"	290A132
3/4	14	NPT	5	1-3/8"	3-1/4"	290A148
1	11-1/2	NPT	5	1-3/4"	3-3/4"	290A164
1-1/4	11-1/2	NPT	5	1-3/4"	4"	290A216
1-1/2	11-1/2	NPT	7	1-3/4"	4-1/4"	290A232
2	11-1/2	NPT	7	1-3/4"	4-1/4"	290A264
2-1/2	8	NPT	8	2-9/16"	5-1/2"	290A332

2950 / 2930 SERIES

HIGH SPEED STEEL

NPS / Bright Finish

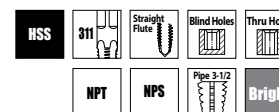
NPS also produces NPSC and NPSM uninterrupted threads



Best Material Application



Tap Specifications



Fractional							
Tap Size	TPI	Thread	Thread Length	Straight Thread		Interrupted Threads	
				No. of Flutes	Order Number	No. of Flutes	Order Number
1/8"	27	NPT	3/4"	4	295A108	5	293A108
1/4"	18	NPT	1-1/16"	4	295A116	5	293A116
3/8"	18	NPT	1-1/16"	4	295A124	5	293A124
1/2"	14	NPT	1-3/8"	4	295A132	5	293A132
3/4"	14	NPT	1-3/8"	5	295A148	5	293A148
1"	11-1/2	NPT	1-3/4"	5	295A164	5	293A164
1-1/4"	11-1/2	NPT	1-3/4"	—	—	5	293A216
1-1/2"	11-1/2	NPT	1-3/4"	—	—	7	293A232
2"	11-1/2	NPT	1-3/4"	—	—	7	293A264

GENERAL PURPOSE PIPE TAPS

PTT SERIES

HIGH SPEED STEEL

NPT / NPTF / Bright Finish



Fractional						
Tap Size	Diameter	No. of Flutes	Thread Length	Overall Length (Inch)	Order Number	
					NPT	NPTF
1/16-27	.3125	4	0.6875	2.1250	385307	385323
*1/8-27	.3125	4	0.7500	2.1250	385331	385356
1/8-27	.4375	4	0.7500	2.1250	385364	385380
1/4-18	.5625	4	1.0625	2.4375	385398	385413
3/8-18	.7000	4	1.0625	2.5625	385422	385448
1/2-14	.6875	4	1.3750	3.1250	385455	385471
3/4-14	.9063	5	1.3750	3.2500	385489	385505
1 - 11-1/2	1.1250	5	1.7500	3.7500	385513	385539
1-1/4 - 11-1/2	1.3125	5	1.7500	4.0000	385547	385562
1-1/2 - 11-1/2	1.5000	7	1.7500	4.2500	385570	—
2 - 11-1/2	1.8750	7	1.7500	4.5000	385604	—

Best Material Application


NON-FERROUS



CAST IRON



STEEL

Tap Specifications

Corresponding Sets

Pieces	Description	Order Number
6	1/8 - 1" NPT	353768

PTT SERIES

HIGH SPEED STEEL

NPT / NPTF / TiN



Fractional						
Tap Size	Diameter	No. of Flutes	Thread Length	Overall Length (Inch)	Order Number	
					NPT	NPTF
1/16-27	.3125	4	0.6875	2.1250	385328	385329
*1/8-27	.3125	4	0.7500	2.1250	385357	385359
1/8-27	.4375	4	0.7500	2.1250	385385	385386
1/4-18	.5625	4	1.0625	2.4375	385409	385410
3/8-18	.7000	4	1.0625	2.5625	385443	385444
1/2-14	.6875	4	1.3750	3.1250	385458	385477
3/4-14	.9063	5	1.3750	3.2500	385500	385501
1 - 11-1/2	1.1250	5	1.7500	3.7500	385534	385536
1-1/4 - 11-1/2	1.3125	5	1.7500	4.0000	385680	—
1-1/2 - 11-1/2	1.5000	7	1.7500	4.2500	385681	—
2 - 11-1/2	1.8750	7	1.7500	4.5000	385682	—

Best Material Application


NON-FERROUS



STAINLESS



CAST IRON



STEEL

Tap Specifications


ELPTT SERIES

HIGH SPEED STEEL

Extra Length / NPT / NPTF / Bright Finish



Fractional						
Tap Size	Diameter	No. of Flutes	Thread Length	Overall Length (Inch)	Order Number	
					NPT	NPTF
1/8-27	0.318	4	.750	3.000	384524	386008
1/4-18	0.480	4	1.063	3.500	384525	386024
3/8-18	0.480	4	1.063	3.750	384526	386040
1/2-14	0.480	4	1.375	4.375	384527	—
3/4-14	0.800	5	1.375	4.625	384528	—
1-11-1/2	0.800	5	1.750	5.250	384529	—

Best Material Application


NON-FERROUS



CAST IRON



STEEL

Tap Specifications


GENERAL PURPOSE PIPE TAPS

PTTI SERIES

HIGH SPEED STEEL

Interrupted Thread / NPT / NPTF / Bright Finish

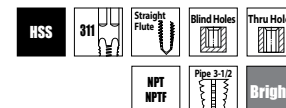


Fractional					
Tap Size	Diameter	No. of Flutes	Thread Length	Overall Length (Inch)	Order Number
					NPT NPTF
*1/8-27	.3125	5	.750	2.125	— 385752
1/8-27	.4375	5	.750	2.125	385737 385729
1/4-18	.5625	5	1.063	2.438	385760 385786
3/8-18	.7000	5	1.063	2.563	385794 385810
1/2-14	.6875	5	1.375	3.125	385828 385844
3/4-14	.9063	5	1.375	3.250	385851 385877
1-11-1/2	1.1250	5	1.750	3.750	385885 —

Best Material Application



Tap Specifications



PTTI SERIES

HIGH SPEED STEEL

Interrupted Thread / NPT / NPTF / TiN

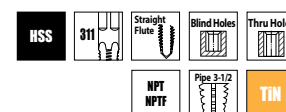


Fractional					
Tap Size	Diameter	No. of Flutes	Thread Length	Overall Length (Inch)	Order Number
					NPTF
1/8-27	.4375	5	.750	2.125	385755
1/4-18	.5625	5	1.063	2.438	385789
3/8-18	.7000	5	1.063	2.563	385813
1/2-14	.6875	5	1.375	3.125	385847
3/4-14	.9063	5	1.375	3.250	385870

Best Material Application



Tap Specifications



PTS SERIES

HIGH SPEED STEEL

NPS / NPSF / Bright Finish

NPS also produces NPSM and NPSC threads

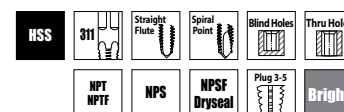


Fractional					
Tap Size	Diameter	No. of Flutes	Thread Length	Overall Length (Inch)	Order Number
					NPS/NPSM/NPSC NPSF
*1/8-27	.3125	4	.750	2.125	— 387212
1/8-27	.4375	4	.750	2.125	387113 387220
1/4-18	.5625	4	1.063	2.438	387121 387238
3/8-18	.7000	4	1.063	2.563	387139 387246
1/2-14	.6875	4	1.375	3.125	387147 387253

Best Material Application



Tap Specifications



GENERAL PURPOSE PIPE TAPS

02C SERIES

CARBON
NPT / Bright Finish

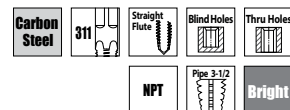
Carbon Taps are good for repairing damaged threads but not recommended for creating new threads.


Best Material Application


NON-FERROUS

CAST IRON

STEEL

Tap Specifications


Fractional					
Tap Size	TPI	Drill Size	Order Number (Tube)	Tube Qty.	Bulk Qty.
1/16"	27	D	02C010	1	10
1/8"	27	11/32"	02C020	1	10
1/4"	18	7/16"	02C040	1	10
3/8"	18	37/64"	02C060	1	10
1/2"	14	45/64"	02C080	1	10
3/4"	14	59/64"	02C120	1	10
1"	11 1/2	1 5/32"	02C160	1	10
1 1/4"	11 1/2	1 1/2"	02C200	1	10
1 1/2"	11 1/2	1 47/64"	02C240	1	10
2"	11 1/2	2 7/32"	02C320	1	10



Corresponding Sets		
Pieces	Description	Order Number
4	One each NPT taps: 02C020 (1/8"), 02C040 (1/4"), 02C060 (3/8"), 02C080 (1/2")	02C500

GENERAL PURPOSE PIPE TAPS

965B / 975 SERIES

HIGH SPEED STEEL

NPT / NPTF / Bright Finish

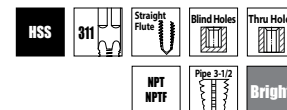


Best Material Application



NON-FERROUS CAST IRON STEEL

Tap Specifications



Tap Size	Diameter	Decimal Equiv.	No. of Flutes	Thread Length	Overall Length (Inch)	Order Number	
						NPT	NPTF
1/16-27	.3125	.0625	4	.688	2.125	C64036	C64058
1/8-27*	.3125	.1250	4	.750	2.125	C64037	C64059
1/8-27	.4375	.1250	4	.750	2.125	C64038	C64060
1/4-18	.5625	.2500	4	1.063	2.438	C64039	C64061
3/8-18	.7000	.3750	4	1.063	2.563	C64040	C64062
1/2-14	.6875	.5000	4	1.375	3.125	C64041	C64063
3/4-14	.9063	.7500	5	1.375	3.250	C64042	C64064
1-11-1/2	1.1250	1.0000	5	1.750	3.750	C64043	C64065
1-1/4-11-1/2	1.3125	1.2500	5	1.750	4.000	C64044	—
1-1/2-11-1/2	1.5000	1.5000	7	1.750	4.250	C64045	—
2-11-1/2	1.8750	2.0000	7	1.750	4.500	C64046	—

965TN / 975TN SERIES

HIGH SPEED STEEL

Large Shank / NPT / NPTF / TiN

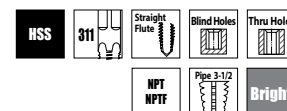


Best Material Application



STAINLESS CAST IRON STEEL

Tap Specifications



Tap Size	Diameter	Decimal Equiv.	No. of Flutes	Thread Length	Overall Length (Inch)	Order Number	
						NPT	NPTF
1/16-27	.3125	.0625	4	.688	2.125	C56700	C55680
1/8-27*	.3125	.1250	4	.750	2.125	C56701	—
1/8-27	.4375	.1250	4	.750	2.125	C56702	C55682
1/4-18	.5625	.2500	4	1.063	2.438	C56703	C55683
3/8-18	.7000	.3750	4	1.063	2.563	C56704	C55684
1/2-14	.6875	.5000	4	1.375	3.125	C56705	C55685
3/4-14	.9063	.7500	5	1.375	3.250	C56706	C55686
1-11-1/2	1.1250	1.0000	5	1.750	3.750	—	C55687

GENERAL PURPOSE PIPE TAPS

964B / 966B SERIES

HIGH SPEED STEEL

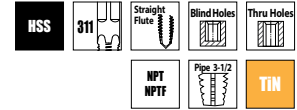
Interrupted Thread / NPT / NPTF / Bright Finish



Best Material Application



Tap Specifications



Tap Size	Diameter	Decimal Equiv.	No. of Flutes	Thread Length	Overall Length (Inch)	Order Number	
						NPT	NPTF
1/8-27*	.3125	.1250	5	.750	2.125	—	C64107
1/8-27	.4375	.1250	5	.750	2.125	C64098	C64108
1/4-18	.5625	.2500	5	1.063	2.438	C64099	C64109
3/8-18	.7000	.3750	5	1.063	2.563	C64100	C64110
1/2-14	.6875	.5000	5	1.375	3.125	C64101	C64111
3/4-14	.9063	.7500	5	1.375	3.250	C64102	C64112
1 – 11-1/2	1.1250	1.0000	5	1.750	3.750	C64103	—

*Small shank

963B / 967B SERIES

HIGH SPEED STEEL

NPS / NPSF / Bright Finish

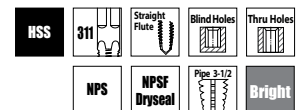
NPS also produces NPSM and NPSC threads



Best Material Application



Tap Specifications



Tap Size	Diameter	Decimal Equiv.	No. of Flutes	Thread Length	Overall Length (Inch)	Order Number	
						NPS	NPSF
1/8-27*	.3125	.1250	4	.750	2.125	—	C64129
1/8-27	.4375	.1250	4	.750	2.125	C64116	C64130
1/4-18	.5625	.2500	4	1.063	2.438	C64117	C64131
3/8-18	.7000	.3750	4	1.063	2.563	C64118	C64132
1/2-14	.6875	.5000	4	1.375	3.125	C64119	C64133

GENERAL PURPOSE PIPE TAPS

1686 / 1688 SERIES

HIGH SPEED STEEL

Large Shank / NPT / NPTI / Bright Finish

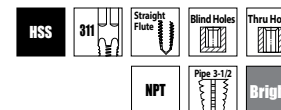


Best Material Application



NON-FERROUS CAST IRON STEEL

Tap Specifications



Fractional										
Tap Size	TPI	Thread	Decimal Equiv.	Thread Length	Shank Diameter	Overall Length	Regular Threads		Interrupted Threads	
							No. of Flutes	Order Number	No. of Flutes	Order Number
1/8	27	NPT	.1250	3/4	.3125	2-1/8	4	C69315	5	C69325
*1/8	27	NPT	.1250	3/4	.4375	2-1/8	4	C69316	5	C69326
1/4	18	NPT	.2500	1-1/16	.5626	2-7/16	4	C69317	5	C69327
3/8	18	NPT	.3750	1-1/16	.7000	2-9/16	4	C69318	5	C69328
1/2	14	NPT	.5000	1-3/8	.6875	3-1/8	4	C69319	5	C69329
3/4	14	NPT	.7500	1-3/8	.9063	3-5/8	5	C69320	5	C69330
1	11-1/2	NPT	1.0000	1-3/4	1.1250	3-3/4	5	C69321	5	C69331
1-1/4	11-1/2	NPT	1.2500	1-3/4	1.3125	4	5	C69322	5	C69332
1-1/2	11-1/2	NPT	1.5000	1-3/4	1.5000	4-1/4	7	C69323	—	—
2	11-1/2	NPT	2.0000	1-3/4	1.8750	4-1/2	7	C69324	—	—

1700 SERIES

CARBON STEEL

311 Shank / Bright Finish

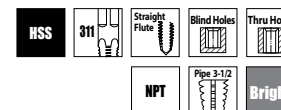


Best Material Application



NON-FERROUS CAST IRON STEEL

Tap Specifications



Fractional									
Tap Size	TPI	Thread	Decimal Equiv.	Thread Length	Shank Diameter	Overall Length	Regular Threads		
							No. of Flutes	Order Number	
1/8	27	NPT	.1250	3/4	.3125	2-1/8	4	C69507	
1/4	18	NPT	.2500	1-1/16	.5626	2-7/16	4	C69508	
3/8	18	NPT	.3750	1-1/16	.7000	2-9/16	4	C69509	
1/2	14	NPT	.5000	1-3/8	.6875	3-1/8	4	C69510	
3/4	14	NPT	.7500	1-3/8	.9063	3-5/8	5	C69511	
1	11-1/2	NPT	1.0000	1-3/4	1.1250	3-3/4	5	C69512	

GENERAL PURPOSE PIPE TAPS

2900E SERIES

HIGH SPEED STEEL

NPT / Bright Finish



Best Material Application



NON-FERROUS



CAST IRON



STEEL

Fractional					
Tap Size	TPI	Thread Length	Number of Flutes	Overall Length	Order Number
1/16"	27	11/16"	4	2-1/8"	290E104
1/8"	27	3/4"	4	2-1/8"	290E108
1/4"	18	1-1/16"	4	2-7/16"	290E116
3/8"	18	1-1/16"	4	2-9/16"	290E124
1/2"	14	1-3/8"	4	3-1/8"	290E132
3/4"	14	1-3/8"	5	3-1/4"	290E148
1"	11-1/2	1-3/4"	5	3-3/4"	290E164
1-1/4"	11-1/2	1-3/4"	5	4"	290E216
1-1/2"	11-1/2	1-3/4"	7	4-1/4"	290E232
2"	11-1/2	1-3/4"	7	4-1/2"	290E264
2-1/2"	8	2-9/16"	8	5-1/2"	290E332
3"	8	2-5/8"	8	6"	290E364
3-1/2"	8	2-11/16"	8	6-1/2"	290E432
4"	8	2-3/4"	8	6-3/4"	290E464

2700E SERIES

CARBON STEEL

NPT / Bright Finish

Carbon Taps are good for repairing damaged threads but not recommended for creating new threads.



Best Material Application



NON-FERROUS



CAST IRON



STEEL

Fractional			
Tap Size	TPI	Overall Length	Order Number
1/16"	27	2-1/8"	2700E104
1/8"	27	2-1/8"	2700E108
1/4"	18	2-7/16"	2700E116
3/8"	18	2-9/16"	2700E124
1/2"	14	3-1/8"	2700E132
3/4"	14	3-1/4"	2700E148
1"	11-1/2	3-3/4"	2700E164
1-1/4"	11-1/2	4"	2700E216
1-1/2"	11-1/2	4-1/4"	2700E232
2"	11-1/2	4-1/2"	2700E264

TAP & DIE WRENCHES

02

TAPS

CLE-LINE
WALTER

240 / 242 / 243 / 244 / 245 SERIES



Standard Straight						
Used for hand tapping						
Product Number	Machine Screw	Tap Size Range		Pipe Tap (Inch)	Overall Length (Inch)	Order Number 240 Series
		Fractional	Metric			
0	0 to 14	1/16 to 1/4	M1.5 to M6.3	—	7	C67201
14	0 to 14	1/16 to 3/8	M1.5 to M10	—	9	C67197
5	8 to 14	5/32 to 1/2	M4 to M12.5	1/8	11	C67202
6	8 to 14	5/32 to 3/4	M4 to M19	1/8 to 1/4	15	C67203
7	—	1/4 to 1-1/8	M12 to M28	1/8 to 3/4	19	C67204
8	—	3/4 to 1-5/8	M19 to M40	3/8 to 1-1/4	40	C67205
22	—	1 to 2-1/2	M25 to M56	3/4 to 2	54	C67200



Plain T-Handle						
Used for hand tapping in out-in-the-open jobs						
Product Number	Machine Screw	Tap Size Range		Pipe Tap	Overall Length (Inch)	Order Number 242 Series
		Fractional	Metric			
T9	0 to 14	1/16 to 1/4	M1.5 to M6.3	—	2-3/4	C67206
T10	12 to 14	7/32 to 1/2	M5.5 to M12.5	—	3-5/8	C67207



Slip T-Handle						
Used for hand tapping or in difficult spaces requiring a slip handle						
Product Number	Machine Screw	Tap Size Range		Pipe Tap	Overall Length (Inch)	Order Number 243 Series
		Fractional	Metric			
T11	0 to 14	1/16 to 1/4	M1.5 to M6.3	—	2-3/4	C67208
T12	12 to 14	7/32 to 1/2	M5.5 to M12.5	—	3-5/8	C67209



Combination Ratchet & Slip Handle						
Used for hand tapping in difficult spaces needing ratchet drive.						
Product Number	Machine Screw	Tap Size Range		Pipe Tap	Overall Length (Inch)	Order Number 244 Series
		Fractional	Metric			
T13	0 to 14	1/16 to 1/4	M1.5 to M6.3	—	3-3/4	C67210
T14	12 to 14	7/32 to 1/2	M5.5 to M12.5	—	5	C67211



Long Shank T-Handle						
Used for hand tapping where extra reach is required.						
Product Number	Machine Screw	Tap Size Range		Pipe Tap	Overall Length (Inch)	Order Number 245 Series
		Fractional	Metric			
T16	0 to 14	1/16 to 1/4	M1.5 to M6.3	—	8-3/4	C67212
T17	12 to 14	7/32 to 1/2	M5.5 to M12.5	—	9	C67213

TAP & DIE WRENCHES

Tap Capacity	Pipe Tap Capacity	Reamer Capacity	Overall Length	Order No.
2000TW T-Handle Tap Wrenches				
#0 – 3/16"	–	–	–	2000TW1
#0 – 1/4"	–	–	–	2000TW2
#10 – 3/8"	–	–	–	2000TW3
1/4" – 1/2"	–	–	–	2000TW4
2000AW Tap & Reamer Wrenches				
1/64" – 1/4"	–	1/8" – 21/64"	7"	2000AW0
5/32" – 1/2"	1/8"	11/64" – 7/16"	11"	2000AW5
5/32" – 3/4"	1/8" – 1/4"	11/16" – 41/64"	15"	2000AW6
1/4" – 1-1/8"	1/8" – 3/4"	9/32" – 29/32"	19"	2000AW7
1/2" – 1-3/8"	1/8" – 1"	3/8" – 1.5/32"	31"	2000AW7A
3/4" – 1-5/8"	3/8" – 1-1/4"	37/64" – 1-11/32"	40"	2000AW8



Premium quality tool stock, all jaws and set screws are hardened and tempered for optimum tool life.



▷ *Packaged in reusable plastic packaging*

Adjustable Tap Wrenches				
No.	Capacity	Order No.	Std. Pkg.	Std. Ctn.
1	1/16" – 1/4"	02W010	1	10
1 1/2	3/16" – 1/2"	02W015	1	10
3	1/4" – 3/4"	02W030	1	10
4	3/8" – 1"	02W040	1	10

T-Handle Tap Wrench With 3-Position Ratchet				
No.	Capacity	Order No.	Std. Pkg.	Std. Ctn.
1-T	6/32 to 1/4"	02W100	1	10
2-T	1/4" to 1/2"	02W200	1	10



TAP & DIE WRENCHES

300 / 330 SERIES



Standard Straight						
Used for hand tapping						
Product Number	Machine Screw	Tap Size Range		Pipe Tap	Overall Length	Order Number 330 Series
		Fractional	Metric			
0	0 to 14	1/16 to 1/4	M1.5 to M6.3	—	7	420910
14	0 to 14	1/16 to 3/8	M1.5 to M10	—	9	423015
5	8 to 14	5/32 to 1/2	M4 to M12.5	1/8	11	420936
6	8 to 14	5/32 to 3/4	M4 to M19	1/8 to 1/4	15	420944
7	—	1/4 to 1-1/8	M12 to M28	1/8 to 3/4	19	420951
8	—	3/4 to 1-5/8	M19 to M40	3/8 to 1-1/4	40	420977
22	—	1 to 2-1/2	M25 to M56	3/4 to 2	54	423016

Plain T-Handle						
Used for hand tapping in out-in-the-open jobs						
Product Number	Machine Screw	Tap Size Range		Pipe Tap	Overall Length	Order Number 300 Series
		Fractional	Metric			
T9	0 to 14	1/16 to 1/4	M1.5 to M6.3	—	2-3/4	420845
T10	12 to 14	7/32 to 1/2	M5.5 to M12.5	—	3-5/8	421852

Slip T-Handle						
Used for hand tapping or in difficult spaces requiring a slip handle						
Product Number	Machine Screw	Tap Size Range		Pipe Tap	Overall Length	Order Number 300 Series
		Fractional	Metric			
T11	0 to 14	1/16 to 1/4	M1.5 to M6.3	—	2-3/4	420803
T12	12 to 14	7/32 to 1/2	M5.5 to M12.5	—	3-5/8	420829

Combination Ratchet & Slip Handle						
Used for hand tapping in difficult spaces needing ratchet drive.						
Product Number	Machine Screw	Tap Size Range		Pipe Tap	Overall Length	Order Number 300 Series
		Fractional	Metric			
T13	0 to 14	1/16 to 1/4	M1.5 to M6.3	—	3-3/4	420860
T14	12 to 14	7/32 to 1/2	M5.5 to M12.5	—	5	420878

Long Shank T-Handle						
Used for hand tapping where extra reach is required.						
Product Number	Machine Screw	Tap Size Range		Pipe Tap	Overall Length	Order Number 300 Series
		Fractional	Metric			
T16	0 to 14	1/16 to 1/4	M1.5 to M6.3	—	8-3/4	423017
T17	12 to 14	7/32 to 1/2	M5.5 to M12.5	—	9	423018

TECHNICAL INFORMATION

TAP NOMENCLATURE / TAP CHAMFERS

BOTTOMING TAP

A tap having a chamfer length of 1-2 threads.

CHAMFER

The tapering of the threads at the front end of each land of a chaser, tap or die by cutting away and relieving the crest of the first few teeth to distribute the cutting action over several teeth.

CHAMFER ANGLE

The angle formed between the chamfer and the axis of the tap or die by cutting away and relieving the crest of the first few teeth to distribute the cutting action over several teeth.

CREST

The surface of the thread which joins the flanks of the thread and is farthest from the cylinder or cone from which the thread projects.

FLANK

The part of a helical thread surface which connects the crest and the root and which is theoretically a straight line in an axial plane section.

FLUTE

The longitudinal channel formed in a tap to create cutting edges on the thread profile and to provide chip spaces and cutting fluid passage.

HAND OF THREADS

A thread, when viewed axially, winds in a clockwise and receding direction for LEFT-HAND THREADS and counter-clockwise and receding direction for RIGHT-HAND THREADS.

HOOK, CHORDAL

A concave face having an angle of inclination specified between a chord passing through the root and crest of a thread form at the cutting face, and a radial line through the crest at the cutting edge.

HOOK, TANGENTIAL

A concave face having an angle of inclination specified between a line tangent to the hook surface at the cutting edge and a radial line to the same point.

HOOK ANGLE

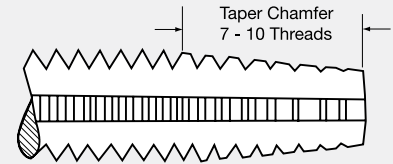
The angle of inclination of a concave face, usually specified either as CHORDAL HOOK or TANGENTIAL HOOK.

INTERRUPTED THREAD TAP

A tap having an odd number of lands with alternate teeth in the thread helix removed. In some cases alternate teeth are removed only for a portion of the thread length.

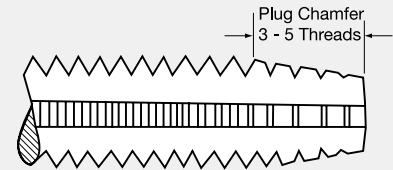
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TAP CHAMFERS



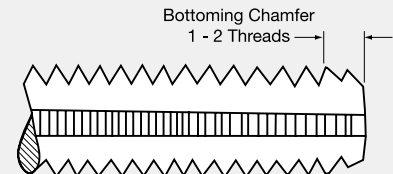
Taper (7 to 10 pitches)

The taper chamfer has the longest standard chamfer ensuring easier starting. It requires less tapping torque because of more working teeth.



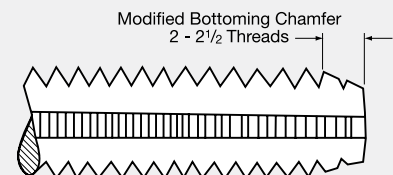
Plug (3 to 5 pitches)

The most common chamfer for use by hand or machine in through or blind holes. This chamfer is more efficient than a bottoming or modified-bottoming chamfer.



Bottoming (1 to 2 pitches)

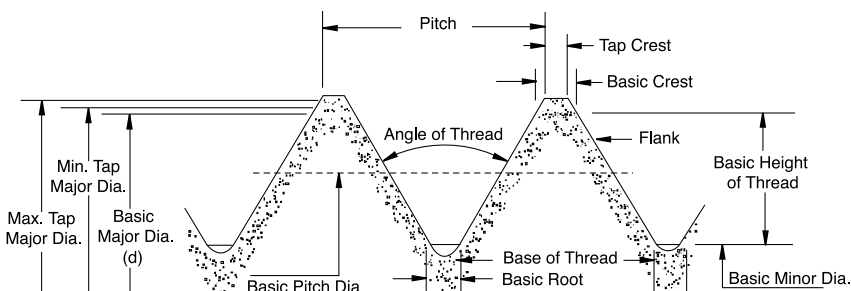
For threading close to the bottom of blind holes, the bottoming chamfer is the least efficient chamfer available.



Modified-Bottoming (2 to 2 1/2 pitches)

This short chamfer allows for threading close to the bottom of blind holes. Due to the slightly longer chamfer and more working teeth, this chamfer is more efficient than a bottoming chamfer.

ILLUSTRATION OF TAP TERMS



TECHNICAL INFORMATION

TAP NOMENCLATURE CONTINUED

LAND

One of the threaded sections between the flutes of a tap.

LEAD OF THREAD

The distance a screw thread advances axially in one complete turn. On a single start tap the lead and pitch are identical. On a multiple start tap the lead is the multiple of the pitch.

MAJOR DIAMETER

The diameter of the major cylinder or cone, at a given position on the axis, that bounds the crests of an external thread or the roots of an internal thread.

MINOR DIAMETER

The diameter of the minor cylinder or cone, at a given position on the axis, that bounds the roots of an external thread or the crests of an internal thread.

PITCH DIAMETER

The diameter of an imaginary cylinder or cone, at a given point on the axis, of such a diameter and location of its axis that its surface would pass through the thread in such a manner as to make the thread ridge and the thread groove equal and, therefore, is located equidistant between the sharp major and minor cylinders or cones of a given thread form. On a theoretically perfect thread, these widths are equal to one half of the basic pitch (measured parallel to the axis). See illustration below

PLUG TAP

A tap with 3 to 5 chamfered threads.

SPIRAL POINT

The angular fluting in the cutting face of the land at the chamfered end. It is formed at an angle with respect to the tap axis of opposite hand to that of rotation. Its length is usually greater than the chamfer length and its angle with respect to the tap axis is usually made great enough to direct the chips ahead of the tap. The tap may or may not have longitudinal flutes.

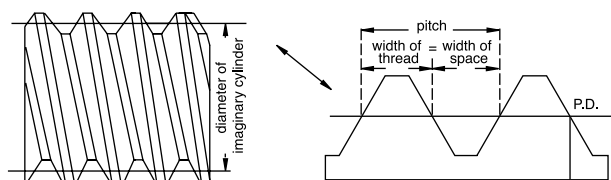
SQUARE

Four driving flats parallel to the axis on a tap shank forming a square or square with round corners.

TAPER TAP

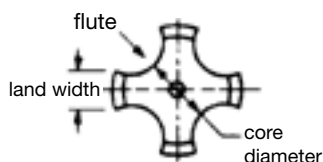
A tap having a chamfer length of 7 to 10 threads.

PITCH DIAMETER

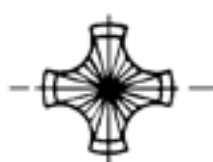


TAP END VIEWS

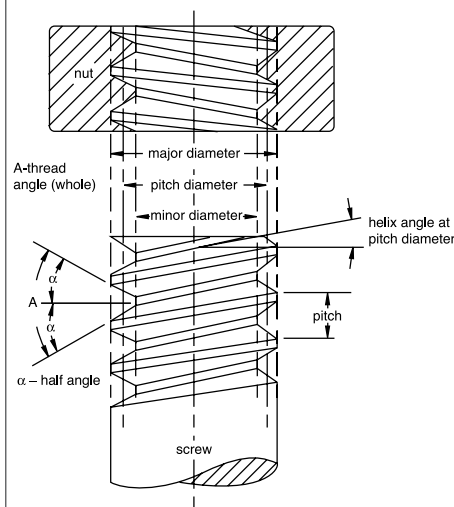
End View – Internal Center



End View - External Center



SCREW THREAD TOLERANCES



It is generally recognized that, in mass production, it is impossible to reproduce in exact detail the theoretically perfect product as laid out on the drawing board. The allowed slight variation between the theoretically perfect product and each unit of the actual product is called the TOLERANCE.

Allowance - An intentional difference in correlated dimensions of mating parts. It is the minimum clearance or maximum interference between such parts.

Angle of Thread - The angle included between the flanks of the thread measured in an axial plane.

Half Angle of Thread - The angle included between a flank of the thread and the normal (90°) to the axis, measured in an axial plane.

Lead of Thread - The distance a screw thread advances axially in one turn. On a single-thread screw the lead and pitch are identical. On a double thread the lead is 2X pitch, on a triple thread the lead is 3X pitch, etc.

Major Diameter - The largest diameter of a straight screw thread.

Minor Diameter - The smallest diameter of a straight screw thread.

Pitch - The distance from a point on a screw thread to a corresponding point on the next thread measured parallel to the axis.

$$\text{The pitch in inches} = \frac{1}{\text{no. of threads per inch}}$$

TECHNICAL INFORMATION

TAP - DRILL RECOMMENDATIONS

INCH SIZES (MEASUREMENTS IN INCHES)

Tap Size And Pitch	Cutting Taps Drill Size	Decimal Equivalent	Forming Tap Drill Size	Decimal Equivalent
0-80	3/64	.0469	54	.0550
1-64	53	.0595	51	.0670
1-72	53	.0595	51	.0670
2-56	50	.0700	5/64	.0781
2-64	50	.0700	47	.0785
3-48	47	.0785	43	.0890
3-56	46	.0810	2.30	.0905
4-40	43	.0890	38	.1015
4-48	42	.0935	2.60	.1024
5-40	38	.1015	33	.1130
5-44	37	.1040	2.90	.1142
6-32	36	.1065	1/8	.1250
6-40	33	.1130	3.25	.1280
8-32	29	.1360	25	.1495
8-36	29	.1360	24	.1520
10-24	26	.1470	11/64	.1719
10-32	21	.1590	16	.1770
12-24	16	.1770	8	.1990
12-28	15	.1800	7	.2010
1/4-20	7	.2010	1	.2280
1/4-28	3	.2130	15/64	.2340
5/16-18	F	.2570	L	.2900
5/16-24	I	.2720	M	.2950
3/8-16	5/16	.3125	S	.3480
3/8-24	Q	.3320	T	.3580
7/16-14	U	.3680	Y	.4040
7/16-20	25/64	.3906	Z	.4130
1/2-13	27/64	.4219	15/32	.4682
1/2-20	29/64	.4531	12.25	.4823
9/16-12	31/64	.4844	17/32	.5312
9/16-18	33/64	.5156	13.50	.5315
5/8-11	17/32	.5312	14.75	.5807
5/8-18	37/64	.5781	15.25	.6004
3/4-10	21/32	.6562	45/64	.7031
3/4-16	11/16	.6875	23/32	.7188
7/8-9	49/64	.7656	*	*
7/8-14	13/16	.8125	*	*
1-8	7/8	.8750	*	*
1-12	59/64	.9219	*	*
1-1/8 - 7	63/64	.9844	*	*
1-1/8 - 12	1 3/64	1.0469	*	*
1-1/4 - 7	1 7/64	1.1094	*	*
1-1/4 - 12	1 11/64	1.1719	*	*
1-3/8 - 6	1 7/32	1.2188	*	*
1-3/8 - 12	1 19/64	1.2969	*	*
1-1/2 - 6	1 11/32	1.3438	*	*
1-1/2 - 12	1 27/64	1.4219	*	*

METRIC SIZES (MEASUREMENTS IN MM & INCHES)

Tap Size And Pitch	Cutting Taps Drill Size (mm)	Decimal Equiv. (Inch)	Forming Tap Drill Size (mm)	Decimal Equiv. (Inch)
M1.6 x 0.35	1.25	.0492	1.45	.0571
M1.8 x 0.35	1.45	.0571	1.65	.0650
M2 x 0.40	1.60	.0630	1.80	.0709
M2.2 x 0.45	1.75	.0689	2.00	.0787
M2.5 x 0.45	2.05	.0807	2.30	.0906
M3 x 0.50	2.50	.0984	7/64	.1094
M3.5 x 0.60	2.90	.1142	3.20	.1260
M4 x 0.70	3.30	.1299	3.70	.1476
M4.5 x 0.75	3.70	.1476	4.10	.1614
M5 x 0.80	4.20	.1654	14	.1820
M6 x 1.00	5.00	.1969	7/32	.2188
M7 x 1.00	6.00	.2362	F	.2570
M8 x 1.25	6.70	.2638	7.40	.2913
M8 x 1.00	7.00	.2756	19/64	.2969
M10 x 1.50	8.50	.3346	U	.3680
M10 x 1.25	8.70	.3425	9.40	.3701
M12 x 1.75	10.20	.4016	11.20	.4409
M12 x 1.25	10.80	.4252	11.50	.4528
M14 x 2.00	12.00	.4724	33/64	.5156
M16 x 2.00	14.00	.5512	19/32	.5938
M16 x 1.50	14.50	.5709	15.25	.6004
M18 x 2.50	15.50	.6102	39/64	.6094
M18 x 1.50	16.50	.6496	17.25	.6791
M20 x 2.50	17.50	.6890	*	*
M20 x 1.50	18.50	.7283	*	*
M22 x 2.50	19.50	.7677	*	*
M22 x 1.50	20.50	.8071	*	*
M24 x 3.00	21.00	.8268	*	*
M24 x 2.00	22.00	.8661	*	*
M27 x 3.00	24.00	.9449	*	*
M27 x 2.00	25.00	.9843	*	*
M30 x 3.50	26.50	1.0433	*	*
M30 x 2.00	28.00	1.1024	*	*
M33 x 3.50	29.50	1.1614	*	*
M33 x 2.00	31.00	1.2205	*	*
M36 x 4.00	32.00	1.2598	*	*
M36 x 3.00	33.00	1.2992	*	*
M39 x 4.00	35.00	1.3780	*	*
M39 x 3.00	36.00	1.4173	*	*

PIPE TAP SIZES (MEASUREMENTS IN MILLIMETERS & INCHES)

Nominal Pipe Tap Size	NPT & NPTF		NPSM	NPSC	NPSF
	without Reamer	with Reamer			
1/16-27	C (.242)	A (.234)	—	.250	D (.246)
1/8-27	Q (.332)	21/64	T (.358)	Q (.332)	R (.339)
1/4-18	7/16	27/64	15/32	7/16	7/16
3/8-18	9/16	9/16	.603 (special)	37/64	37/64
1/2-14	45/64	11/16	19,0 mm	18,0 mm	18,0 mm
3/4-14	29/32	57/64	61/64	59/64	59/64
1 - 11-1/2	1-9/64	1-1/8	1-13/64	1-5/32	1-5/32
1-1/4-11-1/2	1-31/64	1-15/32	1-35/64	1-1/2	—
1-1/2 - 11-1/2	1-23/32	1-45/64	1-25/32	1-47/64	—
2 - 11-1/2	2-3/16	2-11/64	2-1/4	2-13/64	—

* Contact Technical Service for recommendations.
Hole sizes shown may not suit UNJ and MJ hole requirements.

TECHNICAL INFORMATION

HARDNESS CONVERSION TABLE

USE THIS TABLE TO MATCH THE HARDNESS OF YOUR WORK PIECE MATERIAL TO THE CORRECT TAP.

MATERIAL									
10 M/M Ball 3000 Kg	120° Cone 150 Kg	1/16" Ball 100 Kg	Model C	1000 Lb. per Sq. In.	10 M/M Ball 3000 Kg	120° Cone 150 Kg	1/16" Ball 100 Kg	Model C	1000 Lb. per Sq. In.
Brinell	Rockwell C	Rockwell B	Shore Scleroscope	Tensile Strength	Brinell	Rockwell C	Rockwell B	Shore Scleroscope	Tensile Strength
800	72	—	100	—	276	30	105	42	136
780	71	—	99	—	269	29	104	41	132
760	70	—	98	—	261	28	103	40	129
745	68	—	97	367	258	27	102	39	127
725	67	—	96	357	255	26	102	39	125
712	66	—	95	350	249	25	101	38	123
682	65	—	93	337	245	24	100	37	119
668	64	—	91	326	240	23	99	36	117
652	63	—	89	318	237	23	99	35	115
626	62	—	87	306	229	22	98	34	113
614	61	—	85	299	224	21	97	33	110
601	60	—	83	292	217	20	96	33	107
590	59	—	81	290	211	19	95	32	104
576	57	—	79	281	206	18	94	32	102
552	56	—	76	270	203	17	94	31	100
545	55	—	75	268	200	16	93	31	98
529	54	—	74	259	196	15	92	30	96
514	53	120	72	254	191	14	92	30	94
502	52	119	70	247	187	13	91	29	92
495	51	119	69	244	185	12	91	29	91
477	49	118	67	233	183	11	90	28	90
461	48	117	66	227	180	10	89	28	89
451	47	117	65	223	175	9	88	27	86
444	46	116	64	219	170	7	87	27	84
427	45	115	62	209	167	6	87	27	82
415	44	115	60	204	165	5	86	26	81
401	43	114	58	196	163	4	85	26	80
388	42	114	57	191	160	3	84	25	78
375	41	113	55	184	156	2	83	25	76
370	40	112	54	182	154	1	82	25	75
362	39	111	53	179	152	—	82	24	74
351	38	111	51	173	150	—	81	24	74
346	37	110	50	170	147	—	80	24	72
341	37	110	49	168	145	—	79	23	71
331	36	109	47	163	143	—	79	23	70
323	35	109	46	158	141	—	78	23	69
311	34	108	46	153	140	—	77	22	69
301	33	107	45	148	135	—	75	22	67
293	32	106	44	144	130	—	72	22	65
285	31	105	43	140					

TECHNICAL INFORMATION

STANDARD TAP MARKING SYSTEM

Taps, dies, and other threading tools will be marked with the nominal size, number of threads per inch, and the proper symbol to identify the thread form. The symbols below are in agreement with the ASME B1.7 1965 (R 1972) Standard on nomenclature, definitions and letter symbols for screw threads and other national standards.

SYMBOL	REFERENCE
ACME-C	Acme Thread-Centralizing
ACME-G	Acme Thread-General Purpose
AMO	American Standard Microscope Objective Thread
ANPT	Aeronautical National Form Taper Pipe Thread (Ground Thread Tap marked NPT)
BA	British Association Standard Thread
BSF	British Standard Fine Thread Series
BSPP	British Standard Pipe (Parallel) Thread
BSPT	British Standard Taper Pipe Thread
BSW	British Standard Whitworth Coarse Thread Series
M	Metric Standard Threads
N	American National 8, 12 and 16 Thread Series (8N, 12N, 16N)
N BUTT	American Buttress Thread
NC	American National Coarse Thread Series
NEF	American National Extra-Fine Thread Series
NF	American National Fine Thread Series
NGO	National Gas Outlet Thread (specify right or left hand)
NGS	National Gas Straight Thread
NGT	National Gas Taper Thread (See also "SGT")
NH	American National Hose Coupling & Firehose Coupling Threads
NPS	For Tap marking Only (See NPSC, NPSM)
NPSC	American National Standard Straight Pipe Thread in Pipe Couplings (Tap Marked NPS)
NPSF	Dryseal American National Standard Fuel Internal Straight Pipe Thread
NPSH	American National Standard Straight Pipe Thread for Hose Couplings
NPSI	Dryseal American National Standard Intermediate Internal Straight Pipe Thread
NPSL	American National Standard Straight Pipe Thread for Loose-Fitting Mechanical Joints with locknuts
NPSM	American National Standard Straight Pipe Threads for Free-Fitting Mechanical Joints for Fixtures (Tap Marked NPS)"
NPT	American National Standard Taper Pipe Thread (see ANPT, NPTR)

SYMBOL	REFERENCE
NPTF	Dryseal American National Standard Taper Pipe Thread
NPTR	American National Standard Taper Pipe Thread for Railing Joints (Tap Marked NPT)
NR	American National Thread with a 0.108p to 0.144p Controlled Root Radius
NS	American National Thread-Special
PTF-SAE	Short Dryseal SAE Short Taper Pipe Thread
SGT	Special Gas Taper Thread
SPL-PTF	Dryseal Special Taper Pipe Thread
STI	Special Thread for Helical Coil Wire Screw Thread Inserts
Stub Acme	Stub Acme Thread
*UN	Unified Constant-Pitch Thread Series
*UNC	Unified Coarse Thread Series
*UNEF	Unified Extra-Fine Thread Series
*UNF	Unified Fine Thread Series
UNJ	Unified Thread Series with a 0.150lp to 0.18042p Controlled Root Radius on External Thread only.
UNJC	Unified Coarse Thread Series with a 0.150lp to 0.18042p Controlled Root Radius on External Thread only.
UNJF	Unified Fine Thread Series with a 0.150lp to 0.18042p Controlled Root Radius on External Thread only.
UNM	Unified Miniature Thread Series
UNR	Unified Constant-pitch Thread Series with a 0.108p to 0.144p Controlled Root Radius
UNRC	Unified Coarse Thread Series with a 0.108p to 0.144p Controlled Root Radius
UNRF	Unified Fine Thread Series with a 0.108p to 0.144p Controlled Root Radius
*UNS	Unified Thread-Special
V	A 60 "V" thread with Truncated Crest and Root. The theoretical "V" Form is usually flattened to the user's specifications.

*Taps are not marked with "U", but with the symbol for the corresponding American Standard thread form with which it is compatible.

TECHNICAL INFORMATION

APPLICATION DATA - PROGRESS/PERFORMANCE TAPS

These taps were developed for the highest cutting performance to cope with the increasing demands placed on industrial thread cutting. By optimizing the cutting geometry, substrate material, and surface treatment the tap will achieve the best results in CNC as well as in conventional thread cutting environments.

Our **Progress series** of taps are designed to be a "Universal" tool that performs well in a wide range of Steel Alloys as well as Stainless Steels and Ductile Irons.

Our **Performance series** of taps are designed for those difficult jobs including Stainless Steels but work well in Steel Alloys and Ductile Irons.

Material		Application 1 = First Choice, 2 = Second Choice, (3) = Also Suitable			Tapping Speed (SFM) Vc = SFM RPM = (SFM/Diameter) x 3.82		
		Black Oxide Finish	TiAIN	Hardlube	Black Oxide Finish	TiAIN	Hardlube
Structural steels < 1000 N/mm2	G01		1		40	73	77
Structural steels > 1000 N/mm2	G02		(3)	1	27	40	42
Case hardening steels < 1000 N/mm2	G03		2	1	33	66	70
Case hardening steels > 1000 N/mm2	G04		(3)	1	20	33	35
Heat treatable steels < 1000 N/mm2	G05		2	1	20	46	49
Heat treatable steels > 1000 N/mm2	G06		(3)	1	14	27	29
Nitriding steels	G07	(3)	2	1	14	27	29
Carbon tool steels	G08		1	2	20	30	32
Heat Resisting Steels < 1400 N/mm2	G09	(3)	(3)	1	14	23	25
Cr Stainless Steels, Sulphured	G10	(3)	(3)	1	20	33	35
Cr Stainless Steels, Ferric & Martensitic	G11	(3)	(3)	1	20	33	35
Cr-Ni Stainless Steels, Austenitic	G12	(3)	(3)	1	17	27	29
Free Cutting Steels	G13		1		46	79	83
Cast Steels < 1000 N/mm2	G14		1		33	53	56
Cast Steels > 900 N/mm2	G15		2	1	20	27	29
Malleable Cast Iron	G16		(3)		33	53	56
Nodular Graphite Cast Iron	G17		(3)		40	53	56
Lamellar Graphite Cast Iron (Grey Cast Iron)	G18		(3)		33	46	49
Vermicular Graphite Cast Iron	G19		(3)		40	53	56
Copper	G20		(3)		33	53	56
Hard Brass -- Short Chipping	G21		(3)		66	115	121
Soft Brass -- Long Chipping	G22		(3)		60	109	115
Red Brass	G23		(3)		33	60	63
Phosphor Bronze	G24		(3)		40	69	73
Aluminum Alloy - Wrought	G25		(3)		50	79	83
Aluminum Alloy - Cast (0.5% to 5% Silicon)	G26		(3)		66	86	91
Aluminum Alloy - Cast (5% to 10% Silicon)	G27		(3)		66	86	91
Aluminum Alloy - Cast (> 10% Silicon)	G28		(3)		66	86	91
Magnesium Alloy - Wrought	G29		(3)		50	79	83
Magnesium Alloy - Cast	G30		(3)		66	86	91
Nickel Alloy	G31		(3)		14	20	21
Titanium Alloy	G32		(3)		14	20	21
Ferro - TiC	G33		(3)		14	20	21
Thermoplastic Compounds/Synthetics	G34		(3)		66	66	70
High Strength Structural Steels - Fine Grained	G35		(3)		20	33	35

TECHNICAL INFORMATION

TAPPING SPEEDS

Consider these factors when trying to determine the best tapping speeds.

- Material to be tapped
- Length of chamfer on tap
- Percentage of full thread to be cut
- Length of hole (depth of thread)
- Pitch of thread
- Cutting fluids
- Machine equipment
- Horizontal or vertical tapping

The best and most efficient operating speeds for taps cannot be calculated with the same certainty as for many other metalcutting tools. With other tools, the feed per revolution can be set at any desired point and can be varied as conditions demand. Taps, on the other hand, must always be advanced at a rate equal to one pitch for every revolution. The style of tap may vary the conditions. For example, with a bottoming tap, the first thread on each land cuts the full height of thread, while, with a taper or starting tap, a number of threads do their share of the cutting before the full height of thread is reached.

The depth of thread also varies, depending on the pitch. The coarser the thread, the greater the advance of the tap per revolution and the greater the amount of material removed.

The method of feeding the tap, and the type of equipment for driving, also influence the permissible speeds. If taps are mechanically fed at the proper rate of advance, they can be operated at higher speeds than if they are required to feed themselves and pull some part of the machine along with them.

Speeds may be modified to take into account any or all of the factors listed above. Speeds must be lowered as the length of thread increases, because, in deep thread holes, the accumulated chips increase friction and interfere with lubrication.

Bottoming taps must be run slower than plug taps.

Tapping of full height of thread calls for slower speed than if the commercial 75% height only is required.

Coarse-thread taps in the larger diameters should be run more slowly than fine-thread taps of the same diameters.

The quantity and quality of cutting fluid may affect the permissible speeds as much as 100%.

Taper threaded taps, such as pipe taps, should be operated from 1/2 to 3/4 the speed of a straight thread tap of comparable major diameter.

TAPPING DEFINITIONS

SFM = Surface Feet per Minute

RPM = Revolutions Per Minute

IPM = Inches Per Minute

TPI = Threads Per Inch

S m/m = Surface Meters per Minute

$\pi = 3.1416$

mm/m = Millimeters per Minute

P = Pitch (1/ No of Threads Per Inch)

TAPPING FORMULA

INCH SIZES

$SFM = (RPM \times \text{tool diameter}) / 3.82$ or $0.262 \times RPM \times \text{tool diameter}$

$RPM = (3.82 \times SFM) / \text{tool Diameter}$

$IPM = RPM / TPI$ or $P \times RPM$

METRIC SIZES

$S \text{ m/m} = (\pi \times \text{tool diameter} \times RPM) / 1000$

$RPM = (m/m \times 1000) / \pi \times \text{tool diameter}$

$mm/m = \pi \times P \times RPM$

TECHNICAL INFORMATION

TAPPING SPEEDS

02

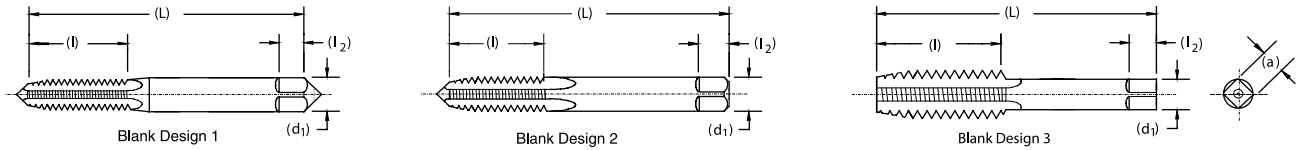
TAPS

UNC/UNF & NPT/NPTF SIZES																			
UNC UNF TAP SIZE	NPT NPTF TAPER PIPE	SURFACE FEET PER MINUTE (SFM)																	
		5'	10'	15'	20'	25'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
REVOLUTIONS PER MINUTE (RPM)																			
0		318	637	955	1273	1592	1910	2546	3183	3820	4456	5093	5729	6366	7003	7639	8276	8913	9549
1		273	546	819	1046	1308	1570	2093	2617	3140	3663	4186	4710	5233	5756	6279	6805	7326	1849
2		212	424	637	888	1110	1333	1777	2221	2665	3109	3554	3999	4442	4886	5330	5774	6218	6662
3		191	382	573	772	964	1157	1543	1929	2315	2701	3086	3472	3858	4244	4629	5015	5401	5787
4		174	347	521	682	853	1023	1364	1705	2046	2387	2728	3069	3411	3751	4092	4434	4775	5115
5		147	294	441	611	764	917	1222	1528	1833	2139	2445	2750	3056	3361	3667	3973	4278	4584
6		136	273	409	553	691	829	1106	1382	1859	1935	2212	2488	2766	3042	3318	3595	3871	4148
8		119	239	358	466	583	699	932	1165	1398	1631	1864	2097	2330	2563	2796	3029	3262	3495
10		101	201	302	402	502	603	804	1005	1205	1406	1607	1808	2009	2210	2411	2612	2813	3014
12		87	174	260	354	442	531	707	884	1061	1238	1415	1592	1769	1945	2122	2300	2476	2653
1/4		76	153	229	306	382	458	611	764	917	1070	1222	1375	1528	1681	1833	1986	2139	2292
5/16		62	123	185	245	306	367	489	611	733	856	978	1100	1222	1345	1467	1589	1711	1833
3/8		50	101	151	204	255	305	407	509	611	713	815	917	1019	1120	1222	1324	1426	1528
7/16	1/8	43	87	130	175	219	262	349	437	524	611	698	786	873	960	1048	1135	1222	1310
1/2	—	38	76	115	153	191	229	305	382	458	535	611	688	764	840	917	993	1070	1146
9/16	1/4	34	68	102	137	172	206	274	342	410	478	547	616	683	752	820	888	952	1020
5/8	—	32	64	96	122	153	183	244	306	367	428	489	550	611	672	733	794	856	917
11/16	3/8	28	55	83	111	138	167	222	278	333	389	444	500	556	611	667	722	778	833
3/4	—	25	51	76	102	128	153	203	255	305	357	407	458	509	560	611	662	713	764
7/8	1/2	22	43	65	87	109	131	175	218	262	306	350	392	437	480	524	568	611	655
1	—	19	38	57	76	96	115	153	191	230	268	305	344	382	420	458	497	535	573
1-1/8	3/4	17	34	51	68	84	102	136	170	204	238	272	306	340	373	407	441	475	509
1-1/4	—	15	31	46	61	76	92	122	153	183	214	244	275	305	336	367	397	428	458
1-3/8	1	14	28	42	56	69	83	111	139	167	194	222	250	278	306	333	361	389	417
1-1/2	—	13	25	38	51	63	76	102	127	153	178	204	229	255	280	305	331	356	382
1-5/8		12	23	35	47	59	71	94	118	141	165	188	212	235	259	282	306	329	353
1-3/4		11	22	33	44	55	65	87	109	131	153	175	196	218	240	262	284	306	327
1-7/8		10	20	30	41	51	61	81	102	122	143	163	183	204	224	244	265	285	306
2		9	19	29	38	48	57	76	96	115	134	153	172	191	210	229	248	267	287

METRIC SIZES																		
TAP SIZE	SURFACE FEET PER MINUTE (SFM)																	
	5'	10'	15'	20'	25'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
	REVOLUTIONS PER MINUTE (RPM)																	
M1	490	979	1469	1959	2449	2938	3918	4897	5877	6856	7836	8815	9795	10774	11754	12733	13713	14692
M2	242	484	725	967	1209	1451	1934	2418	2901	3385	3868	4352	4835	5319	5803	6286	6770	7253
M3	162	324	486	347	809	971	1295	1619	1942	2266	2590	2914	3237	3561	3885	4208	4532	4856
M3.5	138	277	415	554	692	830	1107	1384	1661	1938	2214	1491	2768	3045	3322	3599	3875	4152
M4	122	243	365	487	608	730	973	1217	1460	1703	1946	2190	2433	2676	2920	3163	3406	3650
M5	97	194	291	388	485	582	776	970	1163	1357	1551	1745	1939	2133	2327	2521	2715	2905
M6	81	162	243	324	405	486	647	809	971	1133	1295	1457	1619	1781	1942	2104	2266	2428
M7	69	138	208	277	346	415	554	692	830	969	1107	1246	1384	1522	1661	1799	1938	2076
M8	61	121	182	243	303	364	485	606	728	849	970	1091	1213	1334	1455	1577	1698	1819
M10	48	97	145	194	242	291	388	485	582	679	776	873	970	1067	1163	1260	1357	1454
M12	40	81	121	162	202	243	324	405	486	567	647	728	809	890	971	1052	1133	1214
M14	35	69	104	139	173	208	277	347	416	485	555	624	693	763	832	901	971	1040
M16	30	61	91	121	152	182	243	303	364	424	485	546	606	667	728	788	849	910
M18	27	54	81	108	135	162	216	269	323	377	431	485	539	593	647	700	754	808
M20	24	49	73	97	121	146	194	243	291	340	388	437	485	534	582	631	680	728
M22	22	44	66	88	110	132	176	221	265	309	353	397	441	485	529	573	618	662
M24	20	40	61	81	101	121	162	202	243	283	323	364	404	445	485	526	566	606
M27	18	36	54	72	90	108	144	180	216	252	287	323	359	395	431	467	503	539
M30	16	32	49	65	81	97	129	162	194	226	259	291	323	356	388	420	453	485

TECHNICAL INFORMATION

STANDARD TAP DIMENSIONS - GROUND THREAD



USCTI TABLE 302

Nominal Diameter Range inches over to (inc.)	Machine Screw Size Number Inches	Nominal Fractional Diameter Inches	Nominal Metric Diameter Millimeters (Inches)	Blank Design No.	L Overall Length	l Thread Length	l ₂ Square Length	d ₁ Shank Diameter	a Square Size
.052 .065	0 (.0600)		M1.6 (.0630)	1	1.63	.31	.19	.1410	.110
.065 .078	1 (.0730)		M1.8 (.0709)	1	1.69	.38	.19	.1410	.110
.078 .091	2 (.0860)		M2 (.0787) M2.2 (.0866)	1	1.75	.44	.19	.1410	.110
.091 .104	3 (.0990)		M2.5 (.0984)	1	1.81	.50	.19	.1410	.110
.104 .117	4 (.1120)			1	1.88	.56	.19	.1410	.110
.117 .130	5 (.1250)		M3 (.1181)	1	1.94	.63	.19	.1410	.110
.130 .145	6 (.1380)		M3.5 (.1378)	1	2.00	.69	.19	.1410	.110
.145 .171	8 (.1640)		M4 (.1575)	1	2.13	.75	.25	.1680	.131
.171 .197	10 (.1900)		M4.5 (.1772) M5 (.1969)	1	2.38	.88	.25	.1940	.152
.197 .223	12 (.2160)			1	2.38	.94	.28	.2200	.165
.223 .260		1/4 (.2500)	M6 (.2362)	2	2.50	1.00	.31	.2550	.191
.260 .323		5/16 (.3125)	M7 (.2756) M8 (.3150)	2	2.72	1.13	.38	.3180	.238
.323 .395		3/8 (.3750)	M10 (.3937)	2	2.94	1.25	.44	.3810	.286
.395 .448		7/16 (.4375)		3	3.16	1.44	.41	.3230	.242
.448 .510		1/2 (.5000)	M12 (.4724)	3	3.38	1.66	.44	.3670	.275
.510 .573		9/16 (.5625)	M14 (.5512)	3	3.59	1.66	.50	.4290	.322
.573 .635		5/8 (.6250)	M16 (.6299)	3	3.81	1.81	.56	.4800	.360
.635 .709		11/16 (.6875)	M18 (.7087)	3	4.03	1.81	.63	.5420	.406
.709 .760		3/4 (.7500)		3	4.25	2.00	.69	.5900	.442
.760 .823		13/16 (.8125)	M20 (.7874)	3	4.47	2.00	.69	.6520	.489
.823 .885		7/8 (.8750)	M22 (.8661)	3	4.69	2.22	.75	.6970	.523
.885 .948		15/16 (.9375)	M24 (.9449)	3	4.91	2.22	.75	.7600	.570
.948 1.010		1 (1.0000)	M25 (.9843)	3	5.13	2.50	.81	.8000	.600
1.010 1.073		1-1/16 (1.0625)	M27 (1.0630)	3	5.13	2.50	.88	.8960	.672
1.073 1.135		1-1/8 (1.1250)		3	5.44	2.56	.88	.8960	.672
1.135 1.198		1-3/16 (1.1875)	M30 (1.1811)	3	5.44	2.56	1.00	1.0210	.766
1.198 1.260		1-1/4 (1.2500)		3	5.75	2.56	1.00	1.0210	.766
1.260 1.323		1-5/16 (1.3125)	M33 (1.2992)	3	5.75	2.56	1.06	1.1080	.831
1.323 1.385		1-3/8 (1.3750)		3	6.06	3.00	1.06	1.1080	.831
1.385 1.448		1-7/16 (1.4375)	M36 (1.4173)	3	6.06	3.00	1.13	1.2330	.925
1.448 1.510		1-1/2 (1.5000)		3	6.38	3.00	1.13	1.2330	.925
1.510 1.635		1-5/8 (1.6250)	M39 (1.5354)	3	6.69	3.19	1.13	1.3050	.979
1.635 1.760		1-3/4 (1.7500)	M42 (1.6535)	3	7.00	3.19	1.25	1.4300	1.072
1.760 1.885		1-7/8 (1.8750)		3	7.31	3.56	1.25	1.5190	1.139
1.885 2.010		2 (2.0000)	M48 (1.8898)	3	7.63	3.56	1.38	1.6440	1.233
2.010 2.135		2 1/8 (2.1250)		3	8.00	3.56	1.38	1.7690	1.327
2.135 2.260		2 1/4 (2.2500)	M56 (2.2047)	3	8.25	3.56	1.44	1.8940	1.420
2.260 2.385		2 3/8 (2.3750)		3	8.50	4.00	1.44	2.0190	1.514
2.385 2.510		2 1/2 (2.5000)		3	8.75	4.00	1.50	2.1000	1.575
2.510 2.635		2 5/8 (2.6250)	M64 (2.5197)	3	8.75	4.00	1.50	2.2250	1.669
2.635 2.760		2 3/4 (2.7500)		3	9.25	4.00	1.56	2.3500	1.762
2.760 2.885		2 7/8 (2.8750)	M72 (2.8346)	3	9.25	4.00	1.56	2.4750	1.856
2.885 3.010		3 (3.0000)		3	9.75	4.56	1.63	2.5430	1.907
3.010 3.135		3 1/8 (3.1250)		3	9.75	4.56	1.63	2.6680	2.001
3.135 3.260		3 1/4 (3.2500)	M80 (3.1496)	3	10.00	4.56	1.75	2.7930	2.095
3.260 3.385		3 3/8 (3.3750)		3	10.00	4.56	1.75	2.8830	2.162
3.385 3.510		3 1/2 (3.5000)		3	10.25	4.94	2.00	3.0080	2.256
3.510 3.635		3 5/8 (3.6250)	M90 (3.5433)	3	10.25	4.94	2.00	3.1330	2.350
3.635 3.760		3 3/4 (3.7500)		3	10.50	5.31	2.13	3.2170	2.413
3.760 3.885		3 7/8 (3.8750)		3	10.50	5.31	2.13	3.3420	2.506
3.885 4.010		4 (4.0000)	M100 (3.9370)	3	10.75	5.31	2.25	3.4670	2.600

TECHNICAL INFORMATION

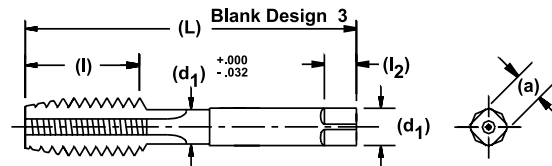
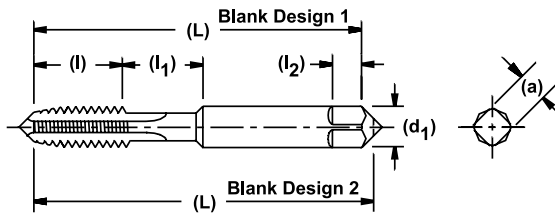
STANDARD TAP DIMENSIONS

02

TAPS

USCTI TABLE 302 TOLERANCES

Element	Nominal Diameter Range to Inches		Direction	Tolerance Range
	Over	To (Inc.)		
Length Overall - L	.0520	1.0100	Plus or Minus	.031
	1.0100	4.0100	Plus or Minus	.063
Length of Thread - I	.0520	.2230	Plus or Minus	.047
	.2230	.5100	Plus or Minus	.063
	.5100	1.5100	Plus or Minus	.094
	1.5100	4.0100	Plus or Minus	.125
Length of square - I ₂	.0520	1.0100	Plus or Minus	.031
	1.0100	4.0100	Plus or Minus	.063
Diameter of shank - d ₁	.0520	.2230	Minus	.0015
	.2230	.6350	Minus	.0015
	.6350	1.0100	Minus	.0020
	1.0100	1.5100	Minus	.0020
	1.5100	2.0100	Minus	.0030
	2.0100	4.0100	Minus	.0030
Size of square - a	.0520	.5100	Minus	.004
	.5100	1.0100	Minus	.006
	1.0100	2.0100	Minus	.008
	2.0100	4.0100	Minus	.010

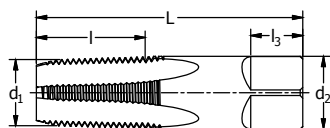


USCTI TABLE 302A - Optional Neck and Shortened Thread Length

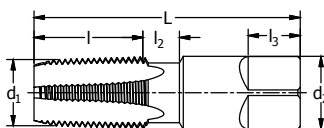
Nominal Diameter Range inches over to (inc.)	Machine Screw Size Number Inches	Nominal Fractional Diameter Inches	Nominal Metric Diameter Millimeters (Inches)	Blank Design No.	L Overall Length	I Thread Length	I ₁ Neck Length	I ₂ Square Length	d ₁ Shank Diameter	a Square Size
.104 .117	4 (.1120)			1	1.88	.31	.25	.19	.1410	.110
.117 .130	5 (.1250)		M3 (.1181)	1	1.94	.31	.31	.19	.1410	.110
.130 .145	6 (.1380)		M3.5 (.1378)	1	2.00	.38	.31	.19	.1410	.110
.145 .171	8 (.1640)		M4 (.1575)	1	2.13	.38	.38	.25	.1680	.131
.171 .197	10 (.1900)		M4.5 (.1772) M5 (.1969)	1	2.38	.50	.38	.25	.1940	.152
.197 .223	12 (.2160)			1	2.38	.50	.44	.28	.2200	.165
.223 .260		1/4 (.2500)	M6 (.2362)	2	2.50	.63	.38	.31	.2550	.191
.260 .323		5/16 (.3125)	M7(.2756) M8(.3150)	2	2.72	.69	.44	.38	.3180	.238
.323 .395		3/8 (.3750)	M10 (.3937)	2	2.94	.75	.50	.44	.3810	.286
.395 .448		7/16 (.4375)		3	3.16	.88	—	.41	.3230	.242
.448 .510		1/2 (.5000)	M12 (.4724)	3	3.38	.94	—	.44	.3670	.275
.510 .573		9/16 (.5625)	M14 (.5541)	3	3.59	1.00	—	.50	.4290	.322
.573 .635		5/8 (.6250)	M16 (.6299)	3	3.81	1.09	—	.56	.4800	.360
.635 .709		11/16 (.6875)	M18 (.7087)	3	4.03	1.09	—	.63	.5420	.406
.709 .760		3/4 (.7500)		3	4.25	1.22	—	.69	.5900	.442
.760 .823		13/16 (.8125)	M20 (.7874)	3	4.47	1.22	—	.69	.6520	.489
.823 .885		7/8 (.8750)	M22 (.8661)	3	4.69	1.34	—	.75	.6970	.523
.885 .948		15/16 (.9375)	M24 (.9449)	3	4.91	1.34	—	.75	.7600	.570
.948 1.010		1 (1.0000)	M25 (.9843)	3	5.13	1.50	—	.81	.8000	.600

TECHNICAL INFORMATION

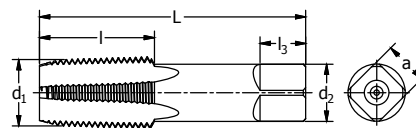
STANDARD PIPE TAP, STRAIGHT & TAPER DIMENSIONS



311
Pipe Tap Blank Design 1



311
Pipe Tap Blank Design 2
with optional neck



311
Pipe Tap Blank Design 3

USCTI TABLE 311

Nominal Size	Tap Style	L Overall Length	l Thread Length	l ₃ Square Length	d ₂ Shank Diameter	a Square Size	l ₂ Optional Neck
1/16	1	2.13	.69	.38	.3125	.234	.375
1/8	1	2.13	.75	.38	.3125	.234	—
1/8	1	2.13	.75	.38	.4375	.328	.375
1/4	1	2.44	1.06	.44	.5625	.421	.375
3/8	1	2.56	1.06	.50	.7000	.531	.375
1/2	3	3.13	1.38	.63	.6875	.515	—
3/4	3	3.25	1.38	.69	.9063	.679	—
1	3	3.75	1.75	.81	1.1250	.843	—
1-1/4	3	4.00	1.75	.94	1.3125	.984	—
1-1/2	3	4.25	1.75	1.00	1.5000	1.125	—
2	3	4.50	1.75	1.13	1.8750	1.406	—
2-1/2	3	5.50	2.56	1.25	2.2500	1.687	—
3	3	6.00	2.63	1.38	2.6250	1.968	—
3-1/2	3	6.50	2.69	1.50	2.8125	2.108	—
4	3	6.75	2.75	1.56	3.0000	2.250	—

USCTI TABLE 311 TOLERANCES

Element	Range	Direction	Tolerance Range
Length Overall - L	1/16" to 3/4" inc.	+ / -	.031
	1" to 4" inc.	+ / -	.063
Length of Thread - l	1/16" to 3/4" inc.	+ / -	.063
	1" to 1-1/4" inc.	+ / -	.094
	1-1/2" to 4"	+ / -	.125
Length of Square - l ₃	1/16" to 3/4" inc.	+ / -	.031
	1" to 4" inc.	+ / -	.063
Diameter of Shank - d ₂	1/16" to 1/8"	—	.0015
	1/4" to 1" inc.	—	.0020
	1-1/4" to 4" inc.	—	.0030
Size of Square - a	1/16" to 1/8"	—	.004
	1/4" to 3/4" inc.	—	.006
	1" to 4" inc.	—	.008

TECHNICAL INFORMATION

GROUND THREAD UNIFIED & AMERICAN NATIONAL FORM

LEAD TOLERANCE

A maximum lead error of $\pm .0005$ " in 1" of thread is permitted.

PITCH DIAMETER LIMITS

For taps through 1" diameter:

- H1 = basic to basic plus .0005"
- H2 = basic plus .0005" to basic plus .001"
- H3 = basic plus .001" to basic plus .0015"
- H4 = basic plus .0015" to basic plus .002"
- H5 = basic plus .002" to basic plus .0025"
- H6 = basic plus .0025" to basic plus .003"

For Taps over 1" Diameter Through 1-1/2" diameter:

- H4 = basic plus .001" to basic plus .002"

ANGLE TOLERANCE

Threads Per Inch	Error in Half Angle
6 to 9 inclusive	25' $\pm$ -
10 to 28 inclusive	30' $\pm$ -

FORMULA (APPROXIMATE)

$$\begin{aligned}\text{Max. Major Diameter} &= \text{Basic Major Diameter} + A^* \\ \text{Min. Major Diameter} &= \text{Max. Major Diameter} - B^*\end{aligned}$$

*See Table 331.

USCTI TABLE 327 - THREAD LIMITS

							Pitch Diameter Limits													
Threads per Inch				Major Diameter			Basic Pitch Dia	H1 limit		H2 limit		H3 limit		H4 limit		H5 limit		H6 limit		
nom size	NC UNC	NF UNF	NS UNS	Basic	Min.	Max		Min.	Max	Min.	Max	Min.	Max	Min.	Max	Min.	Max	Min.	Max	
1/4	20	—	—	.2500	.2540	.2550	.2175	.2175	.2180	.2180	.2185	.2185	.2190	—	—	.2195	.2200	—	—	
1/4	—	28	—	.2500	.2525	.2535	.2268	.2268	.2273	.2273	.2278	.2278	.2283	.2288	—	—	—	—	—	—
5/16	18	—	—	.3125	.3170	.3180	.2764	.2764	.2769	.2769	.2774	.2774	.2779	—	—	.2784	.2789	—	—	
5/16	—	24	—	.3125	.3155	.3165	.2854	.2854	.2859	.2859	.2864	.2864	.2869	.2869	.2874	—	—	—	—	
3/8	16	—	—	.3750	.3800	.3810	.3344	.3344	.3349	.3349	.3354	.3354	.3359	—	—	.3364	.3369	—	—	
3/8	—	24	—	.3750	.3780	.3790	.3479	.3479	.3484	.3484	.3489	.3489	.3494	.3494	.3499	—	—	—	—	
7/16	14	—	—	.4375	.4435	.4445	.3911	—	—	.3916	.3921	.3921	.3926	—	—	.3931	.3936	—	—	
7/16	—	20	—	.4375	.4415	.4425	.4050	—	—	—	—	.4060	.4065	—	—	.4070	.4075	—	—	
1/2	13	—	—	.5000	.5065	.5075	.4500	.4500	.4505	.4505	.4510	.4510	.4515	—	—	.4520	.4525	—	—	
1/2	—	20	—	.5000	.5040	.5050	.4675	.4675	.4680	.4680	.4685	.4685	.4690	—	—	.4695	.4700	—	—	
9/16	12	—	—	.5625	.5690	.5700	.5084	—	—	.5089	—	—	.5099	—	—	.5104	.5109	—	—	
9/16	—	18	—	.5625	.5670	.5680	.5264	—	—	.5269	.5274	.5274	.5279	—	—	.5284	.5289	—	—	
5/8	11	—	—	.6250	.6320	.6330	.5660	—	—	.5665	.5670	.5670	.5675	—	—	.5680	.5685	—	—	
5/8	—	18	—	.6250	.6295	.6305	.5889	—	—	.5894	.5899	.5899	.5904	—	—	.5909	.5914	—	—	
11/16	—	—	11	.6875	.6945	.6955	.6285	—	—	—	—	.6295	.6300	—	—	—	—	—	—	
11/16	—	—	16	.6875	.6925	.6935	.6469	—	—	—	—	.6479	.6484	—	—	—	—	—	—	
3/4	10	—	—	.7500	.7575	.7590	—	—	.6855	.6855	.6860	.6860	.6865	—	—	.6870	.6875	—	—	
3/4	—	16	—	.7500	.7550	.7560	.7094	.7094	.7099	.7099	.7104	.7104	.7109	—	—	.7114	.7119	—	—	
7/8	9	—	—	.8750	.8835	.8850	.8028	—	—	—	—	—	—	.8043	.8048	—	—	.8053	.8058	
7/8	—	14	—	.8750	.8810	.8820	.8286	—	—	.8291	.8296	—	—	.8301	.8306	—	—	.8311	.8316	
1	8	—	—	1.0000	1.0095	1.0110	.9188	—	—	.9193	.9198	—	—	.9203	.9208	—	—	.9213	.9218	
1	—	12	—	1.0000	1.0065	1.0075	.9459	—	—	—	—	—	—	.9474	.9479	—	—	—	—	
1	—	—	14	1.0000	1.0060	1.0070	.9536	—	—	—	—	—	—	.9551	.9556	—	—	—	—	
1-1/8	7	—	—	1.1250	1.1350	1.1370	1.0322	—	—	—	—	—	—	1.0332	1.0342	—	—	—	—	
1-1/8	—	12	—	1.1250	1.132	1.1325	1.0709	—	—	—	—	—	—	1.0719	1.0729	—	—	—	—	
1-1/4	7	—	—	1.2500	1.2600	1.2620	1.1572	—	—	—	—	—	—	1.1582	1.1592	—	—	—	—	
1-1/4	—	12	—	1.2500	1.2565	1.2575	1.1959	—	—	—	—	—	—	1.1969	1.1979	—	—	—	—	
1-3/8	6	—	—	1.3750	1.3870	1.3890	1.2667	—	—	—	—	—	—	1.2677	1.2687	—	—	—	—	
1-3/8	—	12	—	1.3750	1.3815	1.3825	1.3209	—	—	—	—	—	—	1.3219	1.3229	—	—	—	—	
1-1/2	6	—	—	1.5000	1.5120	1.5140	1.3917	—	—	—	—	—	—	1.3927	1.3937	—	—	—	—	
1-1/2	—	12	—	1.5000	1.507	1.5075	1.4459	—	—	—	—	—	—	1.4469	1.4479	—	—	—	—	

TECHNICAL INFORMATION

GROUND THREAD UNIFIED & AMERICAN NATIONAL FORM MACHINE SCREW TAPS

LEAD TOLERANCE

A maximum lead error of $\pm .0005$ " in 1" of thread is permitted.

PITCH DIAMETER LIMITS:

H1 = basic to basic + .0005" to basic + .001"

H2 = basic + .0005" to basic + .001"

H3 = basic + .001" to basic + .0015"

H7 = basic + .003" to basic + .0035"

ANGLE TOLERANCE

Threads Per Inch
20 to 80 inclusive

Error in Half Angle
30' $\pm$ —

FORMULA

Max. Major Diameter = Basic Major Diameter + A

Min. Major Diameter = Max. Major Diameter – B

A = Constant to add: 45% of the theoretical truncation to nearest .0005"

B = Major diameter tolerance.

USCTI TABLE 329 - THREAD LIMITS

Threads per Inch				Major Diameter			Basic Pitch Dia	Pitch Diameter Limits							
								H1 limit		H2 limit		H3 limit		H7 limit	
nom size	NC UNC	NF UNF	NS UNS	Basic	Min.	Max		Min.	Max	Min.	Max	Min.	Max	Min.	Max
0	—	80	—	.0600	.0605	.0615	.0519	.0519	.0524	.0524	.0529	—	—	—	—
1	64	—	—	.0730	.0735	.0745	.0629	.0629	.0634	.0634	.0639	—	—	—	—
1	—	72	—	.0730	.0735	.0745	.0640	.0640	.0645	.0645	.0650	—	—	—	—
2	56	—	—	.0860	.0865	.0875	.0744	.0744	.0749	.0749	.0754	—	—	—	—
2	—	64	—	.0860	.0865	.0875	.0759	—	—	.0764	.0769	—	—	—	—
3	48	—	—	.0990	.1000	.1010	.0855	.0855	.0860	.0860	.0865	—	—	—	—
3	—	56	—	.0990	.0995	.1005	.0874	.0874	.0879	.0879	.0884	—	—	—	—
4	—	—	36	.1120	.1135	.1145	.0940	—	—	.0945	.0950	—	—	—	—
4	40	—	—	.1120	.1135	.1145	.0958	.0958	.0963	.0963	.0968	—	—	—	—
4	—	48	—	.1120	.1130	.1140	.0985	.0985	.0990	.0990	.0995	—	—	—	—
5	40	—	—	.1250	.1265	.1275	.1088	.1088	.1093	.1093	.1098	—	—	—	—
5	—	44	—	.1250	.1260	.1270	.1102	—	—	.1107	.1112	—	—	—	—
6	32	—	—	.1380	.1400	.1410	.1177	.1177	.1182	.1182	.1187	.1187	.1192	.1207	.1212
6	—	40	—	.1380	.1395	.1405	.1218	.1218	.1223	.1223	.1228	—	—	—	—
8	32	—	—	.1640	.1660	.1670	.1437	.1437	.1442	.1442	.1447	.1447	.1452	.1467	.1472
8	—	36	—	.1640	.1655	.1665	.1460	—	—	.1465	.1470	—	—	—	—
10	24	—	—	.1900	.1930	.1940	.1629	.1629	.1634	.1634	.1639	.1639	.1644	.1659	.1664
10	—	32	—	.1900	.1920	.1930	.1697	.1697	.1702	.1702	.1707	.1707	.1712	.1727	.1732
12	24	—	—	.2160	.2190	.2200	.1889	—	—	—	—	.1899	.1904	—	—
12	—	28	—	.2160	.2185	.2195	.1928	—	—	—	—	.1938	.1943	—	—

TECHNICAL INFORMATION

SPECIAL TAPS, GROUND THREAD UNIFIED & AMERICAN NATIONAL FORM

GENERAL

The following tables and formula are used in determining the limits and tolerances for ground thread taps having special diameter or special pitch or both and having a thread lead angle not in excess of 5%, unless otherwise specified. This table does not apply to the diameter and pitch combinations shown in Tables 327 and 329.

Note: When the tap major diameter must be determined from a specific tap pitch diameter, the maximum major diameter = the minimum specified pitch diameter – constant C, + constant A.

LEAD TOLERANCE

A maximum lead error of + / – .0005" in 1" of thread is permitted.

ANGLE TOLERANCE

Threads Per Inch	Error in Half Angle
4 to 5-1/2 inclusive	20' + / –
6 to 9 inclusive	25' + / –
10 to 80 inclusive	30' + / –

FORMULA

Max. Major Diameter	=	Basic Major Diameter + A
Min. Major Diameter	=	Max. Major Diameter – B
Max. Pitch Diameter	=	Min. Pitch Diameter + D
Min. Pitch Diameter	=	Basic Pitch Diameter + C

A = constant to add:

35% of the theoretical truncation for 4 to 5 threads per inch
40% for 5-1/2 to 12 threads per inch
45% for 13 to 80 threads per inch
to nearest .005" for 8 or more threads per inch

B = Major diameter tolerance

C = Amount over basic for minimum pitch diameter

D = Pitch diameter tolerance

USCTI TABLE 331

VALUES FOR W, X, Y & Z (INCHES)

Threads per Inch	A	B	C	C	C	D	D	D	D
			thru 5/8"	over 5/8" thru 2-1/2"	over 2-1/2"	thru 1"	over 1" thru 1-1/2"	over 1-1/2" thru 2-1/2"	over 2-1/2"
80	.0015	.0010	.0005	.0010	.0015	.0005	.0010	.0010	.0015
56	.0015	.0010	.0005	.0010	.0015	.0005	.0010	.0010	.0015
48	.0020	.0010	.0005	.0010	.0015	.0005	.0010	.0010	.0015
44	.0020	.0010	.0005	.0010	.0015	.0005	.0010	.0010	.0015
40	.0025	.0010	.0005	.0010	.0015	.0005	.0010	.0010	.0015
36	.0025	.0010	.0005	.0010	.0015	.0005	.0010	.0010	.0015
32	.0030	.0010	.0010	.0010	.0015	.0005	.0010	.0010	.0015
28	.0035	.0010	.0010	.0010	.0015	.0005	.0010	.0010	.0015
24	.0040	.0010	.0010	.0010	.0015	.0005	.0010	.0015	.0015
20	.0050	.0010	.0010	.0010	.0015	.0005	.0010	.0015	.0015
18	.0055	.0010	.0010	.0010	.0015	.0005	.0010	.0015	.0015
16	.0060	.0010	.0010	.0010	.0015	.0005	.0010	.0015	.0020
14	.0070	.0010	.0010	.0015	.0015	.0005	.0010	.0015	.0020
13	.0075	.0010	.0010	.0015	.0015	.0005	.0010	.0015	.0020
12	.0075	.0010	.0010	.0015	.0015	.0005	.0010	.0015	.0020
11	.0080	.0010	.0010	.0015	.0020	.0005	.0010	.0015	.0020
10	.0090	.0015	—	.0015	.0020	.0005	.0010	.0015	.0020
9	.0100	.0015	—	.0015	.0020	.0005	.0010	.0015	.0020
8	.0110	.0015	—	.0015	.0020	.0005	.0010	.0015	.0020
7	.0120	.0020	—	.0015	.0020	.0010	.0010	.0020	.0025
6	.0140	.0020	—	.0015	.0020	.0010	.0010	.0020	.0025
5-1/2	.0160	.0025	—	.0015	.0020	.0010	.0015	.0020	.0025
5	.0160	.0025	—	.0015	.0020	.0010	.0015	.0020	.0025
4-1/2	.0170	.0025	—	.0015	.0020	.0010	.0015	.0020	.0025
4	.0190	.0025	—	.0015	.0020	.0010	.0015	.0020	.0025

For intermediate pitches use value for next coarser pitch.

TECHNICAL INFORMATION

GROUND THREAD - TAP LIMITS

GENERAL

These tables and formula are used in determining the limits and tolerances for ground thread metric taps unless otherwise specified. They apply only to metric threads having a 60° form with a P/8 flat at the major diameter of the basic thread form.

Note: When the tap major diameter must be determined from a specific tap pitch diameter, the minimum major diameter equals the maximum specified tap pitch diameter minus constant Y, plus the basic size height of thread (.64952P), plus constant W.

LEAD TOLERANCE

A maximum lead error of + / - .0005" in 1" of thread is permitted.

ANGLE TOLERANCE

Pitch mm Deviation in Half Angle
 over 0.25 to 2.5 inclusive 30' + / -
 over 2.5 to 4 inclusive 25' + / -
 over 4 to 6 inclusive 20' + / -

FORMULA

Max. Major Diameter = Min. + X
 Min. Major Diameter = Basic + W
 Max. Pitch Diameter = Basic + Y
 Min. Pitch Diameter = Max. - Z

W = Constant to add to Basic Major Diameter
 (.080P converted to inches)

X = Major Diameter Tolerance

Y = Amount over Basic for Maximum Pitch Diameter

Z = Pitch Diameter Tolerance

USCTI TABLE 341 - METRIC

VALUES FOR W, X, Y & Z (INCHES)

Threads per Inch	Decimal Equivalent	W	X	Y	Y	Y	Y	Z	Z	Z	Z
				M 1.6 thru M6.3	over M6.3 thru M25	over M25 thru M90	over M90	M 1.6 thru M6.3	over M6.3 thru M25	over M25 thru M90	over M90
0.3	.01181	.0009	.0010	.0015	.0015	.0020	.0020	.0006	.0006	.0008	.0008
0.35	.01378	.0011	.0010	.0015	.0015	.0020	.0020	.0006	.0006	.0008	.0008
0.4	.01575	.0013	.0010	.0015	.0020	.0020	.0020	.0006	.0006	.0008	.0010
0.45	.01772	.0014	.0010	.0015	.0020	.0020	.0020	.0006	.0008	.0008	.0010
0.5	.01968	.0016	.0010	.0015	.0020	.0020	.0025	.0006	.0008	.0010	.0010
0.6	.02362	.0019	.0010	.0020	.0020	.0025	.0025	.0008	.0008	.0010	.0010
0.7	.02756	.0022	.0016	.0020	.0020	.0025	.0025	.0008	.0008	.0010	.0010
0.75	.02953	.0024	.0016	.0020	.0025	.0025	.0030	.0008	.0010	.0010	.0012
0.8	.03150	.0025	.0016	.0020	.0025	.0025	.0030	.0008	.0010	.0010	.0012
0.9	.03543	.0028	.0016	.0020	.0025	.0025	.0030	.0008	.0010	.0010	.0012
1	.03937	.0032	.0016	.0025	.0025	.0030	.0030	.0010	.0010	.0012	.0012
1.25	.04921	.0039	.0025	.0025	.0025	.0030	.0035	.0010	.0012	.0012	.0016
1.5	.05906	.0047	.0025	.0025	.0030	.0030	.0035	.0010	.0012	.0012	.0016
1.75	.06890	.0055	.0025	—	.0030	.0035	.0040	—	.0012	.0016	.0016
2	.07874	.0063	.0025	—	.0035	.0035	.0040	—	.0016	.0016	.0016
2.5	.09843	.0079	.0025	—	.0035	.0040	.0045	—	.0016	.0016	.0020
3	.11811	.0095	.0039	—	.0040	.0040	.0050	—	.0016	.0020	.0020
3.5	.13780	.0110	.0039	—	.0040	.0045	.0050	—	.0016	.0020	.0020
4	.15748	.0126	.0039	—	.0040	.0045	.0055	—	.0020	.0020	.0025
4.5	.17717	.0142	.0039	—	—	.0050	.0055	—	.0020	.0020	.0025
5	.19685	.0158	.0039	—	—	.0050	.0060	—	—	.0025	.0025
5.5	.21654	.0158	.0039	—	—	.0050	.0060	—	—	.0025	.0025
6	.23622	.0189	.0039	—	—	.0055	.0060	—	—	.0025	.0025

TECHNICAL INFORMATION

MACHINE SCREW TAPS

02

TAPS

THREAD DIMENSIONS

Nominal Size & Pitch	Basic Major Diameter	Basic Pitch Diameter	Basic Minor Diameter	Max. Minor Diameter Class 3B Internal Thread
0 80	.0600	.0519	.0438	.0514
1 64	.0730	.0629	.0527	.0623
1 72	.0730	.0640	.0550	.0635
2 56	.0860	.0744	.0628	.0737
2 64	.0860	.0759	.0657	.0753
3 48	.0990	.0855	.0719	.0845
3 56	.0990	.0874	.0758	.0865
4 32	.1120	.0917	.0714	.0880
4 36	.1120	.0940	.0759	.0919
4 40	.1120	.0958	.0795	.0939
4 48	.1120	.0985	.0849	.0968
5 40	.1250	.1088	.0925	.1062
5 44	.1250	.1102	.0955	.1079

Nominal Size & Pitch	Basic Major Diameter	Basic Pitch Diameter	Basic Minor Diameter	Max. minor Diameter Class 3b Internal Thread
6 32	.1380	.1177	.0974	.1140
6 36	.1380	.1200	.1019	.1165
6 40	.1380	.1218	.1055	.1186
8 32	.1640	.1437	.1234	.1389
8 36	.1640	.1460	.1279	.1416
8 40	.1640	.1478	.1315	.1437
10 24	.1900	.1629	.1359	.1516
10 28	.1900	.1668	.1436	.1604
10 30	.1900	.1684	.1467	.1630
10 32	.1900	.1697	.1494	.1641
12 24	.2160	.1889	.1619	.1807
12 28	.2160	.1928	.1696	.1857
12 32	.2160	.1957	.1754	.1895
14 20	.2420	.2095	.1770	.1987
14 24	.2420	.2149	.1879	.2059

CONSTANTS FOR FINDING PITCH DIAMETER AND MINOR DIAMETER OF SCREW THREADS

Basic Pitch Diameter = Basic Major Diameter – Constant for Basic Pitch Diameter for TPI

Basic Minor Diameter = Basic Major Diameter – Constant for Basic Minor Diameter for TPI

USCTI TABLE 352

Threads per Inch	Pitch		Constant for Basic Pitch Dia.		Constant for Basic Pitch Minor Dia.	
	Inch	mm	Unified	ISO	Unified	ISO
–	.0079	0.2	–	.00511	–	.01022
–	.0088	0.225	–	.00575	–	.01150
–	.0098	0.25	–	.00639	–	.01278
–	.0118	0.3	–	.00767	–	.01534
80	.0125	–	.00812	–	.01624	–
–	.0138	0.35	–	.00895	–	.01790
72	.0139	–	.00902	–	.01804	–
64	.0156	–	.01015	–	.02030	–
–	.0157	0.4	–	.01023	–	.02046
–	.0177	0.45	–	.01151	–	.02302
56	.0178	–	.01160	–	.02320	–
–	.0197	0.5	–	.01279	–	.02558
48	.0208	–	.01353	–	.02706	–
44	.0227	–	.01476	–	.02952	–
–	.0236	0.6	–	.01534	–	.03068
40	.0250	–	.01624	–	.03248	–
–	.0275	0.7	–	.01790	–	.03580
36	.0278	–	.01804	–	.03608	–
–	.0295	0.75	–	.01918	–	.03836
32	.0312	–	.02030	–	.04060	–
–	.0315	0.8	–	.02046	–	.04092
28	.0357	–	.02320	–	.04640	–
27	.0370	–	.02406	–	.04812	–
–	.0394	1.0	–	.02557	–	.05114
24	.0417	–	.02706	–	.05412	–
–	.0492	1.25	–	.03196	–	.06392
20	.0500	–	.03248	–	.06496	–
18	.0555	–	.03608	–	.07216	–
–	.0590	1.5	–	.03836	–	.07672
16	.0625	–	.04060	–	.08120	–
–	.0689	1.75	–	.04475	–	.08950
14	.0714	–	.04639	–	.09278	–
13	.0769	–	.04996	–	.09992	–
–	.0787	2.0	–	.05117	–	.10228
12	.0833	–	.05413	–	.10826	–
11.5	.0869	–	.05648	–	.11296	–
11	.0909	–	.05905	–	.11810	–
–	.0984	2.5	–	.06393	–	.12786
10	.1000	–	.06495	–	.12990	–
9	.1111	–	.07217	–	.14434	–
–	.1181	3.0	–	.07672	–	.15344
8	.1250	–	.08119	–	.16238	–
–	.1378	3.5	–	.08950	–	.17900
7	.1428	–	.09279	–	.18558	–
–	.1575	4.0	–	.10229	–	.20458
6	.1667	–	.10825	–	.21650	–
–	.1772	4.5	–	.11507	–	.23014
–	.1968	5.0	–	.12786	–	.25572
5	.2000	–	.12990	–	.25980	–
–	.2165	5.5	–	.14064	–	.28128
4.5	.2222	–	.14434	–	.28868	–
–	.2362	6.0	–	.15343	–	.30353
4	.2500	–	.16238	–	.32476	–

continued on next page

TECHNICAL INFORMATION

MACHINE SCREW TAPS

USCTI TABLE 352 CONTINUED

Nominal Size & Pitch		Basic Major Diameter	Basic Pitch Diameter	Basic Minor Diameter	Max.minor Diameter Class 3b Internal Thread
1/16	64	.0625	.0524	.0422	.0518
3/32	48	.0938	.0803	.0667	.0793
1/8	40	.1250	.1088	.0925	.1062
5/32	32	.1563	.1360	.1157	.1311
5/32	36	.1563	.1382	.1202	.1339
3/16	24	.1875	.1604	.1334	.1530
3/16	32	.1875	.1672	.1469	.1616
7/32	24	.2188	.1917	.1646	.1834
7/32	32	.2188	.1985	.1782	.1922
1/4	20	.2500	.2175	.1850	.2067
1/4	24	.2500	.2229	.1959	.2139
1/4	28	.2500	.2268	.2036	.2190
1/4	32	.2500	.2297	.2094	.2229
5/16	18	.3125	.2764	.2403	.2630
5/16	20	.3125	.2800	.2476	.2680
5/16	24	.3125	.2854	.2584	.2754
5/16	32	.3125	.2922	.2719	.2847
3/8	16	.3750	.3344	.2938	.3182
3/8	20	.3750	.3425	.3100	.3297
3/8	24	.3750	.3479	.3209	.3372
3/8	32	.3750	.3547	.3344	.3469
7/16	14	.4375	.3911	.3447	.3717
7/16	20	.4375	.4050	.3726	.3916
7/16	24	.4375	.4104	.3834	.3994
7/16	28	.4375	.4143	.3911	.4051
1/2	12	.5000	.4459	.3918	.4223
1/2	13	.5000	.4500	.4001	.4284
1/2	20	.5000	.4675	.4351	.4537
1/2	24	.5000	.4729	.4459	.4619
1/2	28	.5000	.4768	.4536	.4676
9/16	12	.5625	.5084	.4542	.4843
9/16	18	.5625	.5264	.4903	.5106
9/16	24	.5625	.5354	.5084	.5244
5/8	11	.6250	.5660	.5069	.5391
5/8	12	.6250	.5709	.5168	.5463
5/8	18	.6250	.5889	.5528	.5730
5/8	24	.6250	.5979	.5709	.5869
11/16	11	.6875	.6285	.5694	.6012
11/16	12	.6875	.6334	.5793	.6085
11/16	16	.6875	.6469	.6063	.6284
11/16	24	.6875	.6604	.6334	.6494
3/4	10	.7500	.6850	.6201	.6545
3/4	12	.7500	.6959	.6418	.6707
3/4	16	.7500	.7094	.6688	.6908
3/4	20	.7500	.7175	.6850	.7037
13/16	12	.8125	.7584	.7042	.7329
13/16	16	.8125	.7719	.7313	.7533
13/16	20	.8125	.7800	.7475	.7662
7/8	9	.8750	.8028	.7307	.7681
7/8	12	.8750	.8209	.7668	.7952
7/8	14	.8750	.8286	.7822	.8068
7/8	16	.8750	.8344	.7938	.8158
7/8	18	.8750	.8389	.8028	.8230
7/8	20	.8750	.8425	.8100	.8287
15/16	12	.9375	.8834	.8293	.8575
15/16	16	.9375	.8969	.8563	.8783
15/16	20	.9375	.9050	.8725	.8912
1	8	1.0000	.9188	.8376	.8797
1	12	1.0000	.9459	.8918	.9198
1	14	1.0000	.9536	.9072	.9315
1	16	1.0000	.9594	.9188	.9408
1	20	1.0000	.9675	.9350	.9537
1-1/6	12	1.0625	1.0084	.9543	.9823
1-1/6	16	1.0625	1.0219	.9813	1.0033
1-1/6	18	1.0625	1.0264	.9903	1.0105
1-1/8	7	1.1250	1.0322	.9394	.9875
1-1/8	8	1.1250	1.0438	.9626	1.0047
1-1/8	12	1.1250	1.0709	1.0168	1.0448
1-1/8	16	1.1250	1.0844	1.0438	1.0658
1-1/8	18	1.1250	1.0889	1.0528	1.0730
1-3/16	12	1.1875	1.1334	1.0793	1.1073
1-3/16	16	1.1875	1.1469	1.1063	1.1283
1-3/16	18	1.1875	1.1514	1.1153	1.1355
1-1/4	7	1.2500	1.1572	1.0644	1.1125
1-1/4	8	1.2500	1.1688	1.0876	1.1297
1-1/4	12	1.2500	1.1959	1.1418	1.1698
1-1/4	16	1.2500	1.2094	1.1688	1.1908
1-1/4	18	1.2500	1.2139	1.1778	1.1980
1-5/16	12	1.3125	1.2584	1.2043	1.2323
1-5/16	16	1.3125	1.2719	1.2313	1.2533
1-5/16	18	1.3125	1.2764	1.2403	1.2605
1-3/8	6	1.3750	1.2667	1.1585	1.2146
1-3/8	8	1.3750	1.2938	1.2126	1.2547
1-3/8	12	1.3750	1.3209	1.2668	1.2948
1-3/8	16	1.3750	1.3344	1.2938	1.3158
1-3/8	18	1.3750	1.3389	1.3028	1.3230
1-7/16	12	1.4375	1.3834	1.3293	1.3573
1-7/16	16	1.4375	1.3969	1.3563	1.3783
1-7/16	18	1.4375	1.4014	1.3653	1.3855
1-1/2	6	1.5000	1.3917	1.2835	1.3396
1-1/2	8	1.5000	1.4188	1.3376	1.3797
1-1/2	12	1.5000	1.4459	1.3918	1.4198
1-1/2	16	1.5000	1.4594	1.4188	1.4408
1-1/2	18	1.5000	1.4639	1.4278	1.4480
1-1/2	16	1.5625	1.5219	1.4813	1.5033
1-1/2	18	1.5625	1.5264	1.4903	1.5105

TECHNICAL INFORMATION

MACHINE SCREW TAPS

02

TAPS

USCTI TABLE 352 CONTINUED

Nominal Size & Pitch		Basic Major Diameter	Basic Pitch Diameter	Basic Minor Diameter	Max.minor Diameter Class 3b Internal Thread
1-5/8	6	1.6250	1.5167	1.4085	1.4646
1-5/8	8	1.6250	1.5438	1.4626	1.5047
1-5/8	12	1.6250	1.5709	1.5168	1.5448
1-5/8	16	1.6250	1.5844	1.5438	1.5658
1-5/8	18	1.6250	1.5889	1.5528	1.5730
1-11/16	16	1.6875	1.6469	1.6063	1.6283
1-11/16	18	1.6875	1.6514	1.6153	1.6355
1-3/4	5	1.7500	1.6201	1.4902	1.5575
1-3/4	8	1.7500	1.6688	1.5876	1.6297
1-3/4	12	1.7500	1.6959	1.6418	1.6698
1-3/4	16	1.7500	1.7094	1.6688	1.6908
1-13/16	16	1.8125	1.7719	1.7313	1.7533
1-7/8	8	1.8750	1.7938	1.7126	1.7547
1-7/8	12	1.8750	1.8209	1.7668	1.7948
1-7/8	16	1.8750	1.8344	1.7938	1.8158
1-15/16	16	1.9375	1.8969	1.8563	1.8783
2	4-1/2	2.0000	1.8557	1.7113	1.7861
2	8	2.0000	1.9188	1.8376	1.8797
2	12	2.0000	1.9459	1.8918	1.9198
2	16	2.0000	1.9594	1.9188	1.9408
2-1/16	16	2.0625	2.0219	1.9813	2.0033
2-1/8	8	2.1250	2.0438	1.9626	2.0047
2-1/8	12	2.1250	2.0709	2.0168	2.0448
2-1/8	16	2.1250	2.0844	2.0438	2.0658
2-3/16	16	2.1875	2.1469	2.1063	2.1283
2-1/4	4-1/2	2.2500	2.1057	1.9613	2.0361
2-1/4	8	2.2500	2.1688	2.0876	2.1297
2-1/4	12	2.2500	2.1959	2.1418	2.1698
2-1/4	16	2.2500	2.2094	2.1688	2.1908
2-5/16	16	2.3125	2.2719	2.2313	2.2533
2-3/8	12	2.3750	2.3209	2.2668	2.2948
2-3/8	16	2.3750	2.3344	2.2938	2.3158
2-7/16	16	2.4375	2.3969	2.3563	2.3783
2-1/2	4	2.5000	2.3376	2.1752	2.2594
2-1/2	8	2.5000	2.4188	2.3376	2.3797
2-1/2	12	2.5000	2.4459	2.3918	2.4198
2-1/2	16	2.5000	2.4594	2.4188	2.4408
2-5/8	12	2.6250	2.5709	2.5168	2.5448
2-5/8	16	2.6250	2.5844	2.5438	2.5658
2-3/4	4	2.7500	2.5876	2.4252	2.5094
2-3/4	8	2.7500	2.6688	2.5876	2.6297
2-3/4	12	2.7500	2.6959	2.6418	2.6698
2-3/4	16	2.7500	2.7094	2.6688	2.6908
2-7/8	12	2.8750	2.8209	2.7668	2.7948
2-7/8	16	2.8750	2.8344	2.7938	2.8158
3	4	3.0000	2.8376	2.6752	2.7594
3	8	3.0000	2.9188	2.8376	2.8797
3	12	3.0000	2.9459	2.8918	2.9198
3	16	3.0000	2.9594	2.9188	2.9408
3-1/8	12	3.1250	3.0709	3.0168	3.0448
3-1/8	16	3.1250	3.0844	3.0438	3.0658
3-1/4	4	3.2500	3.0876	2.9252	3.0094
3-1/4	8	3.2500	3.1688	3.0876	3.1297
3-1/4	12	3.2500	3.1959	3.1418	3.1698
3-1/4	16	3.2500	3.2094	3.1688	3.1908
3-3/8	12	3.3750	3.3209	3.2668	3.2948
3-3/8	16	3.3750	3.3344	3.2938	3.3158
3-3/8	4	3.5000	3.3376	3.1752	3.2594
3-1/2	8	3.5000	3.4188	3.3376	3.3797
3-1/2	12	3.5000	3.4459	3.3918	3.4198
3-1/2	16	3.5000	3.4594	3.4188	3.4408
3-5/8	12	3.6250	3.5709	3.5168	3.5448
3-5/8	16	3.6250	3.5844	3.5438	3.5658
3-3/4	4	3.7500	3.5876	3.4252	3.5094
3-3/4	8	3.7500	3.6688	3.5876	3.6297
3-3/4	12	3.7500	3.6959	3.6418	3.6698
3-3/4	16	3.8750	3.7094	3.6688	3.6908
3-7/8	12	3.8750	3.8209	3.7669	3.7948
3-7/8	16	3.8750	3.8344	3.7938	3.8158
4	4	4.0000	3.8376	3.6752	3.7594
4	8	4.0000	3.9188	3.8376	3.8797
4	12	4.0000	3.9459	3.8918	3.9198
4	16	4.0000	3.9594	3.9188	3.9408
4	16	1.8125	1.7719	1.7313	1.7533

TECHNICAL INFORMATION

TAP TROUBLESHOOTING GUIDE

TAP GUIDE		
TROUBLE	POSSIBLE CAUSES	CORRECTIONS
Oversize Pitch Diameter	Incorrect tap	Use correct "H" limit Use longer chamfered tap
	Chip packing	Use spiral pointed tap Use larger drill size Shorten length of thread in blind holes
	Galling	Reduce tapping speed Use lubricants
Torn or Rough Threads	Dull tap	Resharpen or replace
	Chamfer too short	Increase chamfer length
	Galling	Use lubricant Reduce speed Use larger drill
Breakage	Incorrect tap selection	Increase chamfer length Use spiral pointed taps in through holes Tapping too deep
	Excessive tapping torque	Increase hole size Shorten thread length Increase chamfer length
	Operating conditions	Reduce tapping speed Avoid bottoming out the tap
Chipping	Incorrect tap selection	Increase chamfer length Avoid chip packing in flutes
	Operating conditions	Reduce tapping speed Use larger drill Ensure adequate lubricant
Excessive Wear	Incorrect tap selection	Increase chamfer length
	Operating conditions	Reduce tapping speed Ensure adequate lubricant Use larger drill

SPECIAL TAPS

Prices for special taps are available upon request. Special taps can be furnished in quantities to meet your specific requirements. All special metric taps will produce internal threads which conform to ISO, ISO modified, and the obsolete OMFS thread systems and are manufactured to USCTI standard blank dimensions to fit the tap holders and machine spindles now in use in the USA.



TECHNICAL INFORMATION

MADE-TO-ORDER

02

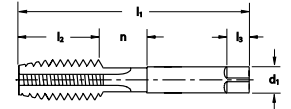
TAPS

HOW TO REQUEST MADE-TO-ORDER TAPS:

Information required for every order:

- Quantity
- Ordering Number

**Made To Order
Taps Available**



Information required for some tool styles:

- exact tool size
- threads per inch
- pitch
- thread form
- right- or left-hand
- limit
- pitch diameter
- class of fit
- chamfer
- number of chamfered threads
- chamfer angle
- number of lube grooves
- short projections

Other features available:

- surface treatment
- special hook
- male centers removed
- special back tape
- recessed neck
- shank flats
- special shank diameter
- special rake
- thread relief
- interrupted threads
- controlled root
- ETTCO notch
- shank grooves

TECHNICAL INFORMATION

HELPFUL INFORMATION

GROUND THREAD TAP LIMITS

All standard ground thread taps made to USCTI Tables 327 and 329 will be marked **G** to designate ground thread. **G** will be followed by **H** to designate above basic or **L** for below basic and a numeral to designate the pitch diameter limits. For example: **G H3** indicates a ground thread tap with pitch diameter limits .0010" to .0015" over basic. See table at right.

For taps over 1-1/2" diameter with H or L limit numbers, divide the H or L limit number by 2 to get the amount (in thousandths of an inch) the maximum tap pitch diameter is over basic for the H series or under basic for the L series. In H series taps, the tolerance shown in USCTI Table 331, Column D, **subtracted** from the maximum pitch diameter will give the minimum pitch diameter. In L series taps the tolerance shown in Table 331, Column D, **added** to the minimum pitch diameter will give the maximum pitch diameter. These taps will be marked with the appropriate H or L limit number.

PITCH DIAMETER LIMITS

for taps through 1" diameter

- L1 = basic to basic - .0005
- H1 = basic to basic + .0005
- H2 = basic + .0005 to basic + .0010
- H3 = basic + .0010 to basic + .0015
- H4 = basic + .0015 to basic + .0020
- H5 = basic + .0020 to basic + .0025
- H6 = basic + .0025 to basic + .0030

for taps over 1" diameter through 1-1/2" diameter

- H4 = basic + .0010 to basic + .0020

THE PROPER USE OF LUBRICANTS IN TAPPING

Applying the proper lubricants in tapping operations can result in longer tap life, increased production, better workpiece size control, smoother and more accurate threads, less resharpener, and more efficient chip removal. Generally, for best tap performance, straight cutting oil should be used. For non-ferrous and non-metallic materials, a coolant or a cutting fluid (light oil or soluble oil) is recommended.

Often, machining centers are equipped with a coolant or a cutting fluid that contains enough water and oil to provide adequate cooling and lubrication for a variety of tools and workpieces. However, most soluble blends are not suitable for tapping applications. Tapping, especially with thread-forming taps, requires more lubrication than cooling. A coolant or cutting fluid might lack the lubrication necessary to obtain acceptable tool life and part finish. Get recommendations from a coolant specialist.

After you select the proper lubricant, choose the right method of application and pressure. For tapping, use multiple nozzles around the tap. Nozzles should be as close to the surface of the part as possible, positioned at an angle close to the axis of the tool, and should point directly into the hole to flush chips from the flutes. For horizontal tapping, where the tap is stationary and the workpieces rotate, consider using two streams of lubricant, one on each side of the tap.

Whether you are tapping vertically, horizontally, or at an angle, make sure the lubricant reaches the cutting lands of the tap at all times, especially at the point or chamfered sections. Brushing or squirting oil or fluid onto the tap does not provide sufficient lubrication. In fact, heavy viscosity oil may cause the chips to stick or cling to a tap, increasing the chance of breakage. In addition, if the lubricant is automatically applied only on the forward motion of the tap, time the application of the lubricant so that it will reach the hole before the tap starts to cut, particularly with machines on which the cutting fluid is automatically shut off when the tap reverses. For maximum effectiveness, it is better to force the lubricant into the hole under pressure, which will vary depending on the tapping method, hole depth, and tapping speed.

Keep tapping lubricants as clean as possible using a filtering system or other equipment. Dust and other foreign particles can contaminate oil and decrease its effectiveness. Thoroughly clean machines and oil tanks when adding new lubricant and at regular intervals to ensure optimum results.

03

DIES



QUICK REFERENCE DIES



CLE-LINE



WALTER

ROUND ADJUSTABLE DIES

HIGH SPEED STEEL		
Series	Finish	Page Number
0710	Bright	497



CARBON STEEL		
Series	Finish	Page Number
0610	Bright	497



DIE STOCK

Series	Finish	Page Number
222	Bright	498



HEXAGON - RETHREADING

HIGH SPEED STEEL		
Series	Finish	Page Number
492	Bright	500



CARBON STEEL		
Series	Finish	Page Number
0650	Bright	500



DIE & COLLET ASSEMBLY

Series	Finish	Page Number
0550, 0551, 0552, 0553, 0554	Bright	501


0554 - Assembly
(combined Die & Collet)


0550 - Die



0551 - Cap



0552 - Guide


0553 - Collet
(combined Cap & Guide)

DIE STOCK

Series	Finish	Page Number
223	Quick Two-Piece Die System Jr. Quick Die Stock Spanner Wrench	502
225		
226		



QUICK REFERENCE DIES

03

DIES

DRILLCO | **WALTER**

ROUND ADJUSTABLE DIES

HIGH SPEED STEEL		
Series	Finish	Page Number
3000E	Bright	504



THREADING ROUND ADJUSTABLE DIES

HIGH SPEED STEEL		
Series	Finish	Page Number
3050E	Bright	505



METRIC HIGH SPEED STEEL		
Series	Finish	Page Number
3100E	Bright	505



HEXAGON - RETHREADING

HIGH SPEED STEEL		
Series	Finish	Page Number
3300E	Bright	506

HIGH SPEED STEEL		
Series	Finish	Page Number
3350E	Bright	506

CARBON - 8 PITCH		
Series	Finish	Page Number
3350E	Bright	506



HEXAGON - RETHREADING

CARBON - PIPE TAP		
Series	Finish	Page Number
3380E	Bright	507

METRIC CARBON		
Series	Finish	Page Number
3360E	Bright	507

DIE STOCK

3 SCREW TYPE		
Series	Finish	Page Number
3000DS	Bright	509



QUICK REFERENCE DIES

Chicago-Latrobe |  **WALTER**

ROUND ADJUSTABLE DIES

HIGH SPEED STEEL		
Series	Finish	Page Number
6382	Bright	510



CARBON STEEL		
Series	Finish	Page Number
382,383	Bright	510



DIE STOCK

Series	Finish	Page Number
1750	Bright	511



HEXAGON - RETHREADING

CARBON STEEL		
Series	Finish	Page Number
377	Bright	513



DIE & COLLET ASSEMBLY

CARBON STEEL		
Series	Finish	Page Number
1386, 380, 1385, 1383, 1384	Bright	514



1386 - Assembly
(combined Die & Collet)



380 - Die



1383 - Cap



1384 - Guide



1385 - Collet
(combined Cap & Guide)

DIE STOCK

Series	Finish	Page Number
1381	Quick Two-Piece Die System Jr. Quick Die Stock Spanner Wrench	515
1382		
A1		



HIGH SPEED STEEL & CARBON ROUND ADJUSTABLE DIES

03

DIES

0710 SERIES

HIGH SPEED STEEL

0610 SERIES

CARBON STEEL



Fractional & Machine Screw / HSS					
Size	Thread	Decimal Equiv. (Inch)	Outside Diameter (Inch)	Thickness (Inch)	Order Number
5-40	UNC	.1250	13/16	1/4	C65729
5-44	UNF	.1250	13/16	1/4	C65730
6-32	UNC	.1380	13/16	1/4	C65733
6-32	UNC	.1380	1	3/8	C65785
6-40	UNF	.1380	13/16	1/4	C65734
8-32	UNC	.1640	13/16	1/4	C65739
8-32	UNC	.1640	1	3/8	C65789
8-36	UNF	.1640	13/16	1/4	C65740
10-24	UNC	.1900	13/16	1/4	C65743
10-24	UNC	.1900	1	3/8	C65792
10-32	UNF	.1900	13/16	1/4	C65744
10-32	UNF	.1900	1	3/8	C65793
12-24	UNC	.2160	13/16	1/4	C65751
12-24	UNC	.2160	1	3/8	C65798
12-28	UNF	.2160	13/16	1/4	C65752
1/4-20	UNC	.2500	13/16	1/4	C65760
1/4-20	UNC	.2500	1	3/8	C65804
1/4-20	UNC	.2500	1-1/2	1/2	C65839
1/4-28	UNF	.2500	13/16	1/4	C65761
1/4-28	UNF	.2500	1	3/8	C65805
1/4-28	UNF	.2500	1-1/2	1/2	C65840
5/16-18	UNC	.3125	13/16	1/4	C65766
5/16-18	UNC	.3125	1	3/8	C65808
5/16-18	UNC	.3125	1-1/2	1/2	C65844
5/16-24	UNF	.3125	13/16	1/4	C65767
5/16-24	UNF	.3125	1	3/8	C65809
5/16-24	UNF	.3125	1-1/2	1/2	C65845
3/8-16	UNC	.3750	1	3/8	C65816
3/8-16	UNC	.3750	1-1/2	1/2	C65855
3/8-24	UNF	.3750	1	3/8	C65817
3/8-24	UNF	.3750	1-1/2	1/2	C65856
7/16-14	UNC	.4375	1	3/8	C65828
7/16-14	UNC	.4375	1-1/2	1/2	C65865
7/16-20	UNF	.4375	1	3/8	C65829
7/16-20	UNF	.4375	1-1/2	1/2	C65866
1/2-13	UNC	.5000	1-1/2	1/2	C65875
1/2-20	UNF	.5000	1-1/2	1/2	C65876
9/16-12	UNC	.5625	1-1/2	1/2	C65881
9/16-18	UNF	.5625	1-1/2	1/2	C65882
5/8-11	UNC	.6250	1-1/2	1/2	C65884
5/8-11	UNC	.6250	2	5/8	C65946
5/8-18	UNF	.6250	1-1/2	1/2	C65885
5/8-18	UNF	.6250	2	5/8	C65947
3/4-10	UNC	.7500	2	5/8	C65957
3/4-16	UNF	.7500	2	5/8	C65958
7/8-9	UNC	.8750	2	5/8	C65966
7/8-14	UNF	.8750	2	5/8	C65967

Metric - HSS					
Size (mm)	Thread	Decimal Equiv. (Inch)	Outside Diameter (mm)	Thickness (mm)	Order Number
M2.5 x 0.45	—	.0984	21	6	C65721
M3 x 0.5	—	.1181	21	6	C65724
M3.5 x 0.6	—	.1378	21	6	C65732
M4 x 0.7	—	.1575	21	6	C65737
M4.5 x 0.75	—	.1772	21	6	C65742
M5 x 0.8	—	.1969	21	6	C65747
M6 x 1	—	.2362	21	6	C65757
M6 x 1	—	.2362	25.4	9.5	C65801
M7 x 1	—	.2756	25.4	9.5	C65807
M8 x 1.25	—	.3150	25.4	9.5	C65813
M10 x 1.5	—	.3937	25.4	9.5	C65824
M12 x 1.75	—	.4724	25.4	9.5	C65833
M14 x 2	—	.5512	38	13	C65880
M16 x 2	—	.6300	38	13	C65889
M18 x 2.5	—	.7087	38	13	C65896
M20 x 2.5	—	.7874	38	13	C65901
Fractional - Carbon					
Size	Thread	Decimal Equiv. (Inch)	Outside Diameter (Inch)	Thickness (Inch)	Order Number
0-80	UNF	.0600	13/16	1/4	C65022
1-64	UNC	.0730	13/16	1/4	C65026
1-72	UNF	.0730	13/16	1/4	C65027
2-56	UNC	.0860	13/16	1/4	C65036
2-64	UNF	.0860	13/16	1/4	C65037
3-48	UNC	.0990	13/16	1/4	C65045
3-56	UNF	.0990	13/16	1/4	C65046
4-40	UNC	.1120	13/16	1/4	C65048
4-48	UNF	.1120	13/16	1/4	C65049
5-40	UNC	.1250	13/16	1/4	C65057
5-44	UNF	.1250	13/16	1/4	C65058
6-32	UNC	.1380	13/16	1/4	C65061
6-32	UNC	.1380	1	3/8	C65114
6-40	UNF	.1380	13/16	1/4	C65062
8-32	UNC	.1640	13/16	1/4	C65069
8-32	UNC	.1640	1	3/8	C65119
8-36	UNF	.1640	13/16	1/4	C65070
10-24	UNC	.1900	13/16	1/4	C65075
10-24	UNC	.1900	1	3/8	C65124
10-32	UNF	.1900	13/16	1/4	C65076
10-32	UNF	.1900	1	3/8	C65125
12-24	UNC	.2160	13/16	1/4	C65083
12-24	UNC	.2160	1	3/8	C65132
12-28	UNF	.2160	13/16	1/4	C65084
1/4-20	UNC	.2500	13/16	1/4	C65093
1/4-20	UNC	.2500	1	3/8	C65140
1/4-20	UNC	.2500	1-1/2	1/2	C65192
1/4-20	UNC	.2500	2	5/8	C65264

continued on next page

CLE-LINE
WALTER

HIGH SPEED STEEL & CARBON ROUND ADJUSTABLE DIES

0710 SERIES continued HIGH SPEED STEEL

0610 SERIES continued CARBON STEEL



Fractional - Carbon Steel					
Size	Thread	Decimal Equiv. (Inch)	Outside Diameter (Inch)	Thickness (Inch)	Order Number
1/4-28	UNF	.2500	1	3/8	C65142
1/4-28	UNF	.2500	1-1/2	1/2	C65193
1/4-28	UNF	.2500	2	5/8	C65265
5/16-18	UNC	.3125	1	3/8	C65147
5/16-18	UNC	.3125	1-1/2	1/2	C65197
5/16-18	UNC	.3125	2	5/8	C65269
5/16-24	UNF	.3125	1	3/8	C65148
5/16-24	UNF	.3125	1-1/2	1/2	C65198
5/16-24	UNF	.3125	2	5/8	C65270
3/8-16	UNC	.3750	1	3/8	C65159
3/8-16	UNC	.3750	1-1/2	1/2	C65208
3/8-16	UNC	.3750	2	5/8	C65280
3/8-24	UNF	.3750	1	3/8	C65160
3/8-24	UNF	.3750	1-1/2	1/2	C65209
3/8-24	UNF	.3750	2	5/8	C65281
7/16-14	UNC	.4375	1	3/8	C65171
7/16-14	UNC	.4375	1-1/2	1/2	C65220
7/16-14	UNC	.4375	2	5/8	C65292
7/16-20	UNF	.4375	1	3/8	C65172
7/16-20	UNF	.4375	1-1/2	1/2	C65221
7/16-20	UNF	.4375	2	5/8	C65293
1/2-13	UNC	.5000	1	3/8	C65470
1/2-13	UNC	.5000	1-1/2	1/2	C65232
1/2-13	UNC	.5000	2	5/8	C65303
1/2-20	UNF	.5000	1	3/8	C65471
1/2-20	UNF	.5000	1-1/2	1/2	C65233
1/2-20	UNF	.5000	2	5/8	C65304
9/16-12	UNC	.5625	1-1/2	1/2	C65239
9/16-12	UNC	.5625	2	5/8	C65311
9/16-18	UNF	.5625	1-1/2	1/2	C65240
9/16-18	UNF	.5625	2	5/8	C65312
5/8-11	UNC	.6250	1-1/2	1/2	C65243
5/8-11	UNC	.6250	2	5/8	C65315
5/8-11	UNC	.6250	2-1/2	3/4	C65374
5/8-18	UNF	.6250	1-1/2	1/2	C65244
5/8-18	UNF	.6250	2	5/8	C65316

Size	Thread	Decimal Equiv. (Inch)	Outside Diameter (Inch)	Thickness (Inch)	Order Number
3/4-10	UNC	.7500	1-1/2	1/2	C65250
3/4-10	UNC	.7500	2	5/8	C65328
3/4-10	UNC	.7500	2-1/2	3/4	C65384
3/4-16	UNF	.7500	1-1/2	1/2	C65251
3/4-16	UNF	.7500	2	5/8	C65329
3/4-16	UNF	.7500	2-1/2	3/4	C65385
7/8-9	UNC	.8750	2	5/8	C65339
7/8-9	UNC	.8750	2-1/2	3/4	C65395
7/8-14	UNF	.8750	2	5/8	C65340
7/8-14	UNF	.8750	2-1/2	3/4	C65396
1-8	UNC	1.0000	2	5/8	C65349
1-8	UNC	1.0000	2-1/2	3/4	C65405
1-8	UNC	1.0000	3	1	C65416
1-12	UNF	1.0000	2	5/8	C65350
1-12	UNF	1.0000	2-1/2	3/4	C65406
1-12	UNF	1.0000	3	1	C65417
1-14	UNF	1.0000	2	5/8	C65407
1-1/8-7	UNC	1.1250	3	1	C65426
1-1/8-12	UNF	1.1250	3	1	C65427
1-1/4-7	UNC	1.2500	3	1	C65433
1-1/4-12	UNF	1.2500	3	1	C65434
1-3/8-6	UNC	1.3750	3	1	C65441
1-3/8-12	UNF	1.3750	3	1	C65442
1-1/2-6	UNC	1.5000	3	1	C65449
1-1/2-12	UNF	1.5000	3	1	C65450
Taper Pipe - Carbon (NPT)					
1/8-27	NPT	.1250	1	3/8	C65491
1/8-27	NPT	.1250	1-1/2	1/2	C65492
1/4-18	NPT	.2500	1-1/2	1/2	C65493
1/4-18	NPT	.2500	2	5/8	C65495
3/8-18	NPT	.3750	1-1/2	1/2	C65494
3/8-18	NPT	.3750	2	5/8	C65496
1/2-14	NPT	.5000	2	5/8	C65497

DIE STOCK 222 SERIES

Fractional - HSS			
Product No.	Die O.D.	Overall Length	Order Number
2	13/16	6-3/8	C67223
3	1	9	C67224
5	1-1/2	12-1/4	C67226
6	2	15-1/2	C67227
7	2-1/2	18-5/8	C67228
8	3	24	C67229



HIGH SPEED STEEL & CARBON ROUND ADJUSTABLE DIES

SETS

Tap & Die Sets - Round Adjustable			
Number of Sizes	Tap & Die Sizes		Order Number
8	2-56 UNC 3-48 UNC 4-40 UNC 6-32 UNC	8-32 UNC 10-24 UNC 10-32 UNF 12-24 UNC	C67271
7	4-40 UNC 6-32 UNC 8-32 UNC	10-24 UNC 10-32 UNF 12-24 UNC 1/4-20 UNC	C00517
5	1/4-20 UNC 5/16-18 UNC	3/8-16 UNC 7/16-14 UNC 1/2-13 UNC	C00518
8	0-80 UNF 1-72 UNF 2-56 UNC 3-48 UNC	4-40 UNC 6-32 UNC 8-32 UNC 10-24 UNC	C00525
10	4-40 UNC 6-32 UNC 8-32 UNC 10-24 UNC 12-24 UNC	4-48 UNF 6-40 UNF 8-36 UNF 10-32 UNF 12-28 UNF	C00526
11	1/4-20 UNC 5/16-18 UNC 3/8-16 UNC 7/16-14 UNC 1/2-13 UNC pipe size	1/4-28 UNF 5/16-24 UNF 3/8-24 UNF 7/16-20 UNF 1/2-20 UNF 1/8-27 (short shank)	C00528
21	1/4-20 UNC 5/16-18 UNC 3/8-16 UNC 7/16-14 UNC 1/2-13 UNC 9/16-12 UNC 5/8-11 UNC 3/4-10 UNC 7/8-9 UNC 1-8 UNC pipe size	1/4-28 UNF 5/16-24 UNF 3/8-24 UNF 7/16-20 UNF 1/2-20 UNF 9/16-18 UNF 5/8-18 UNF 3/4-16 UNF 7/8-14 UNF 1-14 UNS 1/8-27 (long shank)	C00532
20	1/4-20 UNC 5/16-18 UNC 3/8-16 UNC 7/16-14 UNC 1/2-13 UNC 9/16-12 UNC 5/8-11 UNC 3/4-10 UNC 7/8-9 UNC 1-8 UNC	1/4-28 UNF 5/16-24 UNF 3/8-24 UNF 7/16-20 UNF 1/2-20 UNF 9/16-18 UNF 5/8-18 UNF 3/4-16 UNF 7/8-14 UNF 1-12 UNF	C67293
52	4-40 UNC 6-32 UNC 8-32 UNC 10-24 UNC 10-32 UNF 12-24 UNC 7/16-14 UNC 1/2-13 UNC 9/16-12 UNC	1/4-20 UNC 1/4-28 UNF 5/16-18 UNC 5/16-24 UNF 3/8-16 UNC 3/8-24 UNF 7/16-20 UNF 1/2-20 UNF 9/16-18 UNF 5/8-18 UNC 3/4-16 UNC 7/8-14 UNC 1-14 UNS	C00533
	Pipe Sizes	1/8-27 (long shank) 1/4-18 3/8-18 1/2-14	
	Metric Sizes	M14 x 1.5 M18 x 1.5	

Tap & Die Sets - Round Adjustable			
Number of Sizes	Tap & Die Sizes		Order Number
7	M2.5 x 0.45 M3 x 0.5 M3.5 x 0.6	M4 x 0.7 M4.5 x 0.75 M5 x 0.8 M6 x 1.0	C00448
5	M6 x 1.0 M7 x 1.0	M8 x 1.25 M10 x 1.5 M12 x 1.75	C00449
Tap & Drill Sets - Round Adjustable			
Number of Sizes	Tap Sizes	Drill Sizes	Order Number
5	M6 x 1.0 M7 x 1.0 M8 x 1.25 M10 x 1.5 M12 x 1.75	5.0mm 6.0mm 6.7mm 8.5mm 10.2mm	C00451



#C67271



#C00448



#C00449



#C00451

HIGH SPEED STEEL & CARBON HEXAGON - RETHREADING

492 SERIES

HIGH SPEED STEEL

0650 SERIES

CARBON STEEL



Fractional - HSS					
Size	Thread	Decimal Equiv. (Inch)	Length Across Flats (Inch)	Thickness (Inch)	Order Number
1/4-20	UNC	.2500	19/32	1/4	C77600
1/4-28	UNF	.2500	19/32	1/4	C77602
5/16-18	UNC	.3125	11/16	5/16	C77604
5/16-24	UNF	.3125	11/16	5/16	C77606
3/8-16	UNC	.3750	25/32	3/8	C77608
3/8-24	UNF	.3750	25/32	3/8	C77610
7/16-14	UNC	.4375	7/8	7/16	C77612
7/16-20	UNF	.4375	7/8	7/16	C77614
1/2-13	UNC	.5000	1-1/16	1/2	C77616
1/2-20	UNF	.5000	1-1/16	1/2	C77618
9/16-12	UNC	.5625	1-1/16	1/2	C77620
9/16-18	UNF	.5625	1-1/16	1/2	C77622
5/8-11	UNC	.6250	1-1/4	5/8	C77624
5/8-18	UNF	.6250	1-1/4	5/8	C77626
3/4-10	UNC	.7500	1-7/16	3/4	C77628
3/4-16	UNF	.7500	1-7/16	3/4	C77630
7/8-9	UNC	.8750	1-5/8	7/8	C77632
7/8-14	UNF	.8750	1-5/8	7/8	C77634
1-8	UNC	1.0000	1-13/16	1	C77636
1-12	UNF	1.0000	1-13/16	1	C77638
1-14	NS	1.0000	1-13/16	1	C77640
1-1/8-7	UNC	1.1250	2	1	C77642
1-1/8-12	UNF	1.1250	2	1	C77644
1-1/4-7	UNC	1.2500	2-3/16	1	C77646
1-3/8-6	UNC	1.4100	2-3/8	1	C77648
1-1/2-6	UNC	1.5000	2-9/16	1	C77650
Fractional - Carbon					
1/4-20	UNC	.2500	19/32	1/4	C65601
1/4-28	UNF	.2500	19/32	1/4	C65602
5/16-18	UNC	.3125	11/16	5/16	C65603
5/16-24	UNF	.3125	11/16	5/16	C65605
3/8-16	UNC	.3750	25/32	3/8	C65606
3/8-24	UNF	.3750	25/32	3/8	C65607
7/16-14	UNC	.4375	7/8	7/16	C65608
7/16-20	UNF	.4375	7/8	7/16	C65609
1/2-13	UNC	.5000	1-1/16	1/2	C65610
1/2-20	UNF	.5000	1-1/16	1/2	C65611
9/16-12	UNC	.5625	1-1/16	1/2	C65612
9/16-18	UNF	.5625	1-1/16	1/2	C65613
5/8-11	UNC	.6250	1-1/4	5/8	C65614
5/8-18	UNF	.6250	1-1/4	5/8	C65615
11/16-11	NS	.6875	1-7/16	3/4	C65616
11/16-16	NS	.6875	1-7/16	3/4	C65617
3/4-10	UNC	.7500	1-7/16	3/4	C65618
3/4-16	UNF	.7500	1-7/16	3/4	C65619

Size	Thread	Decimal Equiv. (Inch)	Length Across Flats (Inch)	Thickness (Inch)	Order Number
7/8-9	UNC	.8750	1-5/8	7/8	C65620
7/8-14	UNF	.8750	1-5/8	7/8	C65621
1-8	UNC	1.0000	1-13/16	1	C65622
1-12	UNF	1.0000	1-13/16	1	C65623
1-14	NS	1.0000	1-13/16	1	C65624
1-1/8-7	UNC	1.1250	2	1	C65625
1-1/8-12	UNF	1.1250	2	1	C65627
1-1/4-7	UNC	1.2500	2-3/16	1	C65628
1-1/4-12	UNF	1.2500	2-3/16	1	C65629
1-3/8-6	UNC	1.4100	2-3/8	1	C65630
1-3/8-12	UNF	1.4100	2-3/8	1	C65631
1-1/2-6	UNC	1.5000	2-9/16	1	C65632
1-1/2-12	UNF	1.5000	2-9/16	1	C65633
Taper Pipe - Carbon					
1/8-27	NPT	.1250	1-1/16	3/8	C65571
1/4-18	NPT	.2500	1-1/4	5/8	C65572
3/8-18	NPT	.3750	1-7/16	5/8	C65573
1/2-14	NPT	.5000	1-5/8	3/4	C65574
3/4-14	NPT	.7500	2	13/16	C65575
1-11/12	NPT	1.0000	2-3/8	1	C65576
Metric - Carbon					
Size	Thread	Decimal Equiv. (Inch)	Length Across Flats (Inch)	Thickness (Inch)	Order Number
M3 x 0.5	—	.1181	19/32	1/4	C29192
M4 x 0.7	—	.1575	19/32	1/4	C29193
M5 x 0.8	—	.1969	19/32	1/4	C65580
M6 x 1	—	.2362	19/32	1/4	C65581
M7 x 1.0	—	.2756	11/16	5/16	C29194
M8 x 1.25	—	.3150	11/16	5/16	C65582
M10 x 1.25	—	.3937	7/8	7/16	C29195
M10 x 1.5	—	.3937	7/8	7/16	C65583
M12 x 1.75	—	.4724	1-1/16	1/2	C65584
M14 x 1.5	—	.5512	1-1/16	1/2	C29196
M14 x 2	—	.5512	1-1/16	1/2	C65585
M16 x 2	—	.6299	1-1/4	5/8	C65586
M18x1.5	—	.7087	1-7/16	3/4	C29197
M18x2.5	—	.7087	1-7/16	3/4	C29198
M20 x 2.5	—	.7874	1-5/8	7/8	C65587
M24x3.0	—	.9449	1-13/16	1	C29199

HIGH SPEED STEEL & CARBON HEXAGON - RETHREADING

SETS

Die Stock - Round Adjustable			
Number of Sizes	Die Sizes		Order Number
8	1/4-20 NC	1/2-13 NC	C67275
	5/16-18 NC	9/16-12 NC	
	3/8-16 NC	5/8-11 NC	
	7/16-14 NC	3/4-10 NC	
8	1/4-28 NF	1/2-20 NF	C67276
	5/16-24 NF	9/16-18 NF	
	3/8-24 NF	5/8-18 NF	
	7/16-20 NF	3/4-16 NF	
10	1/4-20 NC	9/16-12 NC	C67278
	5/16-18 NC	5/8-11 NC	
	3/8-16 NC	3/4-10 NC	
	7/16-14 NC	7/8-9 NC	
	1/2-13 NC	1-8 NC	



C67282



C67275

Number of Sizes	Die Sizes		Order Number
20	1/4-20 NC	1/4-28 NF	C67282
	5/16-18 NC	5/16-24 NF	
	3/8-16 NC	3/8-24 NF	
	7/16-14 NC	7/16-20 NF	
	1/2-13 NC	1/2-20 NF	
	9/16-12 NC	9/16-18 NF	
	5/8-11 NC	5/8-18 NF	
	3/4-10 NC	3/4-16 NF	
	7/8-9 NC	7/8-14 NF	
	1-8 NC	1-14 NF	
10	1/4-20NC	1/4-28NF	C67284
	5/16-18NC	5/16-24NF	
	3/8-16NC	3/8-24NF	
	7/16-14NC	7/16-20NF	
	1/2-13NC	1/2-20NF	
7	M6 x 1	M14 x 2	C67283
	M8 x 1.25	M16 x 2	
	M10 x 1.5	M20 x 2.5	
	M12 x 1.75		

QUICK TWO-PIECE DIE & COLLET ASSEMBLY

0550, 0551, 0552, 0553, 0554 SERIES

0554 - Assembly
(combined Die & Collet)

0550 - Die



0551 - Cap



0552 - Guide

0553 - Collet
(combined Cap & Guide)

Fractional & Machine Screw											
Size	Thread	Decimal Equiv. (Inch)	Collet Number	Collet O.D. (Inch)	Order Number 0554 (Assembly)	Die Blank Number	Order Number 0550 (Die)	Cap O.D. (Inch)	Order Number 0551 (Cap)	Order Number 0552 (Guide)	Order Number 0553 (Collet)
4-40	UNC	.1120	A1	1-1/4	C66782	A1	C66693	1-1/4	C66727	C66681	C66754
6-32	UNC	.1380	A1	1-1/4	C66783	A1	C66694	1-1/4	C66727	C66682	C66755
8-32	UNC	.1640	A1	1-1/4	C66784	A1	C66695	1-1/4	C66727	C66683	C66756
10-24	UNC	.1900	A1	1-1/4	C66785	A1	C66696	1-1/4	C66727	C66684	C66757
10-32	UNF	.1900	A1	1-1/4	C66786	A1	C66697	1-1/4	C66727	C66684	C66757
12-24	UNC	.2160	A1	1-1/4	C66787	A1	C66698	1-1/4	C66727	C66685	C66758
1/4-20	UNC	.2500	A1	1-1/4	C66788	A1	C66699	1-1/4	C66727	C66686	C66759
1/4-20	UNC	.2500	1,5	2	C66789	A	C66701	2	C66728	C66737	C66775
1/4-28	UNF	.2500	1	2	C66790	A1	C66700	2	C66728	C66737	C66775
1/4-28	UNF	.2500	1	2	C66790	A	C66702	2	C66728	C66737	C66775

QUICK TWO-PIECE DIE & COLLET ASSEMBLY

0550, 0551, 0552, 0553, 0554 SERIES continued

Fractional											
Size	Thread	Decimal Equiv. (Inch)	Collet Number	Collet O.D. (Inch)	Order Number 0554 (Assembly)	Die Blank Number	Order Number 0550 (Die)	Cap O.D. (Inch)	Order Number 0551 (Cap)	Order Number 0552 (Guide)	Order Number 0553 (Collet)
5/16-18	UNC	.3125	1,5	2	C66791	A	C66703	2	C66728	C66738	C66776
5/16-24	UNF	.3125	1,5	2	C66792	A	C66704	2	C66728	C66738	C66776
3/8-16	UNC	.3750	1,5	2	C66793	B	C66705	2	C66729	C66739	C66777
3/8-24	UNF	.3750	1,5	2	C66794	B	C66706	2	C66729	C66739	C66777
7/16-14	UNC	.4375	1,5	2	C66795	B	C66707	2	C66729	C66740	C66778
7/16-20	UNF	.4375	1,5	2	C66796	B	C66708	2	C66729	C66740	C66778
1/2-13	UNC	.5000	1	2	C66797	B	C66709	2	C66729	C66741	C66764
1/2-13	UNC	.5000	5	2-3/4	C66801	B	C66710	2	C66732	C66746	C66769
1/2-20	UNF	.5000	1	2	C66798	C	C66711	2-3/4	C66729	C66741	C66764
1/2-20	UNF	.5000	5	2-3/4	C66802	C	C66712	2-3/4	C66732	C66746	C66769
9/16-12	UNC	.5625	5	2-3/4	C66803	C	C66713	2-3/4	C66732	C66747	C66770
9/16-18	UNF	.5625	5	2-3/4	C66804	C	C66714	2-3/4	C66732	C66747	C66770
5/8-11	UNC	.6250	5	2-3/4	C66805	C	C66715	2-3/4	C66732	C66748	C66771
5/8-18	UNF	.6250	5	2-3/4	C66806	C	C66716	2-3/4	C66732	C66748	C66771
3/4-10	UNC	.7500	5	2-3/4	C66807	C	C66717	2-3/4	C66732	C66749	C66772
3/4-16	UNF	.7500	5	2-3/4	C66808	C	C66718	2-3/4	C66732	C66749	C66772
7/8-9	UNC	.8750	5	2-3/4	C66809	D	C66719	2-3/4	C66733	C66750	C66773
7/8-14	UNF	.8750	5	2-3/4	C66810	D	C66720	2-3/4	C66733	C66750	C66773
1-8	UNC	1.0000	5	2-3/4	C66811	D	C66721	2-3/4	C66733	C66751	C66774
1-12	UNF	1.0000	5	2-3/4	C66812	D	C66722	2-3/4	C66733	C66751	C66774
1-14	UNS	1.0000	5	2-3/4	C66813	D	C66723	2-3/4	C66733	C66751	C66774
Metric											
Size	Thread	Decimal Equiv. (Inch)	Collet Number	Collet O.D. (Inch)	Order Number 0554 (Assembly)	Die Blank Number	Order Number 0550 (Die)	Cap O.D. (mm)	Order Number 0551 (Cap)	Order Number 0552 (Guide)	Order Number 0553 (Collet)
M6 x 1	—	.2362	5	—	—	A	C66670	70	—	C66820	—
M8 x 1.25	—	.3150	5	—	—	A	C66671	70	—	C66821	—
M10 x 1.5	—	.3937	5	—	—	B	C66672	70	—	C66822	—
M12 x 1.75	—	.4724	5	—	—	B	C66673	70	—	C66823	—
M14 x 2	—	.5512	5	—	—	C	C66674	70	C66732	C66824	—
M16 x 2	—	.6300	5	—	—	C	C66675	70	C66732	C66825	—
M18 x 2.5	—	.7087	5	—	—	C	C66676	70	C66732	C66826	—
M20 x 2.5	—	.7874	5	—	—	C	C66677	70	C66732	C66827	—
M22 x 2.5	—	.8661	5	—	—	D	C66678	70	C66733	C66828	—
M24 x 3	—	.9449	5	—	—	D	C66679	70	C66733	C66829	—

223 SERIES

Quick Two-Piece Die System

Use with all Style #0554 Quick-Set collets with two-piece dies.
Application Information: Quick-Set die stocks have center holes corresponding to the outside diameter of the Quick-Set collets.

Stock Number	Collet Number	Collet Capacity	Length of Stock	Order Number 223 Series
#A1	A1	1-1/4	7-1/2	C67216
#1	1	2	14-1/2	C67214
#5	5	2-3/4	23	C67217
#5A	5	2-3/4	26	C67215



225 SERIES

Jr. Quick Die Stock

Use with all Series 0550 Quick-Set two-piece dies without collet.
Application Information: Quick-Set Jr. die stocks are designed to use Quick-Set dies without collets. Double slots enable use of two different size blanks in the same stock.

Stock Number	Cutting Size	Die Blank Size	Guide Number	Cutting Size Range	Length of Stock	Order Number 225 Series
#1	1/4 to 5/16 & 3/8 to 1/2	A, B	1	1/4 to 1/2	14-1/2	C67220
#5	9/16 to 3/4 & 7/8 to 1	C, D	5	9/16 to 1	26	C67221



226 SERIES

Spanner Wrench

Because all guides are so small they are round not square, a standard wrench cannot be used. Fits into two holes to turn guide.

Stock Number	Collet Number	Collet Capacity	Order Number 226 Series
#A1	A1	1-1/4	C67232



TAP & DIE SETS

03

DIES

055 SERIES

CARBON STEEL



C00609

Tap & Die Sets Quick-Set Two-Piece Die System with Collet						
Number of Cutting Sizes	Threading Sizes		Collet Number	Tap Wrench Number	Die Stock Number	Order Number
7	4-40 NC	10-24 NC	A1	T9, A1	A1	C00609
	6-32 NC	10-32 NF				
	8-32 NC	12-24 NC				
		1/4-20 NC				
5	1/4-20 NC	7/16-14 NC	1	#5	#1	C00610
	5/16-18 NC	1/2-13 NC				
	3/8-16 NC					
10	1/4-20 NC	9/16-12 NC	5	#5, #7	5A	C00611
	5/16-18 NC	5/8-11 NC				
	3/8-16 NC	3/4-10 NC				
	7/16-14 NC	7/8-9 NC				
	1/2-13 NC	1-8 NC				
10	1/4-20 NC	1/4-28 NF	1	#5	#1	C00612
	5/16-18 NC	5/16-24 NF				
	3/8-16 NC	3/8-24 NF				
	7/16-14 NC	7/16-20 NF				
	1/2-13 NC	1/2-20 NF				
20	1/4-20 NC	1/4-28 NF	1,5	#5, #7	#1, #5B	C00613
	5/16-18 NC	5/16-24 NF				
	3/8-16 NC	3/8-24 NF				
	7/16-14 NC	7/16-20 NF				
	1/2-13 NC	1/2-20 NF				
	9/16-12 NC	9/16-18 NF				
	5/8-11 NC	5/8-18 NF				
	3/4-10 NC	3/4-16 NF				
	7/8-9 NC	7/8-14 NF				
	1-8 NC	1-14 NS				
7	M6 x 1	M16 x 2	5	#6	#5	C00614
	M8 x 1.25	M18 x 2.5				
	M10 x 1.5					
	M12 x 1.75					
	M14 x 2					

Tap & Die Sets Quick-Set Jr. Tap & Die without Collet					
Number of Cutting Sizes	Threading Sizes		Wrench Number	Die Stock Number	Order Number
20	1/4-20 NC	1/4-28 NF	#5, #7	#1, #5	C00608
	5/16-18 NC	5/16-24 NF			
	3/8-16 NC	3/8-24 NF			
	7/16-14 NC	7/16-20 NF			
	1/2-13 NC	1/2-20 NF			
	9/16-12 NC	9/16-18 NF			
	5/8-11 NC	5/8-18 NF			
	3/4-10 NC	3/4-16 NF			
	7/8-9 NC	7/8-14 NF			
	1-8 NC	1-14NS			



CLE-LINE

WALTER

HIGH SPEED STEEL ADJUSTABLE ROUND SPLIT DIES

3000E SERIES

HIGH SPEED STEEL

Machine Screw / Bright



Fractional & Machine Screw				
Size (Inches)	Outer Diameter (O.D.)			
	13-16" O.D. Order Number	1" O.D. Order Number	1-1/2" O.D. Order Number	2" O.D. Order Number
0 - 80	30E000FA	-	-	-
1 - 64	30E001CA	-	-	-
1 - 72	30E001FA	-	-	-
2 - 56	30E002CA	-	-	-
2 - 64	30E002FA	-	-	-
3 - 48	30E003CA	-	-	-
3 - 56	30E003FA	-	-	-
4 - 40	30E004CA	30E004CB	-	-
4 - 48	30E004FA	30E004FB	-	-
5 - 40	30E005CA	30E005CB	-	-
5 - 44	30E005FA	-	-	-
6 - 32	30E006CA	30E006CB	-	-
6 - 40	30E006FA	30E006FB	-	-
8 - 32	30E008CA	30E008CB	-	-
8 - 36	30E008FA	30E008FB	-	-
10 - 24	30E010CA	30E010CB	-	-
10 - 32	30E010FA	30E010FB	-	-
12 - 24	30E012CA	30E012CB	-	-
12 - 28	30E012FA	30E012FB	-	-
1/4 - 20	30E116CA	30E116CB	30E116CC	30E116CD
1/4 - 28	30E116FA	30E116FB	30E116FC	30E116FD
5/16 - 18	30E120CA	30E120CB	30E120CC	30E120CD
5/16 - 24	30E120FA	30E120FB	30E120FC	30E120FD
3/8 - 16	-	30E124CB	30E124CC	30E124CD
3/8 - 24	-	30E124FB	30E124FC	30E124FD
7/16 - 14	-	30E128CB	30E128CC	30E128CD
7/16 - 20	-	30E128FB	30E128FC	30E128FD
1/2 - 13	-	30E132CB	30E132CC	30E132CD
1/2 - 20	-	30E132FB	30E132FC	30E132FD
9/16 - 12	-	-	30E136CC	30E136CD
9/16 - 18	-	-	30E136FC	30E136FD
5/8 - 11	-	-	30E140CC	30E140CD
5/8 - 18	-	-	30E140FC	30E140FD

Fractional - HSS				
Size (Inches)	Outer Diameter (O.D.)			
	1-1/2" O.D. Order Number	2" O.D. Order Number	2-1/2" O.D. Order Number	3" O.D. Order Number
3/4 - 10	30E148CC	30E148CD	-	-
3/4 - 16	30E148FC	30E148FD	-	-
7/8 - 9	-	30E156CD	-	-
7/8 - 14	-	30E156FD	-	-
1 - 8	-	30E164CD	-	30E164CF
1 - 12	-	30E164FD	-	-
1 - 14	-	30E164SD	-	30E164SF
1-1/8 - 7	-	-	30E208CE	30E208CF
1-1/8 - 12	-	-	30E208FE	30E208FF
1-1/4 - 7	-	-	30E216CE	30E216CF
1-1/4 - 12	-	-	30E216FE	30E216FF
1-3/8 - 6	-	-	30E224CE	30E224CF
1-3/8 - 12	-	-	30E224FE	30E224FF
1-1/2 - 6	-	-	30E232CE	30E232CF
1-1/2 - 12	-	-	30E232FE	30E232FF
1-5/8 (5-1/2)	-	-	-	30E240CF
1-5/8 - 12	-	-	-	30E240FF
1-3/4 - 5	-	-	-	30E248CF
1-3/4 - 12	-	-	-	30E248FF
1-7/8 - 5	-	-	-	30E256CF
1-7/8 - 12	-	-	-	30E256FF
2 (4-1/2)	-	-	-	30E264CF
2 - 12	-	-	-	30E264FF

Tech tip!

The round split adjustable die may be adjusted through the screws on the holder.

Adjustment on the open type is done by turning the three screws on the holder.

A die holder or handle is needed for proper operation of round split adjustable dies.

HIGH SPEED STEEL ADJUSTABLE ROUND SPLIT DIES

03

DIES

3050E SERIES

HIGH SPEED STEEL

Fractional (NPT) - HSS					
Size (Inches)	Outer Diameter (O.D.)				
	1" O.D. Order Number	1-1/2" O.D. Order Number	2" O.D. Order Number	2-1/2" O.D. Order Number	3" O.D. Order Number
1/16 - 24	305E104B	—	—	—	—
1/8 - 27	305E108B	305E108C	—	—	—
1/4 - 18	—	305E116C	—	—	—
3/8 - 18	—	—	305E124D	—	—
1/2 - 14	—	—	305E132D	—	—
3/4 - 14	—	—	305E148D	—	—
1 - 11-1/2	—	—	—	305E164E	—
1-1/4 - 11-1/2	—	—	—	—	305E216F
1-1/2 - 11-1/2	—	—	—	—	305E232F



3100E SERIES

HIGH SPEED STEEL

Metric - HSS			
Size (mm)	Outer Diameter (O.D.)		
	13/16" O.D. Order Number	1" O.D. Order Number	1-1/2" O.D. Order Number
1.6 x 0.35	31E016AA	—	—
2 x 0.40	31E020AA	31E020AB	—
2.2 x 0.45	—	31E022AB	—
2.3 x 0.40	—	31E023AB	—
2.5 x 0.45	31E025AA	31E025AB	—
2.6 x 0.45	—	31E026AB	—
3 x 0.50	—	31E030AB	—
3.5 x 0.50	—	31E035AB	—
3.5 x 0.60	—	31E035BB	—
4 x 0.50	31E040AA	31E040AB	—
4 x 0.70	31E040BA	31E040BB	—
4.5 x 0.50	—	31E045AB	—
4.5 x 0.75	—	31E045BB	—
5 x 0.50	—	31E050AB	—
5 x 0.80	31E050BA	31E050BB	—
5 x 1	—	31E050CB	—
6 x 0.50	—	31E060AB	—
6 x 0.75	—	31E060BB	—
6 x 1	—	31E060CB	—
7 x 0.75	—	31E070AB	—
7 x 1	—	31E070BB	—
8 x 0.75	—	31E080AB	—
8 x 1	—	31E080BB	—
8 x 1.25	—	31E080CB	—
9 x 1	—	—	31E090AC
9 x 1.25	—	31E090BB	31E090BC
10 x 0.75	—	31E100AB	31E100AC
10 x 1	—	31E100BB	31E100BC
10 x 1.25	—	31E100CB	—

Metric - HSS					
Size (mm)	Outer Diameter (O.D.)				
	1" O.D. Order Number	1-1/2" O.D. Order Number	2" O.D. Order Number	2-1/2" O.D. Order Number	3" O.D. Order Number
10 x 1.5	31E100DB	31E100DC	—	—	—
11 x 1	—	31E110AC	—	—	—
11 x 1.5	31E110BB	31E110BC	—	—	—
12 x 1	—	31E120AC	—	—	—
12 x 1.25	—	31E120BC	—	—	—
12 x 1.5	—	31E120CC	—	—	—
12 x 1.75	—	31E120DC	—	—	—
14 x 1	—	31E140AC	—	—	—
14 x 1.25	—	31E140BC	—	—	—
14 x 1.5	—	31E140CC	—	—	—
14 x 2	—	31E140DC	—	—	—
15 x 1.5	—	31E150AC	—	—	—
16 x 1	—	31E160AC	—	—	—
16 x 1.5	—	31E160BC	—	—	—
16 x 2	—	31E160CC	—	—	—
17 x 1.5	—	31E170AC	—	—	—
18 x 1.5	—	31E180BC	—	—	—
18 x 2	—	31E180CC	—	—	—
18 x 2.5	—	31E180DC	—	—	—
20 x 1	—	31E200AC	31E200AD	—	—
20 x 1.5	—	31E200BC	31E200BD	—	—
20 x 2	—	—	31E200CD	—	—
20 x 2.5	—	—	31E200DD	—	—
22 x 1	—	—	31E220AD	—	—
22 x 1.5	—	—	31E220BD	—	—
22 x 2	—	—	31E220CD	—	—
22 x 2.5	—	—	31E220DD	—	—
24 x 1.5	—	—	31E240AD	—	—
24 x 2	—	—	31E240BD	—	—
24 x 3	—	—	31E240CD	—	—
26 x 1.5	—	—	31E260AD	—	—
30 x 2	—	—	31E300BD	—	—
33 x 2	—	—	—	31E330AE	—
45 x 4.5	—	—	—	—	31E450AF

DRILCO

WALTER

HIGH SPEED STEEL THREADING HEXAGON DIES

3300E SERIES

HIGH SPEED STEEL

Fractional & Machine Screw - HSS		
Size - TPI (Inches)	Width A / F (Inch)	Order Number
4-40	19/32	33E004C
6-32	19/32	33E006C
8-32	19/32	33E008C
10-24	19/32	33E010C
10-32	19/32	33E010F
12-24	19/32	33E012C
1/4-20	19/32	33E116C
1/4-28	19/32	33E116F
5/16-18	11/16	33E120C
5/16-24	11/16	33E120F
3/8-16	25/32	33E124C
3/8-24	25/32	33E124F
7/16-14	7/8	33E128C
7/16-20	7/8	33E128F

Size - TPI (Inches)	Width A / F (Inch)	Order Number
1/2-13	1-1/16	33E132C
1/2-20	1-1/16	33E132F
9/16-12	1-1/16	33E136C
9/16-18	1-1/16	33E136F
5/8-11	1-1/4	33E140C
5/8-18	1-1/4	33E140F
3/4-10	1-7/16	33E148C
3/4-16	1-7/16	33E148F
7/8-9	1-5/8	33E156C
7/8-14	1-5/8	33E156F
1-8	1-13/16	33E164C
1-12	1-13/16	33E164F
1-14	1-13/16	33E164S

CARBON STEEL RETHREADING HEXAGON DIES

3350E SERIES

CARBON STEEL



Fractional & Machine Screw		
Size - TPI (Inches)	Width A / F (Inch)	Order Number
4-40	19/32	335E004C
4-48	19/32	335E004F
5-40	19/32	335E005C
5-44	19/32	335E005F
6-32	19/32	335E006C
6-40	19/32	335E006F
8-32	19/32	335E008C
8-36	19/32	335E008F
10-24	19/32	335E010C
10-32	19/32	335E010F
12-24	19/32	335E012C
12-28	19/32	335E012F
1/4-20	19/32	335E116C
1/4-28	19/32	335E116F
5/16-18	11/16	335E120C
5/16-24	11/16	335E120F
3/8-16	25/32	335E124C
3/8-24	25/32	335E124F
7/16-14	7/8	335E128C
7/16-20	7/8	335E128F
1/2-13	1-1/16	335E132C
1/2-20	1-1/16	335E132F

Size - TPI (Inches)	Width A / F (Inch)	Order Number
9/16-12	1-1/16	335E136C
9/16-18	1-1/16	335E136F
5/8-11	1-1/4	335E140C
5/8-18	1-1/4	335E140F
11/16-11	1-7/16	335E144C
11/16-16	1-7/16	335E144F
3/4-10	1-7/16	335E148C
3/4-16	1-7/16	335E148F
7/8-9	1-5/8	335E156C
7/8-14	1-5/8	335E156F
1-8	1-13/16	335E164C
1-12	1-13/16	335E164F
1-14	1-13/16	335E164S
1-1/8-7	2	335E208C
1-1/8-12	2	335E208F
1-1/4-7	2-3/16	335E216C
1-1/4-12	2-3/16	335E216F
1-3/8-6	2-3/8	335E224C
1-3/8-12	2-3/8	335E224F
1-1/2-6	2-9/16	335E232C
1-1/2-12	2-9/16	335E232F
1-5/8-5-1/2	3-1/8	335E240C
1-5/8-12	3-1/8	335E240F

Size - TPI (Inches)	Width A / F (Inch)	Order Number
1-3/4-5	3-1/8	335E248C
1-3/4-12	3-1/8	335E248F
1-7/8-5	3-1/8	335E256C
1-7/8-12	3-1/8	335E256F
2-4-1/2	3-1/2	335E264C
2-12	3-1/2	335E264F
2-1/4-4-1/2	3-1/2	335E316C
2-1/4-12	3-1/2	335E316F
2-1/2-4	4-1/2	335E332C
2-1/2-12	4-1/2	335E332F
2-3/4-4	4-1/2	335E348C
2-3/4-12	4-1/2	335E348F
3-4	5	335E364C
3-12	5	335E364F
3-1/4-4	5	335E416C
3-1/4-12	5	335E416F
3-1/2-4	5	335E432C
3-1/2-12	5	335E432F
3-3/4-4	6	335E448C
3-3/4-12	6	335E448F
4-4	6	335E464C
4-12	6	335E464F

CARBON STEEL RETHREADING HEXAGON DIES

03

DIES

3350E SERIES

CARBON STEEL

8-Pitch / Rethreading Dies

Fractional (NPT) - Carbon Steel			
Size (Inches)	Threads per Inch (TPI)	Width A / F (Inch)	Order Number
1-1/8"	8	2"	335E208N
1-1/4"	8	2"	335E216N
1-3/8"	8	2-3/16"	335E224N
1-1/2"	8	2-3/16"	335E232N
1-5/8"	8	2-3/8"	335E240N
1-3/4"	8	2-3/8"	335E248N
1-7/8"	8	2-9/16"	335E256N
2"	8	2-9/16"	335E264N
2-1/4"	8	3-1/8"	335E316N
2-3/8"	8	3-1/8"	335E324N
2-1/2"	8	3-1/8"	335E332N
2-5/8"	8	3-1/8"	335E340N
2-3/4"	8	3-1/8"	335E348N
2-7/8"	8	3-1/8"	335E356N
3"	8	3-1/2"	335E364N
3-1/4"	8	3-1/2"	335E416N
3-1/2"	8	3-1/2"	335E432N
3-3/4"	8	3-1/2"	335E448N
4"	8	4-1/2"	335E464N

3380E SERIES

CARBON STEEL

Pipe Tap (NPT) / Rethreading Dies

Fractional (NPT) - Carbon Steel			
Size (Inches)	Threads per Inch (TPI)	Width A / F (Inch)	Order Number
1/8"	27	25/32"	338E108
1/4"	18	1-1/16"	338E116
3/8"	18	1-1/4"	338E124
1/2"	14	1-5/8"	338E132
3/4"	14	1-13/16"	338E148
1"	11-1/2	2-3/16"	338E164
1-1/4"	11-1/2	3-1/8"	338E216
1-1/2"	11-1/2	3-1/8"	338E232
2"	11-1/2	4"	338E264

3360E SERIES

CARBON STEEL

Metric / Rethreading Dies

Metric - Carbon Steel			
Size (mm)	Pitch	Width A / F (Inch)	Order Number
3	0.5	19/32"	336E030A
3	0.6	19/32"	336E030B
3.5	0.6	19/32"	336E035A
4	0.7	19/32"	336E040A
4	0.75	19/32"	336E040B
4.5	0.75	19/32"	336E045A
5	0.8	19/32"	336E050A
5	0.9	19/32"	336E050B
6	1	19/32"	336E060A
6	0.75	19/32"	336E060B
6.3	1	19/32"	336E063A
7	1	11/16"	336E070A
8	1	11/16"	336E080A
8	1.25	11/16"	336E080B
9	1	25/32"	336E090A
9	1.25	25/32"	336E090B
10	1.25	7/8"	336E100A
10	1.5	7/8"	336E100B

Size (mm)	Pitch	Width A / F (Inch)	Order Number
11	1.5	7/8"	336E110A
12	1.25	1-1/16"	336E120A
12	1.5	1-1/16"	336E120B
12	1.75	1-1/16"	336E120C
14	1.5	1-1/16"	336E140A
14	2	1-1/16"	336E140B
16	1.5	1-1/4"	336E160A
16	2	1-1/4"	336E160B
18	1.5	1-7/16"	336E180A
18	2.5	1-7/16"	336E180B
18	2	1-7/16"	336E180C
20	1.5	1-5/8"	336E200A
20	2.5	1-5/8"	336E200B
22	1.5	1-5/8"	336E220A
22	2.5	1-5/8"	336E220B
24	2	1-13/16"	336E240A
24	3	1-13/16"	336E240B
26	1.5	2"	336E260A
27	2	2"	336E270A

Size (mm)	Pitch	Width A / F (Inch)	Order Number
27	3	2"	336E270B
28	1.5	2"	336E280A
30	2	2-3/16"	336E300A
33	2	2-3/8"	336E330A
33	3.5	2-3/8"	336E330B
36	3	2-9/16"	336E360A
36	4	2-9/16"	336E360B
39	3	3-1/8"	336E390A
39	4	3-1/8"	336E390B
40	1.5	3-1/8"	336E400A
42	4.5	3-1/8"	336E420B
45	1.5	3-1/4"	336E450A
45	4.5	3-1/4"	336E450B
48	1.5	3-1/4"	336E480A
52	1.5	3-1/2"	336E520A
52	5	3-1/2"	336E520B

DRILCO

WALTER

TAP & DIE SETS



2000H38

UNF threads are Unified fine pitch threads, UNC threads are Unified coarse pitch threads.

SETS				
Material	Pieces	Includes	Case	Order No.
Tap & Hexagon Die Set				
TAPS: HSS USA DIES: Carbon Import	23 pcs (UNC & UNF)	Taps & Dies: 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-12 & 1/4-18 (NPT). Also: 1/4" to 1" Adjustable Tap Wrench.	Wood	2000H25
TAPS: HSS USA DIES: Carbon Import	36 pcs (UNC & UNF)	Taps & Dies: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, & 1/8-27 (NPT). Also: 1/4" to 1" Adjustable Tap Wrench, #0 to 3/8" T-Handle Tap Wrench.	Wood	2000H38
TAPS: HSS USA DIES: Carbon Import	58 pcs (UNC & UNF)	Taps & Dies: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-12, & 1/8-27, 1/4-18 (NPT). Also: #7 to 1/2" & 1/4" to 1" Adjustable Tap Wrench, #0 to 3/8" T-Handle Tap Wrench.	Wood	2000H63
TAPS: HSS USA DIES: Carbon Import	18 pcs (UNC)	Taps & Dies: 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4. Also: #7 to 1/2 Adjustable Tap Wrench, #12 to 1/2" T-Handle Tap Wrench.	Wood	2000HC20
TAPS: HSS USA DIES: Carbon Import	18 pcs (UNF)	Taps & Dies: 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4. Also: #7 to 1/2 Adjustable Tap Wrench, #12 to 1/2" T-Handle Tap Wrench.	Wood	2000HF20
Tap & Round Adjustable Die Set				
High Speed Steel TAPS: USA DIES: Import	25 pcs (UNC & UNF)	Taps & Dies: 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-12 & 1/4-18 (NPT). Also: 2" Round Die Stock, 1/4" to 1" Adjustable Tap Wrench, and 1 Screwdriver.	Wood	2000R25
High Speed Steel TAPS: USA DIES: Import	38 pcs (UNC & UNF)	Taps & Dies: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20 & 1/8-27 (NPT). Also: 1" Round Die Stock, 1/4" to 1" Adjustable Tap Wrench, #0 to 3/8" T-Handle Tap Wrench and 1 Screwdriver.	Wood	2000R38
High Speed Steel TAPS: USA DIES: Import	63 pcs (UNC & UNF)	Taps & Dies: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-12, & 1/8-27, 1/4-18 (NPT). Also: 1" & 2" Round Die Stock, #7 to 1/2" & 1/4" to 1" Adjustable Tap Wrench, #0 to 3/8" T-Handle Tap Wrench and 2 Screwdrivers.	Wood	2000R63
High Speed Steel TAPS: USA DIES: Import	20 pcs (UNC)	Taps & Dies: 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4. Also: 1-1/2" Round Die Stock, #7 to 1/2 Adjustable Tap Wrench, #12 to 1/2" T-Handle Tap Wrench, and 1 Screwdriver.	Wood	2000RC20
High Speed Steel TAPS: USA DIES: Import	20 pcs (UNF)	Taps & Dies: 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4. Also: 1-1/2" Round Die Stock, #7 to 1/2 Adjustable Tap Wrench, #12 to 1/2" T-Handle Tap Wrench, and 1 Screwdriver.	Wood	2000RF20



2800E36



3300EC10



3350C20

SETS				
Material	Pieces	Includes	Case	Order No.
Pipe Tap & Die Set				
Carbon	12 pcs (NPT)	Taper Pipe Taps: 1/8-27, 1/4-18, 3/8-18, 1/2-14, 3/4-14, 1 - 11-1/2. Hexagon Pipe Dies: 1/8-27, 1/4-18, 3/8-18, 1/2-14, 3/4-14, 1 - 11-1/2.	Plastic	2700C12
Pipe Tap & Die Set				
High Speed Steel	40 pcs (UNC & UNF)	4-40 thru 1/2", Round Adjustable Dies	Plastic	2000E40
Carbon	36 pcs (Metric)	4mm thru 12mm, Round Adjustable or Hex Dies	Plastic	2800C36
High Speed Steel	36 pcs (Metric)	4mm thru 12mm, Round Adjustable Dies	Plastic	2800E36
Hexagon Die Sets (Dies Only)				
High Speed Steel	20 pcs (UNC & UNF)	1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, & 1"	Wood	3300E20
High Speed Steel	10 pcs (UNC)	1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, & 1"	Wood	3300EC10
High Speed Steel	10 pcs (UNF)	1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, & 1"	Wood	3300EF10
Carbon	20 pcs (UNC & UNF)	1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, & 1"	Wood	3350C20
Carbon	10 pcs (UNC)	1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, & 1"	Wood	3350CC10
Carbon	10 pcs (UNF)	1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, & 1"	Wood	3350CF10

3000DS SERIES

3 Screw Type



Die Stock		
Designed for use with round adjustable split dies.		
Size	Overall Length	Order Number
13/16"	7"	3000DS1
1"	8 1/4"	3000DS2
1-1/2"	11 3/4"	3000DS3
2"	15 1/2"	3000DS4
2-1/2"	19"	3000DS5
3"	22 1/2"	3000DS6

HIGH SPEED STEEL & CARBON ROUND ADJUSTABLE DIES

6382 SERIES

HIGH SPEED STEEL

382 SERIES

CARBON STEEL



Fractional & Machine Screw - HSS					
Size	Thread	Decimal Equiv. (Inch)	Outside Diameter (Inch)	Thickness (Inch)	Order Number
5-40	UNC	.1250	.8125	.2500	400013
5-44	UNF	.1250	.8125	.2500	400021
6-32	UNC	.1380	.8125	.2500	400039
6-32	UNC	.1380	1.000	.3750	400138
6-40	UNF	.1380	.8125	.2500	400047
8-32	UNC	.1640	.8125	.2500	400054
8-32	UNC	.1640	1.0000	.3750	400145
8-36	UNF	.1640	.8125	.2500	400062
10-24	UNC	.1900	.8125	.2500	400070
10-24	UNC	.1900	1.0000	.3750	400179
10-32	UNF	.1900	.8125	.2500	400088
10-32	UNF	.1900	1.0000	.3750	400187
12-24	UNC	.2160	.8125	.2500	400096
12-24	UNC	.2160	1.0000	.3750	400195
12-28	UNF	.2160	.8125	.2500	400104
1/4-20	UNC	.2500	.8125	.2500	400211
1/4-20	UNC	.2500	1.0000	.3750	400302
1/4-20	UNC	.2500	1.5000	.5000	400401
1/4-28	UNF	.2500	.8125	.2500	400229
1/4-28	UNF	.2500	1.0000	.3750	400310
1/4-28	UNF	.2500	1.5000	.5000	400419
5/16-18	UNC	.3125	.8125	.2500	400237
5/16-18	UNC	.3125	1.0000	.3750	400328
5/16-18	UNC	.3125	1.5000	.5000	400427
5/16-24	UNF	.3125	.8125	.2500	400245
5/16-24	UNF	.3125	1.0000	.3750	400336
5/16-24	UNF	.3125	1.5000	.5000	400435
3/8-16	UNC	.3750	1.0000	.3750	400344
3/8-16	UNC	.3750	1.5000	.5000	400445
3/8-24	UNF	.3750	1.0000	.3750	400351
3/8-24	UNF	.3750	1.5000	.5000	400450
7/16-14	UNC	.4375	1.0000	.3750	400369
7/16-14	UNC	.4375	1.5000	.5000	400468
7/16-20	UNF	.4375	1.0000	.3750	400377
7/16-20	UNF	.4375	1.5000	.5000	400476
1/2-13	UNC	.5000	1.5000	.5000	400484
1/2-20	UNF	.5000	1.5000	.5000	400492
9/16-12	UNC	.5625	1.5000	.5000	400500
9/16-18	UNF	.5625	1.5000	.5000	400518
5/8-11	UNC	.6250	1.5000	.5000	400526
5/8-11	UNC	.6250	2.0000	.6250	400609
5/8-18	UNF	.6250	1.5000	.5000	400534
5/8-18	UNF	.6250	2.0000	.6250	400617
3/4-10	UNC	.7500	2.0000	.6250	400625
3/4-16	UNF	.7500	2.0000	.6250	400633
7/8-9	UNC	.8750	2.0000	.6250	400641
7/8-14	UNF	.8750	2.0000	.6250	400658

Metric - HSS					
Size	Thread	Decimal Equiv. (Inch)	Outside Diameter (Inch)	Thickness (Inch)	Order Number
M2.5 x 0.45		.0984	.8125	.2500	415721
M3 x 0.5		.1181	.8125	.2500	415724
M3.5 x 0.6		.1378	.8125	.2500	415732
M4 x 0.7		.1575	.8125	.2500	415737
M4.5 x 0.75		.1772	.8125	.2500	415742
M5 x 0.8		.1969	.8125	.2500	415747
M6 x 1		.2362	.8125	.2500	415757
M6 x 1		.2362	1.0000	.3750	415801
M7 x 1		.2756	1.0000	.3750	415807
M8 x 1.25		.3150	1.0000	.3750	415813
M10 x 1.5		.3937	1.0000	.3750	415824
M12 x 1.75		.4724	1.0000	.3750	415833
M14 x 2		.5512	1.5000	.5000	415880
M16 x 2		.6300	1.5000	.5000	415889
M18 x 2.5		.7087	1.5000	.5000	415896
M20 x 2.5		.7874	1.5000	.5000	415901
Fractional & Machine Screw - Carbon					
0-80	UNF	.0600	.8125	.2500	401003
1-64	UNC	.0730	.8125	.2500	401029
1-72	UNF	.0730	.8125	.2500	401037
2-56	UNC	.0860	.8125	.2500	401045
2-64	UNF	.0860	.8125	.2500	401052
3-48	UNC	.0990	.8125	.2500	401060
3-56	UNF	.0990	.8125	.2500	401078
4-40	UNC	.1120	.8125	.2500	401102
4-48	UNF	.1120	.8125	.2500	401110
5-40	UNC	.1250	.8125	.2500	401128
5-44	UNF	.1250	.8125	.2500	401129
6-32	UNC	.1380	.8125	.2500	401168
6-32	UNC	.1380	1.000	.3750	401409
6-40	UNF	.1380	.8125	.2500	401169
8-32	UNC	.1640	.8125	.2500	401177
8-32	UNC	.1640	1.0000	.3750	401433
8-36	UNF	.1640	.8125	.2500	401178
10-24	UNC	.1900	.8125	.2500	401201
10-24	UNC	.1900	1.0000	.3750	401466
10-32	UNF	.1900	.8125	.2500	401227
10-32	UNF	.1900	1.0000	.3750	401482
12-24	UNC	.2160	.8125	.2500	401242
12-24	UNC	.2160	1.0000	.3750	401490
12-28	UNF	.2160	.8125	.2500	401243
1/4-20	UNC	.2500	.8125	.2500	401244
1/4-20	UNC	.2500	1.0000	.3750	401979
1/4-20	UNC	.2500	1.5000	.5000	402209
1/4-20	UNC	.2500	2.0000	.6250	402407

HIGH SPEED STEEL & CARBON ROUND ADJUSTABLE DIES

03

DIES

6382 SERIES continued HIGH SPEED STEEL

382/383 SERIES continued CARBON STEEL



Fractional & Machine Screw - Carbon					
Size (Inch)	Thread	Decimal Equiv. (Inch)	Outside Diameter (Inch)	Thickness (Inch)	Order Number
1/4-28	UNF	.2500	1.0000	.3750	401995
1/4-28	UNF	.2500	1.5000	.5000	402225
1/4-28	UNF	.2500	2.0000	.6250	402423
5/16-18	UNC	.3125	1.0000	.3750	402019
5/16-18	UNC	.3125	1.5000	.5000	402241
5/16-18	UNC	.3125	2.0000	.6250	402449
5/16-24	UNF	.3125	1.0000	.3750	402027
5/16-24	UNF	.3125	1.5000	.5000	402258
5/16-24	UNF	.3125	2.0000	.6250	402456
3/8-16	UNC	.3750	1.0000	.3750	402043
3/8-16	UNC	.3750	1.5000	.5000	402274
3/8-16	UNC	.3750	2.0000	.6250	402472
3/8-24	UNF	.3750	1.0000	.3750	402050
3/8-24	UNF	.3750	1.5000	.5000	402282
3/8-24	UNF	.3750	2.0000	.6250	402480
7/16-14	UNC	.4375	1.0000	.3750	402068
7/16-14	UNC	.4375	1.5000	.5000	402290
7/16-14	UNC	.4375	2.0000	.6250	402498
7/16-20	UNF	.4375	1.0000	.3750	402076
7/16-20	UNF	.4375	1.5000	.5000	402308
7/16-20	UNF	.4375	2.0000	.6250	402506
1/2-13	UNC	.5000	1.0000	.3750	402077
1/2-13	UNC	.5000	1.5000	.5000	402316
1/2-13	UNC	.5000	2.0000	.6250	402514
1/2-20	UNF	.5000	1.0000	.3750	402078
1/2-20	UNF	.5000	1.5000	.5000	402324
1/2-20	UNF	.5000	2.0000	.6250	402522
9/16-12	UNC	.5625	1.5000	.5000	402332
9/16-12	UNC	.5625	2.0000	.6250	402530
9/16-18	UNF	.5625	1.5000	.5000	402340
9/16-18	UNF	.5625	2.0000	.6250	402548
5/8-11	UNC	.6250	1.5000	.5000	402357
5/8-11	UNC	.6250	2.0000	.6250	402555
5/8-11	UNC	.6250	2.5000	.7500	402746

Size (Inch)	Thread	Decimal Equiv. (Inch)	Outside Diameter (Inch)	Thickness (Inch)	Order Number
5/8-18	UNF	.6250	1.5000	.5000	402365
5/8-18	UNF	.6250	2.0000	.6250	402563
3/4-10	UNC	.7500	1.5000	.5000	402370
3/4-10	UNC	.7500	2.0000	.6250	402597
3/4-10	UNC	.7500	2.5000	.7500	402787
3/4-16	UNF	.7500	1.5000	.5000	402377
3/4-16	UNF	.7500	2.0000	.6250	402605
3/4-16	UNF	.7500	2.5000	.7500	402795
7/8-9	UNC	.8750	2.0000	.6250	402613
7/8-9	UNC	.8750	2.5000	.7500	402803
7/8-14	UNF	.8750	2.0000	.6250	402621
7/8-14	UNF	.8750	2.5000	.7500	402811
1-8	UNC	1.0000	2.0000	.6250	402625
1-8	UNC	1.0000	2.5000	.7500	402829
1-8	UNC	1.0000	3.0000	1.0000	402902
1-12	UNF	1.0000	2.0000	.6250	402627
1-12	UNF	1.0000	2.5000	.7500	402837
1-12	UNF	1.0000	3.0000	1.0000	402910
1-14	UNF	1.0000	2.0000	.7500	402630
1-1/8-7	UNC	1.1250	3.0000	1.0000	402936
1-1/8-12	UNF	1.1250	3.0000	1.0000	402944
1-1/4-7	UNC	1.2500	3.0000	1.0000	402951
1-1/4-12	UNF	1.2500	3.0000	1.0000	402969
1-3/8-6	UNC	1.3750	3.0000	1.0000	402977
1-3/8-12	UNF	1.3750	3.0000	1.0000	402985
1-1/2-6	UNC	1.5000	3.0000	1.0000	402993
1-1/2-12	UNF	1.5000	3.0000	1.0000	403009
383 series Taper Pipe Tap - Carbon					
1/8-27	NPT	.1250	1.0000	.3750	405202
1/8-27	NPT	.1250	1.5000	.5000	405251
1/4-18	NPT	.2500	1.5000	.5000	405269
1/4-18	NPT	.2500	2.0000	.6250	405301
3/8-18	NPT	.3750	1.5000	.5000	405277
3/8-18	NPT	.3750	2.0000	.6250	405319
1/2-14	NPT	.5000	2.0000	.6250	405327

Chicago-Latrobe

WALTER

1750 SERIES

Fractional - HSS			
Product No.	Die O.D.	Overall Length	Order Number
2	13/16	6-3/8	423008
3	1	9	423009
5	1-1/2	12-1/4	423010
6	2	15-1/2	420555
7	2-1/2	18-5/8	420563
8	3	24	420571



DIE STOCK

HIGH SPEED STEEL & CARBON ROUND ADJUSTABLE DIES

SETS

OK Jr. Tap & Die Sets with HSS Production Hand Taps and Carbon Steel Round Adjustable Dies - Inch					
Number of Sizes	Tap & Die Sizes		Tap Wrench	Die Stock	Order Number
7	4-40 UNC 6-32 UNC 8-32 UNC	10-24 UNC 10-32 UNF 12-24 UNC 1/4-20 UNC	329	13	423001
5	1/4-20 UNC 5/16-18 UNC	3/8-16 UNC 7/16-14 UNC 1/2-13 UNC	333	14	423002
8	0-80 UNF 1-72 UNF 2-56 UNC 3-48 UNC	4-40 UNC 6-32 UNC 8-32 UNC 10-24 UNC	329	13	423003
8	2-56 UNC 3-48 UNC 4-40 UNC 6-32 UNC	8-32 UNC 10-24 UNC 10-32 UNF 12-24 UNC	0	1851	420359
20	1/4-20 UNC 5/16-18 UNC 3/8-16 UNC 7/16-14 UNC 1/2-13 UNC 9/16-12 UNC 5/8-11 UNC 3/4-10 UNC 7/8-9 UNC 1-8 UNC	1/4-28 UNF 5/16-24 UNF 3/8-24 UNF 7/16-20 UNF 1/2-20 UNF 9/16-18 UNF 5/8-18 UNF 3/4-16 UNF 7/8-14 UNF 1-12 UNF	7	1852	420363
11	1/4-20 UNC 5/16-18 UNC 3/8-16 UNC 7/16-14 UNC 1/2-13 UNC pipe size	1/4-28 UNF 5/16-24 UNF 3/8-24 UNF 7/16-20 UNF 1/2-20 UNF 1/8-27 (short shank)	333	1	423004
21	1/4-20 UNC 5/16-18 UNC 3/8-16 UNC 7/16-14 UNC 1/2-13 UNC 9/16-12 UNC 5/8-11 UNC 3/4-10 UNC 7/8-9 UNC 1-8 UNC pipe size	1/4-28 UNF 5/16-24 UNF 3/8-24 UNF 7/16-20 UNF 1/2-20 UNF 9/16-18 UNF 5/8-18 UNF 3/4-16 UNF 7/8-14 UNF 1-14 UNS 1/8-27 (long shank)	15 7	14 15 16	423005
28 Taps 15 Dies	4-40 UNC 6-32 UNC 8-32 UNC 10-24 UNC 10-32 UNF 12-24 UNC 1/4-20 UNC 1/4-28 UNF 5/16-18 UNC 5/16-24 UNF	3/8-16 UNC 3/8-24 UNF 7/16-14 UNC 7/16-20 UNF 1/2-13 UNC 1/2-20 UNF 9/16-12 UNC 9/16-18 UNF 5/8-18 UNF 3/4-16 UNF 7/8-14 UNF 1-14 UNS 1/8-27 NPT 1/4-18NPT 3/8-18 NPT 1/2-14 NPT	329 336 15	14 15 16 7	423006

Tap & Die Sets with Production Hand Taps and HSS Round Adjustable Dies - Metric					
Number of Sizes	Tap & Die Sizes	Tap Wrench	Die Stock	Screw-driver	Order Number
7	M2.5 x 0.45 M3 x 0.5 M3.5 x 0.6 M4 x 0.7 M4.5 x 0.75 M5 x 0.8 M6 x 1.0	333	1790	300	420365
5	M6 x 1.0 M7 x 1.0 M8 x 1.25 M10 x 1.5 M12 x 1.75	333	1790	300	420367

Tap & Die Sets with Production Hand Taps, Black Oxide Jobber Drill, and HSS Round Adjustable Dies - Metric						
Number of Sizes	Tap & Die Sizes	Drill Sizes	Tap Wrench	Die Stock	Screw-driver	Order Number
5	M6 x 1.0	5.0	333	1790	300	420368
	M7 x 1.0	6.0				
	M8 x 1.25	6.7				
	M10 x 1.5	8.5				
	M12 x 1.75	10.2				



420363

CARBON STEEL HEXAGON - RETHREADING DIES

03

DIES

377 SERIES

CARBON STEEL



Fractional & Machine Screw - Carbon

Size	Thread	Decimal Equiv. (Inch)	Length Across Flats (Inch)	Thickness (Inch)	Order Number
#4-40	UNC	.1120	.6250	.2500	403101
#4-48	UNF	.1120	.6250	.2500	403102
#6-32	UNC	.1380	.6250	.2500	403103
#8-32	UNC	.1640	.6250	.2500	403104
#10-24	UNC	.1900	.6250	.2500	403105
#10-32	UNF	.1900	.6250	.2500	403106
1/4-20	UNC	.2500	.6250	.2500	403108
1/4-28	UNF	.2500	.6250	.2500	403116
5/16-18	UNC	.3125	.6875	.3125	403124
5/16-24	UNF	.3125	.6875	.3125	403132
3/8-16	UNC	.3750	.7812	.3750	403140
3/8-24	UNF	.3750	.7812	.3750	403157
7/16-14	UNC	.4375	.8750	.4375	403165
7/16-20	UNF	.4375	.8750	.4375	403173
1/2-13	UNC	.5000	1.0625	.5000	403181
1/2-20	UNF	.5000	1.0625	.5000	403199
9/16-12	UNC	.5625	1.0625	.5000	403207
9/16-18	UNF	.5625	1.0625	.5000	403215
5/8-11	UNC	.6250	1.2500	.6250	403223
5/8-18	UNF	.6250	1.2500	.6250	403231
11/16-11	UNS	.6875	1.4375	.7500	403249
11/16-16	UNS	.6875	1.4375	.7500	403256
3/4-10	UNC	.7500	1.4375	.7500	403264
3/4-16	UNF	.7500	1.4375	.7500	403272
7/8-9	UNC	.8750	1.6250	.8750	403280
7/8-14	UNF	.8750	1.6250	.8750	403298
1-8	UNC	1.0000	1.8125	1.0000	403306
1-12	UNF	1.0000	1.8125	1.0000	403314
1-14	UNS	1.0000	1.8125	1.0000	403322
1-1/8-7	UNC	1.1250	2.0000	1.0000	403330
1-1/8-12	UNF	1.1250	2.0000	1.0000	403348
1-1/4-7	UNC	1.2500	2.1875	1.0000	403355
1-1/4-12	UNF	1.2500	2.1875	1.0000	403363
1-3/8-6	UNC	1.4100	2.3750	1.0000	403371
1-3/8-12	UNF	1.4100	2.3750	1.0000	403389
1-1/2-6	UNC	1.5000	2.5625	1.0000	403397
1-1/2-12	UNF	1.5000	2.5625	1.0000	403405

Taper - Carbon

Size	Thread	Decimal Equiv. (Inch)	Length Across Flats (Inch)	Thickness (Inch)	Order Number
1/8-27	NPT	.1250	1.0625	.3750	411895
1/4-18	NPT	.2500	1.2500	.6250	411896
3/8-18	NPT	.3750	1.4375	.6250	411897
1/2-14	NPT	.5000	1.6250	.7500	411898
3/4-14	NPT	.7500	2.0000	.8125	411899
1 - 11 1/2	NPT	1.0000	2.3750	1.0000	411900

Metric - Carbon

Size	Thread	Decimal Equiv. (Inch)	Length Across Flats (Inch)	Thickness (Inch)	Order Number
M3 x 0.5	—	.1180	.6250	.2500	404806
M4 x 0.7	—	.1580	.6250	.2500	404807
M5 x 0.8	—	.1969	.5938	.2500	404808
M6 x 1	—	.2362	.5938	.2500	404809
M8 x 1.25	—	.3150	.6875	.3125	404833
M10 x 1.5	—	.3937	.8750	.4375	404858
M12 x 1.75	—	.4724	1.0125	.5000	404882
M14 x 2	—	.5512	1.0125	.5000	404916
M16 x 2	—	.6299	1.2500	.6250	404932
M20 x 2.5	—	.7874	1.6250	.8750	404973

Re-Threading Die Sets

Number of Sizes	Die Sizes	Order Number
8	1/4-20 NC 5/16-18 NC 3/8-16 NC 7/16-14 NC	403512
8	1/4-28 NF 5/16-24 NF 3/8-24 NF 7/16-20 NF	403553
10	1/4-20 NC 5/16-18 NC 3/8-16 NC 7/16-14 NC 1/2-13 NC	403520
20	1/4-20 NC 5/16-18 NC 3/8-16 NC 7/16-14 NC 1/2-13 NC 9/16-12 NC 5/8-11 NC 3/4-10 NC 7/8-9 NC 1-8 NC	403595
7	M6 x 1 M8 x 1.25 M10 x 1.5 M12 x 1.75	403522



403520



403553

Chicago-Latrobe

WALTER

CARBON STEEL

LITTLE GIANT® TWO-PIECE DIE SYSTEM



Style 1386

Style 380
DieStyle 1385
(combined Cap and Guide)Style 1383
CapStyle 1384
Guide

Fractional & Machine Screw

Size	Thread	Decimal Equiv. (Inch)	Complete Assembly 1386 Series	Die - 380 Series		Collet - 1385 Series		Cap - 1383 Series		Guide - 1384 Series
				Blank	Order No.	#	Order No.	O.D. (Inch)	Order No.	Order No.
4-40	UNC	.1120	423019	A1	423058	A1	423100	1.250	423121	423128
6-32	UNC	.1380	423020	A1	423059	A1	423101	1.250	423121	423129
8-32	UNC	.1640	423021	A1	423060	A1	423102	1.250	423121	423130
10-24	UNC	.1900	423022	A1	423061	A1	423103	1.250	423121	423131
10-32	UNF	.1900	423023	A1	423062	A1	423103	1.250	423121	423131
12-24	UNC	.2160	423024	A1	423063	A1	423104	1.250	423121	423132
1/4-20	UNC	.2500	423025	A1	423064	A1	423105	1.250	423121	423133
1/4-20	UNC	.2500	423026	A	423065	1	423106	2.000	423122	423134
1/4-20	UNC	.2500	423027	A	423065	5	423107	2.750	423123	423135
1/4-28	UNF	.2500	423028	A1	423067	A1	423105	1.250	423121	423133
1/4-28	UNF	.2500	423029	A	423068	1	423106	2.000	423122	423134
1/4-28	UNF	.2500	423030	A	423068	5	423107	2.750	423123	423135
5/16-18	UNC	.3125	423031	A	423069	1	423108	2.000	423122	423137
5/16-18	UNC	.3125	423032	A	423069	5	423109	2.750	423123	423136
5/16-24	UNF	.3125	423033	A	423070	1	423108	2.000	423122	423137
5/16-24	UNF	.3125	423034	A	423070	5	423109	2.750	423123	423136
3/8-16	UNC	.3750	423035	B	423071	1	423110	2.000	423124	423138
3/8-16	UNC	.3750	423036	B	423071	5	423111	2.750	423125	423139
3/8-24	UNF	.3750	423037	B	423072	1	423110	2.000	423124	423138
3/8-24	UNF	.3750	423038	B	423072	5	423111	2.750	423125	423139
7/16-14	UNC	.4375	423039	B	423073	1	423112	2.000	423124	423141
7/16-14	UNC	.4375	423040	B	423073	5	423113	2.750	423125	423140
7/16-20	UNF	.4375	423041	B	423074	1	423112	2.000	423124	423141
7/16-20	UNF	.4375	—	B	423074	5	423113	2.750	423125	423140
1/2-13	UNC	.5000	423043	B	423075	1	423114	2.000	423124	423142
1/2-13	UNC	.5000	423044	C	423076	5	423115	2.750	423126	423143
1/2-20	UNF	.5000	423045	B	423077	1	423114	2.000	423124	423142
1/2-20	UNF	.5000	423046	C	423078	5	423115	2.750	423126	423143
9/16-12	UNC	.5625	423047	C	423079	5	423116	2.750	423126	423144
9/16-18	UNF	.5625	423048	C	423080	5	423116	2.750	423126	423144
5/8-11	UNC	.6250	423049	C	423081	5	423117	2.750	423126	423145
5/8-18	UNF	.6250	423050	C	423082	5	423117	2.750	423126	423145
3/4-10	UNC	.7500	423051	C	423083	5	423118	2.750	423126	423146
3/4-16	UNF	.7500	423052	C	423084	5	423118	2.750	423126	423146
7/8-9	UNC	.8750	423053	D	423085	5	423119	2.750	423127	423147
7/8-14	UNF	.8750	423054	D	423086	5	423119	2.750	423127	423147
1-8	UNC	1.0000	423055	D	423087	5	423120	2.750	423127	423148
1-12	UNF	1.0000	423056	D	423088	5	423120	2.750	423127	423148
1-14	UNS	1.0000	423057	D	423089	5	423120	2.750	423127	423148

HIGH SPEED STEEL & CARBON LITTLE GIANT® TWO-PIECE DIE SYSTEM

03

DIES

Metric								
Size	Decimal Equiv. (Inch)	Die - 380 Series		Collet - 1385 Series		Cap - 1383 Series		Guide - 1384 Series
		Blank	Order No.	#	Order No.	O.D. (Inch)	Order No.	Order No.
M6 x 1	.2362	A	423090	5	*	2.750	*	423149
M8 x 1.25	.3150	A	423091	5	*	2.750	*	423150
M10 x 1.5	.3937	B	423092	5	*	2.750	*	423151
M12 x 1.75	.4724	B	423093	5	*	2.750	*	423152
M14 x 2	.5512	C	423094	5	423115	2.750	423126	423153
M16 x 2	.6300	C	423095	5	423116	2.750	423126	423154
M18 x 2.5	.7087	C	423096	5	423117	2.750	423126	423155
M20 x 2.5	.7874	C	423097	5	423118	2.750	423126	423156
M22 x 2.5	.8661	D	423098	5	423119	2.750	423127	423157
M24 x 3	.9449	D	423099	5	423120	2.750	423127	423158

1381 SERIES

Quick Two-Piece Die System

Use with all Style #0554 Quick-Set collets with two-piece dies.
Application Information: Quick-Set die stocks have center holes corresponding to the outside diameter of the Quick-Set collets.

Stock Number	Collet Number	Collet Capacity	Length of Stock	Order Number 223 Series
#A1	A1	1-1/4	7-1/2	423166
#1	1	2	14-1/2	423167
#5	5	2-3/4	23	423168
#5A	5	2-3/4	26	423169



1382 SERIES

Jr. Quick Die Stock

Use with all Series 0550 Quick-Set two-piece dies without collet.
Application Information: Quick-Set Jr. die stocks are designed to use Quick-Set dies without collets. Double slots enable use of two different size blanks in the same stock.

Stock Number	Cutting Size	Die Blank Size	Guide Number	Cutting Size Range	Length of Stock	Order Number 225 Series
#1	1/4 to 5/16 & 3/8 to 1/2	A, B	1	1/4 to 1/2	14-1/2	423171
#5	9/16 to 3/4 & 7/8 to 1	C, D	5	9/16 to 1	26	423172



A1 SERIES

Spanner Wrench

Because all guides are so small they are round not square, a standard wrench cannot be used. Fits into two holes to turn guide.

Stock Number	Collet Number	Collet Capacity	Order Number 226 Series
#A1	A1	1-1/4	423173



Chicago-Latrobe

WALTER

TAP & DIE
SETS

1387 SERIES

CARBON STEEL

Little Giant® Two-Piece Tap & Die System Set with Collet

Number of Cutting Sizes	Threading Sizes		Collet Number	Tap Wrench Number	Die Stock Number	Order Number
7	4-40 NC 6-32 NC 8-32 NC	10-24 NC 10-32 NF 12-24 NC 1/4-20 NC	A1	T9, A1	A1	423159
5	1/4-20 NC 5/16-18 NC 3/8-16 NC	7/16-14 NC 1/2-13 NC	1	#5	#1	423160
10	1/4-20 NC 5/16-18 NC 3/8-16 NC 7/16-14 NC 1/2-13 NC	9/16-12 NC 5/8-11 NC 3/4-10 NC 7/8-9 NC 1-8 NC	5	#5, #7	5A	423161
10	1/4-20 NC 5/16-18 NC 3/8-16 NC 7/16-14 NC 1/2-13 NC	1/4-28 NF 5/16-24 NF 3/8-24 NF 7/16-20 NF 1/2-20 NF	1	#5	#1	423162
20	1/4-20 NC 5/16-18 NC 3/8-16 NC 7/16-14 NC 1/2-13 NC 9/16-12 NC 5/8-11 NC 3/4-10 NC 7/8-9 NC 1-8 NC	1/4-28 NF 5/16-24 NF 3/8-24 NF 7/16-20 NF 1/2-20 NF 9/16-18 NF 5/8-18 NF 3/4-16 NF 7/8-14 NF 1-14 NS	1, 5	#5, #7	#1, #5B	423163
7	M6 x 1 M8 x 1.25 M10 x 1.5 M12 x 1.75 M14 x 2	M16 x 2 M18 x 2.5	5	#6	#5	423164



423163

Little Giant® Two-Piece Tap & Die System Set without Collet

Number of Cutting Sizes	Threading Sizes		Wrench Number	Die Stock Number	Order Number
20	1/4-20 NC 5/16-18 NC 3/8-16 NC 7/16-14 NC 1/2-13 NC 9/16-12 NC 5/8-11 NC 3/4-10 NC 7/8-9 NC 1-8 NC	1/4-28 NF 5/16-24 NF 3/8-24 NF 7/16-20 NF 1/2-20 NF 9/16-18 NF 5/8-18 NF 3/4-16 NF 7/8-14 NF 1-14NS	#5, #7	#1, #5	423165





04

THREAD MILLS

MINI THREAD MILL

2X DIAMETER

CMTM2 / CMTMM2 SERIES

CARBIDE

MINI / $2 \times d_1$ ($l_2 \leq 2 \times \text{Thread Diameter}$)

* Bore diameter applies to the smallest thread diameter.

For Internal & External Threads

Excel in internal deep threads in hard to cut materials.

Thread Mill Specifications



Fractional												
American UN UNC	UNF	Thread TPI	Pitch	Shank Diameter d	Cutting Diameter d ₁	Overall Length l ₁	Cut Depth l ₂	Pitch X 2 Thread Length	No. Of Flutes	No. Of Teeth	*Bore Dia.	Order Number
	1-72	72	0.014	1/4	.057	2.5	.154	0.042	3	3	.060	C95102
1-64	2-64	64	0.016	1/4	.057	2.5	.165	0.047	3	3	.060	C95103
2-56	3-56	56	0.018	1/4	.065	2.5	.197	0.054	3	3	.069	C95104
3-48	4-48	48	0.021	1/4	.075	2.5	.236	0.063	3	3	.080	C95105
4, 5-40	6-40	40	0.025	1/4	.085	2.5	.236	0.075	3	3	.090	C95106
	8-36	36	0.028	1/4	.115	2.5	.343	0.083	3	3	.125	C95107
6, 8-32	10-32	32	0.031	1/4	.100	2.5	.292	0.094	3	3	.110	C95108
8-32	10-32	32	0.031	1/4	.120	2.5	.394	0.094	3	3	.130	C95109
	1/4"x28	28	0.036	1/4	.180	2.5	.520	0.107	3	3	.190	C95110
10-24	5/16"x24	24	0.042	1/4	.130	2.5	.400	0.125	3	3	.140	C95111
	5/16"x24	24	0.042	1/4	.240	2.5	.650	0.125	3	3	.255	C95112
1/4x20	7/16"x20	20	0.05	1/4	.185	2.5	.530	0.150	3	3	.200	C95113
	7/16"x20	20	0.05	3/8	.340	3	.900	0.150	4	3	.355	C95114
3/8x16		16	0.063	3/8	.290	3	.750	0.188	4	3	.307	C95115
7/16x14		14	0.071	3/8	.340	3	.900	0.214	4	3	.355	C95116
1/2-13		13	0.077	3/8	.350	3	1.10	0.231	4	3	.415	C95117

Metric												
ISO Metric		Pitch		Shank Diameter d	Cutting Diameter d ₁	Overall Length l ₁	Cut Depth l ₂	Pitch X 2 Thread Length	No. Of Flutes	No. Of Teeth	*Bore Dia.	Order Number
M Course	M Fine	mm	Inch	mm	mm	mm	mm	mm				
M1.6x0.35		0.35	0.014	3.175	1.193	63.5	3.56	1.07	3	3	.050	C95127
M2x0.4		0.40	0.016	6.350	1.524	63.5	4.19	1.22	3	3	.065	C95128
M2.2x0.45		0.45	0.018	6.350	1.651	63.5	4.57	1.37	3	3	.070	C95129
M2.5x0.45		0.45	0.018	6.350	1.905	63.5	5.08	1.37	3	3	.080	C95130
M3x0.5	M3.5-M16x0.5	0.50	0.020	6.350	2.286	63.5	6.22	1.52	3	3	.095	C95131
M3.5x0.6		0.60	0.024	6.350	2.667	63.5	7.24	1.83	3	3	.111	C95132
M4x0.7		0.70	0.028	6.350	3.048	63.5	8.26	2.13	3	3	.126	C95133
M5x0.8		0.80	0.031	6.350	3.937	63.5	10.16	2.36	3	3	.161	C95134
M6x1.0	M8-M40x1.0	1.00	0.039	6.350	4.699	63.5	12.70	2.97	3	3	.193	C95135
M8x1.25		1.25	0.049	6.350	6.223	63.5	16.51	3.73	3	3	.257	C95136
M10x1.5	M12-M48x1.50	1.50	0.059	9.525	8.382	76.2	20.32	4.49	3	3	.343	C95137
M12x1.75		1.75	0.069	9.525	9.144	76.2	25.40	5.26	4	3	.395	C95138

MINI THREAD MILL

3X DIAMETER

CMTM3 / CMTMM3 SERIES

CARBIDE

MINI / $3 \times d_1$ ($l_2 \leq 3 \times \text{Thread Diameter}$)

* Bore diameter applies to the smallest thread diameter.
For Internal & External Threads

Thread Mill Specifications



Fractional												
American UN		Thread		Shank Diameter	Cutting Diameter	Overall Length	Cut Depth	Pitch X 3	No. Of Flutes	No. Of Teeth	*Bore Dia.	Order Number
UNC	UNF	TPI	Pitch	d	d ₁	l ₁	l ₂	Thread Length				
	1-72	72	0.014	1/4	.057	2.5	.240	0.042	3	3	.060	C95118
2-56	3-56	56	0.018	1/4	.065	2.5	.260	0.054	3	3	.069	C95119
4, 5-40	6-40	40	0.025	1/4	.085	2.5	.310	0.075	3	3	.090	C95120
5-40	6-40	40	0.025	1/4	.100	2.5	.400	0.075	3	3	.110	C95121
8-32	10-32	32	0.031	1/4	.120	2.5	.500	0.094	3	3	.130	C95122
	1/4"x28	28	0.036	1/4	.180	2.5	.750	0.107	3	3	.190	C95123
1/4"x20	7/16"x20	20	0.05	1/4	.185	2.5	.750	0.150	3	3	.200	C95124
	5/16"x24	24	0.042	1/4	.240	2.5	.940	0.125	3	3	.255	C95125
5/16"x18		18	0.056	1/4	.240	2.5	.900	0.167	3	3	.255	C95126

Metric												
ISO Metric		Pitch		Shank Diameter	Cutting Diameter	Overall Length	Cut Depth	Pitch X 3	No. Of Flutes	No. Of Teeth	*Bore Dia.	Order Number
M Course	M Fine	mm	Inch	d mm	d ₁ mm	l ₁ mm	l ₂ mm	Thread Length mm				
M1.6x0.35		0.35	0.014	3.175	1.938	63.5	5.00	1.07	3	3	.050	C95139
M2x0.4		0.40	0.016	6.350	1.524	63.5	6.22	1.22	3	3	.065	C95140
M2.5x0.45		0.45	0.018	6.350	1.905	63.5	6.99	1.37	3	3	.080	C95141
M3x0.5	M3.5-M16x0.5	0.50	0.020	6.350	2.286	63.5	9.149	1.52	3	3	.095	C95142
M4x0.7		0.70	0.028	6.350	3.048	63.5	12.45	2.13	3	3	.126	C95143
M5x0.8		0.80	0.031	6.350	3.937	63.5	15.49	2.36	3	3	.161	C95144
M6x1.0	M8-M40x1.0	1.00	0.039	6.350	4.699	63.5	18.42	2.97	3	3	.193	C95145
M8x1.25		1.25	0.049	6.350	6.223	63.5	21.64	3.73	3	3	.257	C95146

GENERAL PURPOSE HELICAL THREAD MILL

CTM / CTMC / CTMM / CTMMC SERIES

CARBIDE

* Bore diameter applies to the smallest thread diameter.

For Internal & External Threads

Capable of producing right or left hand threads.

Thread Mill Specifications



Fractional							
Thread Size	Shank Diameter d	Cutting Diameter d ₁	Overall Length l ₁	Cut Depth l ₂	Number of Flutes	Order Number Non-Coolant CTM	Order Number Coolant-Thru CTMC
6-32	1/8	.095	2	.218	3	C95000	—
8-32	1/8	.115	2	.250	3	C95001	—
8-36	1/8	.115	2	.250	3	C95002	—
10-24	3/16	.120	2	.312	3	C95003	—
10-32	3/16	.120	2	.312	3	C95004	—
1/4-20	3/16	.180	2-1/2	.500	3	C95005	C95026
1/4-28	3/16	.180	2-1/2	.500	3	C95006	C95027
5/16-18	1/4	.240	2-1/2	.625	3	C95007	C95028
5/16-24	1/4	.240	2-1/2	.625	3	C95008	C95029
3/8-16	5/16	.290	3	.750	4	C95009	C95030
3/8-24	5/16	.290	3	.750	4	C95010	C95031
7/16-14	3/8	.340	3	.875	4	C95011	C95032
7/16-20	3/8	.340	3	.875	4	C95012	C95033
1/2-13	3/8	.350	3-1/2	.875	4	C95013	C95034
1/2-20	3/8	.350	3-1/2	.875	4	C95014	—
9/16-12	1/2	.370	3-1/2	.875	4	C95015	C95035
9/16-18	1/2	.370	3-1/2	.875	4	C95016	C95036
5/8-11	1/2	.470	3-1/2	1.250	5	C95017	C95037
5/8-18	1/2	.470	3-1/2	1.250	5	C95018	C95038
3/4-10	1/2	.495	3-1/2	1.250	5	C95019	C95039
3/4-12	1/2	.495	3-1/2	1.250	5	C95020	C95040
3/4-16	1/2	.495	3-1/2	1.250	5	C95021	C95041
7/8-9	1/2	.495	3-1/2	1.250	5	C95022	C95042
7/8-14	1/2	.495	3-1/2	1.250	5	C95023	C95043
1-8	3/4	.620	4	1.375	5	C95024	C95044
1-12	3/4	.620	4	1.375	5	C95025	C95045

Metric							
Thread Size	Shank Diameter d (mm)	Cutting Diameter d ₁ (mm)	Overall Length l ₁ (mm)	Cut Depth l ₂ (mm)	Number of Flutes	Order Number Non-Coolant CTMM	Order Number Coolant-Thru CTMMC
M4 X 0.70	1/8	.120	2	.250	2	C95072	—
M4.5 X 0.75	1/8	.120	2	.250	3	C95073	—
M5 X 0.80	3/16	.120	2	.312	3	C95074	C95088
M6 X 1.00	3/16	.170	2-1/2	.500	3	C95075	C95089
M8 X 0.75	1/4	.235	2-1/2	.625	3	C95076	C95090
M8 X 1.00	1/4	.235	2-1/2	.625	3	C95077	C95091
M8 X 1.25	1/4	.235	2-1/2	.625	3	C95078	C95092
M10 X 1.25	5/16	.300	3	.750	4	C95079	C95093
M10 X 1.50	5/16	.300	3	.750	4	C95080	C95094
M12 X 1.00	3/8	.360	3-1/2	.875	4	C95081	C95095
M12 X 1.25	3/8	.360	3-1/2	.875	4	C95082	C95096
M12 X 1.75	3/8	.360	3-1/2	.875	4	C95083	C95097
M14 X 1.50	3/8	.360	3-1/2	.875	4	C95084	C95098
M16 X 2.00	1/2	.470	3-1/2	1.250	5	C95085	C95099
M18 X 2.50	1/2	.470	3-1/2	1.250	5	C95086	C95100
M20 X 3.00	1/2	.470	3-1/2	1.250	5	C95087	C95101

GENERAL PURPOSE NATIONAL PIPE THREAD HELICAL THREAD MILL

CTMNP / CTMNPC SERIES

CARBIDE

Produces NPT and NPTF Threads
For Internal & External Threads
Capable of producing right or left hand threads.

Thread Mill Specifications



Fractional							
Thread Size	Shank Diameter d	Cutting Diameter d ₁	Overall Length l ₁	Cut Depth l ₂	Number of Flutes	Order Number Non-Coolant CTMNP	Order Number Coolant-Thru CTMNPC
1/16-27	1/4	.245	2-1/2	.437	3	C95046	C95051
1/8-27	5/16	.310	2-1/2	.437	4	C95047	C95052
1/4, 3/8-18	3/8	.305	3	.625	4	C95048	C95053
1/2, 3/4-14	1/2	.495	3-1/2	.875	4	C95049	C95054
1-11.5	3/4	.620	4	1.125	5	C95050	C95055

GENERAL PURPOSE BRITISH PIPE - HELICAL THREAD MILL

CTMBPP / CTMBPPC / CTMBPT / CTMBPTC SERIES

CARBIDE

Parallel Produces BSPP Threads
Tapered Produces BSPT Threads
For Internal & External Threads
55 degree thread profile.

Thread Mill Specifications



Parallel							
Thread Size	Shank Diameter d	Cutting Diameter d ₁	Overall Length l ₁	Cut Depth l ₂	Number of Flutes	Order Number Non-Coolant CTMBPP	Order Number Coolant-Thru CTMBPPC
1/16, 1/8-28	1/4	.240	2-1/2	.572	3	C95056	C95060
1/4-19	5/16	.312	3	.737	4	C95057	C95061
1/2-14	1/2	.470	3-1/2	1.143	4	C95058	C95062
1-11	5/8	.620	4	1.546	5	C95059	C95063
Tapered							
Thread Size	Shank Diameter d	Cutting Diameter d ₁	Overall Length l ₁	Cut Depth l ₂	Number of Flutes	Order Number Non-Coolant CTMBPT	Order Number Coolant-Thru CTMBPTC
1/16, 1/8-28	1/4	.240	2-1/2	.401	3	C95064	C95068
1/4-19	5/16	.312	3	.578	4	C95065	C95069
1/2-14	1/2	.470	3-1/2	.785	4	C95066	C95070
1-11	5/8	.620	4	1.546	5	C95067	C95071

TECHNICAL INFORMATION

THREAD MILLS - HELPFUL INFORMATION

FEATURES

- Helical flute design reduces thread chatter, improving product thread finish and quality
- Advanced TiAlN coating is standard for increasing speeds
- Ideal for internal and external threads
- Full range of sizes available
 - Internal threads #4 to 1" UNC and UNF
 - Pipe threads 1/16" to 1" NPT, NPTF and NPSM
 - Metric internal threads M4.5 x .75 through M20 x 3
- Specials program for nonstandard sizes and other coatings

APPLICATIONS

Cleveland thread mills are the ideal choice when:

- Machine tool has helical interpolation capabilities
- Thread specification calls for full threads close to bottom of hole
- Thread specification requires a special tap
- Small lot size is to be threaded
- Need to cut large diameter threads on low horsepower machines
- Workpiece is thin walled which can be milled more easily than tapped
- CNC machine has a slower RPM capability below what is recommended for carbide thread mills

BENEFITS

- Thread milling is a superior process for threading most materials
- More economical than using taps:
 - One thread mill can produce several diameters of threaded holes of the same pitch
 - Same tool makes right or left-hand threads
 - Avoid chip packing in blind holes, a primary cause of tap breakage
 - One tool for through and blind holes
 - Pitch diameter can be controlled by CNC offset

CALCULATING THREAD MILL FEED RATE

For internal threads: $(D1 - d1) / D1 \times \text{RPM} \times \text{ipr}$

For external threads: $(D1 + d1) / D1 \times \text{RPM} \times \text{ipr}$

where:

D1 is the major diameter of the thread

d1 is the cutting diameter

RPM is the calculated speed rate = $(3.82 \times \text{SFM}) / \text{Diameter}$

ipr is the calculated feed rate = $\text{IPT (inches per tooth)} \times \text{number of flutes per cutter}$

Example: to cut an internal 7/8-14 thread using a four-flute, 1/2" diameter cutter in bronze, the programmed feed rate would be $((.875 - .500) / .875) \times (3438 \text{ RPM} \times .016)$ or 23.6 ipm

OPERATING PARAMETERS FOR HELICAL THREAD MILLS

Material	Surface Feet Per Minute (Sfm)	Cutter Diameter (Inches)					
		0.125	0.250	0.375	0.500	0.750	1.000
		Feed Per Tooth (Inches)					
Al-Si Alloys	600	0.0010	0.0020	0.0030	0.0040	0.0050	0.0060
Cast Iron	600	0.0008	0.0015	0.0020	0.0030	0.0040	0.0050
Brass Or Bronze	450	0.0010	0.0020	0.0030	0.0040	0.0050	0.0060
Steel <200 Bhn	600	0.0007	0.0015	0.0020	0.0030	0.0040	0.0050
Steel <325 Bhn	575	0.0005	0.0010	0.0015	0.0020	0.0030	0.0040
Stainless Steel	525	0.0005	0.0008	0.0015	0.0020	0.0030	0.0040
Tool Steels, Annealed	125	0.0005	0.0008	0.0012	0.0015	0.0020	0.0030



05

END MILLS

QUICK PAGES REFERENCES



DRILLCO



WALTER

END MILLS

FINISHER

SOLID CARBIDE		
Bright Finish For steel, stainless steel, titanium, cast iron, brass, bronze		
Type	Series	Page Number
2 & 4-Flute Finishing	7200	548
	7300	556
	7250	548
	7350	556
	7400	541
	7500	543
Ball Nose	7600	550
	7700	559
	7650	550
	7750	559



HIGH SPEED STEEL		
Bright Finish For low to medium tensile strength materials		
Type	Series	Page Number
2-Flute Finishing	5075A	569
	5000A	568
	5600A	569
	5400A	565
	5100A	578
Multi-Flute Finishing	5150A, 5250A, 5350A	579
	5650A	581
	5500A	566
Ball Nose	6400A	571
	6420A	583



COBALT		
Bright Finish For most materials		
Type	Series	Page Number
2-Flute Finishing	6500A	590
	6900A	586
Multi-Flute Finishing	6700A, 6725A	592
	6750A	592
	6950A	588
Ball Nose	6650A	593
Roughing	7140	596



CLEVELAND



WALTER

VARIABLE INDEX

SOLID CARBIDE		
Type	Series	Page Number
2-Flute Finishing	CEM-AM2	536
3-Flute Finishing	CEM-EMS-3	534
	CEM-AM3	537
	CEM-RA	539
4-Flute Finishing	CEM-V-4R	526
	CEM-RS	539
5-Flute Finishing	CEM-V-4B	528
	CEM-V2-5R	529
	CEM-EMS-5	535
	CEM-HPDE-5	534
7-Flute Finishing	CEM-V3-7R	531
	CEM-V3-7RCB	533



SOLID CARBIDE		
Type	Series	Page Number
2-Flute Finishing	CEM-DE2	540
	CEM-DE2B	542
	CEM-SE2	546
	CEM-SEST2	560
	CEM-SE2B	549
2-Flute Ball Nose	CEM-SE2B	549
3-Flute Finishing	CEM-SE3	551
4-Flute Finishing	CEM-DE4	542
	CEM-SE4	553
4-Flute Ball Nose	CEM-DE4B	544
	CEM-SE4B	557



HIGH SPEED STEEL		
Type	Series	Page Number
3-Flute Finishing	HG-3	575
4-Flute Ball Nose	HG-4MC	580
Multi-Flute Finishing	HG-4C	576
4-Flute Ball Nose	HG-4B	582



CHAMFER TOOL

SOLID CARBIDE		
Type	Series	Page Number
2-FLUTE	CEM-CH2 / CEM-CH2D	561
4-FLUTE	CEM-CH4 / CEM-CH4D	561



ENGRAVING TOOL

SOLID CARBIDE		
Type	Series	Page Number
2-Flute Finishing	CEM-EG2	560



END MILLS

MINIATURE

SOLID CARBIDE		
Type	Series	Page Number
2-Flute Finishing	CMCE-2	545
	CMCE-2AL	545
4-Flute Finishing	CMCE-4	552
	CMCE-4AL	552



HIGH SPEED STEEL		
Type	Series	Page Number
Double End	HMD-2	562



FINISHER

HIGH SPEED STEEL		
Type	Series	Page Number
Double End	HD-2	562
	HD-3	563
	HD-4C	564
Double Ball End	HD-2B	563
Single End	HG-2	567
	HG-2B	570
Extended Neck	HGN-2	572
High Helix	HGA-2	573
Drill Mill	HPDM-2	574
Left Hand Helix, Left Hand Cut	HG-4LL	584



COBALT		
Type	Series	Page Number
Double End	HDC-2	585
	HDC-4C	587
Single End	HGC-2	589
	HGC-4C	591



POWDERED METAL		
Type	Series	Page Number
High Helix	PM-539R	597
Left Hand Helix	PM-539L	598
Coarse Pitch	PMRC-C	598



KEYWAY

HIGH SPEED STEEL		
Type	Series	Page Number
Single End	HG-2K	572



CORNER RADIUS

HIGH SPEED STEEL		
Type	Series	Page Number
Corner Radius	CRE	585



ROUGHERS

COBALT		
Type	Series	Page Number
Fine Pitch	RG6	594
	RG6-TC	594
	RG6-TA	594
Coarse Pitch	RG8	595
	RG8-TC	595
	RG8-TA	595



POWDERED METAL		
Type	Series	Page Number
Multi-Flute Coarse Pitch	PMRF-C	599
3-Flute Coarse Pitch	PM-538R	599
Multi-Flute	PM-4	600



VARIABLE INDEX 4-FLUTE FINISHING

CEM-V-4R

SOLID CARBIDE

Helix 38° / Single End / Bright / AP/MAX / T-MAX

Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Corner Radius	Order Number		
Fractional	Decimal						Bright	AP/MAX	T-Max®
1/8	.1250	1/8	1/4	1-1/2	4	0.000	C60001	C80001	—
1/8	.1250	1/8	1/4	1-1/2	4	0.010	C60002	C80002	—
1/8	.1250	1/8	3/8	1-1/2	4	0.000	C60003	C80003	—
1/8	.1250	1/8	3/8	1-1/2	4	0.010	C60004	C80004	—
1/8	.1250	1/8	1/2	1-1/2	4	0.000	C60005	C80005	—
1/8	.1250	1/8	1/2	1-1/2	4	0.010	C60006	C80006	—
3/16	.1875	3/16	3/8	2	4	0.000	C60007	C80007	—
3/16	.1875	3/16	3/8	2	4	0.010	C60008	C80008	—
3/16	.1875	3/16	7/16	2	4	0.000	C60009	C80009	—
3/16	.1875	3/16	7/16	2	4	0.010	C60010	C80010	C70810
3/16	.1875	3/16	3/4	2-1/2	4	0.000	C60011	C80011	C70811
3/16	.1875	3/16	3/4	2-1/2	4	0.010	C60012	C80012	C70812
1/4	.2500	1/4	1/2	2	4	0.000	C60013	C80013	C70813
1/4	.2500	1/4	1/2	2	4	0.020	C60014	C80014	C70814
1/4	.2500	1/4	3/4	2-1/2	4	0.000	C60015	C80015	C70815
1/4	.2500	1/4	3/4	2-1/2	4	0.020	C60016	C80016	C70816
1/4	.2500	1/4	3/4	2-1/2	4	0.045	C60017	C80017	C70817
1/4	.2500	1/4	1-1/8	3	4	0.000	C60018	C80018	C70818
1/4	.2500	1/4	1-1/8	3	4	0.020	C60019	C80019	C70819
1/4	.2500	1/4	1-1/4	3	4	0.000	C60020	C80020	C70820
5/16	.3125	5/16	1/2	2	4	0.000	C60021	C80021	C70821
5/16	.3125	5/16	1/2	2	4	0.020	C60022	C80022	C70822
5/16	.3125	5/16	13/16	2-1/2	4	0.000	C60023	C80023	C70823
5/16	.3125	5/16	13/16	2-1/2	4	0.020	C60024	C80024	C70824
5/16	.3125	5/16	1-1/4	3	4	0.000	C60025	C80025	C70825
5/16	.3125	5/16	1-1/4	3	4	0.020	C60026	C80026	C70826
3/8	.3750	3/8	5/8	2	4	0.000	C60027	C80027	C70827
3/8	.3750	3/8	5/8	2	4	0.020	C60028	C80028	C70828
3/8	.3750	3/8	7/8	2-1/2	4	0.000	C60029	C80029	C70829
3/8	.3750	3/8	7/8	2-1/2	4	0.020	C60030	C80030	C70830
3/8	.3750	3/8	1-1/8	3	4	0.000	C60031	C80031	C70831
3/8	.3750	3/8	1-1/8	3	4	0.020	C60032	C80032	C70832
3/8	.3750	3/8	2	4	4	0.000	C60033	C80033	C70833
3/8	.3750	3/8	2	4	4	0.020	C60034	C80034	C70834
7/16	.4375	7/16	5/8	2-1/2	4	0.000	C60035	C80035	C70835
7/16	.4375	7/16	5/8	2-1/2	4	0.020	C60036	C80036	C70836
7/16	.4375	7/16	1	3	4	0.000	C60037	C80037	C70837
7/16	.4375	7/16	1	3	4	0.020	C60038	C80038	C70838
7/16	.4375	7/16	2	4	4	0.000	C60039	C80039	C70839
1/2*	.5000	1/2	5/8	2-1/2	4	0.000	C60040	C80040	C70840
1/2*	.5000	1/2	5/8	2-1/2	4	0.020	C60041	C80041	C70841
1/2*	.5000	1/2	5/8	2-1/2	4	0.030	C60042	C80042	C70842
1/2*	.5000	1/2	1	3	4	0.000	C60043	C80043	C70843
1/2*	.5000	1/2	1	3	4	0.030	C60044	C80044	C70844
1/2*	.5000	1/2	1	3	4	0.060	C60045	C80045	C70845
1/2*	.5000	1/2	1	3	4	0.090	C60046	C80046	C70846
1/2*	.5000	1/2	1	3	4	0.125	C60047	C80047	C70847
1/2*	.5000	1/2	1-1/4	3	4	0.000	C60048	C80048	C70848
1/2*	.5000	1/2	1-1/4	3	4	0.020	C60049	C80049	C70849
1/2*	.5000	1/2	1-1/4	3	4	0.030	C60050	C80050	C70850

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VARIABLE INDEX 4-FLUTE FINISHING

05

END MILLS

CLEVELAND | WALTER

CEM-V-4R continued



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Corner Radius	Order Number		
Fractional	Decimal						Bright	AP/MAX	T-Max®
1/2*	.5000	1/2	1-1/4	3	4	0.060	C60051	C80051	C70851
1/2*	.5000	1/2	1-1/4	3	4	0.090	C60052	C80052	C70852
1/2*	.5000	1/2	1-1/4	3	4	0.125	C60053	C80053	C70853
1/2*	.5000	1/2	2	4	4	0.000	C60054	C80054	C70854
1/2*	.5000	1/2	2	4	4	0.030	C60055	C80055	C70855
1/2*	.5000	1/2	2	4	4	0.060	C60056	C80056	C70856
1/2*	.5000	1/2	2	4	4	0.090	C60057	C80057	C70857
1/2*	.5000	1/2	2	4	4	0.125	C60058	C80058	C70858
5/8*	.6250	5/8	3/4	3	4	0.000	C60059	C80059	C70859
5/8*	.6250	5/8	3/4	3	4	0.030	C60060	C80060	C70860
5/8*	.6250	5/8	1-1/4	3-1/2	4	0.000	C60061	C80061	C70861
5/8*	.6250	5/8	1-1/4	3-1/2	4	0.030	C60062	C80062	C70862
5/8*	.6250	5/8	1-1/4	3-1/2	4	0.060	C60063	C80063	C70863
5/8*	.6250	5/8	1-1/4	3-1/2	4	0.090	C60064	C80064	C70864
5/8*	.6250	5/8	1-1/4	3-1/2	4	0.125	C60065	C80065	C70865
5/8*	.6250	5/8	2-1/4	5	4	0.000	C60066	C80066	C70866
5/8*	.6250	5/8	2-1/4	5	4	0.030	C60067	C80067	C70867
5/8*	.6250	5/8	2-1/4	5	4	0.060	C60068	C80068	C70868
5/8*	.6250	5/8	2-1/4	5	4	0.090	C60069	C80069	C70869
5/8*	.6250	5/8	2-1/4	5	4	0.125	C60070	C80070	C70870
3/4*	.7500	3/4	7/8	3	4	0.030	C60071	C80071	C70871
3/4*	.7500	3/4	1	3	4	0.000	C60072	C80072	C70872
3/4*	.7500	3/4	1	3	4	0.030	C60073	C80073	C70873
3/4*	.7500	3/4	1-1/2	4	4	0.000	C60074	C80074	C70874
3/4*	.7500	3/4	1-1/2	4	4	0.030	C60075	C80075	C70875
3/4*	.7500	3/4	1-1/2	4	4	0.060	C60076	C80076	C70876
3/4*	.7500	3/4	1-1/2	4	4	0.090	C60077	C80077	C70877
3/4*	.7500	3/4	1-1/2	4	4	0.125	C60078	C80078	C70878
3/4*	.7500	3/4	2-1/4	5	4	0.000	C60079	C80079	C70879
3/4*	.7500	3/4	2-1/4	5	4	0.030	C60080	C80080	C70880
3/4*	.7500	3/4	2-1/4	5	4	0.060	C60081	C80081	C70881
3/4*	.7500	3/4	2-1/4	5	4	0.090	C60082	C80082	C70882
3/4*	.7500	3/4	2-1/4	5	4	0.125	C60083	C80083	C70883
1*	1.0000	1	1-1/2	4	4	0.000	C60084	C80084	C70884
1*	1.0000	1	1-1/2	4	4	0.030	C60085	C80085	C70885
1*	1.0000	1	1-1/2	4	4	0.060	C60086	C80086	C70886
1*	1.0000	1	1-1/2	4	4	0.090	C60087	C80087	C70887
1*	1.0000	1	1-1/2	4	4	0.125	C60088	C80088	C70888
1*	1.0000	1	2-1/4	5	4	0.000	C60089	C80089	C70889
1*	1.0000	1	2-1/4	5	4	0.030	C60090	C80090	C70890
1*	1.0000	1	2-1/4	5	4	0.060	C60091	C80091	C70891
1*	1.0000	1	2-1/4	5	4	0.090	C60092	C80092	C70892
1*	1.0000	1	2-1/4	5	4	0.125	C60093	C80093	C70893
1*	1.0000	1	3	6	4	0.000	C60094	C80094	C70894
1*	1.0000	1	3	6	4	0.030	C60095	C80095	C70895
1*	1.0000	1	3	6	4	0.060	C60096	C80096	C70896
1*	1.0000	1	3	6	4	0.090	C60097	C80097	C70897
1*	1.0000	1	3	6	4	0.125	C60098	C80098	C70898

* Weldon flats available on 1/2" and over, please specify when ordering and call customer service for pricing.

VARIABLE INDEX 4-FLUTE FINISHING

CEM-V-4B

SOLID CARBIDE

Ferrous Materials / Helix 38° / Ball End

Bright / AP/MAX / T-MAX

Best Material Application



CEM-V-4B end mills are solid carbide, 4-flute variable index tools engineered for high-performance machining of ferrous materials. The variable index geometry reduces vibration and chatter, delivering smoother finishes, improved tool life, and reliable performance in demanding profiling, contouring, and 3D milling applications.

- ▷ 4-flute variable index geometry – minimizes chatter and improves surface finish
- ▷ Ball nose design is ideal for profiling, contouring, and complex 3D surfaces
- ▷ Solid carbide construction provides high rigidity and long tool life
- ▷ Available with AP-MAX® coating for increased heat resistance and wear protection in production machining



Size		Shank Dia.	Length of Cut	Fractional		Order Number		
Fractional	Decimal			Overall Length	No. of Flutes	Bright	AP/MAX	T-Max®
1/8	.1250	1/8	3/8	1-1/2	4	C60108	C80108	C70908
3/16	.1875	3/16	7/16	2	4	C60109	C80109	C70909
1/4	.2500	1/4	3/4	2-1/2	4	C60110	C80110	C70910
5/16	.3125	5/16	13/16	2-1/2	4	C60111	C80111	C70911
3/8	.3750	3/8	7/8	2-1/2	4	C60112	C80112	C70912
7/16	.4375	7/16	1	3	4	C60113	C80113	C70913
1/2	.5000	1/2	5/8	2-1/2	4	C60114	C80114	C70914
1/2*	.5000	1/2	1	3	4	C60115	C80115	C70915
5/8*	.6250	5/8	1-1/4	3-1/2	4	C60116	C80116	C70916
3/4*	.7500	3/4	1-1/2	4	4	C60117	C80117	C70917
1*	1.0000	1	2-1/4	5	4	C60118	C80118	C70918

*Weldon flats available on 1/2" and over, please specify when ordering and call customer service for pricing.

VARIABLE INDEX 5-FLUTE FINISHING

05

END MILLS

CEM-V2-5R

SOLID CARBIDE

Helix 38° / Single End / Bright / AP/MAX / T-MAX

Best Material Application



- ▷ For slotting up to 1 x D.
- ▷ Minimized chatter from unequal flute spacing
- ▷ Use one tool for roughing and finishing operations. Improved Geometry



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Corner Radius	Order Number		
Fractional	Decimal						Bright	AP/MAX	T-Max®
3/16	.1875	3/16	3/8	2	5	0.000	C60525	C80525	C70525
3/16	.1875	3/16	3/8	2	5	0.010	C60526	C80526	C70526
3/16	.1875	3/16	7/16	2	5	0.000	C60527	C80527	C70527
3/16	.1875	3/16	7/16	2	5	0.010	C60528	C80528	C70528
3/16	.1875	3/16	3/4	2-1/2	5	0.000	C60529	C80529	C70529
3/16	.1875	3/16	3/4	2-1/2	5	0.010	C60530	C80530	C70530
1/4	.2500	1/4	1/2	2	5	0.000	C60531	C80531	C70531
1/4	.2500	1/4	1/2	2	5	0.020	C60532	C80532	C70532
1/4	.2500	1/4	3/4	2-1/2	5	0.000	C60533	C80533	C70533
1/4	.2500	1/4	3/4	2-1/2	5	0.020	C60534	C80534	C70534
1/4	.2500	1/4	1-1/8	3	5	0.010	C60535	C80535	C70535
1/4	.2500	1/4	1-1/8	3	5	0.020	C60536	C80536	C70536
1/4	.2500	1/4	1-1/4	3	5	0.000	C60537	C80537	C70537
5/16	.3125	5/16	1/2	2	5	0.000	C60538	C80538	C70538
5/16	.3125	5/16	1/2	2	5	0.020	C60539	C80539	C70539
5/16	.3125	5/16	13/16	2-1/2	5	0.000	C60540	C80540	C70540
5/16	.3125	5/16	13/16	2-1/2	5	0.020	C60541	C80541	C70541
5/16	.3125	5/16	1-1/4	3	5	0.000	C60542	C80542	C70542
5/16	.3125	5/16	1-1/4	3	5	0.020	C60543	C80543	C70543
3/8	.3750	3/8	1/2	2	5	0.030	C60544	C80544	C70544
3/8	.3750	3/8	5/8	2	5	0.000	C60545	C80545	C70545
3/8	.3750	3/8	5/8	2	5	0.020	C60546	C80546	C70546
3/8	.3750	3/8	7/8	2-1/2	5	0.000	C60547	C80547	C70547
3/8	.3750	3/8	7/8	2-1/2	5	0.020	C60548	C80548	C70548
3/8	.3750	3/8	1-1/8	3	5	0.000	C60549	C80549	C70549
3/8	.3750	3/8	1-1/8	3	5	0.020	C60550	C80550	C70550
3/8	.3750	3/8	2	4	5	0.000	C60551	C80551	C70551
3/8	.3750	3/8	2	4	5	0.020	C60552	C80552	C70552
7/16	.4375	7/16	5/8	2-1/2	5	0.000	C60553	C80553	C70553
7/16	.4375	7/16	5/8	2-1/2	5	0.020	C60554	C80554	C70554
7/16	.4375	7/16	1	3	5	0.000	C60555	C80555	C70555
7/16	.4375	7/16	1	3	5	0.020	C60556	C80556	C70556
7/16	.4375	7/16	2	4	5	0.000	C60557	C80557	C70557
1/2*	.5000	1/2	5/8	2-1/2	5	0.000	C60558	C80558	C70558
1/2*	.5000	1/2	5/8	2-1/2	5	0.030	C60559	C80559	C70559
1/2*	.5000	1/2	1	3	5	0.000	C60560	C80560	C70560
1/2*	.5000	1/2	1	3	5	0.030	C60561	C80561	C70561
1/2*	.5000	1/2	1	3	5	0.060	C60562	C80562	C70562
1/2*	.5000	1/2	1	3	5	0.090	C60563	C80563	C70563
1/2*	.5000	1/2	1	3	5	0.125	C60564	C80564	C70564
1/2*	.5000	1/2	1-1/4	3	5	0.000	C60565	C80565	C70565
1/2*	.5000	1/2	1-1/4	3	5	0.020	C60566	C80566	C70566
1/2*	.5000	1/2	1-1/4	3	5	0.030	C60567	C80567	C70567
1/2*	.5000	1/2	1-1/4	3	5	0.060	C60568	C80568	C70568
1/2*	.5000	1/2	1-1/4	3	5	0.090	C60569	C80569	C70569
1/2*	.5000	1/2	1-1/4	3	5	0.125	C60570	C80570	C70570
1/2*	.5000	1/2	2	4	5	0.000	C60571	C80571	C70571
1/2*	.5000	1/2	2	4	5	0.030	C60572	C80572	C70572

CLEVELAND | WALTER

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VARIABLE INDEX 5-FLUTE FINISHING

CEM-V2-5R continued



Size		Shank Dia.	Length of Cut	Fractional			Corner Radius	Order Number		
Fractional	Decimal			Overall Length	No. of Flutes			Bright	AP/MAX	T-Max®
1/2*	.5000	1/2	2	4	5		0.060	C60573	C80573	C70573
1/2*	.5000	1/2	2	4	5		0.090	C60574	C80574	C70574
1/2*	.5000	1/2	2	4	5		0.125	C60575	C80575	C70575
5/8*	.6250	5/8	3/4	3	5		0.000	C60576	C80576	C70576
5/8*	.6250	5/8	3/4	3	5		0.030	C60577	C80577	C70577
5/8*	.6250	5/8	1-1/4	3-1/2	5		0.000	C60578	C80578	C70578
5/8*	.6250	5/8	1-1/4	3-1/2	5		0.030	C60579	C80579	C70579
5/8*	.6250	5/8	1-1/4	3-1/2	5		0.060	C60580	C80580	C70580
5/8*	.6250	5/8	1-1/4	3-1/2	5		0.090	C60581	C80581	C70581
5/8*	.6250	5/8	1-1/4	3-1/2	5		0.125	C60582	C80582	C70582
5/8*	.6250	5/8	2-1/4	5	5		0.000	C60583	C80583	C70583
5/8*	.6250	5/8	2-1/4	5	5		0.030	C60584	C80584	C70584
5/8*	.6250	5/8	2-1/4	5	5		0.060	C60585	C80585	C70585
5/8*	.6250	5/8	2-1/4	5	5		0.090	C60586	C80586	C70586
5/8*	.6250	5/8	2-1/4	5	5		0.125	C60587	C80587	C70587
3/4*	.7500	3/4	1	3	5		0.000	C60588	C80588	C70588
3/4*	.7500	3/4	1	3	5		0.015	C60511	C80511	C70511
3/4*	.7500	3/4	1	3	5		0.030	C60589	C80589	C70589
3/4*	.7500	3/4	1-1/2	4	5		0.000	C60590	C80590	C70590
3/4*	.7500	3/4	1-1/2	4	5		0.015	C60512	C80512	—
3/4*	.7500	3/4	1-1/2	4	5		0.030	C60591	C80591	C70591
3/4*	.7500	3/4	1-1/2	4	5		0.060	C60592	C80592	C70592
3/4*	.7500	3/4	1-1/2	4	5		0.090	C60593	C80593	C70593
3/4*	.7500	3/4	1-1/2	4	5		0.125	C60594	C80594	C70594
3/4*	.7500	3/4	2-1/4	5	5		0.000	C60595	C80595	C70595
3/4*	.7500	3/4	2-1/4	5	5		0.015	C60513	C80513	—
3/4*	.7500	3/4	2-1/4	5	5		0.030	C60596	C80596	C70596
3/4*	.7500	3/4	2-1/4	5	5		0.060	C60597	C80597	C70597
3/4*	.7500	3/4	2-1/4	5	5		0.090	C60598	C80598	C70598
3/4*	.7500	3/4	2-1/4	5	5		0.125	C60599	C80599	C70599
1*	1.0000	1	1-1/2	4	5		0.000	C60600	C80600	C70600
1*	1.0000	1	1-1/2	4	5		0.015	C60514	C80514	—
1*	1.0000	1	1-1/2	4	5		0.030	C60601	C80601	C70601
1*	1.0000	1	1-1/2	4	5		0.060	C60602	C80602	C70602
1*	1.0000	1	1-1/2	4	5		0.090	C60603	C80603	C70603
1*	1.0000	1	1-1/2	4	5		0.125	C60604	C80604	C70604
1*	1.0000	1	2-1/4	5	5		0.000	C60605	C80605	C70605
1*	1.0000	1	2-1/4	5	5		0.015	C60515	C80515	—
1*	1.0000	1	2-1/4	5	5		0.030	C60606	C80606	C70606
1*	1.0000	1	2-1/4	5	5		0.060	C60607	C80607	C70607
1*	1.0000	1	2-1/4	5	5		0.090	C60608	C80608	C70608
1*	1.0000	1	2-1/4	5	5		0.125	C60609	C80609	C70609
1*	1.0000	1	3	6	5		0.000	C60610	C80610	C70610
1*	1.0000	1	3	6	5		0.015	C60516	C80516	—
1*	1.0000	1	3	6	5		0.030	C60611	C80611	C70611
1*	1.0000	1	3	6	5		0.060	C60612	C80612	C70612
1*	1.0000	1	3	6	5		0.090	C60613	C80613	C70613
1*	1.0000	1	3	6	5		0.125	C60614	C80614	C70614

* Weldon flats available on 1/2" and over, please specify when ordering and call customer service for pricing.

VARIABLE INDEX 7-FLUTE FINISHING

05

END MILLS

CEM-V3-7R

SOLID CARBIDE

Helix 38° / Single End / AP/MAX / T-MAX

Best Material Application



CEM-V3-7R end mills are solid carbide, 7-flute variable index tools engineered for high-efficiency machining of steel and stainless steel. The advanced variable index geometry minimizes chatter and vibration, enabling higher feed rates, excellent surface finishes, and extended tool life in demanding CNC milling applications.

- ▷ Ideal for High Efficiency Machining (HEM)
- ▷ Minimized chatter from unequal flute spacing
- ▷ Use one tool for roughing and finishing operations.



Size		Shank Dia.	Length of Cut	Fractional		No. of Flutes	Corner Radius	Order Number	
Fractional	Decimal			Overall Length				AP/MAX	T-Max®
3/8	0.375	3/8	3/4	2-1/2	7	0.000		C76270	—
3/8	0.375	3/8	3/4	2-1/2	7	0.015		C76271	—
3/8	0.375	3/8	3/4	2-1/2	7	0.030		C76272	—
3/8	0.375	3/8	15/16	2-1/2	7	0.000		C76273	—
3/8	0.375	3/8	15/16	2-1/2	7	0.015		C76274	—
3/8	0.375	3/8	15/16	2-1/2	7	0.030		C76275	—
3/8	0.375	3/8	1-1/8	3	7	0.000		C76276	—
3/8	0.375	3/8	1-1/8	3	7	0.015		C76277	—
3/8	0.375	3/8	1-1/8	3	7	0.030		C76278	C86278
3/8	0.375	3/8	1-1/2	3-1/2	7	0.000		C76279	—
3/8	0.375	3/8	1-1/2	3-1/2	7	0.015		C76280	—
3/8	0.375	3/8	1-1/2	3-1/2	7	0.030		C76281	—
1/2	0.500	1/2	5/8	2-1/2	7	0.000		C76372	—
1/2	0.500	1/2	5/8	2-1/2	7	0.015		C76373	—
1/2	0.500	1/2	5/8	2-1/2	7	0.030		C76374	—
1/2	0.500	1/2	1	3	7	0.000		C76282	—
1/2	0.500	1/2	1	3	7	0.030		C76283	—
1/2	0.500	1/2	1	3	7	0.060		C76284	—
1/2	0.500	1/2	1	3	7	0.090		C76285	—
1/2	0.500	1/2	1-1/4	3	7	0.000		C76286	—
1/2	0.500	1/2	1-1/4	3	7	0.015		C76375	—
1/2	0.500	1/2	1-1/4	3	7	0.030		C76287	—
1/2	0.500	1/2	1-1/4	3	7	0.060		C76288	—
1/2	0.500	1/2	1-1/4	3	7	0.090		C76289	—
1/2	0.500	1/2	1-1/2	3-1/2	7	0.000		C76290	—
1/2	0.500	1/2	1-1/2	3-1/2	7	0.030		C76291	—
1/2	0.500	1/2	1-1/2	3-1/2	7	0.060		C76292	—
1/2	0.500	1/2	1-1/2	3-1/2	7	0.090		C76293	—
1/2	0.500	1/2	2	4	7	0.000		C76294	—
1/2	0.500	1/2	2	4	7	0.030		C76295	C86295
1/2	0.500	1/2	2	4	7	0.060		C76296	C86296
1/2	0.500	1/2	2	4	7	0.090		C76297	C86297
1/2	0.500	1/2	2-1/4	4	7	0.000		C76298	—
1/2	0.500	1/2	2-1/4	4	7	0.030		C76299	—
1/2	0.500	1/2	2-1/4	4	7	0.060		C76300	—
1/2	0.500	1/2	2-1/4	4	7	0.090		C76301	—
5/8	0.625	5/8	1-7/8	4	7	0.000		C76302	—
5/8	0.625	5/8	1-7/8	4	7	0.030		C76303	—
5/8	0.625	5/8	1-7/8	4	7	0.060		C76304	—
5/8	0.625	5/8	1-7/8	4	7	0.090		C76305	—
5/8	0.625	5/8	2-1/4	4	7	0.000		C76306	—
5/8	0.625	5/8	2-1/4	4	7	0.030		C76307	C86307
5/8	0.625	5/8	2-1/4	4	7	0.060		C76308	C86308
5/8	0.625	5/8	2-1/4	4	7	0.090		C76309	C86309
5/8	0.625	5/8	3	6	7	0.000		C76310	—
5/8	0.625	5/8	3	6	7	0.030		C76311	—

continued on next page

VARIABLE INDEX 7-FLUTE FINISHING

CEM-V3-7R continued



Size		Shank Dia.	Length of Cut	Fractional			Corner Radius	Order Number	
Fractional	Decimal			Overall Length	No. of Flutes			AP/MAX	T-Max®
5/8	0.625	5/8	3	6	7		0.060	C76312	—
3/4	0.750	3/4	1-1/2	4	7		0.000	C76313	—
3/4	0.750	3/4	1-1/2	4	7		0.030	C76314	—
3/4	0.750	3/4	1-1/2	4	7		0.060	C76315	—
3/4	0.750	3/4	1-1/2	4	7		0.125	C76316	—
3/4	0.750	3/4	1-7/8	4	7		0.000	C76317	—
3/4	0.750	3/4	1-7/8	4	7		0.030	C76318	—
3/4	0.750	3/4	1-7/8	4	7		0.060	C76319	—
3/4	0.750	3/4	1-7/8	4	7		0.090	C76320	—
3/4	0.750	3/4	1-7/8	4	7		0.125	C76321	—
3/4	0.750	3/4	2-1/4	5	7		0.000	C76322	—
3/4	0.750	3/4	2-1/4	5	7		0.030	C76323	—
3/4	0.750	3/4	2-1/4	5	7		0.060	C76324	—
3/4	0.750	3/4	2-1/4	5	7		0.090	C76325	—
3/4	0.750	3/4	2-1/4	5	7		0.125	C76326	—
3/4	0.750	3/4	2-5/8	5	7		0.000	C76327	—
3/4	0.750	3/4	2-5/8	5	7		0.030	C76328	C86328
3/4	0.750	3/4	2-5/8	5	7		0.060	C76329	C86329
3/4	0.750	3/4	2-5/8	5	7		0.090	C76330	C86330
3/4	0.750	3/4	2-5/8	5	7		0.125	C76331	—
3/4	0.750	3/4	3	6	7		0.000	C76332	—
3/4	0.750	3/4	3	6	7		0.030	C76333	—
3/4	0.750	3/4	3	6	7		0.060	C76334	—
3/4	0.750	3/4	3	6	7		0.125	C76335	—
1	1.000	1	3	6	7		0.000	C76341	—
1	1.000	1	3	6	7		0.030	C76342	—
1	1.000	1	3	6	7		0.060	C76343	—
1	1.000	1	3	6	7		0.125	C76344	—
1	1.000	1	3-1/2	6	7		0.000	C76345	—
1	1.000	1	3-1/2	6	7		0.030	C76346	—
1	1.000	1	3-1/2	6	7		0.060	C76347	—
1	1.000	1	3-1/2	6	7		0.125	C76348	—

* Weldon flats available on 1/2" and over, please specify when ordering and call customer service for pricing.

VARIABLE INDEX 7-FLUTE FINISHING

05

END MILLS

CEM-V3-7RCB

SOLID CARBIDE

Helix 38° / Single End / AP/MAX

Best Material Application



STEEL



STAINLESS



HARDENED STEEL

CEM-V3-7RCB end mills are solid carbide, 7-flute variable index corner-radius tools engineered for high-performance machining of steel. The variable index design minimizes chatter while the corner radius strengthens the cutting edge, improving surface finish and tool life in high-efficiency milling, profiling, and finishing operations.

- ▷ Chip breaking geometry for improved High Efficiency Machining (HEM)
- ▷ For slotting up to 1 x D
- ▷ Minimized chatter from unequal flute spacing
- ▷ Use one tool for roughing and finishing operations



Size		Shank Dia.	Fractional		No. of Flutes	Corner Radius	Order Number
Fractional	Decimal		Length of Cut	Overall Length			AP/MAX
3/8	0.375	3/8	1-1/8	3	7	0.030	C76350
3/8	0.375	3/8	1-1/2	3-1/2	7	0.030	C76351
1/2	0.500	1/2	1-1/2	3-1/2	7	0.030	C76352
1/2	0.500	1/2	1-1/2	3-1/2	7	0.060	C76353
1/2	0.500	1/2	2	4	7	0.030	C76354
1/2	0.500	1/2	2	4	7	0.060	C76355
5/8	0.625	5/8	1-7/8	4	7	0.030	C76356
5/8	0.625	5/8	1-7/8	4	7	0.060	C76357
5/8	0.625	5/8	3	6	7	0.030	C76358
5/8	0.625	5/8	3	6	7	0.060	C76359
3/4	0.750	3/4	1-1/2	4	7	0.030	C76360
3/4	0.750	3/4	1-1/2	4	7	0.060	C76361
3/4	0.750	3/4	2-1/4	5	7	0.030	C76364
3/4	0.750	3/4	2-1/4	5	7	0.060	C76365
3/4	0.750	3/4	2-5/8	5	7	0.030	C76366
3/4	0.750	3/4	2-5/8	5	7	0.060	C76367
3/4	0.750	3/4	3	6	7	0.030	C76368
3/4	0.750	3/4	3	6	7	0.060	C76369
1	1.000	1	3	6	7	0.030	C76370
1	1.000	1	3	6	7	0.060	C76371

*Weldon flats available 1/2" and larger.

CLEVELAND | WALTER

5-FLUTE FINISHING

CEM-HPDE-5

SOLID CARBIDE

Helix 47° / Double End / Bright / TiAlN

Best Material Application



Size		Shank Dia.	Length of Cut	Fractional Overall Length	No. of Flutes	Corner Radius	Order Number	
Fractional	Decimal						Bright	TiAlN
1/8	.1250	1/8	1/4	1-1/2	5	0.000	C60100	C80100
3/16	.1875	3/16	5/16	2	5	0.000	C60101	C80101
1/4	.2500	1/4	3/8	2-1/2	5	0.000	C60102	C80102
5/16	.3125	5/16	7/16	2-1/2	5	0.000	C60103	C80103
3/8	.3750	3/8	1/2	2-1/2	5	0.000	C60104	C80104
7/16	.4375	7/16	9/16	3	5	0.000	C60105	C80105
1/2*	.5000	1/2	5/8	3	5	0.000	C60106	C80106

*Weldon Shank Dia.; all others plain Shank Dia.

3-FLUTE FINISHING

CEM-EMS-3

SOLID CARBIDE

Helix 30° / Single End
Bright / TiAl

Best Material Application



Size		Shank Dia.	Length of Cut	Fractional Overall Length	No. of Flutes	Corner Radius	Order Number	
Fractional	Decimal						Bright	TiAlN
1/8	.1250	1/8	1/4	1-1/2	3	0.010	C60365	C80365
1/8	.1250	1/8	1/2	1-1/2	3	0.010	C60366	C80366
5/32	.1562	3/16	5/16	1-1/2	3	0.010	C60367	C80367
5/32	.1562	3/16	9/16	2	3	0.010	C60368	C80368
3/16	.1875	3/16	5/16	2	3	0.010	C60369	C80369
3/16	.1875	3/16	5/8	2	3	0.010	C60370	C80370
7/32	.2188	1/4	1/2	2	3	0.020	C60371	C80371
7/32	.2188	1/4	3/4	2-1/2	3	0.020	C60372	C80372
1/4	.2500	1/4	3/8	2	3	0.020	C60373	C80373
1/4	.2500	1/4	3/4	2-1/2	3	0.020	C60374	C80374
9/32	.2812	5/16	7/16	2	3	0.020	C60375	C80375
9/32	.2812	5/16	13/16	2-1/2	3	0.020	C60376	C80376
5/16	.3125	5/16	7/16	2	3	0.020	C60377	C80377
5/16	.3125	5/16	13/16	2-1/2	3	0.020	C60378	C80378
11/32	.3438	3/8	1/2	2	3	0.020	C60379	C80379
11/32	.3438	3/8	7/8	2-1/2	3	0.020	C60380	C80380
3/8	.3750	3/8	1/2	2	3	0.020	C60381	C80381
3/8	.3750	3/8	7/8	2-1/2	3	0.020	C60382	C80382
13/32	.4062	7/16	9/16	2-1/2	3	0.020	C60383	C80383
13/32	.4062	7/16	1	2-1/2	3	0.020	C60384	C80384
7/16	.4375	7/16	9/16	2-1/2	3	0.020	C60385	C80385
7/16	.4375	7/16	1	2-1/2	3	0.020	C60386	C80386
15/32*	.4688	1/2	5/8	2-1/2	3	0.020	C60387	C80387
15/32*	.4688	1/2	1-1/4	3	3	0.020	C60388	C80388
1/2*	.5000	1/2	5/8	2-1/2	3	0.030	C60389	C80389
1/2*	.5000	1/2	1-1/4	3	3	0.030	C60390	C80390
5/8*	.6250	5/8	3/4	3	3	0.030	C60391	C80391
5/8*	.6250	5/8	1-5/8	4	3	0.030	C60392	C80392
3/4*	.7500	3/4	7/8	3	3	0.030	C60393	C80393
3/4*	.7500	3/4	1-5/8	4	3	0.030	C60394	C80394
1*	1.0000	1	1-1/8	3	3	0.030	C60395	C80395
1*	1.0000	1	2	4	3	0.030	C60396	C80396

5-FLUTE FINISHING

05

END MILLS

CLEVELAND | WALTER

CEM-EMS-5

SOLID CARBIDE

Helix 47° / Single End
Bright / TiAlN



Best Material Application



Size		Shank Dia.	Length of Cut	Fractional		No. of Flutes	Corner Radius	Order Number	
Fractional	Decimal			Overall Length				Bright	TiAlN
1/8	.1250	1/8	1/4	1-1/2		5	0.000	C60417	C80417
1/8	.1250	1/8	1/2	1-1/2		5	0.000	C60418	C80418
1/8	.1250	1/8	1/2	2		5	0.000	C60419	C80419
5/32	.1562	3/16	5/16	2		5	0.000	C60420	C80420
5/32	.1562	3/16	9/16	2		5	0.000	C60421	C80421
3/16	.1875	3/16	5/16	2		5	0.000	C60422	C80422
3/16	.1875	3/16	9/16	2		5	0.000	C60423	C80423
7/32	.2188	1/4	3/8	2		5	0.000	C60424	C80424
7/32	.2188	1/4	3/4	2-1/2		5	0.000	C60425	C80425
1/4	.2500	1/4	3/8	2		5	0.000	C60426	C80426
1/4	.2500	1/4	3/4	2-1/2		5	0.000	C60427	C80427
1/4	.2500	1/4	1-1/4	4		5	0.000	C60428	C80428
9/32	.2812	5/16	7/16	2		5	0.000	C60429	C80429
9/32	.2812	5/16	13/16	2-1/2		5	0.000	C60430	C80430
5/16	.3125	5/16	7/16	2		5	0.000	C60431	C80431
5/16	.3125	5/16	13/16	2-1/2		5	0.000	C60432	C80432
5/16	.3125	5/16	1-1/4	4		5	0.000	C60433	C80433
3/8	.3750	3/8	1/2	2		5	0.000	C60434	C80434
3/8	.3750	3/8	7/8	2-1/2		5	0.000	C60435	C80435
3/8	.3750	3/8	1-1/2	4		5	0.000	C60436	C80436
7/16	.4375	7/16	9/16	2-1/2		5	0.000	C60437	C80437
7/16	.4375	7/16	1	2-1/2		5	0.000	C60438	C80438
7/16	.4375	7/16	2	4		5	0.000	C60439	C80439
1/2*	.5000	1/2	5/8	2-1/2		5	0.000	C60440	C80440
1/2*	.5000	1/2	1-1/4	3		5	0.000	C60441	C80441
1/2*	.5000	1/2	2	4		5	0.000	C60442	C80442
9/16*	.5625	9/16	1-1/2	3 1/2		5	0.000	C60443	C80443
5/8*	.6250	5/8	3/4	3		5	0.000	C60444	C80444
5/8*	.6250	5/8	1-5/8	4		5	0.000	C60445	C80445
5/8*	.6250	5/8	2-1/2	5		5	0.000	C60446	C80446
3/4*	.7500	3/4	7/8	3		5	0.000	C60447	C80447
3/4*	.7500	3/4	1-5/8	4		5	0.000	C60448	C80448
3/4*	.7500	3/4	3 1/4	6		5	0.000	C60449	C80449
7/8*	.8750	7/8	2	4		5	0.000	C60450	C80450
1*	1.0000	1	1-1/8	3		5	0.000	C60451	C80451
1*	1.0000	1	2	4		5	0.000	C60452	C80452
1*	1.0000	1	3 1/4	6		5	0.000	C60453	C80453

ALUMINUM MATERIALS 2-FLUTE FINISHING

CEM-AM2

SOLID CARBIDE

Helix 45° / Single End
Bright / ZrN

Best Material Application



NON-FERROUS

CEM-AM2 end mills are specifically engineered for high-performance machining of aluminum and non-ferrous materials. Featuring a high-polish geometry and optimized flute design, they deliver excellent chip evacuation, superior surface finish, and high feed capability in slotting, profiling, and finishing applications.



Fractional							
Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number	
Fractional	Decimal					Bright	ZrN
1/8	.1250	1/8	1/4	1-1/2	2	C60477	C84000
1/8	.1250	1/8	3/8	1-1/2	2	C60478	C84001
3/16	.1875	3/16	5/16	2	2	C60479	C84002
3/16	.1875	3/16	9/16	2	2	C60480	C84003
1/4	.2500	1/4	3/8	2-1/2	2	C60481	C84004
1/4	.2500	1/4	3/4	2-1/2	2	C60482	C84005
1/4	.2500	1/4	1-1/4	3	2	C60483	C84006
5/16	.3125	5/16	7/16	2-1/2	2	C60484	C84007
5/16	.3125	5/16	13/16	2-1/2	2	C60485	C84008
5/16	.3125	5/16	1-1/4	3-3/4	2	C60486	C84009
5/16	.3125	5/16	2-1/8	4	2	C60487	C84010
3/8	.3750	3/8	1/2	2-1/2	2	C60488	C84011
3/8	.3750	3/8	1	2-1/2	2	C60489	C84012
3/8	.3750	3/8	1-1/2	4	2	C60490	C84013
3/8	.3750	3/8	2-1/2	6	2	C60491	C84014
7/16	.4375	7/16	9/16	2-1/2	2	C60492	C84015
7/16	.4375	7/16	1	2-1/2	2	C60493	C84016
7/16	.4375	7/16	2	4	2	C60494	C84017
1/2	.5000	1/2	5/8	3	2	C60495	C84018
1/2	.5000	1/2	1-1/4	3	2	C60496	C84019
1/2	.5000	1/2	2	4	2	C60497	C84020
1/2	.5000	1/2	3-1/8	6	2	C60498	C84021
5/8	.6250	5/8	3/4	3-1/2	2	C60499	C84022
5/8	.6250	5/8	1-5/8	4	2	C60500	C84023
5/8	.6250	5/8	2-1/2	5	2	C60501	C84024
5/8	.6250	5/8	3-3/4	6	2	C60502	C84025
3/4	.7500	3/4	1	4	2	C60503	C84026
3/4	.7500	3/4	1-5/8	4	2	C60504	C84027
3/4	.7500	3/4	3-1/4	6	2	C60505	C84028
1	1.0000	1	1-1/4	5	2	C60507	C84029
1	1.0000	1	2	5	2	C60508	C84030
1	1.0000	1	3-1/4	6	2	C60509	C84031
1	1.0000	1	4-1/8	7	2	C60510	C84032

ALUMINUM MATERIALS 3-FLUTE FINISHING

05

END MILLS

CLEVELAND | WALTER

CEM-AM3

SOLID CARBIDE

Helix 35° / Single End

Bright / ZrN

Best Material Application



Designed for high-efficiency machining of aluminum and non-ferrous materials. The 3-flute geometry balances high feed capability with improved edge strength, delivering excellent chip evacuation, smooth finishes, and reliable performance in slotting, profiling, and finishing operations.



Size		Shank Dia.	Length of Cut	Fractional Overall Length	No. of Flutes	Corner Radius	Order Number	
Fractional	Decimal						Bright	ZrN
1/8	.1250	1/8	1/4	1-1/2	3	.000	C60616	C72340
1/8	.1250	1/8	3/8	1-1/2	3	.000	C60617	C72341
1/8	.1250	1/8	3/8	1-1/2	3	.015	C72375	C84150
3/16	.1875	3/16	5/16	2	3	.000	C60618	C72342
3/16	.1875	3/16	9/16	2	3	.000	C60619	C72343
3/16	.1875	3/16	9/16	2	3	.015	C72376	C84151
1/4	.2500	1/4	3/8	2	3	.000	C60620	C72344
1/4	.2500	1/4	3/8	2	3	.015	C72377	C84152
1/4	.2500	1/4	3/8	2	3	.030	C72378	C84153
1/4	.2500	1/4	3/4	2-1/2	3	.000	C60621	C72345
1/4	.2500	1/4	3/4	2-1/2	3	.015	C72379	C84154
1/4	.2500	1/4	3/4	2-1/2	3	.030	C72380	C84155
1/4	.2500	1/4	1-1/4	3	3	.000	C60622	C72346
1/4	.2500	1/4	1-1/4	3	3	.015	C72381	C84156
1/4	.2500	1/4	1-1/4	3	3	.030	C72382	C84157
5/16	.3125	5/16	7/16	2	3	.000	C60623	C72347
5/16	.3125	5/16	5/8	2-1/2	3	.000	C60624	C72348
5/16	.3125	5/16	1-1/4	3-3/4	3	.000	C60625	C72349
5/16	.3125	5/16	1-1/4	3-3/4	3	.015	C72383	C84158
5/16	.3125	5/16	1-1/4	3-3/4	3	.030	C72384	C84159
5/16	.3125	5/16	2-1/8	4	3	.000	C60626	C72350
3/8	.3750	3/8	1/2	2	3	.000	C60627	C72351
3/8	.3750	3/8	1/2	2	3	.015	C72385	C84160
3/8	.3750	3/8	1	2-1/2	3	.000	C60628	C72352
3/8	.3750	3/8	1	2-1/2	3	.015	C72386	C84161
3/8	.3750	3/8	1	2-1/2	3	.030	C72387	C84162
3/8	.3750	3/8	1	2-1/2	3	.060	C72388	C84163
3/8	.3750	3/8	1-1/2	3-1/2	3	.000	C60629	C72353
3/8	.3750	3/8	1-1/2	3-1/2	3	.015	C72389	C84164
3/8	.3750	3/8	1-1/2	3-1/2	3	.030	C72390	C84165
3/8	.3750	3/8	1-1/2	3-1/2	3	.060	C72391	C84166
3/8	.3750	3/8	2-1/2	6	3	.000	C60630	C72354
7/16	.4375	7/16	9/16	2-1/2	3	.000	C60631	C72355
7/16	.4375	7/16	9/16	2-1/2	3	.015	C72392	C84167
7/16	.4375	7/16	9/16	2-1/2	3	.030	C72393	C84168
7/16	.4375	7/16	9/16	2-1/2	3	.060	C72394	C84169
7/16	.4375	7/16	1	2-1/2	3	.000	C60632	C72356
7/16	.4375	7/16	2	4	3	.000	C60633	C72357

continued on next page

ALUMINUM MATERIALS 3-FLUTE FINISHING

CEM-AM3 continued



Size		Shank Dia.	Length of Cut	Fractional		Corner Radius	Order Number	
Fractional	Decimal			Overall Length	No. of Flutes		Bright	ZrN
1/2	.5000	1/2	5/8	2-1/2	3	.000	C60634	C72358
1/2	.5000	1/2	5/8	2-1/2	3	.060	C72395	C84170
1/2	.5000	1/2	1-1/4	3	3	.000	C60635	C72359
1/2	.5000	1/2	1-1/4	3	3	.015	C72396	C84171
1/2	.5000	1/2	1-1/4	3	3	.030	C72397	C84172
1/2	.5000	1/2	1-1/4	3	3	.060	C72398	C84173
1/2	.5000	1/2	1-1/4	3	3	.125	C72399	C84174
1/2	.5000	1/2	2	4	3	.000	C60636	C72360
1/2	.5000	1/2	2	4	3	.015	C72400	C84175
1/2	.5000	1/2	2	4	3	.030	C72401	C84176
1/2	.5000	1/2	2	4	3	.060	C72402	C84177
1/2	.5000	1/2	2	4	3	.125	C72403	C84178
1/2	.5000	1/2	2-1/2	4	3	.000	C72404	C84179
1/2	.5000	1/2	2-1/2	4	3	.015	C72405	C84180
1/2	.5000	1/2	2-1/2	4	3	.030	C72406	C84181
1/2	.5000	1/2	2-1/2	4	3	.060	C72407	C84182
1/2	.5000	1/2	2-1/2	4	3	.125	C72408	C84183
1/2	.5000	1/2	3-1/8	6	3	.000	C60637	C72361
1/2	.5000	1/2	3-1/8	6	3	.030	C72409	C84184
5/8	.6250	5/8	3/4	3	3	.000	C60638	C72362
5/8	.6250	5/8	3/4	3	3	.030	C72410	C84185
5/8	.6250	5/8	1-5/8	4	3	.000	C60639	C72363
5/8	.6250	5/8	1-5/8	4	3	.030	C72411	C84186
5/8	.6250	5/8	1-5/8	4	3	.125	C72412	C84187
5/8	.6250	5/8	2-1/2	5	3	.000	C60640	C72364
5/8	.6250	5/8	2-1/2	5	3	.030	C72413	C84188
5/8	.6250	5/8	2-1/2	5	3	.125	C72414	C84189
5/8	.6250	5/8	3-3/4	6	3	.000	C60641	C72365
5/8	.6250	5/8	3-3/4	6	3	.030	C72415	C84190
3/4	.7500	3/4	1	3	3	.000	C60642	C72366
3/4	.7500	3/4	1	3	3	.030	C72416	C84191
3/4	.7500	3/4	1	3	3	.060	C72417	C84192
3/4	.7500	3/4	1	3	3	.125	C72418	C84193
3/4	.7500	3/4	1-5/8	4	3	.000	C60643	C72367
3/4	.7500	3/4	1-5/8	4	3	.030	C72419	C84194
3/4	.7500	3/4	1-5/8	4	3	.060	C72420	C84195
3/4	.7500	3/4	1-5/8	4	3	.125	C72421	C84196
3/4	.7500	3/4	2-1/2	5	3	.000	C72422	C84197
3/4	.7500	3/4	2-1/2	5	3	.030	C72423	C84198
3/4	.7500	3/4	2-1/2	5	3	.060	C72424	C84199
3/4	.7500	3/4	2-1/2	5	3	.125	C72425	C84200
3/4	.7500	3/4	3-1/4	6	3	.000	C60644	C72368
3/4	.7500	3/4	3-1/4	6	3	.030	C72426	C84201
3/4	.7500	3/4	3-1/4	6	3	.125	C72427	C84202
1	1.0000	1	1-1/2	4	3	.000	C60645	C72369
1	1.0000	1	1-1/2	4	3	.030	C72428	C84203
1	1.0000	1	2	5	3	.000	C60646	C72370
1	1.0000	1	2	5	3	.030	C72429	C84204
1	1.0000	1	2-1/2	5	3	.000	C72430	C84205
1	1.0000	1	2-1/2	5	3	.030	C72431	C84206
1	1.0000	1	3-1/2	6	3	.000	C60647	C72371
1	1.0000	1	3-1/2	6	3	.030	C72432	C84207

ROUGHING 4-FLUTE

CEM-RS

SOLID CARBIDE

Single End
Bright / TiAIN

▷ Has a Weldon Shank Dia.



Best Material Application



Size		Shank Dia.	Length of Cut	Fractional		No. of Flutes	Corner Radius	Order Number	
Fractional	Decimal			Overall Length				Bright	TiAIN
1/4	.2500	1/4	1/4	2		4	0.000	C60148	C80148
1/4	.2500	1/4	3/4	2-1/2		4	0.000	C60149	C80149
3/8	.3750	3/8	3/8	2		4	0.000	C60150	C80150
3/8	.3750	3/8	7/8	2-1/2		4	0.000	C60151	C80151
1/2	.5000	1/2	1/2	2-1/2		4	0.000	C60152	C80152
1/2	.5000	1/2	1	3		4	0.000	C60153	C80153
5/8	.6250	5/8	3/4	3		4	0.000	C60154	C80154
5/8	.6250	5/8	1-1/4	3 1/2		4	0.000	C60155	C80155
3/4	.7500	3/4	7/8	3 1/2		4	0.000	C60156	C80156
3/4	.7500	3/4	1-1/2	4		4	0.000	C60157	C80157
1	1.0000	1	1	3 1/2		4	0.000	C60158	C80158
1	1.0000	1	1-1/2	4		4	0.000	C60159	C80159

ROUGHING 3-FLUTE

CEM-RA

SOLID CARBIDE

Helix 38° / Single End
Bright / TiCN

▷ Has a Weldon Shank Dia.



Best Material Application



Size		Shank Dia.	Length of Cut	Fractional		No. of Flutes	Order Number	
Fractional	Decimal			Overall Length			Bright	TiCN
1/4	.2500	1/4	3/8	2		3	C60455	C70455
1/4	.2500	1/4	3/4	2-1/2		3	C60456	C70456
3/8	.3750	3/8	1/2	2		3	C60457	C70457
3/8	.3750	3/8	7/8	2-1/2		3	C60458	C70458
1/2	.5000	1/2	5/8	2-1/2		3	C60459	C70459
1/2	.5000	1/2	1	3		3	C60460	C70460
1/2	.5000	1/2	2	4 1/2		3	C60461	C70461
5/8	.6250	5/8	3/4	3		3	C60462	C70462
5/8	.6250	5/8	1-1/4	3 1/2		3	C60463	C70463
5/8	.6250	5/8	2 1/4	5		3	C60464	C70464
3/4	.7500	3/4	1	3 1/2		3	C60465	C70465
3/4	.7500	3/4	1-1/2	4		3	C60466	C70466
3/4	.7500	3/4	2 1/4	5		3	C60467	C70467
1	1.0000	1	1 1/8	3 1/2		3	C60468	C70468
1	1.0000	1	1-1/2	4		3	C60469	C70469
1	1.0000	1	2 1/4	5		3	C60470	C70470

FINISHER 2-FLUTE

CEM-DE2

SOLID CARBIDE

Helix 35° / Double End

Bright / TiAlN

CEM-DE2 end mills are solid carbide, 2-flute general-purpose tools designed for versatility across a wide range of milling applications. The 2-flute geometry provides excellent chip evacuation and smooth cutting action, making these end mills ideal for slotting, profiling, and light finishing in steels, cast iron, and non-ferrous materials.

Best Material Application



STEEL NON-FERROUS CAST IRON

Best Material Application



STEEL STAINLESS CAST IRON



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number	
Fractional	Decimal					Bright	TiAlN
1/16	.0625	1/8	1/8	1-1/2	2	C60169	C80169
3/32	.0938	1/8	3/16	1-1/2	2	C60170	C80170
1/8	.1250	1/8	1/4	1-1/2	2	C60171	C80171
1/8*	.1250	3/8	3/8	3	2	C60172	C80172
5/32	.1562	3/16	5/16	2	2	C60173	C80173
5/32*	.1562	3/8	7/16	3	2	C60174	C80174
3/16	.1875	3/16	3/8	2	2	C60175	C80175
3/16*	.1875	3/8	1/2	3	2	C60176	C80176
7/32*	.2188	3/8	9/16	3 1/2	2	C60177	C80177
1/4	.2500	1/4	1/2	2-1/2	2	C60178	C80178
1/4*	.2500	3/8	5/8	3 1/2	2	C60179	C80179
9/32*	.2812	3/8	11/16	3 1/2	2	C60180	C80180
5/16*	.3125	3/8	3/4	3 1/2	2	C60181	C80181
3/8	.3750	3/8	9/16	3	2	C60182	C80182
3/8*	.3750	3/8	3/4	3 1/2	2	C60183	C80183
7/16*	.4375	7/8	7/8	4	2	C60184	C80184
1/2	.5000	1/2	5/8	3	2	C60185	C80185
1/2*	.5000	1/2	1	4	2	C60186	C80186

*Weldon Shank Dia.; all others plain Shank Dia.

FINISHER 2-FLUTE

7400 SERIES

SOLID CARBIDE

Stub Length / Center Cutting / Double End / Bright

The 7400 Series end mills are heavy-duty solid carbide, double-ended roughing end mills designed for maximum stock removal and extended tool life. The coarse chip-breaker geometry reduces cutting forces and vibration, while the double-end design delivers exceptional value by providing two usable cutting ends in one tool.

- ▷ Run at extremely impressive feed and speed rates
- ▷ 3x the rates of HSS end mills
- ▷ Better surface finish on the workpiece
- ▷ Extended tool life over conventional HSS and Cobalt end mills



Fractional				
Size	Shank Dia.	Length of Cut	Overall Length	Order Number
1/32"	1/8"	5/64"	1-1/2"	74A102C
3/64"	1/8"	3/32"	1-1/2"	74A103C
1/16"	1/8"	1/8"	1-1/2"	74A104C
5/64"	1/8"	5/32"	1-1/2"	74A105C
3/32"	1/8"	3/16"	1-1/2"	74A106C
7/64"	1/8"	7/32"	1-1/2"	74A107C
1/8"	1/8"	1/4"	1-1/2"	74A108C
9/64"	3/16"	9/32"	2"	74A109C
5/32"	3/16"	5/16"	2"	74A110C
3/16"	3/16"	3/8"	2"	74A112C
7/32"	1/4"	1/2"	2-1/2"	74A114C
1/4"	1/4"	1/2"	2-1/2"	74A116C
5/16"	5/16"	1/2"	2-1/2"	74A120C
3/8"	3/8"	1/2"	2-1/2"	74A124C
7/16"	7/16"	9/16"	2-3/4"	74A128C
1/2"	1/2"	5/8"	3"	74A132C

Best Material Application

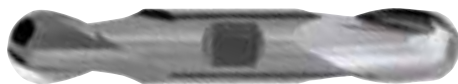


STEEL NON-FERROUS CAST IRON

FINISHER - BALL NOSE 2-FLUTE

CEM-DE2B

SOLID CARBIDE

Helix 35° / Double Ball End
Bright / TiAlN

Best Material Application



STEEL NON-FERROUS CAST IRON

Best Material Application



STEEL STAINLESS CAST IRON NON-FERROUS

Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number	
Fractional	Decimal					Bright	TiAlN
1/16	.0625	1/8	1/8	1-1/2	2	C60205	C80205
3/32	.0938	1/8	3/16	1-1/2	2	C60206	C80206
1/8*	.1250	3/8	3/8	3	2	C60207	C80207
5/32*	.1562	3/8	7/16	3	2	C60208	C80208
3/16*	.1875	3/8	1/2	3	2	C60209	C80209
7/32*	.2188	3/8	9/16	3 1/2	2	C60210	C80210
1/4*	.2500	3/8	5/8	3 1/2	2	C60211	C80211
9/32*	.2812	3/8	11/16	3 1/2	2	C60212	C80212
5/16*	.3125	3/8	3/4	3 1/2	2	C60213	C80213
3/8*	.3750	3/8	3/4	3 1/2	2	C60214	C80214
7/16*	.4375	1/2	7/8	4	2	C60215	C80215
1/2*	.5000	1/2	1	4	2	C60216	C80216

*Weldon Shank Dia.; all others plain Shank Dia.

FINISHER 4-FLUTE

CEM-DE4

SOLID CARBIDE

Helix 30° / Double End
Bright / TiAlN

Best Material Application



STEEL STAINLESS CAST IRON HARDENED STEEL

Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number	
Fractional	Decimal					Bright	TiAlN
1/16	.0625	1/8	1/8	1-1/2	4	C60269	C80269
3/32	.0938	1/8	3/16	1-1/2	4	C60270	C80270
1/8	.1250	1/8	1/4	1-1/2	4	C60271	C80271
1/8	.1250	3/16	1/4	2	4	C60272	C80272
1/8*	.1250	3/8	7/16	3	4	C60273	C80273
5/32	.1562	3/16	5/16	2	4	C60274	C80274
5/32*	.1562	3/8	7/16	3	4	C60275	C80275
3/16	.1875	3/16	3/8	2	4	C60276	C80276
3/16*	.1875	3/8	1/2	3	4	C60277	C80277
7/32*	.2188	3/8	9/16	3 1/2	4	C60278	C80278
1/4	.2500	1/4	1/2	2-1/2	4	C60279	C80279
1/4*	.2500	3/8	5/8	3 1/2	4	C60280	C80280
9/32*	.2812	3/8	11/16	3 1/2	4	C60281	C80281
5/16	.3125	5/16	1/2	2-1/2	4	C60282	C80282
5/16*	.3125	3/8	3/4	3 1/2	4	C60283	C80283
3/8	.3750	3/8	9/16	3	4	C60284	C80284
3/8*	.3750	3/8	3/4	3 1/2	4	C60285	C80285
7/16*	.4375	1/2	7/8	4	4	C60286	C80286
1/2	.5000	1/2	5/8	3	4	C60287	C80287
1/2*	.5000	1/2	1	4	4	C60288	C80288

*Weldon Shank Dia.; all others plain Shank Dia.

FINISHER 4-FLUTE

7500 SERIES

SOLID CARBIDE

Stub Length / Center Cutting / Double End / Bright

The 7500 Series end mills are heavy-duty solid carbide, double-ended roughing end mills designed for maximum stock removal and extended tool life. The coarse chip-breaker geometry reduces cutting forces and vibration, while the double-end design delivers exceptional value by providing two usable cutting ends in one tool.

- ▷ Run at extremely impressive feed and speed rates
- ▷ 3x the rates of HSS end mills
- ▷ Better surface finish on the workpiece
- ▷ Extended tool life over conventional HSS and Cobalt end mills

Best Material Application



Fractional				
Size	Shank Dia.	Length of Cut	Overall Length	Order Number
1/32"	1/8"	5/64"	1-1/2"	75A102C
3/64"	1/8"	3/32"	1-1/2"	75A103C
1/16"	1/8"	1/8"	1-1/2"	75A104C
5/64"	1/8"	5/32"	1-1/2"	75A105C
3/32"	1/8"	3/16"	1-1/2"	75A106C
7/64"	1/8"	7/32"	1-1/2"	75A107C
1/8"	1/8"	1/4"	1-1/2"	75A108C
9/64"	3/16"	9/32"	2"	75A109C
5/32"	3/16"	5/16"	2"	75A110C
3/16"	3/16"	3/8"	2"	75A112C
7/32"	1/4"	1/2"	2-1/2"	75A114C
1/4"	1/4"	1/2"	2-1/2"	75A116C
5/16"	5/16"	1/2"	2-1/2"	75A120C
3/8"	3/8"	1/2"	2-1/2"	75A124C
7/16"	7/16"	9/16"	2-3/4"	75A128C
1/2"	1/2"	5/8"	3"	75A132C

FINISHER - BALL NOSE 4-FLUTE

CEM-DE4B

SOLID CARBIDE

Helix 30° / Double Ball End
Bright / TiAlN

CEM-DE4B end mills are solid carbide, 4-flute double-end ball nose tools designed for general-purpose milling. The ball nose geometry enables smooth contouring and profiling, while the rigid carbide construction delivers consistent performance, good surface finish, and extended tool life in steels, cast iron, and non-ferrous materials.



Best Material Application



STEEL NON-FERROUS CAST IRON

Best Material Application



STEEL STAINLESS CAST IRON

Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number	
Fractional	Decimal					Bright	TiAlN
1/16	.0625	1/8	1/8	1-1/2	4	C60305	C80305
3/32	.0938	1/8	3/16	1-1/2	4	C60306	C80306
1/8*	.1250	3/8	3/8	3	4	C60307	C80307
5/32*	.1562	3/8	7/16	3	4	C60308	C80308
3/16*	.1875	3/8	1/2	3	4	C60309	C80309
7/32*	.2188	3/8	9/16	3 1/2	4	C60310	C80310
1/4*	.2500	3/8	5/8	3 1/2	4	C60311	C80311
9/32*	.2812	3/8	11/16	3 1/2	4	C60312	C80312
5/16*	.3125	3/8	3/4	3 1/2	4	C60313	C80313
3/8*	.3750	3/8	3/4	3 1/2	4	C60314	C80314
7/16*	.4375	1/2	7/8	4	4	C60315	C80315
1/2*	.5000	1/2	1	4	4	C60316	C80316

*Weldon Shank Dia.; all others plain Shank Dia.

FINISHER - MINIATURE 2-FLUTE

CMCE-2 / CMCE-2AL

SOLID CARBIDE

Single End
Bright / AlCrN

- ▷ 30° right hand spiral-right hand cut
- ▷ Diameter tolerance: $\pm 0.0005''$

Best Material Application



Best Material Application



Size Decimal	Shank Dia.	Length of Cut	Fractional Overall Length	Description	Order Number	
					CMCE-2 Bright	CMCE-2AL AlCrN
0.005	1/8	0.0150	1-1/2	0.005 x 1/8 x 1-1/2	C76001	—
0.006	1/8	0.0180	1-1/2	0.006 x 1/8 x 1-1/2	C76002	—
0.007	1/8	0.0210	1-1/2	0.007 x 1/8 x 1-1/2	C76003	—
0.008	1/8	0.0240	1-1/2	0.008 x 1/8 x 1-1/2	C76004	—
0.009	1/8	0.0270	1-1/2	0.009 x 1/8 x 1-1/2	C76005	—
0.010	1/8	0.0300	1-1/2	0.010 x 1/8 x 1-1/2	C76006	—
0.011	1/8	0.0330	1-1/2	0.011 x 1/8 x 1-1/2	C76007	—
0.012	1/8	0.0360	1-1/2	0.012 x 1/8 x 1-1/2	C76008	—
0.013	1/8	0.0390	1-1/2	0.013 x 1/8 x 1-1/2	C76009	—
0.014	1/8	0.0420	1-1/2	0.014 x 1/8 x 1-1/2	C76010	—
0.015	1/8	0.0450	1-1/2	0.015 x 1/8 x 1-1/2	C76011	—
0.0156	1/8	0.0468	1-1/2	0.0156 x 1/8 x 1-1/2	C76012	—
0.018	1/8	0.0540	1-1/2	0.018 x 1/8 x 1-1/2	C76013	—
0.020	1/8	0.0600	1-1/2	0.020 x 1/8 x 1-1/2	C76014	—
0.023	1/8	0.0690	1-1/2	0.023 x 1/8 x 1-1/2	C76015	—
0.024	1/8	0.0720	1-1/2	0.024 x 1/8 x 1-1/2	C76016	—
0.025	1/8	0.0750	1-1/2	0.025 x 1/8 x 1-1/2	C76017	—
0.026	1/8	0.0780	1-1/2	0.026 x 1/8 x 1-1/2	C76018	—
0.029	1/8	0.0870	1-1/2	0.029 x 1/8 x 1-1/2	C76019	—
0.030	1/8	0.0900	1-1/2	0.030 x 1/8 x 1-1/2	C76020	—
0.031	1/8	0.0930	1-1/2	0.031 x 1/8 x 1-1/2	C76021	C76200
0.033	1/8	0.0990	1-1/2	0.033 x 1/8 x 1-1/2	C76022	C76201
0.035	1/8	0.1050	1-1/2	0.035 x 1/8 x 1-1/2	C76023	C76202
0.040	1/8	0.1200	1-1/2	0.040 x 1/8 x 1-1/2	C76024	C76203
0.045	1/8	0.1350	1-1/2	0.045 x 1/8 x 1-1/2	C76025	C76204
0.047	1/8	0.1410	1-1/2	0.047 x 1/8 x 1-1/2	C76026	C76205
0.050	1/8	0.1500	1-1/2	0.050 x 1/8 x 1-1/2	C76027	C76206
0.055	1/8	0.1650	1-1/2	0.055 x 1/8 x 1-1/2	C76028	C76207
0.060	1/8	0.1800	1-1/2	0.060 x 1/8 x 1-1/2	C76029	C76208
0.062	1/8	0.1875	1-1/2	0.062 x 1/8 x 1-1/2	C76030	C76209
0.064	1/8	0.1920	1-1/2	0.064 x 1/8 x 1-1/2	C76031	C76210
0.065	1/8	0.1950	1-1/2	0.065 x 1/8 x 1-1/2	C76032	C76211
0.070	1/8	0.2100	1-1/2	0.070 x 1/8 x 1-1/2	C76033	C76212
0.075	1/8	0.2250	1-1/2	0.075 x 1/8 x 1-1/2	C76034	C76213
0.078	1/8	0.2243	1-1/2	0.078 x 1/8 x 1-1/2	C76035	C76214
0.080	1/8	0.2400	1-1/2	0.080 x 1/8 x 1-1/2	C76036	C76215
0.085	1/8	0.2550	1-1/2	0.085 x 1/8 x 1-1/2	C76037	C76216
0.090	1/8	0.2700	1-1/2	0.090 x 1/8 x 1-1/2	C76038	C76217
0.093	1/8	0.2814	1-1/2	0.093 x 1/8 x 1-1/2	C76039	C76218
0.095	1/8	0.2850	1-1/2	0.095 x 1/8 x 1-1/2	C76040	C76219
0.100	1/8	0.3000	1-1/2	0.100 x 1/8 x 1-1/2	C76041	C76220
0.103	1/8	0.3090	1-1/2	0.103 x 1/8 x 1-1/2	C76042	C76221
0.120	1/8	0.3600	1-1/2	0.120 x 1/8 x 1-1/2	C76043	C76222

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FINISHER - MINIATURE 2-FLUTE

CMCE-2 / CMCE-2AL continued



Size		Shank Dia.	Length of Cut	Metric	Description	Order Number	
mm	Decimal			Overall Length		CMCE-2 Bright	CMCE-2AL AlCrN
.5mm	0.0197	1/8	0.0591	1-1/2	.5mm x 1/8 x 1-1/2	C76044	—
1.0mm	0.0394	1/8	0.1182	1-1/2	1.0mm x 1/8 x 1-1/2	C76045	C76223
1.25mm	0.0492	1/8	0.1476	1-1/2	1.25mm x 1/8 x 1-1/2	C76046	C76224
1.5mm	0.0591	1/8	0.1773	1-1/2	1.5mm x 1/8 x 1-1/2	C76047	C76225
1.6mm	0.0630	1/8	0.1890	1-1/2	1.6mm x 1/8 x 1-1/2	C76048	C76226
1.8mm	0.0709	1/8	0.2127	1-1/2	1.8mm x 1/8 x 1-1/2	C76049	C76227
2.0mm	0.0787	1/8	0.2361	1-1/2	2.0mm x 1/8 x 1-1/2	C76050	C76228
2.2mm	0.0866	1/8	0.2598	1-1/2	2.2mm x 1/8 x 1-1/2	C76051	C76229
2.5mm	0.0984	1/8	0.2952	1-1/2	2.5mm x 1/8 x 1-1/2	C76052	C76230
2.8mm	0.1102	1/8	0.3306	1-1/2	2.8mm x 1/8 x 1-1/2	C76053	C76231
3.0mm	0.1181	1/8	0.3543	1-1/2	3.0mm x 1/8 x 1-1/2	C76054	C76232
3.5mm	0.1378	3/16	0.4134	2	3.5mm x 3/16 x 2	C76055	C76233
4.5mm	0.1772	3/16	0.5316	2	4.5mm x 3/16 x 2	C76056	C76234

FINISHER 2-FLUTE

CEM-SE2

SOLID CARBIDE

Helix 30° / Single End
Bright / TiAlN

Best Material Application

Bright



STEEL



NON-FERROUS



CAST IRON

Best Material Application

TiAlN



STEEL



STAINLESS



CAST IRON

Size		Shank Dia.	Length of Cut	Fractional	No. of Flutes	Corner Radius	Order Number	
Fractional	Decimal			Overall Length			Bright	TiAlN
1/32	.0312	1/8	1/8	1-1/2	2	0.000	C61001	C81001
3/64	.0469	1/8	1/8	1-1/2	2	0.000	C61002	C81002
1/16	.0625	1/8	1/8	1-1/2	2	0.000	C61003	C81003
1/16	.0625	1/8	3/16	1-1/2	2	0.000	C61004	C81004
5/64	.0781	1/8	3/16	1-1/2	2	0.000	C61005	C81005
3/32	.0938	1/8	3/16	1-1/2	2	0.000	C61006	C81006
3/32	.0938	1/8	3/8	1-1/2	2	0.000	C61007	C81007
7/64	.1094	1/8	3/8	1-1/2	2	0.000	C61008	C81008
1/8	.1250	1/8	1/4	1-1/2	2	0.000	C61009	C81009
1/8	.1250	1/8	1/2	1-1/2	2	0.000	C61010	C81010
1/8	.1250	1/8	1/2	1-1/2	2	0.010	C61011	C81011
1/8	.1250	1/8	3/4	2-1/4	2	0.000	C61012	C81012
1/8	.1250	1/8	1	3	2	0.000	C61013	C81013
9/64	.1406	3/16	9/16	2	2	0.000	C61014	C81014
5/32	.1562	3/16	9/16	2	2	0.000	C61015	C81015
11/64	.1719	3/16	5/8	2	2	0.000	C61016	C81016
3/16	.1875	3/16	5/16	2	2	0.000	C61017	C81017
3/16	.1875	3/16	5/8	2	2	0.000	C61018	C81018
3/16	.1875	3/16	5/8	2	2	0.010	C61019	C81019
3/16	.1875	3/16	3/4	2-1/2	2	0.000	C61020	C81020
3/16	.1875	3/16	1-1/8	3	2	0.000	C61021	C81021
13/64	.2031	1/4	5/8	2-1/2	2	0.000	C61022	C81022
7/32	.2188	1/4	5/8	2-1/2	2	0.000	C61023	C81023

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FINISHER 2-FLUTE

CEM-SE2 continued



05

END MILLS

CLEVELAND | WALTER

Size		Shank Dia.	Length of Cut	Fractional			Corner Radius	Order Number	
Fractional	Decimal			Overall Length	No. of Flutes			Bright	TiAlN
15/64	.2344	1/4	3/4	2-1/2	2		0.000	C61024	C81024
1/4	.2500	1/4	1/2	2	2		0.000	C61025	C81025
1/4	.2500	1/4	3/4	2-1/2	2		0.000	C61026	C81026
1/4	.2500	1/4	3/4	2-1/2	2		0.020	C61027	C81027
1/4	.2500	1/4	3/4	2-1/2	2		0.030	C61028	C81028
1/4	.2500	1/4	1-1/8	3	2		0.000	C61029	C81029
1/4	.2500	1/4	1-1/2	4	2		0.000	C61030	C81030
1/4	.2500	1/4	1-1/2	6	2		0.000	C61031	C81031
17/64	.2656	5/16	7/8	2-1/2	2		0.000	C61032	C81032
9/32	.2812	5/16	7/8	2-1/2	2		0.000	C61033	C81033
5/16	.3125	5/16	1/2	2	2		0.000	C61034	C81034
5/16	.3125	5/16	7/8	2-1/2	2		0.000	C61035	C81035
5/16	.3125	5/16	13/16	2-1/2	2		0.020	C61036	C81036
5/16	.3125	5/16	13/16	2-1/2	2		0.030	C61037	C81037
5/16	.3125	5/16	1-1/8	3	2		0.000	C61038	C81038
5/16	.3125	5/16	1-5/8	4	2		0.000	C61039	C81039
3/8	.3750	3/8	5/8	2	2		0.000	C61040	C81040
3/8	.3750	3/8	1	2-1/2	2		0.000	C61041	C81041
3/8	.3750	3/8	1	2-1/2	2		0.020	C61042	C81042
3/8	.3750	3/8	1	2-1/2	2		0.030	C61043	C81043
3/8	.3750	3/8	1	2-1/2	2		0.045	C61044	C81044
3/8	.3750	3/8	1-1/8	3	2		0.000	C61045	C81045
3/8	.3750	3/8	1 3/4	4	2		0.000	C61046	C81046
3/8	.3750	3/8	1-1/2	6	2		0.000	C61047	C81047
7/16	.4375	7/16	5/8	2-1/2	2		0.000	C61048	C81048
7/16	.4375	7/16	1	2-1/2	2		0.000	C61049	C81049
7/16	.4375	7/16	2	4	2		0.000	C61050	C81050
7/16	.4375	7/16	3	6	2		0.000	C61051	C81051
1/2	.5000	1/2	5/8	2-1/2	2		0.000	C61052	C81052
1/2	.5000	1/2	1	3	2		0.000	C61053	C81053
1/2	.5000	1/2	1	3	2		0.030	C61054	C81054
1/2	.5000	1/2	1	3	2		0.060	C61055	C81055
1/2	.5000	1/2	1	3	2		0.090	C61056	C81056
1/2	.5000	1/2	2	4	2		0.000	C61057	C81057
1/2	.5000	1/2	1-1/2	6	2		0.000	C61058	C81058
1/2	.5000	1/2	3	6	2		0.000	C61059	C81059
9/16	.5625	9/16	1-1/4	3 1/2	2		0.000	C61060	C81060
5/8	.6250	5/8	3/4	3	2		0.000	C61061	C81061
5/8	.6250	5/8	1-1/4	3 1/2	2		0.000	C61062	C81062
5/8	.6250	5/8	1-1/4	3 1/2	2		0.030	C61063	C81063
5/8	.6250	5/8	1-1/4	3 1/2	2		0.060	C61064	C81064
5/8	.6250	5/8	1-1/4	3 1/2	2		0.090	C61065	C81065
5/8	.6250	5/8	2-1/4	5	2		0.000	C61066	C81066
5/8	.6250	5/8	3	6	2		0.000	C61067	C81067
3/4	.7500	3/4	1	3	2		0.000	C61068	C81068
3/4	.7500	3/4	1-1/2	4	2		0.000	C61069	C81069
3/4	.7500	3/4	1-1/2	4	2		0.030	C61070	C81070
3/4	.7500	3/4	1-1/2	4	2		0.060	C61071	C81071
3/4	.7500	3/4	1-1/2	4	2		0.090	C61072	C81072
3/4	.7500	3/4	2-1/4	5	2		0.000	C61073	C81073
3/4	.7500	3/4	3	6	2		0.000	C61074	C81074
7/8	.8750	7/8	1-1/2	4	2		0.000	C61075	C81075
7/8	.8750	7/8	2-1/4	5	2		0.000	C61076	C81076
7/8	.8750	7/8	3	6	2		0.000	C61077	C81077
1	1.0000	1	1-1/2	4	2		0.000	C61078	C81078
1	1.0000	1	1-1/2	4	2		0.030	C61079	C81079
1	1.0000	1	1-1/2	4	2		0.060	C61080	C81080
1	1.0000	1	1-1/2	4	2		0.090	C61081	C81081
1	1.0000	1	2-1/4	5	2		0.000	C61082	C81082
1	1.0000	1	3	6	2		0.000	C61083	C81083

FINISHER 2-FLUTE

7200 SERIES

SOLID CARBIDE

Regular Length / Center Cutting
Single End / Bright

Best Material Application



The 7200 Series end mills are solid carbide, single-end square-end tools engineered for rigidity, accuracy, and dependable tool life in general-purpose milling. The solid carbide construction delivers excellent wear resistance and stability, making the 7200 Series ideal for slotting, profiling, and finishing operations in a wide range of materials.

- ▷ Solid carbide construction for high rigidity and long tool life
- ▷ Single-end, square-end geometry for accurate slotting and profiling
- ▷ Stable cutting action for improved size control and surface finish
- ▷ Excellent wear resistance in continuous milling operations
- ▷ Suitable for steel, alloy steel, cast iron, and non-ferrous materials



Fractional				
Size	Shank Dia.	Length of Cut	Overall Length	Order Number
1/32"	1/8"	5/64"	1-1/2"	72A102C
3/64"	1/8"	7/64"	1-1/2"	72A103C
1/16"	1/8"	3/16"	1-1/2"	72A104C
5/64"	1/8"	3/16"	1-1/2"	72A105C
3/32"	1/8"	9/32"	1-1/2"	72A106C
7/64"	1/8"	3/8"	1-1/2"	72A107C
1/8"	1/8"	3/8"	1-1/2"	72A108C
9/64"	3/16"	1/2"	2"	72A109C
5/32"	3/16"	1/2"	2"	72A110C
11/64"	3/16"	5/8"	2"	72A111C
3/16"	3/16"	5/8"	2"	72A112C
7/32"	1/4"	5/8"	2-1/2"	72A114C
1/4"	1/4"	3/4"	2-1/2"	72A116C
9/32"	5/16"	3/4"	2-1/2"	72A118C
5/16"	5/16"	13/16"	2-1/2"	72A120C
11/32"	3/8"	1"	2-1/2"	72A122C
3/8"	3/8"	1"	2-1/2"	72A124C
13/32"	7/16"	1"	2-3/4"	72A126C
7/16"	7/16"	1"	2-3/4"	72A128C
15/32"	1/2"	1"	3"	72A130C
1/2"	1/2"	1"	3"	72A132C
9/16"	9/16"	1-1/8"	3-1/2"	72A136C
5/8"	5/8"	1-1/4"	3-1/2"	72A140C
11/16"	3/4"	1-3/8"	4"	72A144C
3/4"	3/4"	1-1/2"	4"	72A148C
7/8"	7/8"	1-1/2"	4"	72A156C
1"	1"	1-1/2"	4"	72A164C

7250 SERIES

SOLID CARBIDE

Extra Long Length /
Center Cutting / Single End / Bright

Best Material Application



Fractional				
Size	Shank Dia.	Length of Cut	Overall Length	Order Number
1/8"	1/8"	1"	3"	725A108C
3/16"	3/16"	1-1/8"	3"	725A112C
1/4"	1/4"	1-1/2"	4"	725A116C
5/16"	5/16"	1-5/8"	4"	725A120C
3/8"	3/8"	1-3/4"	4"	725A124C
7/16"	7/16"	3"	6"	725A128C
1/2"	1/2"	3"	6"	725A132C
5/8"	5/8"	3"	6"	725A140C
3/4"	3/4"	3"	6"	725A148C
1"	1"	3"	6"	725A164C

BALL NOSE 2-FLUTE

CEM-SE2B

SOLID CARBIDE

Helix 30° / Single Ball End
Bright / TiAIN



Best Material Application



STEEL NON-FERROUS CAST IRON

Best Material Application



STEEL STAINLESS CAST IRON

Size		Shank Dia.	Fractional		No. of Flutes	Order Number	
Fractional	Decimal		Length of Cut	Overall Length		Bright	TiAIN
1/32	.0312	1/8	1/8	1-1/2	2	C60914	C80914
3/64	.0469	1/8	1/8	1-1/2	2	C60915	C80915
1/16	.0625	1/8	1/8	1-1/2	2	C60916	C80916
1/16	.0625	1/8	3/16	1-1/2	2	C60917	C80917
5/64	.0781	1/8	3/16	1-1/2	2	C60918	C80918
3/32	.0938	1/8	3/8	1-1/2	2	C60919	C80919
7/64	.1094	1/8	3/8	1-1/2	2	C60920	C80920
1/8	.1250	1/8	1/4	1-1/2	2	C60921	C80921
1/8	.1250	1/8	1/2	1-1/2	2	C60922	C80922
1/8	.1250	1/8	3/4	2-1/4	2	C60923	C80923
1/8	.1250	1/8	1	3	2	C60924	C80924
9/64	.1406	3/16	9/16	2	2	C60925	C80925
5/32	.1562	3/16	9/16	2	2	C60926	C80926
11/64	.1719	3/16	5/8	2	2	C60927	C80927
3/16	.1875	3/16	5/16	2	2	C60928	C80928
3/16	.1875	3/16	5/8	2	2	C60929	C80929
3/16	.1875	3/16	3/4	2-1/2	2	C60930	C80930
3/16	.1875	3/16	1-1/8	3	2	C60931	C80931
13/64	.2031	1/4	5/8	2-1/2	2	C60932	C80932
7/32	.2188	1/4	5/8	2-1/2	2	C60933	C80933
15/64	.2344	1/4	3/4	2-1/2	2	C60934	C80934
1/4	.2500	1/4	1/2	2	2	C60935	C80935
1/4	.2500	1/4	3/4	2-1/2	2	C60936	C80936
1/4	.2500	1/4	1-1/8	3	2	C60937	C80937
1/4	.2500	1/4	1-1/2	4	2	C60938	C80938
1/4	.2500	1/4	1-1/2	6	2	C60939	C80939
17/64	.2656	5/16	7/8	2-1/2	2	C60940	C80940
9/32	.2812	5/16	7/8	2-1/2	2	C60941	C80941
5/16	.3125	5/16	1/2	2	2	C60942	C80942
5/16	.3125	5/16	7/8	2-1/2	2	C60943	C80943
5/16	.3125	5/16	1-1/8	3	2	C60944	C80944
5/16	.3125	5/16	1-5/8	4	2	C60945	C80945
3/8	.3750	3/8	5/8	2	2	C60946	C80946
3/8	.3750	3/8	1	2-1/2	2	C60947	C80947
3/8	.3750	3/8	1-1/8	3	2	C60948	C80948
3/8	.3750	3/8	1 3/4	4	2	C60949	C80949
3/8	.3750	3/8	1-1/2	6	2	C60950	C80950
7/16	.4375	7/16	5/8	2-1/2	2	C60951	C80951
7/16	.4375	7/16	1	2-1/2	2	C60952	C80952
7/16	.4375	7/16	2	4	2	C60953	C80953
7/16	.4375	7/16	3	6	2	C60954	C80954
1/2	.5000	1/2	5/8	2-1/2	2	C60955	C80955
1/2	.5000	1/2	1	3	2	C60956	C80956
1/2	.5000	1/2	2	4	2	C60957	C80957
1/2	.5000	1/2	3	6	2	C60958	C80958
1/2	.5000	1/2	1-1/2	6	2	C60959	C80959
9/16	.5625	9/16	1-1/4	3 1/2	2	C60960	C80960
5/8	.6250	5/8	3/4	3	2	C60961	C80961
5/8	.6250	5/8	1-1/4	3 1/2	2	C60962	C80962
5/8	.6250	5/8	2-1/4	5	2	C60963	C80963
5/8	.6250	5/8	3	6	2	C60964	C80964
3/4	.7500	3/4	1	3	2	C60965	C80965
3/4	.7500	3/4	1-1/2	4	2	C60966	C80966
3/4	.7500	3/4	2-1/4	5	2	C60967	C80967
3/4	.7500	3/4	3	6	2	C60968	C80968
7/8	.8750	7/8	1-1/2	4	2	C60969	C80969
7/8	.8750	7/8	2-1/4	5	2	C60970	C80970
7/8	.8750	7/8	3	6	2	C60971	C80971
1	1.0000	1	1-1/2	4	2	C60972	C80972
1	1.0000	1	2-1/4	5	2	C60973	C80973
1	1.0000	1	3	6	2	C60974	C80974

05

END MILLS

CLEVELAND | WALTER

BALL NOSE 2-FLUTE

7600 SERIES

SOLID CARBIDE

Regular Length / Center Cutting
Single End / Bright

Best Material Application



The 7600 Series end mills are heavy-duty solid carbide, single-end ball nose end mills designed for profiling, contouring, and 3-D milling applications. Featuring a center-cutting geometry, the 7600 Series delivers smooth surface finishes, excellent chip evacuation, and long tool life in demanding milling operations.

- ▷ Solid carbide construction for maximum rigidity, wear resistance, and tool life
- ▷ Ball nose geometry ideal for contouring, profiling, and 3-D tool paths
- ▷ Regular length, single-end design for precision machining in steels and non-ferrous materials



7650 SERIES

SOLID CARBIDE

Extra Long Length /
Center Cutting / Single End / Bright

Best Material Application



Fractional				
Size	Shank Dia.	Length of Cut	Overall Length	Order Number
1/8"	1/8"	1"	3"	765A108C
3/16"	3/16"	1-1/8"	3"	765A112C
1/4"	1/4"	1-1/2"	4"	765A116C
5/16"	5/16"	1-5/8"	4"	765A120C
3/8"	3/8"	1-3/4"	4"	765A124C
7/16"	7/16"	3"	6"	765A128C
1/2"	1/2"	3"	6"	765A132C
5/8"	5/8"	3"	6"	765A140C
3/4"	3/4"	3"	6"	765A148C
1"	1"	3"	6"	765A164C

Fractional				
Size	Shank Dia.	Length of Cut	Overall Length	Order Number
1/32"	1/8"	5/64"	1-1/2"	76A102C
3/64"	1/8"	7/64"	1-1/2"	76A103C
1/16"	1/8"	3/16"	1-1/2"	76A104C
5/64"	1/8"	3/16"	1-1/2"	76A105C
3/32"	1/8"	9/32"	1-1/2"	76A106C
7/64"	1/8"	3/8"	1-1/2"	76A107C
1/8"	1/8"	3/8"	1-1/2"	76A108C
9/64"	3/16"	1/2"	2"	76A109C
5/32"	3/16"	1/2"	2"	76A110C
11/64"	3/16"	5/8"	2"	76A111C
3/16"	3/16"	5/8"	2"	76A112C
7/32"	1/4"	5/8"	2-1/2"	76A114C
1/4"	1/4"	3/4"	2-1/2"	76A116C
9/32"	5/16"	3/4"	2-1/2"	76A118C
5/16"	5/16"	1"	2-1/2"	76A120C
11/32"	3/8"	1"	2-1/2"	76A122C
3/8"	3/8"	1"	2-1/2"	76A124C
13/32"	7/16"	1"	2-3/4"	76A126C
7/16"	7/16"	1"	2-3/4"	76A128C
15/32"	1/2"	1"	3"	76A130C
1/2"	1/2"	1"	3"	76A132C
9/16"	9/16"	1-1/8"	3-1/2"	76A136C
5/8"	5/8"	1-1/4"	3-1/2"	76A140C
11/16"	3/4"	1-3/8"	4"	76A144C
3/4"	3/4"	1-1/2"	4"	76A148C
7/8"	7/8"	1-1/2"	4"	76A156C
1"	1"	1-1/2"	4"	76A164C

FINISHER 3-FLUTE

CEM-SE3

SOLID CARBIDE

Helix 30° / Single End
Bright / TiAlN



Best Material Application



STEEL NON-FERROUS CAST IRON

Best Material Application



STEEL STAINLESS CAST IRON

05
END MILLS

CLEVELAND WALTER

Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Corner Radius	Order Number	
Fractional	Decimal						Bright	TiAlN
1/16	.0625	1/8	3/16	1-1/2	3	0.000	C61657	C81657
5/64	.0781	1/8	3/16	1-1/2	3	0.000	C61658	C81658
3/32	.0938	1/8	3/8	1-1/2	3	0.000	C61659	C81659
7/64	.1094	1/8	3/8	1-1/2	3	0.000	C61660	C81660
1/8	.1250	1/8	1/2	1-1/2	3	0.000	C61661	C81661
1/8	.1250	1/8	1/2	1-1/2	3	0.010	C61662	C81662
9/64	.1406	3/16	9/16	2	3	0.000	C61663	C81663
5/32	.1562	3/16	9/16	2	3	0.000	C61664	C81664
11/64	.1719	3/16	5/8	2	3	0.000	C61665	C81665
3/16	.1875	3/16	5/8	2	3	0.000	C61666	C81666
3/16	.1875	3/16	5/8	2	3	0.010	C61667	C81667
13/64	.2031	1/4	5/8	2-1/2	3	0.000	C61668	C81668
7/32	.2188	1/4	5/8	2-1/2	3	0.000	C61669	C81669
15/64	.2344	1/4	3/4	2-1/2	3	0.000	C61670	C81670
1/4	.2500	1/4	3/4	2-1/2	3	0.000	C61671	C81671
1/4	.2500	1/4	3/4	2-1/2	3	0.020	C61672	C81672
1/4	.2500	1/4	3/4	2-1/2	3	0.030	C61673	C81673
17/64	.2656	5/16	7/8	2-1/2	3	0.000	C61674	C81674
9/32	.2812	5/16	7/8	2-1/2	3	0.000	C61675	C81675
5/16	.3125	5/16	13/16	2-1/2	3	0.000	C61676	C81676
5/16	.3125	5/16	13/16	2-1/2	3	0.020	C61677	C81677
5/16	.3125	5/16	13/16	2-1/2	3	0.030	C61678	C81678
3/8	.3750	3/8	7/8	2-1/2	3	0.000	C61679	C81679
3/8	.3750	3/8	7/8	2-1/2	3	0.020	C61680	C81680
3/8	.3750	3/8	7/8	2-1/2	3	0.030	C61681	C81681
3/8	.3750	3/8	7/8	2-1/2	3	0.045	C61682	C81682
7/16	.4375	7/16	7/8	2-1/2	3	0.000	C61683	C81683
1/2	.5000	1/2	1	3	3	0.000	C61684	C81684
1/2	.5000	1/2	1	3	3	0.030	C61685	C81685
1/2	.5000	1/2	1	3	3	0.060	C61686	C81686
1/2	.5000	1/2	1	3	3	0.090	C61687	C81687
9/16	.5625	9/16	1-1/4	3 1/2	3	0.000	C61688	C81688
5/8	.6250	5/8	1-1/4	3 1/2	3	0.000	C61689	C81689
5/8	.6250	5/8	1-1/4	3 1/2	3	0.030	C61690	C81690
5/8	.6250	5/8	1-1/4	3 1/2	3	0.060	C61691	C81691
5/8	.6250	5/8	1-1/4	3 1/2	3	0.090	C61692	C81692
3/4	.7500	3/4	1-1/2	4	3	0.000	C61693	C81693
3/4	.7500	3/4	1-1/2	4	3	0.030	C61694	C81694
3/4	.7500	3/4	1-1/2	4	3	0.060	C61695	C81695
3/4	.7500	3/4	1-1/2	4	3	0.090	C61696	C81696
7/8	.8750	7/8	1-1/2	4	3	0.000	C61697	C81697
1	1.0000	1	1-1/2	4	3	0.000	C61698	C81698
1	1.0000	1	1-1/2	4	3	0.030	C61699	C81699
1	1.0000	1	1-1/2	4	3	0.060	C61700	C81700
1	1.0000	1	1-1/2	4	3	0.090	C61701	C81701

FINISHER - MINIATURE 4-FLUTE

CMCE-4 / CMCE-4AL

SOLID CARBIDE

Single End
Bright / AICrN

▷ 30° right hand spiral-right hand cut

▷ Diameter tolerance: ± 0.0005 "

Size Decimal	Shank Dia.	Length of Cut	Fractional		Description	Order Number	
			Overall Length			CMCE-4 Bright	CMCE-4AL AICrN
0.0100	1/8	0.0300	1-1/2		0.0100x1/8x1-1/2	C76057	—
0.0110	1/8	0.0330	1-1/2		0.0110x1/8x1-1/2	C76058	—
0.0120	1/8	0.0360	1-1/2		0.0120x1/8x1-1/2	C76059	—
0.0130	1/8	0.0390	1-1/2		0.0130x1/8x1-1/2	C76060	—
0.0140	1/8	0.0420	1-1/2		0.0140x1/8x1-1/2	C76061	—
0.0150	1/8	0.0450	1-1/2		0.0150x1/8x1-1/2	C76062	—
0.0200	1/8	0.0600	1-1/2		0.0200x1/8x1-1/2	C76063	—
0.0250	1/8	0.0750	1-1/2		0.0250x1/8x1-1/2	C76064	—
0.0260	1/8	0.0780	1-1/2		0.0260x1/8x1-1/2	C76065	—
0.0300	1/8	0.0900	1-1/2		0.0300x1/8x1-1/2	C76066	—
0.0312	1/8	0.0930	1-1/2		0.0312x1/8x1-1/2	C76067	C76235
0.0330	1/8	0.0990	1-1/2		0.0330x1/8x1-1/2	C76068	C76236
0.0350	1/8	0.1050	1-1/2		0.0350x1/8x1-1/2	C76069	C76237
0.0400	1/8	0.1200	1-1/2		0.0400x1/8x1-1/2	C76070	C76238
0.0450	1/8	0.1350	1-1/2		0.0450x1/8x1-1/2	C76071	C76239
0.0470	1/8	0.1410	1-1/2		0.0470x1/8x1-1/2	C76072	C76240
0.0500	1/8	0.1500	1-1/2		0.0500x1/8x1-1/2	C76073	C76241
0.0550	1/8	0.1650	1-1/2		0.0550x1/8x1-1/2	C76074	C76242
0.0600	1/8	0.180	1-1/2		0.0600x1/8x1-1/2	C76075	C76243
0.0625	1/8	0.1875	1-1/2		0.0625x1/8x1-1/2	C76076	C76244
0.0640	1/8	0.1920	1-1/2		0.0640x1/8x1-1/2	C76077	C76245
0.0650	1/8	0.1950	1-1/2		0.0650x1/8x1-1/2	C76078	C76246
0.0700	1/8	0.2100	1-1/2		0.0700x1/8x1-1/2	C76079	C76247
0.0750	1/8	0.2250	1-1/2		0.0750x1/8x1-1/2	C76080	C76248
0.0780	1/8	0.2343	1-1/2		0.0780x1/8x1-1/2	C76081	C76249
0.0800	1/8	0.2400	1-1/2		0.0800x1/8x1-1/2	C76082	C76250
0.0850	1/8	0.2550	1-1/2		0.0850x1/8x1-1/2	C76083	C76251
0.0900	1/8	0.2700	1-1/2		0.0900x1/8x1-1/2	C76084	C76252
0.0938	1/8	0.2814	1-1/2		0.0938x1/8x1-1/2	C76085	C76253
0.0950	1/8	0.2850	1-1/2		0.0950x1/8x1-1/2	C76086	C76254
0.1000	1/8	0.3000	1-1/2		0.1000x1/8x1-1/2	C76087	C76255
0.1030	1/8	0.3090	1-1/2		0.1030x1/8x1-1/2	C76088	C76256
0.1200	1/8	0.3600	1-1/2		0.1200x1/8x1-1/2	C76089	C76257

Size		Shank Dia.	Length of Cut	Overall Length	Description	Order Number	
mm	Decimal					CMCE-4 Bright	CMCE-4AL AICrN
.5mm	0.0197	1/8	0.0591	1-1/2	.5mmx1/8x1-1/2	C76090	—
1.0mm	0.0394	1/8	0.1182	1-1/2	1.0mmx1/8x1-1/2	C76091	C76258
1.25mm	0.0492	1/8	0.1476	1-1/2	1.25mmx1/8x1-1/2	C76092	C76259
1.5mm	0.0591	1/8	0.1773	1-1/2	1.5mmx1/8x1-1/2	C76093	C76260
1.6mm	0.0630	1/8	0.1890	1-1/2	1.6mmx1/8x1-1/2	C76094	C76261
1.8mm	0.0709	1/8	0.2127	1-1/2	1.8mmx1/8x1-1/2	C76095	C76262
2.0mm	0.0787	1/8	0.2361	1-1/2	2.0mmx1/8x1-1/2	C76096	C76263
2.2mm	0.0866	1/8	0.2598	1-1/2	2.2mmx1/8x1-1/2	C76097	C76264
2.5mm	0.0984	1/8	0.2952	1-1/2	2.5mmx1/8x1-1/2	C76098	C76265
2.8mm	0.1102	1/8	0.3306	1-1/2	2.8mmx1/8x1-1/2	C76099	C76266
3.0mm	0.1181	1/8	0.3543	1-1/2	3.0mmx1/8x1-1/2	C76100	C76267
3.5mm	0.1378	3/16	0.1875	2	3.5mmx3/16x2	C76101	C76268
4.5mm	0.1772	3/16	0.5316	2	4.5mmx3/16x2	C76102	C76269

FINISHER 4-FLUTE

CEM-SE4

SOLID CARBIDE

Helix 30° / Single End

Bright / TiAlN

Cleveland CEM-SE4 general-purpose 4-flute carbide end mills are built for rigid, low-deflection profiling and finishing, delivering good surface finishes and excellent size control, especially where a stiffer tool is preferred.



Best Material Application



STEEL NON-FERROUS CAST IRON

Best Material Application



STEEL STAINLESS CAST IRON

Fractional									
Size			Shank dia.	Length of Cut	Overall Length	No. of Flutes	Corner Radius	Order Number	
Fractional	Decimal	mm						Bright	TiAlN
1/32	.0312		1/8	1/16	1-1/2	4	0.000	C61805	C81805
1/32	.0312		1/8	1/8	1-1/2	4	0.000	C61806	C81806
	.0394	1.00	3	3.0	38	4	0.000	C98215	C98240
3/64	.0469		1/8	1/8	1-1/2	4	0.000	C61807	C81807
	.0591	1.50	3	5.0	38	4	0.000	C98216	C98241
1/16	.0625		1/8	1/8	1-1/2	4	0.000	C61808	C81808
1/16	.0625		1/8	1/4	1-1/2	4	0.000	C61809	C81809
1/16	.0625		1/8	1/4	1-1/2	4	0.010	C61810	C81810
5/64	.0781		1/8	1/4	1-1/2	4	0.000	C61811	C81811
	.0788	2.00	3	6.0	38	4	0.000	C98217	C98242
3/32	.0938		1/8	3/16	1-1/2	4	0.000	C61812	C81812
3/32	.0938		1/8	3/8	1-1/2	4	0.000	C61813	C81813
3/32	.0938		1/8	3/8	1-1/2	4	0.010	C61814	C81814
3/32	.0938		1/8	3/8	1-1/2	4	0.020	C61815	C81815
	.0985	2.50	3	7.0	38	4	0.000	C98218	C98243
7/64	.1094		1/8	1/4	1-1/2	4	0.000	C61816	C81816
7/64	.1094		1/8	3/8	1-1/2	4	0.000	C61817	C81817
	.1182	3.00	3	12.0	38	4	0.000	C98219	C98244
1/8	.1250		1/8	1/4	1-1/2	4	0.000	C61818	C81818
1/8	.1250		1/8	1/2	1-1/2	4	0.000	C61819	C81819
1/8	.1250		1/8	1/2	1-1/2	4	0.010	C61820	C81820
1/8	.1250		1/8	1/2	1-1/2	4	0.015	C61821	C81821
1/8	.1250		1/8	1/2	1-1/2	4	0.020	C61822	C81822
1/8	.1250		1/8	3/4	2-1/4	4	0.000	C61824	C81824
1/8	.1250		1/8	1	3	4	0.000	C61825	C81825
	.1378	3.50	4	12.0	50	4	0.000	C98220	C98245
9/64	.1406		3/16	9/16	2	4	0.000	C61827	C81827
5/32	.1562		3/16	5/16	2	4	0.000	C61828	C81828
5/32	.1562		3/16	9/16	2	4	0.000	C61829	C81829
	.1575	4.00	4	14.0	50	4	0.000	C98221	C98246
11/64	.1719		3/16	5/8	2	4	0.000	C61830	C81830
	.1772	4.50	5	14.0	50	4	0.000	C98222	C98247
3/16	.1875		3/16	5/16	2	4	0.000	C61831	C81831
3/16	.1875		3/16	5/8	2	4	0.000	C61832	C81832
3/16	.1875		3/16	5/8	2	4	0.010	C61833	C81833
3/16	.1875		3/16	5/8	2	4	0.015	C61834	C81834
3/16	.1875		3/16	5/8	2	4	0.020	C61835	C81835
3/16	.1875		3/16	5/8	2	4	0.030	C61836	C81836
3/16	.1875		3/16	3/4	2-1/2	4	0.000	C61837	C81837
3/16	.1875		3/16	1	3	4	0.000	C61838	C81838
3/16	.1875		3/16	1	3	4	0.045	C61839	C81839
3/16	.1875		3/16	1-1/8	3	4	0.000	C61840	C81840
3/16	.1875		3/16	1	4	4	0.000	C61841	C81841
3/16	.1875		3/16	1	4	4	0.045	C61842	C81842

continued on next page

FINISHER 4-FLUTE

CEM-SE4 continued



Fractional									
Size			Shank dia.	Length of Cut	Overall Length	No. of Flutes	Corner Radius	Order Number	
Fractional	Decimal	mm						Bright	TiAlN
	.1969	5.00	5	16.0	50	4	0.000	C98223	C98248
13/64	.2031		1/4	5/8	2-1/2	4	0.000	C61843	C81843
	.2166	5.50	6	16.0	50	4	0.000	C98224	C98249
7/32	.2188		1/4	5/8	2-1/2	4	0.000	C61844	C81844
15/64	.2344		1/4	3/4	2-1/2	4	0.000	C61845	C81845
	.2363	6.00	6	19.0	50	4	0.000	C98225	C98250
1/4	.2500		1/4	1/2	2	4	0.000	C61846	C81846
1/4	.2500		1/4	3/4	2-1/2	4	0.000	C61847	C81847
1/4	.2500		1/4	3/4	2-1/2	4	0.010	C61848	C81848
1/4	.2500		1/4	3/4	2-1/2	4	0.015	C61849	C81849
1/4	.2500		1/4	3/4	2-1/2	4	0.020	C61850	C81850
1/4	.2500		1/4	3/4	2-1/2	4	0.030	C61851	C81851
1/4	.2500		1/4	3/4	2-1/2	4	0.045	C61852	C81852
1/4	.2500		1/4	3/4	2-1/2	4	0.060	C61853	C81853
1/4	.2500		1/4	1-1/8	3	4	0.000	C61854	C81854
1/4	.2500		1/4	1-1/2	4	4	0.000	C61855	C81855
1/4	.2500		1/4	1-1/2	6	4	0.000	C61856	C81856
	.2560	6.50	8	19.0	63	4	0.000	C98226	C98251
17/64	.2656		5/16	7/8	2-1/2	4	0.000	C61857	C81857
	.2756	7.00	8	19.0	63	4	0.000	C98227	C98252
9/32	.2812		5/16	7/8	2-1/2	4	0.000	C61858	C81858
	.2953	7.50	8	19.0	63	4	0.000	C98228	C98253
19/64	.2969		5/16	7/8	2-1/2	4	0.000	C61859	C81859
5/16	.3125		5/16	1/2	2	4	0.000	C61860	C81860
5/16	.3125		5/16	7/8	2-1/2	4	0.000	C61861	C81861
5/16	.3125		5/16	13/16	2-1/2	4	0.020	C61862	C81862
5/16	.3125		5/16	13/16	2-1/2	4	0.030	C61863	C81863
5/16	.3125		5/16	1	4	4	0.000	C61864	C81864
5/16	.3125		5/16	1-1/8	3	4	0.000	C61865	C81865
5/16	.3125		5/16	1-5/8	4	4	0.000	C61866	C81866
	.3150	8.00	8	19.0	63	4	0.000	C98229	C98254
21/64	.3281		3/8	7/8	2-1/2	4	0.000	C61867	C81867
11/32	.3438		3/8	7/8	2-1/2	4	0.000	C61868	C81868
	.3544	9.00	10	22.0	70	4	0.000	C98230	C98255
23/64	.3594		3/8	7/8	2-1/2	4	0.000	C61869	C81869
3/8	.3750		3/8	5/8	2	4	0.000	C61870	C81870
3/8	.3750		3/8	1	2-1/2	4	0.000	C61871	C81871
3/8	.3750		3/8	1	2-1/2	4	0.010	C61872	C81872
3/8	.3750		3/8	1	2-1/2	4	0.015	C61873	C81873
3/8	.3750		3/8	1	2-1/2	4	0.020	C61874	C81874
3/8	.3750		3/8	1	2-1/2	4	0.030	C61875	C81875
3/8	.3750		3/8	1	2-1/2	4	0.045	C61876	C81876
3/8	.3750		3/8	1	2-1/2	4	0.060	C61877	C81877
3/8	.3750		3/8	1	4	4	0.000	C61879	C81879
3/8	.3750		3/8	1	4	4	0.020	C61880	C81880
3/8	.3750		3/8	1-1/8	3	4	0.000	C61878	C81878
3/8	.3750		3/8	1 3/4	4	4	0.000	C61881	C81881
3/8	.3750		3/8	1-1/2	6	4	0.000	C61882	C81882
25/64	.3906		7/16	7/8	2-1/2	4	0.000	C61883	C81883
	.3938	10.00	10	22.0	70	4	0.000	C98231	C98256
13/32	.4062		7/16	7/8	2-1/2	4	0.000	C61884	C81884
27/64	.4218		7/16	7/8	2-1/2	4	0.000	C61885	C81885
	.4331	11.00	11	25.0	70	4	0.000	C98232	C98257

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FINISHER 4-FLUTE

CEM-SE4 continued



05

END MILLS

CLEVELAND WALTER

Fractional									
Size			Shank dia.	Length of Cut	Overall Length	No. of Flutes	Corner Radius	Order Number	
Fractional	Decimal	mm						Bright	TiAIN
7/16	.4375		7/16	5/8	2-1/2	4	0.000	C61886	C81886
7/16	.4375		7/16	1	2-1/2	4	0.000	C61887	C81887
7/16	.4375		7/16	2	4	4	0.000	C61888	C81888
7/16	.4375		7/16	3	6	4	0.000	C61889	C81889
29/64	.4531		1/2	1	3	4	0.000	C61890	C81890
15/32	.4688		1/2	1	3	4	0.000	C61891	C81891
	.4725	12.00	12	25.0	75	4	0.000	C98233	C98258
31/64	.4844		1/2	1	3	4	0.000	C61892	C81892
1/2	.5000		1/2	5/8	2-1/2	4	0.000	C61893	C81893
1/2	.5000		1/2	1	3	4	0.000	C61894	C81894
1/2	.5000		1/2	1	3	4	0.015	C61895	C81895
1/2	.5000		1/2	1	3	4	0.020	C61896	C81896
1/2	.5000		1/2	1	3	4	0.030	C61897	C81897
1/2	.5000		1/2	1	3	4	0.045	C61898	C81898
1/2	.5000		1/2	1	3	4	0.060	C61899	C81899
1/2	.5000		1/2	1	3	4	0.090	C61900	C81900
1/2	.5000		1/2	1	3	4	0.125	C61901	C81901
1/2	.5000		1/2	2	4	4	0.000	C61902	C81902
1/2	.5000		1/2	3	6	4	0.000	C61903	C81903
1/2	.5000		1/2	1-1/2	6	4	0.000	C61904	C81904
	.5512	14.00	14	30.0	88	4	0.000	C98234	C98259
9/16	.5625		9/16	1-1/4	3 1/2	4	0.000	C61905	C81905
5/8	.6250		5/8	3/4	3	4	0.000	C61906	C81906
5/8	.6250		5/8	1-1/4	3 1/2	4	0.000	C61907	C81907
5/8	.6250		5/8	1-1/4	3 1/2	4	0.030	C61908	C81908
5/8	.6250		5/8	1-1/4	3 1/2	4	0.060	C61909	C81909
5/8	.6250		5/8	1-1/4	3 1/2	4	0.090	C61910	C81910
5/8	.6250		5/8	2-1/4	5	4	0.000	C61911	C81911
5/8	.6250		5/8	3	6	4	0.000	C61912	C81912
	.6300	16.00	16	32.0	88	4	0.000	C98235	C98260
	.7087	18.00	18	36.0	100	4	0.000	C98236	C98261
3/4	.7500		3/4	1	3	4	0.000	C61913	C81913
3/4	.7500		3/4	1-1/2	4	4	0.000	C61914	C81914
3/4	.7500		3/4	1-1/2	4	4	0.030	C61915	C81915
3/4	.7500		3/4	1-1/2	4	4	0.060	C61916	C81916
3/4	.7500		3/4	1-1/2	4	4	0.090	C61917	C81917
3/4	.7500		3/4	2-1/4	5	4	0.000	C61918	C81918
3/4	.7500		3/4	3	6	4	0.000	C61919	C81919
	.7875	20.00	20	38.0	100	4	0.000	C98237	C98262
7/8	.8750		7/8	1-1/2	4	4	0.000	C61920	C81920
7/8	.8750		7/8	2-1/4	5	4	0.000	C61921	C81921
7/8	.8750		7/8	3	6	4	0.000	C61922	C81922
	.9843	25.00	25	38.0	100	4	0.000	C98238	C98263
1	1.0000		1	1-1/2	4	4	0.000	C61923	C81923
1	1.0000		1	1-1/2	4	4	0.030	C61924	C81924
1	1.0000		1	1-1/2	4	4	0.060	C61925	C81925
1	1.0000		1	1-1/2	4	4	0.090	C61926	C81926
1	1.0000		1	2-1/4	5	4	0.000	C61927	C81927
1	1.0000		1	3	6	4	0.000	C61928	C81928

FINISHER 4-FLUTE

7300 SERIES

SOLID CARBIDE

Regular Length / Center Cutting / Single End
Bright

The 7300 Series end mills are solid carbide, single-end square-end end mills engineered for rigidity, accuracy, and dependable tool life in general-purpose milling applications. The solid carbide construction delivers excellent wear resistance and stability, making the 7300 Series well-suited for slotting, profiling, and finishing in a wide range of materials.

- ▷ Solid carbide construction for high rigidity and extended tool life
- ▷ Single-end, square-end geometry for precise slotting and profiling
- ▷ Stable cutting performance for improved size control and surface finish
- ▷ Excellent wear resistance in continuous milling operations
- ▷ Suitable for steel, alloy steel, cast iron, and non-ferrous materials



Fractional				
Size	Shank Dia.	Length of Cut	Overall Length	Order Number
1/32"	1/8"	5/64"	1-1/2"	73A102C
3/64"	1/8"	7/64"	1-1/2"	73A103C
1/16"	1/8"	3/16"	1-1/2"	73A104C
5/64"	1/8"	3/16"	1-1/2"	73A105C
3/32"	1/8"	9/32"	1-1/2"	73A106C
7/64"	1/8"	3/8"	1-1/2"	73A107C
1/8"	1/8"	3/8"	1-1/2"	73A108C
9/64"	3/16"	1/2"	2"	73A109C
5/32"	3/16"	1/2"	2"	73A110C
11/64"	3/16"	5/8"	2"	73A111C
3/16"	3/16"	5/8"	2"	73A112C
7/32"	1/4"	5/8"	2-1/2"	73A114C
1/4"	1/4"	3/4"	2-1/2"	73A116C
9/32"	5/16"	3/4"	2-1/2"	73A118C
5/16"	5/16"	13/16"	2-1/2"	73A120C
11/32"	3/8"	1"	2-1/2"	73A122C
3/8"	3/8"	1"	2-1/2"	73A124C
13/32"	7/16"	1"	2-3/4"	73A126C
7/16"	7/16"	1"	2-3/4"	73A128C
15/32"	1/2"	1"	3"	73A130C
1/2"	1/2"	1"	3"	73A132C
9/16"	9/16"	1-1/8"	3-1/2"	73A136C
5/8"	5/8"	1-1/4"	3-1/2"	73A140C
11/16"	3/4"	1-3/8"	4"	73A144C
3/4"	3/4"	1-1/2"	4"	73A148C
7/8"	7/8"	1-1/2"	4"	73A156C
1"	1"	1-1/2"	4"	73A164C

7350 SERIES

SOLID CARBIDE

Extra Long Length /
Center Cutting / Single End / Bright

Best Material Application



STEEL NON-FERROUS CAST IRON



Fractional				
Size	Shank Dia.	Length of Cut	Overall Length	Order Number
1/8"	1/8"	1"	3"	735A108C
3/16"	3/16"	1-1/8"	3"	735A112C
1/4"	1/4"	1-1/2"	4"	735A116C
5/16"	5/16"	1-5/8"	4"	735A120C
3/8"	3/8"	1-3/4"	4"	735A124C
7/16"	7/16"	3"	6"	735A128C
1/2"	1/2"	3"	6"	735A132C
5/8"	5/8"	3"	6"	735A140C
3/4"	3/4"	3"	6"	735A148C
1"	1"	3"	6"	735A164C

BALL NOSE 4-FLUTE

CEM-SE4B

SOLID CARBIDE

Helix 30° / Single Ball End

Bright / TiAlN



Best Material Application



STEEL NON-FERROUS CAST IRON

Best Material Application



STEEL STAINLESS CAST IRON

Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number	
Fractional	Decimal					Bright	TiAlN
1/32	.0312	1/8	1/16	1-1/2	4	C63509	C83509
1/32	.0312	1/8	1/8	1-1/2	4	C63510	C83510
1/32	.0312	1/8	3/32	1-1/2	4	C63511	C83511
3/64	.0469	1/8	1/8	1-1/2	4	C63512	C83512
1/16	.0625	1/8	3/32	1-1/2	4	C63508	—
1/16	.0625	1/8	1/8	1-1/2	4	C63513	C83513
1/16	.0625	1/8	1/4	1-1/2	4	C63514	C83514
5/64	.0781	1/8	3/16	1-1/2	4	C63515	C83515
3/32	.0938	1/8	3/8	1-1/2	4	C63516	C83516
3/32	.0938	1/8	3/16	1-1/2	4	C63517	C83517
7/64	.1094	1/8	3/8	1-1/2	4	C63518	C83518
1/8	.1250	1/8	1/4	1-1/2	4	C63519	C83519
1/8	.1250	1/8	1/2	1-1/2	4	C63520	C83520
1/8	.1250	1/8	5/8	2	4	C63521	C83521
1/8	.1250	1/8	3/4	2-1/4	4	C63522	C83522
1/8	.1250	1/8	1	3	4	C63523	C83523
9/64	.1406	3/16	9/16	2	4	C63524	C83524
5/32	.1562	3/16	5/16	2	4	C63525	C83525
5/32	.1562	3/16	9/16	2	4	C63526	C83526
11/64	.1719	3/16	5/8	2	4	C63527	C83527
3/16	.1875	3/16	5/16	2	4	C63528	C83528
3/16	.1875	3/16	5/8	2	4	C63529	C83529
3/16	.1875	3/16	3/4	2-1/2	4	C63530	C83530
3/16	.1875	3/16	1-1/8	3	4	C63531	C83531
13/64	.2031	1/4	5/8	2-1/2	4	C63532	C83532
7/32	.2188	1/4	5/8	2-1/2	4	C63533	C83533
15/64	.2344	1/4	3/4	2-1/2	4	C63534	C83534
1/4	.2500	1/4	1/2	2	4	C63535	C83535
1/4	.2500	1/4	3/4	2-1/2	4	C63536	C83536
1/4	.2500	1/4	1	4	4	C63537	C83537
1/4	.2500	1/4	1-1/8	3	4	C63538	C83538
1/4	.2500	1/4	1-1/2	4	4	C63539	C83539
1/4	.2500	1/4	1-1/2	6	4	C63540	C83540
17/64	.2656	5/16	7/8	2-1/2	4	C63541	C83541
9/32	.2812	5/16	7/8	2-1/2	4	C63542	C83542
5/16	.3125	5/16	1/2	2	4	C63543	C83543
5/16	.3125	5/16	7/8	2-1/2	4	C63544	C83544
5/16	.3125	5/16	1-1/8	3	4	C63545	C83545
5/16	.3125	5/16	1-5/8	4	4	C63546	C83546
23/64	.3594	3/8	7/8	2-1/2	4	C63547	C83547
3/8	.3750	3/8	5/8	2	4	C63548	C83548
3/8	.3750	3/8	1	2-1/2	4	C63549	C83549
3/8	.3750	3/8	1-1/8	3	4	C63550	C83550
3/8	.3750	3/8	1-1/2	6	4	C63551	C83551
3/8	.3750	3/8	1 3/4	4	4	C63552	C83552
25/64	.3906	7/16	7/8	2-1/2	4	C63553	C83553
27/64	.4219	7/16	7/8	2-1/2	4	C63554	C83554
7/16	.4375	7/16	5/8	2-1/2	4	C63555	C83555
7/16	.4375	7/16	1	2-1/2	4	C63556	C83556
7/16	.4375	7/16	2	4	4	C63557	C83557
7/16	.4375	7/16	3	6	4	C63558	C83558

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BALL NOSE 4-FLUTE

CEM-SE4B continued



Fractional							
Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number	
Fractional	Decimal					Bright	TIAIN
31/64	.4844	1/2	1	3	4	C63559	C83559
1/2	.5000	1/2	5/8	2-1/2	4	C63560	C83560
1/2	.5000	1/2	1	3	4	C63561	C83561
1/2	.5000	1/2	2	4	4	C63562	C83562
1/2	.5000	1/2	1-1/2	6	4	C63563	C83563
1/2	.5000	1/2	3	6	4	C63564	C83564
9/16	.5625	9/16	1-1/4	3 1/2	4	C63565	C83565
5/8	.6250	5/8	3/4	3	4	C63566	C83566
5/8	.6250	5/8	1-1/4	3 1/2	4	C63567	C83567
5/8	.6250	5/8	2-1/4	5	4	C63568	C83568
5/8	.6250	5/8	3	6	4	C63569	C83569
3/4	.7500	3/4	1	3	4	C63570	C83570
3/4	.7500	3/4	1-1/2	4	4	C63571	C83571
3/4	.7500	3/4	2-1/4	5	4	C63572	C83572
3/4	.7500	3/4	3	6	4	C63573	C83573
7/8	.8750	7/8	1-1/2	4	4	C63574	C83574
7/8	.8750	7/8	2-1/4	5	4	C63575	C83575
7/8	.8750	7/8	3	6	4	C63576	C83576
1	1.0000	1	1-1/2	4	4	C63577	C83577
1	1.0000	1	2-1/4	5	4	C63578	C83578
1	1.0000	1	3	6	4	C63579	C83579

BALL NOSE 4-FLUTE

7700 SERIES

SOLID CARBIDE

Regular Length / Center Cutting
Single End / Bright

The 7700 Series end mills are heavy-duty solid carbide, single-end ball nose end mills designed for profiling, contouring, and 3-D milling applications. Featuring a 2-flute, center-cutting geometry, the 7600 Series delivers smooth surface finishes, excellent chip evacuation, and long tool life in demanding milling operations.



Fractional				
Size	Shank Dia.	Length of Cut	Overall Length	Order Number
1/32"	1/8"	5/64"	1-1/2"	77A102C
3/64"	1/8"	7/64"	1-1/2"	77A103C
1/16"	1/8"	3/16"	1-1/2"	77A104C
5/64"	1/8"	3/16"	1-1/2"	77A105C
3/32"	1/8"	9/32"	1-1/2"	77A106C
7/64"	1/8"	3/8"	1-1/2"	77A107C
1/8"	1/8"	3/8"	1-1/2"	77A108C
9/64"	3/16"	1/2"	2"	77A109C
5/32"	3/16"	1/2"	2"	77A110C
11/64"	3/16"	5/8"	2"	77A111C
3/16"	3/16"	5/8"	2"	77A112C
7/32"	1/4"	5/8"	2-1/2"	77A114C
1/4"	1/4"	3/4"	2-1/2"	77A116C
9/32"	5/16"	3/4"	2-1/2"	77A118C
5/16"	5/16"	1"	2-1/2"	77A120C
11/32"	3/8"	1"	2-1/2"	77A122C
3/8"	3/8"	1"	2-1/2"	77A124C
13/32"	7/16"	1"	2-3/4"	77A126C
7/16"	7/16"	1"	2-3/4"	77A128C
15/32"	1/2"	1"	3"	77A130C
1/2"	1/2"	1"	3"	77A132C
9/16"	9/16"	1-1/8"	3-1/2"	77A136C
5/8"	5/8"	1-1/4"	3-1/2"	77A140C
11/16"	3/4"	1-3/8"	4"	77A144C
3/4"	3/4"	1-1/2"	4"	77A148C
7/8"	7/8"	1-1/2"	4"	77A156C
1"	1"	1-1/2"	4"	77A164C

Best Material Application



7750 SERIES

SOLID CARBIDE

Extra Long Length /
Center Cutting / Single End / Bright



Best Material Application



Fractional				
Size	Shank Dia.	Length of Cut	Overall Length	Order Number
1/8"	1/8"	1"	3"	775A108C
3/16"	3/16"	1-1/8"	3"	775A112C
1/4"	1/4"	1-1/2"	4"	775A116C
5/16"	5/16"	1-5/8"	4"	775A120C
3/8"	3/8"	1-3/4"	4"	775A124C
7/16"	7/16"	3"	6"	775A128C
1/2"	1/2"	3"	6"	775A132C
5/8"	5/8"	3"	6"	775A140C
3/4"	3/4"	3"	6"	775A148C
1"	1"	3"	6"	775A164C

FINISHER 2-FLUTE

CEM-SEST2

SOLID CARBIDE

Straight Flute / Bright / TiAlN

CEM-SEST2 end mills are solid carbide, 2-flute straight-flute tools designed for controlled cutting and stable performance. The straight-flute geometry minimizes tool pull-in and provides excellent control, making them ideal for slotting, keyways, and shallow profiling in steel, cast iron, and non-ferrous materials where precision and stability are critical.

Best Material Application



STEEL NON-FERROUS CAST IRON

Best Material Application



STEEL CAST IRON STAINLESS HARDENED STEEL



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number	
Fractional	Decimal					Bright	TiAlN
1/16	.0625	1/8	3/16	1-1/2	2	C60649	C80649
1/8	.1250	1/8	1/2	1-1/2	2	C60650	C80650
3/16	.1875	3/16	5/8	2	2	C60651	C80651
1/4	.2500	1/4	3/4	2-1/2	2	C60652	C80652
5/16	.3125	5/16	13/16	2-1/2	2	C60653	C80653
3/8	.3750	3/8	7/8	2-1/2	2	C60654	C80654
1/2	.5000	1/2	1	3	2	C60655	C80655

ENGRAVING TOOL 2-FLUTE FINISHING

CEM-EG2

SOLID CARBIDE

Single Ball End TiCN

Best Material Application



STEEL NON-FERROUS CAST IRON



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
Fractional	metric					TiCN
.021	0.53	1/8	.040	1-1/2	2	C70374
.025	0.64	1/8	.040	1-1/2	2	C70375
.030	0.76	1/8	.040	1-1/2	2	C70376

CHAMFER TOOL 2-FLUTE

CEM-CH2 / CEM-CH2D

SOLID CARBIDE

Single End / Double End
Bright

▷ 60°, 82°, 90°, & 120° Point



Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	Profile Angle	Order Number	
Fractional	Decimal					CEM-CH2 Single End	CEM-CH2D Double End
1/8	.1250	1/8	1-1/2	2	60°	C61112	—
1/8	.1250	1/8	1-1/2	2	82°	C61113	—
1/8	.1250	1/8	1-1/2	2	90°	C61114	C61226
3/16	.1875	3/16	2	2	90°	C61115	C61227
1/4	.2500	1/4	2-1/2	2	60°	C61116	—
1/4	.2500	1/4	2-1/2	2	82°	C61117	—
1/4	.2500	1/4	2-1/2	2	90°	C61118	C61228
3/8	.3750	3/8	2-1/2	2	60°	C61119	—
3/8	.3750	3/8	2-1/2	2	82°	C61120	—
3/8	.3750	3/8	2-1/2	2	90°	C61121	C61229
3/8	.3750	3/8	2-1/2	2	120°	C61127	—
1/2	.5000	1/2	3	2	60°	C61122	—
1/2	.5000	1/2	3	2	82°	C61123	—
1/2	.5000	1/2	3	2	90°	C61124	C61230
1/2	.5000	1/2	3	2	120°	C61125	—
3/4	.7500	3/4	4	2	90°	C61126	C61231

CHAMFER TOOL 4-FLUTE

CEM-CH4 / CEM-CH4D

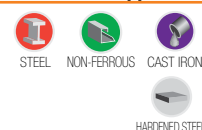
SOLID CARBIDE

Single End / Double End
Bright

▷ 60°, 82°, 90°, & 120° Point



Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	Profile Angle	Order Number	
Fractional	Decimal					CEM-CH4 Single End	CEM-CH4D Double End
1/4	.2500	1/4	2-1/2	4	60°	C66219	—
1/4	.2500	1/4	2-1/2	4	82°	C66220	—
1/4	.2500	1/4	2-1/2	4	90°	C66221	C60228
3/8	.3750	3/8	2-1/2	4	60°	C66222	—
3/8	.3750	3/8	2-1/2	4	82°	C66223	—
3/8	.3750	3/8	2-1/2	4	90°	C66224	C60229
3/8	.3750	3/8	2-1/2	4	120°	C66218	—
1/2	.5000	1/2	3	4	60°	C66225	—
1/2	.5000	1/2	3	4	82°	C66226	—
1/2	.5000	1/2	3	4	90°	C66227	C60230
1/2	.5000	1/2	3	4	120°	C66228	—
3/4	.7500	3/4	4	4	90°	C66229	C60231

DOUBLE END 2-FLUTE

HMD-2

HIGH SPEED STEEL

Helix 30° / Double End
Bright / TiCN

Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number	
Fractional	Decimal					Bright	TiCN
1/32	.0312	.188	.047	2.000	2	—	C39851
1/32	.0312	.188	.094	2.250	2	—	C39883
3/64	.0469	.188	.063	2.000	2	—	—
3/64	.0469	.188	.141	2.250	2	—	C39884
1/16	.0625	.188	.188	2.250	2	C41036	C39885
1/16	.0625	.188	.219	2.500	2	—	C39909
3/32	.0938	.188	.141	2.000	2	—	C39855
3/32	.0938	.188	.281	2.250	2	C41039	C39887
1/8	.1250	.188	.188	2.000	2	—	C39857
1/8	.1250	.188	.375	2.250	2	C41043	C39889
3/16	.1875	.188	.281	2.000	2	—	C39861
3/16	.1875	.188	.500	2.250	2	C41048	C39893

FINISHER - DOUBLE END 2-FLUTE

HD-2

HIGH SPEED STEEL

Helix 30° / Double End
Bright / TiN / TiCN

Best Material Application



Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/8	.1250	.375	.188	2.750	2	C42096	C39044	C39049
1/8	.1250	.375	.375	3.063	2	C42051	C33648	C33689
5/32	.1562	.375	.438	3.125	2	C42052	C33650	C33691
3/16	.1875	.375	.281	2.750	2	C42099	C39046	C39051
3/16	.1875	.375	.438	3.250	2	C42054	C33652	C33693
1/4	.2500	.375	.375	2.875	2	C42103	C39048	C39053
1/4	.2500	.375	.500	3.375	2	C42058	C33656	C33697
5/16	.3125	.375	.563	3.500	2	C42061	C33660	C33701
3/8	.3750	.375	.563	3.500	2	C42065	C33664	C33705
7/16	.4375	.500	.813	4.125	2	C42069	C33668	C33709
1/2	.5000	.500	.813	4.125	2	C42072	C33672	C33713
9/16	.5625	.625	1.125	5.000	2	C42074	C33674	C33715
5/8	.6250	.625	1.125	5.000	2	C42076	C33676	C33717
3/4	.7500	.750	1.313	5.625	2	C42080	C33680	C33721
7/8	.8750	.875	1.563	6.125	2	C42084	C33684	C33725
1	1.0000	1.000	1.625	6.375	2	C42088	C33688	C33729

FINISHER - DOUBLE END 2-FLUTE

HD-2B

HIGH SPEED STEEL

Helix 30° / Double Ball End / Center Cut
Bright / TiN / TiCN



Best Material Application



Best Material Application



Size		Shank Dia.	Length of Cut	Fractional Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/8	.1250	.375	.375	3.063	2	C42184	C39142	C39158
5/32	.1562	.375	.438	3.125	2	C39136	C39143	C39159
3/16	.1875	.375	.438	3.250	2	C42186	C39144	C39160
1/4	.2500	.375	.500	3.375	2	C42189	C39146	C39161
5/16	.3125	.375	.563	3.500	2	C42191	C39148	C39162
3/8	.3750	.375	.563	3.500	2	C42194	C39150	C39163
5/16	.3125	.375	.563	3.500	2	C42191	C39148	C39164
3/8	.3750	.375	.563	3.500	2	C42194	C39150	C39166
7/16	.4375	.500	.813	4.125	2	C42197	C39152	C39168
1/2	.5000	.500	.813	4.125	2	C42199	C39153	C39169

FINISHER - DOUBLE END 3-FLUTE

HD-3

HIGH SPEED STEEL

Helix 30° / Double End
Bright / TiN / TiCN



Best Material Application



Best Material Application



Size		Shank Dia.	Length of Cut	Fractional Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/8	.1250	.375	.375	3.063	3	C39575	C39596	C39617
5/32	.1562	.375	.438	3.125	3	—	C39597	—
3/16	.1875	.375	.500	3.250	3	C39577	C39598	C39619
1/4	.2500	.375	.625	3.375	3	C39579	C39600	C39621
5/16	.3125	.375	.750	3.500	3	C39581	C39602	C39623
3/8	.3750	.375	.750	3.500	3	C39583	C39604	C39625
7/16	.4375	.500	1.000	4.125	3	C39585	C39606	C39627
1/2	.5000	.500	1.000	4.125	3	C39587	C39608	C39629

FINISHER - DOUBLE END 4-FLUTE

HD-4C

HIGH SPEED STEEL

Helix 30° / Double End / Bright / TiN / TiCN

HD-4C end mills are high-speed steel (HSS), 4-flute finisher tools designed for smooth, accurate milling in general-purpose applications. The 4-flute geometry provides increased rigidity and improved surface finish, making the HD-4C series ideal for profiling, slotting, and finishing in steels, cast iron, and non-ferrous materials.

- ▷ 4-flute finisher geometry for improved surface finish and size control
- ▷ High-speed steel (HSS) construction for toughness and versatility
- ▷ Rigid cutting action reduces deflection in side-milling and profiling
- ▷ General-purpose performance across steel, cast iron, and non-ferrous materials
- ▷ Bright finish for smooth chip flow in standard machining operations

Best Material Application



Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/8	.1250	.375	.375	3.063	4	C41202	C33059	C33100
9/64	.1406	.375	.438	3.125	4	C33028	C33060	C33101
5/32	.1562	.375	.438	3.125	4	C33029	C33061	C33102
3/16	.1875	.375	.500	3.250	4	C41204	C33063	C33104
7/32	.2188	.375	.563	3.250	4	C33032	C33065	C33106
1/4	.2500	.375	.625	3.375	4	C41207	C33067	C33108
9/32	.2812	.375	.688	3.375	4	C33035	C33069	C33110
5/16	.3125	.375	.750	3.500	4	C41209	C33071	C33112
21/64	.3281	.375	.750	3.500	4	C33037	C33072	C33113
11/32	.3438	.375	.750	3.500	4	C33038	C33073	C33114
3/8	.3750	.375	.750	3.500	4	C41212	C33075	C33116
25/64	.3906	.500	1.000	4.125	4	C33040	C33076	C33117
13/32	.4062	.500	1.000	4.125	4	C33041	C33077	C33118
7/16	.4375	.500	1.000	4.125	4	C33043	C33079	C33120
1/2	.5000	.500	1.000	4.125	4	C41216	C33083	C33124
17/32	.5312	.625	1.375	5.000	4	C33047	C33084	C33125
9/16	.5625	.625	1.375	5.000	4	C33048	C33085	C33126
5/8	.6250	.625	1.375	5.000	4	C41219	C33087	C33128
11/16	.6875	.750	1.625	5.625	4	C33051	C33089	C33130
3/4	.7500	.750	1.625	5.625	4	C41223	C33091	C33132
13/16	.8125	.875	1.875	6.125	4	C33054	C33093	C33134
15/16	.9375	1.000	1.875	6.375	4	C33057	—	—
1	1.0000	1.000	1.875	6.375	4	C41231	C33099	C33140

FINISHER - DOUBLE END 2-FLUTE

05

END MILLS

5400A SERIES

HIGH SPEED STEEL

Regular Length / Center Cutting / Double End / Bright

5400A Series end mills are general-purpose, high-speed steel (HSS), 2-flute finishing end mills designed for versatile milling performance. Featuring a double-end, center-cutting design with a bright finish, they provide smooth cutting action, efficient chip evacuation, and reliable tool life in light to moderate milling applications across a broad range of materials.

- ▷ 2-flute finishing geometry for smooth cutting action and efficient chip evacuation
- ▷ High-speed steel (HSS) construction for durability and versatility
- ▷ Double-end, center-cutting design for extended tool life and plunge capability
- ▷ Bright finish to reduce built-up edge in general-purpose materials
- ▷ Ideal for light milling, slotting, and finishing in steels and non-ferrous materials



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/8"	3/8"	3/8"	3-1/16"	2	54A108A
5/32"	3/8"	7/16"	3-1/8"	2	54A110A
3/16"	3/8"	7/16"	3-1/8"	2	54A112A
7/32"	3/8"	1/2"	3-1/8"	2	54A114A
1/4"	3/8"	1/2"	3-1/8"	2	54A116A
9/32"	3/8"	9/16"	3-1/8"	2	54A118A
5/16"	3/8"	9/16"	3-1/8"	2	54A120A
11/32"	3/8"	9/16"	3-1/8"	2	54A122A
3/8"	3/8"	9/16"	3-1/8"	2	54A124A
13/32"	1/2"	13/16"	3-3/4"	2	54A126B
7/16"	1/2"	13/16"	3-3/4"	2	54A128B

Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
15/32"	1/2"	13/16"	3-3/4"	2	54A130B
1/2"	1/2"	13/16"	3-3/4"	2	54A132B
9/16"	5/8"	1-1/8"	4-1/2"	2	54A136C
5/8"	5/8"	1-1/8"	4-1/2"	2	54A140C
11/16"	3/4"	1-5/16"	5"	2	54A144D
3/4"	3/4"	1-5/16"	5"	2	54A148D
13/16"	7/8"	1-9/16"	5-1/2"	2	54A152E
7/8"	7/8"	1-9/16"	5-1/2"	2	54A156E
15/16"	1"	1-5/8"	5-7/8"	2	54A160F
1"	1"	1-5/8"	5-7/8"	2	54A164F

Best Material Application



STEEL



CAST IRON

DRILCO | WALTER

FINISHER - DOUBLE END 4-FLUTE

5500A SERIES

HIGH SPEED STEEL

Regular Length / Center Cutting / Double End / Bright

5500A Series end mills are general-purpose, high-speed steel (HSS) multi-flute finishing tools designed for light to medium-duty milling. With a bright finish for smooth chip flow, they deliver reliable performance and good surface finish in low- to medium-tensile materials, making them ideal for everyday shop and MRO applications.

- ▷ 4-flute finishing geometry for improved surface finish and stability
- ▷ Bright finish promotes smooth cutting and chip evacuation
- ▷ General-purpose performance in low- to medium-tensile materials
- ▷ Ideal for profiling and finishing in light to moderate milling operations

Best Material Application



STEEL



CAST IRON



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/8"	3/8"	3/8"	3-1/16"	4	55A108A
5/32"	3/8"	7/16"	3-1/8"	4	55A110A
3/16"	3/8"	1/2"	3-1/4"	4	55A112A
7/32"	3/8"	9/16"	3-1/4"	4	55A114A
1/4"	3/8"	5/8"	3-3/8"	4	55A116A
9/32"	3/8"	11/16"	3-3/8"	4	55A118A
5/16"	3/8"	3/4"	3-1/2"	4	55A120A
11/32"	3/8"	3/4"	3-1/2"	4	55A122A
3/8"	3/8"	3/4"	3-1/2"	4	55A124A

Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
13/32"	1/2"	1"	4-1/8"	4	55A126B
7/16"	1/2"	1"	4-1/8"	4	55A128B
15/32"	1/2"	1"	4-1/8"	4	55A130B
1/2"	1/2"	1"	4-1/8"	4	55A132B
5/8"	5/8"	1-3/8"	5"	4	55A140C
3/4"	3/4"	1-5/8"	5-5/8"	4	55A148D
7/8"	7/8"	1-7/8"	6-1/8"	4	55A156E
1"	1"	1-7/8"	6-3/8"	4	55A164F

FINISHER 2-FLUTE

HG-2

HIGH SPEED STEEL

Helix 30° / Single End
Bright / TiN / TiCN

Best Material Application



Best Material Application



Size		Shank Dia.	Length of Cut	Fractional Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/8	.1250	.375	.375	2.313	2	C41602	C41550	C33803
5/32	.1562	.375	.438	2.375	2	C33730	C33754	C33804
3/16	.1875	.375	.438	2.375	2	C41604	C41551	C33806
3/16	.1875	.375	1.250	3.063	2	C39064	C39078	C39107
7/32	.2188	.375	.500	2.438	2	C33733	C33757	C33808
1/4	.2500	.375	.500	2.438	2	C41607	C41552	C33810
1/4	.2500	.375	1.250	3.063	2	C39066	C39080	C39109
5/16	.3125	.375	.563	2.500	2	C41609	C41553	C33814
5/16	.3125	.375	1.375	3.125	2	C39068	C39082	C39111
3/8	.3750	.375	.563	2.500	2	C41612	C41554	C33818
3/8	.3750	.375	1.500	3.250	2	C41714	C39084	C39113
13/32	.4062	.375	.813	2.688	2	C33742	C33766	C33820
7/16	.4375	.375	.813	2.688	2	C41615	C33768	C33822
1/2	.5000	.375	.813	2.688	2	C41617	C33772	C33826
1/2	.5000	.500	1.000	3.250	2	C41618	C41555	C33827
1/2	.5000	.500	1.500	3.500	2	C75188	C75222	C75256
1/2	.5000	.500	2.000	4.000	2	C41718	C39088	C39117
17/32	.5312	.500	1.125	3.375	2	C33748	C33774	C33829
35/64	.5469	.500	1.125	3.375	2	C33749	C33775	C33830
9/16	.5625	.500	1.125	3.375	2	C41620	C33776	C33831
19/32	.5938	.500	1.125	3.375	2	C33751	C33778	C33833
39/64	.6094	.500	1.125	3.375	2	C33752	C33779	C33834
5/8	.6250	.500	1.125	3.375	2	C41622	C33780	C33835
5/8	.6250	.625	1.313	3.750	2	C41623	C41556	C33836
5/8	.6250	.625	2.000	4.125	2	C41721	C39091	C39120
11/16	.6875	.500	1.313	3.625	2	C41625	C33781	C33837
11/16	.6875	.625	1.313	3.750	2	C41626	C33782	C33838
11/16	.6875	.750	2.250	4.500	2	C39075	C39092	C39121
3/4	.7500	.500	1.313	3.625	2	C41628	C33783	C33839
3/4	.7500	.625	1.313	3.750	2	C41629	C33784	C33840
3/4	.7500	.750	1.313	3.875	2	C41630	C41557	C33841
3/4	.7500	.750	2.250	4.500	2	C41724	C39093	C39122
13/16	.8125	.625	1.500	4.000	2	C41632	C33785	C38900
7/8	.8750	.625	1.500	4.000	2	C41635	C33786	C38901
7/8	.8750	.750	1.500	4.125	2	C41636	C33787	C38902
7/8	.8750	.875	1.500	4.125	2	C41637	C33788	C38903
1	1.0000	.625	1.500	4.000	2	C41641	C33790	C38905
1	1.0000	.750	1.500	4.125	2	C41642	C33791	C38906
1	1.0000	1.000	1.625	4.500	2	C41644	C41558	C38908
1	1.0000	1.000	3.000	5.500	2	C41732	C39097	C39126
1-1/8	1.1250	1.000	1.625	4.500	2	C41648	C33794	C38910
1-1/4	1.2500	1.000	1.625	4.500	2	C41651	C33796	C38912
1-1/2	1.5000	1.000	1.625	4.500	2	C41659	C33799	C38915
1-1/2	1.5000	1.250	1.625	4.500	2	C41660	C33800	C38916

05

END MILLS

CLEVELAND | WALTER

FINISHER 2-FLUTE

5000A SERIES

HIGH SPEED STEEL

Regular Length / Center Cutting / Single End
Bright

The 5000A Series end mills are general-purpose high-speed steel, single-end, 2-flute finishing end mills designed for versatile milling, slotting, and plunge-cut applications. Featuring a center-cutting geometry and regular length design, the 5000A Series delivers reliable performance and efficient chip evacuation across a broad range of materials.

- ▷ High-speed steel (HSS) construction for toughness and durability
- ▷ 2-flute finishing geometry for smooth cutting and efficient chip flow
- ▷ Center-cutting design enables plunge cutting and slotting
- ▷ Single-end, regular length configuration for general-purpose milling
- ▷ Bright finish for clean cutting action in non-coated applications
- ▷ Ideal for general-purpose milling in a wide range of materials



Best Material Application



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/8"	3/8"	3/8"	2-5/16"	2	50A108A
11/64"	3/8"	7/16"	2-5/16"	2	50A111A
3/16"	3/8"	7/16"	2-5/16"	2	50A112A
13/64"	3/8"	1/2"	2-5/16"	2	50A113A
7/32"	3/8"	1/2"	2-5/16"	2	50A114A
15/64"	3/8"	1/2"	2-5/16"	2	50A115A
1/4"	3/8"	1/2"	2-5/16"	2	50A116A
17/64"	3/8"	9/16"	2-5/16"	2	50A117A
9/32"	3/8"	9/16"	2-5/16"	2	50A118A
19/64"	3/8"	9/16"	2-5/16"	2	50A119A
5/16"	3/8"	9/16"	2-5/16"	2	50A120A
21/64"	3/8"	9/16"	2-5/16"	2	50A121A
11/32"	3/8"	9/16"	2-5/16"	2	50A122A
23/64"	3/8"	9/16"	2-5/16"	2	50A123A
3/8"	3/8"	9/16"	2-5/16"	2	50A124A
25/64"	3/8"	13/16"	2-1/2"	2	50A125A
13/32"	3/8"	13/16"	2-1/2"	2	50A126A
27/64"	3/8"	13/16"	2-1/2"	2	50A127A
7/16"	3/8"	13/16"	2-1/2"	2	50A128A
29/64"	3/8"	13/16"	2-1/2"	2	50A129A
15/32"	3/8"	13/16"	2-1/2"	2	50A130A
1/2"	3/8"	13/16"	2-1/2"	2	50A132A
1/2"	1/2"	1"	3"	2	50A132B
17/32"	1/2"	1-1/8"	3-1/8"	2	50A134B
9/16"	1/2"	1-1/8"	3-1/8"	2	50A136B
19/32"	1/2"	1-1/8"	3-1/8"	2	50A138B
5/8"	1/2"	1-1/8"	3-1/8"	2	50A140B
5/8"	5/8"	1-5/16"	3-7/16"	2	50A140C
21/32"	5/8"	1-5/16"	3-5/16"	2	50A142C

Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
11/16"	1/2"	1-5/16"	3-5/16"	2	50A144B
11/16"	5/8"	1-5/16"	3-7/16"	2	50A144C
23/32"	3/4"	1-5/16"	3-5/16"	2	50A146D
3/4"	1/2"	1-5/16"	3-5/16"	2	50A148B
3/4"	5/8"	1-5/16"	3-7/16"	2	50A148C
3/4"	3/4"	1-5/16"	3-7/16"	2	50A148D
25/32"	3/4"	1-1/2"	3-5/8"	2	50A150D
13/16"	5/8"	1-1/2"	3-5/8"	2	50A152C
13/16"	3/4"	1-1/2"	3-3/4"	2	50A152D
27/32"	7/8"	1-1/2"	3-5/8"	2	50A154E
7/8"	5/8"	1-1/2"	3-5/8"	2	50A156C
7/8"	3/4"	1-1/2"	3-3/4"	2	50A156D
7/8"	7/8"	1-1/2"	3-3/4"	2	50A156E
29/32"	7/8"	1-1/2"	3-3/4"	2	50A158E
15/16"	5/8"	1-1/2"	3-5/8"	2	50A160C
15/16"	3/4"	1-1/2"	3-3/4"	2	50A160D
15/16"	7/8"	1-1/2"	3-3/4"	2	50A160E
31/32"	1"	1-1/2"	3-3/4"	2	50A162F
1"	5/8"	1-1/2"	3-5/8"	2	50A164C
1"	3/4"	1-1/2"	3-3/4"	2	50A164D
1"	7/8"	1-1/2"	3-3/4"	2	50A164E
1"	1"	1-5/8"	4-1/8"	2	50A164F
1-1/16"	3/4"	1-5/8"	3-7/8"	2	50A204D
1-1/8"	3/4"	1-5/8"	3-7/8"	2	50A208D
1-1/8"	1"	1-5/8"	4-1/8"	2	50A208F
1-3/16"	3/4"	1-5/8"	3-7/8"	2	50A212D
1-1/4"	3/4"	1-5/8"	3-7/8"	2	50A216D
1-1/4"	7/8"	1-5/8"	3-7/8"	2	50A216E
1-1/4"	1"	1-5/8"	4-1/8"	2	50A216F
1-1/4"	1-1/4"	1-5/8"	4-1/8"	2	50A216G
1-3/8"	3/4"	1-5/8"	3-7/8"	2	50A224D
1-3/8"	1"	1-5/8"	4-1/8"	2	50A224F
1-1/2"	3/4"	1-5/8"	4-1/8"	2	50A232D
1-1/2"	1"	1-5/8"	4-1/8"	2	50A232F
1-1/2"	1-1/4"	1-5/8"	4-1/8"	2	50A232G
1-5/8"	1-1/4"	1-5/8"	4-1/8"	2	50A240G
1-3/4"	3/4"	1-5/8"	4-1/8"	2	50A248D
1-3/4"	1-1/4"	1-5/8"	4-1/8"	2	50A248G
1-7/8"	1-1/4"	1-5/8"	4-1/8"	2	50A256G
2"	3/4"	1-5/8"	4-1/8"	2	50A264D
2"	1-1/4"	1-5/8"	4-1/8"	2	50A264G

FINISHER 2-FLUTE

5075A SERIES

HIGH SPEED STEEL

Long Length / Center Cutting / Single End / Bright

The 5075A Series end mills are general-purpose high-speed steel, single-end, 2-flute finishing end mills designed for versatile milling, slotting, and plunge-cut applications. Featuring a center-cutting geometry and regular length design, this series delivers reliable performance and efficient chip evacuation across a broad range of materials.

- ▷ High-speed steel (HSS) construction for toughness and durability
- ▷ 2-flute finishing geometry for smooth cutting and efficient chip flow
- ▷ Center-cutting design enables plunge cutting and slotting
- ▷ Single-end, regular length configuration for general-purpose milling
- ▷ Bright finish for clean cutting action in non-coated applications
- ▷ Ideal for general-purpose milling in a wide range of materials



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/4"	3/8"	1-1/4"	3-1/16"	2	507A116A
5/16"	3/8"	1-3/8"	3-1/8"	2	507A120A
3/8"	3/8"	1-1/2"	3-1/4"	2	507A124A
1/2"	1/2"	2"	4"	2	507A132B

5600A SERIES

HIGH SPEED STEEL

Regular Length / Center Cutting / Single End Metric / Bright



Metric					
Size (mm)	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
3.0	3/8"	5/16"	2-5/16"	2	560A030
3.5	3/8"	7/16"	2-5/16"	2	560A035
4.0	3/8"	7/16"	2-5/16"	2	560A040
4.5	3/8"	1/2"	2-5/16"	2	560A045
5.0	3/8"	1/2"	2-5/16"	2	560A050
5.5	3/8"	1/2"	2-5/16"	2	560A055
6.0	3/8"	1/2"	2-5/16"	2	560A060
6.5	3/8"	9/16"	2-5/16"	2	560A065
7.0	3/8"	9/16"	2-5/16"	2	560A070
8.0	3/8"	9/16"	2-5/16"	2	560A080
9.0	3/8"	9/16"	2-5/16"	2	560A090
10.0	3/8"	13/16"	2-1/2"	2	560A100
10.5	3/8"	13/16"	2-1/2"	2	560A105
11.0	3/8"	13/16"	2-1/2"	2	560A110
12.0	3/8"	13/16"	2-1/2"	2	560A120

Metric					
Size (mm)	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
12.5	1/2"	1-1/8"	3-1/8"	2	560A125
13.0	1/2"	1-1/8"	3-1/8"	2	560A130
13.5	1/2"	1-1/8"	3-1/8"	2	560A135
14.0	1/2"	1-1/8"	3-3/8"	2	560A140
14.5	1/2"	1-1/8"	3-1/8"	2	560A145
15.0	1/2"	1-1/8"	3-1/2"	2	560A150
16.0	5/8"	1-5/16"	3-7/16"	2	560A160
18.0	5/8"	1-5/16"	3-7/16"	2	560A180
20.0	5/8"	1-1/2"	3-3/4"	2	560A200
22.0	3/4"	1-1/2"	3-3/4"	2	560A220
23.0	7/8"	1-1/2"	3-3/4"	2	560A230
24.0	1"	2"	4-1/2"	2	560A240
25.0	1"	2"	4-1/2"	2	560A250
32.0	1"	2"	4-1/2"	2	560A320

Best Material Application



STEEL

CAST IRON

Best Material Application



STEEL

CAST IRON

FINISHER - BALL NOSE 2-FLUTE

HG-2B

HIGH SPEED STEEL

Helix 30° / Single Ball End/ Bright / TiN / TiCN

HG-2B end mills are high-speed steel (HSS), 2-flute ball nose finisher tools designed for smooth contouring and profiling. The ball nose geometry delivers consistent surface finish and precise control, making HG-2B ideal for general-purpose milling in steels, cast iron, and non-ferrous materials.

- ▷ 2-flute ball nose geometry for smooth contouring and 3D profiling
- ▷ High-speed steel (HSS) construction for toughness and versatility
- ▷ Finisher design promotes good surface finish and size control
- ▷ General-purpose performance across steels, cast iron, and non-ferrous materials
- ▷ Bright finish for clean cutting action in standard machining operations

Best Material Application



STEEL



CAST IRON



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/8	.1250	.375	.375	2.313	2	C42109	C39010	C39027
3/16	.1875	.375	.500	2.375	2	C42111	C39011	C39028
1/4	.2500	.375	.625	2.438	2	C42114	C39012	C39029
5/16	.3125	.375	.750	2.500	2	C42116	C39013	C39030
3/8	.3750	.375	.750	2.500	2	C42119	C39014	C39031
1/2	.5000	.500	1.000	3.250	2	C42124	C39016	C39033
5/8	.6250	.625	1.375	3.750	2	C42129	C39019	C39036
3/4	.7500	.500	1.313	3.625	2	C42132	C39020	C39037
3/4	.7500	.750	1.625	3.875	2	C42133	C39021	C39038
13/16	.8125	.750	2.000	4.250	2	C75305	C75311	C75317
15/16	.9375	.750	2.250	4.500	2	C75306	C75312	C75318
1	1.0000	1.000	2.250	4.500	2	C42141	C39023	C39040
1-1/8	1.1250	1.000	2.250	4.500	2	C42144	C39024	C39041
1 3/8	1.3750	1.250	2.500	5.063	2	C75310	C75316	C75322

FINISHER - BALL NOSE 2-FLUTE

05

END MILLS

6400A SERIES

HIGH SPEED STEEL

Regular Length / Center Cutting / Single End / Bright

6400A Series end mills are general-purpose, high-speed steel (HSS), 2-flute ball nose end mills designed for smooth contouring and profiling. The ball nose geometry produces rounded features and flowing surfaces, making these tools ideal for finishing, mold work, and applications where sharp corners must be avoided in low- to medium-tensile materials.

- ▷ 2-flute ball nose geometry for smooth contouring and 3D profiling
- ▷ High-speed steel (HSS) construction for toughness and versatility
- ▷ Center-cutting, single-end design for controlled plunging and finishing
- ▷ Bright finish for clean cutting action in general-purpose materials
- ▷ Ideal for finishing, profiling, and contour milling in steels and non-ferrous materials

Best Material Application



STEEL



CAST IRON



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/8"	3/8"	3/8"	2-5/16"	2	640A108A
3/16"	3/8"	1/2"	2-3/8"	2	640A112A
1/4"	3/8"	5/8"	2-7/16"	2	640A116A
5/16"	3/8"	3/4"	2-1/2"	2	640A120A
3/8"	3/8"	3/4"	2-1/2"	2	640A124A
7/16"	1/2"	1"	3"	2	640A128B
1/2"	1/2"	1"	3"	2	640A132B
9/16"	1/2"	1-1/8"	3-1/8"	2	640A136B
5/8"	1/2"	1-1/8"	3-1/8"	2	640A140B
5/8"	5/8"	1-3/8"	3-1/2"	2	640A140C
3/4"	1/2"	1-5/16"	3-5/16"	2	640A148B
3/4"	3/4"	1-5/8"	3-7/8"	2	640A148D
13/16"	3/4"	2"	4-1/4"	2	640A152D
7/8"	3/4"	2"	4-1/4"	2	640A156D
7/8"	7/8"	2"	4-1/4"	2	640A156E
15/16"	3/4"	2-1/4"	4-1/2"	2	640A160D
1"	3/4"	2-1/4"	4-1/2"	2	640A164D
1"	1"	2-1/4"	4-3/4"	2	640A164F
1-1/8"	1"	2-1/4"	4-3/4"	2	640A208F
1-1/4"	1-1/4"	2-1/2"	5"	2	640A216G
1-1/2"	1-1/4"	2-1/2"	5"	2	640A232G

DRILCO

WALTER

KEYWAY CUTTER 2-FLUTE

HG-2K

HIGH SPEED STEEL

Helix 30° / Single End
Bright / TiN / TiCN

▷ $\pm .00 / - .0015$ tolerances for correct key stock fit



Best Material Application



Best Material Application



Size		Fractional						
Fractional	Decimal	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
						Bright	TiN	TiCN
1/8	.1250	.375	.375	2.313	2	C41671	C38932	C38957
3/16	.1875	.375	.438	2.375	2	C41673	C38933	C38958
7/32	.2188	.375	.500	2.438	2	C38919	C38934	C38959
1/4	.2500	.375	.500	2.438	2	C41676	C38935	C38960
9/32	.2812	.375	.563	2.500	2	C38920	C38936	C38961
5/16	.3125	.375	.563	2.500	2	C41678	C38937	C38962
11/32	.3438	.375	.563	2.500	2	C38921	C38938	C38963
3/8	.3750	.375	.563	2.500	2	C41681	C38939	C38964
13/32	.4062	.375	.813	2.688	2	C38922	C38940	C38965
15/32	.4688	.500	1.000	3.250	2	C38924	C38942	C38967
1/2	.5000	.500	1.000	3.250	2	C41685	C38943	C38968
17/32	.5312	.500	1.250	3.375	2	C38925	C38944	C38969
5/8	.6250	.625	1.313	3.250	2	C41688	C38946	C38971
11/16	.6875	.625	1.313	3.250	2	C38927	C38947	C38972
3/4	.7500	.750	1.313	3.875	2	C41691	C38948	C38973
13/16	.8125	.625	1.500	4.000	2	C38928	C38949	C38974
7/8	.8750	.875	1.500	4.125	2	C41695	C38950	C38975
15/16	.9375	.875	1.500	4.125	2	C38929	C38951	C38976
1-1/8	1.1250	1.000	1.625	4.500	2	C38930	C38953	C38978
1-3/8	1.3750	1.000	1.625	4.500	2	C38931	C38955	C38980

FINISHER 2-FLUTE EXTENDED NECK

HGN-2

HIGH SPEED STEEL

Helix 30° / Single End
Bright



Best Material Application



Size		Fractional					
Fractional	Decimal	Shank Dia.	Length of Cut	Overall Length	Reach	No. of Flutes	Order Number
							Bright
5/8	.6250	.625	1.375	4.625	2.750	2	C41784
3/4	.7500	.750	1.625	5.250	3.375	2	C41787
7/8	.8750	.875	2.000	6.000	4.000	2	C38985
1-1/4	1.2500	1.250	3.000	7.250	5.000	2	C41799

FINISHER - HIGH HELIX 2-FLUTE

HGA-2

HIGH SPEED STEEL

Helix 37° / Single End / Bright / TiN / TiCN

HGA-2 end mills are high-speed steel (HSS), 2-flute high-helix finisher tools designed for smooth, free-cutting performance in milling operations where chip evacuation and surface finish are critical. The high-helix geometry reduces cutting forces and vibration, making HGA-2 ideal for finishing, slotting, and profiling in steels and non-ferrous materials.



Best Material Application



Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/4	.2500	.375	.625	2.437	2	C41843	C33476	C33488
1/4	.2500	.375	1.750	3.563	2	C41930	C33524	C33535
5/16	.3125	.375	2.000	3.750	2	C41932	C33525	C33536
3/8	.3750	.375	2.500	4.250	2	C41935	C33526	C33537
7/16	.4375	.375	1.000	2.688	2	C41851	—	C33491
7/16	.4375	.500	1.750	3.750	2	C41896	—	C33514
7/16	.4375	.375	2.750	4.500	2	C33522	—	C33538
1/2	.5000	.500	1.250	3.250	2	C41853	C33480	C33492
1/2	.5000	.500	3.000	5.000	2	C41939	C33528	C33539
5/8	.6250	.625	1.625	3.750	2	C41856	—	C33493
5/8	.6250	.625	2.500	4.625	2	C41901	—	C33516
5/8	.6250	.625	4.000	6.125	2	C41942	—	C33540
3/4	.7500	.750	1.625	3.875	2	C41859	—	C33494
3/4	.7500	.750	4.000	6.250	2	C41945	C33530	C33541
7/8	.8750	.875	1.875	4.125	2	C41863	—	C33495
7/8	.8750	.875	3.500	5.750	2	C32066	—	C33518
7/8	.8750	.875	5.000	7.250	2	C33523	—	C33542
1	1.0000	1.000	4.000	6.500	2	C41911	—	C33519
1	1.0000	1.000	6.000	8.500	2	C41952	—	C33543

DRILL MILL 2-FLUTE

HPDM-2

HIGH SPEED STEEL

Helix 30° / Single End / Bright / TiN / TiCN

HPDM-2 end mills are high-speed steel (HSS), 2-flute drill mill finishers with a pointed end designed to drill, ramp, and mill in a single tool. This versatile geometry enables efficient plunging and slotting while maintaining smooth finishing performance, making HPDM-2 ideal for general-purpose milling in steels and non-ferrous materials.

- ▷ 2-flute drill-mill geometry allows drilling, plunging, and milling with one tool
- ▷ Pointed end design for effective ramping and angled entry
- ▷ High-speed steel (HSS) construction for toughness and versatility
- ▷ Reduced tool changes improves productivity in general machining
- ▷ Finisher performance delivers smooth surface finish and reliable size control

Best Material Application



Best Material Application



Size		Shank Dia.	Length of Cut	Fractional		No. of Flutes	Order Number		
Fractional	Decimal			Overall Length			Bright	TiN	TiCN
1/2	.5000	.500	1.000	3.000		2	C32434	C40510	C40523
3/4	.7500	.750	1.313	3.563		2	C32438	C40514	C40527
7/8	.8750	.750	1.500	3.750		2	C32440	C40516	C40529
1	1.0000	.750	1.500	3.750		2	C40505	C40518	C40531

Tech tip!

Using Drill Mills

- 90° point allows for rapid plunge cuts.
- Also good for slotting applications.
- 2 flutes deliver enhanced chip ejection.

FINISHER 3-FLUTE

HG-3

HIGH SPEED STEEL

Helix 30° / Single End / Center Cutting
Bright / TiN / TiCN



Best Material Application



Best Material Application



05

END MILLS

CLEVELAND | WALTER

Fractional								
Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
5/32	.1562	.375	.500	2.375	3	C39639	C39670	C39701
7/32	.2188	.375	.625	2.438	3	C39641	C39672	C39703
7/32	.2188	.375	1.250	3.063	3	C39732	C39754	C39776
1/4	.2500	.375	.625	2.438	3	C39642	C39673	C39704
1/4	.2500	.375	1.250	3.063	3	C39733	C39755	C39777
9/32	.2812	.375	.750	2.500	3	C39643	C39674	C39705
9/32	.2812	.375	1.375	3.125	3	C39734	C39756	C39778
5/16	.3125	.375	.750	2.500	3	C39644	C39675	C39706
5/16	.3125	.375	1.375	3.125	3	C39735	C39757	C39779
11/32	.3438	.375	.750	2.500	3	C39645	C39676	C39707
11/32	.3438	.375	1.500	3.250	3	C39736	C39758	C39780
3/8	.3750	.375	.750	2.500	3	C39646	C39677	C39708
3/8	.3750	.375	1.500	3.250	3	C39737	C39759	C39781
13/32	.4062	.375	1.000	2.688	3	C39647	C39678	C39709
13/32	.4062	.500	1.750	3.250	3	C39738	C39760	C39782
15/32	.4688	.500	1.250	3.250	3	C39649	C39680	C39711
15/32	.4688	.500	2.000	4.000	3	C39740	C39762	C39784
1/2	.5000	.500	1.250	3.250	3	C39651	C39682	C39713
1/2	.5000	.500	2.000	4.000	3	C39741	C39763	C39785
5/8	.6250	.625	1.625	3.750	3	C39653	C39684	C39715
3/4	.7500	.750	1.625	3.875	3	C39655	C39686	C39717
3/4	.7500	.750	3.000	5.250	3	C39743	C39765	C39787
15/16	.9375	.875	1.875	4.125	3	C39658	C39689	C39720
1	1.0000	.750	1.875	4.125	3	C39659	C39690	C39721
1	1.0000	1.000	2.000	4.500	3	C39660	C39691	C39722
1	1.0000	1.000	4.000	6.500	3	C39745	C39767	C39789

FINISHER MULTI-FLUTE

HG-4C

HIGH SPEED STEEL

Helix 30° / Single End / Center Cutting
Bright / TiN / TiCN

▷ Heavy cross-section for high rigidity



Best Material Application



STEEL CAST IRON

Best Material Application



STEEL NON-FERROUS CAST IRON

Size		Shank Dia.	Length of Cut	Fractional		No. of Flutes	Order Number		
Fractional	Decimal			Overall Length			Bright	TiN	TiCN
1/8	.1250	.375	.375	2.313		4	C41243	C41520	C33240
5/32	.1562	.375	.500	2.375		4	C33142	C33189	C33242
3/16	.1875	.375	.500	2.375		4	C41245	C41521	C33244
3/16	.1875	.375	1.250	3.063		4	C33371	C33384	C33406
3/16	.1875	.375	1.750	3.563		4	C33428	C33438	C33457
7/32	.2188	.375	.625	2.438		4	C33145	C33192	C33246
7/32	.2188	.375	1.750	3.563		4	C33429	C33439	C33458
15/64	.2344	.375	.625	2.438		4	C33146	C33193	C33247
1/4	.2500	.375	.625	2.438		4	C41248	C41522	C33248
1/4	.2500	.375	1.250	3.063		4	C41326	C33386	C33408
1/4	.2500	.375	1.750	3.563		4	C41381	C33440	C33459
9/32	.2812	.375	.750	2.500		4	C33148	C33195	C33250
9/32	.2812	.375	1.375	3.125		4	C33373	C33387	C33409
9/32	.2812	.375	2.000	3.750		4	C33430	C33441	C33460
5/16	.3125	.375	.750	2.500		4	C41250	C41523	C33252
5/16	.3125	.375	1.375	3.125		4	C41328	C33388	C33410
5/16	.3125	.375	2.000	3.750		4	C41383	C33442	C33461
11/32	.3438	.375	.750	2.500		4	C33151	C33198	C33254
11/32	.3438	.375	1.500	3.250		4	C33374	C33389	C33411
3/8	.3750	.375	.750	2.500		4	C41253	C41524	C33256
3/8	.3750	.375	1.500	3.250		4	C41331	C33390	C33412
3/8	.3750	.375	2.500	4.250		4	C41386	C33444	C33463
13/32	.4062	.375	1.000	2.688		4	C33154	C33201	C33258
13/32	.4062	.375	2.750	4.500		4	C33432	C33445	C33464
7/16	.4375	.375	1.000	2.688		4	C41254	C33203	C33260
7/16	.4375	.375	2.750	4.500		4	C33433	C33446	C33465
7/16	.4375	.500	1.750	3.750		4	C33376	C33392	C33414
15/32	.4688	.500	1.250	3.250		4	C33158	C33205	C33262
1/2	.5000	.375	1.000	2.688		4	C33160	C33207	C33264
1/2	.5000	.500	1.250	3.250		4	C41257	C41525	C33265
1/2	.5000	.500	2.000	4.000		4	C41335	C33394	C33416
1/2	.5000	.500	3.000	5.000		4	C41390	C33448	C33467
17/32	.5312	.500	1.375	3.375		4	C33161	C33208	C33266
9/16	.5625	.500	1.375	3.375		4	C33162	C33209	C33267
19/32	.5938	.500	1.375	3.375		4	C33163	C33210	C33268
5/8	.6250	.500	1.375	3.375		4	C33164	C33211	C33269
5/8	.6250	.625	1.625	3.750		4	C41260	C41526	C33270
5/8	.6250	.625	2.500	4.625		4	C41338	C33395	C33417
5/8	.6250	.625	4.000	6.125		4	C41393	C33449	C33468
21/32	.6562	.625	1.625	3.750		4	C33165	C33212	C33271
11/16	.6875	.500	1.625	3.625		4	C33166	C33213	C33272
11/16	.6875	.625	1.625	3.750		4	C41262	C33214	C33273
23/32	.7188	.750	1.625	3.875		4	C33167	C33215	C33274
3/4	.7500	.500	1.625	3.625		4	C33168	C33216	C33275
3/4	.7500	.625	1.625	3.750		4	C33169	C33217	C33276
3/4	.7500	.750	1.625	3.875		4	C41264	C41527	C33277
3/4	.7500	.750	3.000	5.250		4	C41341	C33396	C33418
3/4	.7500	.750	4.000	6.250		4	C41396	C33450	C33469

continued on next page

FINISHER MULTI-FLUTE

HG-4C continued



05

END MILLS

CLEVELAND | WALTER

Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
25/32	.7812	.750	1.875	4.125	4	C33170	C33218	C33278
13/16	.8125	.625	1.875	4.000	4	C33171	C33219	C33279
13/16	.8125	.750	1.875	4.125	4	C75019	C75044	C75069
7/8	.8750	.625	1.875	4.000	4	C33173	C33221	C33281
7/8	.8750	.750	1.000	3.250	4	C75021	C75046	C75071
7/8	.8750	.750	1.875	4.125	4	C33174	C33222	C33282
7/8	.8750	.875	1.875	4.125	4	C41268	C33223	C33283
7/8	.8750	.875	5.000	7.250	4	C41400	C33451	C33470
15/16	.9375	.875	1.875	4.125	4	C33176	C33225	C33285
1	1.0000	.625	1.875	4.000	4	C33178	C33227	C33287
1	1.0000	.625	1.875	4.000	6	C75023	C75048	C75073
1	1.0000	.750	1.875	4.125	4	C33179	C33228	C33288
1	1.0000	1.000	2.000	4.500	4	C41272	C41528	C33290
1	1.0000	1.000	3.000	5.500	4	C75025	C75050	C75075
1	1.0000	1.000	4.000	6.500	4	C41349	C33398	C33420
1	1.0000	1.000	6.000	8.500	4	C41404	C33452	C33471
1-1/8	1.1250	.750	1.375	3.625	6	C75026	C75051	C75076
1-1/8	1.1250	1.000	2.000	4.500	4	C41275	C33231	C33292
1-1/8	1.1250	1.000	4.000	6.500	4	C33378	C33399	C33421
1-1/4	1.2500	.750	1.375	3.625	6	C75029	C75054	C75079
1 1/4	1.2500	.875	2.000	4.250	6	C75030	C75055	C75080
1-1/4	1.2500	1.000	2.000	4.500	4	C33183	C33233	C33294
1-1/4	1.2500	1.250	2.000	4.500	4	C41277	C33234	C33295
1-3/8	1.3750	.750	1.375	3.625	6	C75034	C75059	C75084
1-3/8	1.3750	1.000	2.000	4.500	4	C33184	C33235	C33296
1-3/8	1.3750	1.000	2.000	4.500	6	C75035	C75060	C75085
1-1/2	1.5000	.750	1.375	3.625	6	C75036	C75061	C75086
1-1/2	1.5000	1.000	2.000	4.500	6	C33185	C33236	C33297
1-1/2	1.5000	1.250	4.000	6.500	6	C75039	C75064	C75088
1-3/4	1.7500	.750	1.375	3.625	6	C75040	C75065	C75089

Tech tip!

Benefits of Multi Flute End Mills

- Generally, multi flute end mills give smoother finishes than 2 flute end mills.
- Increased number of flutes mean more cutting edges, providing more cutting action.

FINISHER MULTI-FLUTE

5100A SERIES

HIGH SPEED STEEL

Regular Length / Non-Center Cutting / Single End Bright

- ▷ Provide a better finishing capability than the 2-flute end mill
- ▷ Cutting action is smoother than that of the 2-flute end mill, with less chatter and flutter
- ▷ Have ample chip carrying capacity
- ▷ All sizes are individually packaged
- ▷ Non-center cutting end mills have cutting edges only on the sides and are used only for side milling



Best Material Application



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/8"	3/8"	3/8"	2-5/16"	4	51A108A
11/64"	3/8"	1/2"	2-3/8"	4	51A111A
3/16"	3/8"	1/2"	2-3/8"	4	51A112A
13/64"	3/8"	9/16"	2-7/16"	4	51A113A
7/32"	3/8"	9/16"	2-7/16"	4	51A114A
15/64"	3/8"	5/8"	2-7/16"	4	51A115A
1/4"	3/8"	5/8"	2-7/16"	4	51A116A
17/64"	3/8"	11/16"	2-7/16"	4	51A117A
9/32"	3/8"	11/16"	2-7/16"	4	51A118A
19/64"	3/8"	3/4"	2-1/2"	4	51A119A
5/16"	3/8"	3/4"	2-1/2"	4	51A120A
21/64"	3/8"	3/4"	2-1/2"	4	51A121A
11/32"	3/8"	3/4"	2-1/2"	4	51A122A
23/64"	3/8"	3/4"	2-1/2"	4	51A123A
3/8"	3/8"	3/4"	2-1/2"	4	51A124A
25/64"	3/8"	1"	2-11/16"	4	51A125A
13/32"	3/8"	1"	2-11/16"	4	51A126A
27/64"	3/8"	1"	2-11/16"	4	51A127A
7/16"	3/8"	1"	2-11/16"	4	51A128A
29/64"	1/2"	1-1/4"	3-1/4"	4	51A129A
15/32"	1/2"	1-1/4"	3-1/4"	4	51A130A
31/64"	1/2"	1-1/4"	3-1/4"	4	51A131A
1/2"	3/8"	1"	2-11/16"	4	51A132A
1/2"	1/2"	1-1/4"	3-1/4"	4	51A132B
17/32"	1/2"	1-3/8"	3-3/8"	4	51A134B
9/16"	1/2"	1-3/8"	3-3/8"	4	51A136B
19/32"	1/2"	1-3/8"	3-3/8"	4	51A138B
5/8"	1/2"	1-3/8"	3-3/8"	4	51A140B
5/8"	5/8"	1-5/8"	3-3/4"	4	51A140C
21/32"	5/8"	1-5/8"	3-3/4"	4	51A142C
11/16"	1/2"	1-5/8"	3-5/8"	4	51A144B
11/16"	5/8"	1-5/8"	3-3/4"	4	51A144C
23/32"	3/4"	1-5/8"	3-7/8"	4	51A146D
3/4"	1/2"	1-5/8"	3-5/8"	4	51A148B
3/4"	5/8"	1-5/8"	3-3/4"	4	51A148C
3/4"	3/4"	1-5/8"	3-7/8"	4	51A148D

Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
25/32"	3/4"	1-7/8"	4-1/8"	4	51A150D
13/16"	5/8"	1-7/8"	4"	6	51A152C
13/16"	3/4"	1-7/8"	4-1/8"	4	51A152D
27/32"	5/8"	1-7/8"	4"	4	51A154E
7/8"	1/2"	1-5/8"	3-5/8"	4	51A156B
7/8"	5/8"	1-7/8"	4"	6	51A156C
7/8"	3/4"	1-7/8"	4-1/8"	4	51A156D
7/8"	7/8"	1-7/8"	4-1/8"	4	51A156E
29/32"	7/8"	1-7/8"	4-1/8"	6	51A158E
15/16"	5/8"	1-7/8"	4"	6	51A160C
15/16"	3/4"	1-7/8"	4-1/8"	4	51A160D
15/16"	7/8"	1-7/8"	4-1/8"	4	51A160E
1"	5/8"	1-7/8"	4"	6	51A164C
1"	3/4"	1-7/8"	4-1/8"	4	51A164D
1"	7/8"	1-7/8"	4-1/8"	4	51A164E
1"	1"	2"	4-1/2"	4	51A164F
1-1/16"	3/4"	2"	4-1/4"	6	51A204D
1-1/8"	3/4"	2"	4-1/4"	6	51A208D
1-1/8"	7/8"	2"	4-1/2"	6	51A208E
1-1/8"	1"	2"	4-1/2"	6	51A208F
1-1/4"	3/4"	2"	4-1/4"	6	51A216D
1-1/4"	7/8"	2"	4-1/2"	6	51A216E
1-1/4"	1"	2"	4-1/2"	6	51A216F
1-1/4"	1-1/4"	2"	4-1/2"	6	51A216G
1-3/8"	3/4"	2"	4-1/4"	6	51A224D
1-3/8"	1"	2"	4-1/2"	6	51A224F
1-1/2"	1"	2"	4-1/2"	6	51A232F
1-1/2"	1-1/4"	2"	4-1/2"	4	51A232G
1-1/2"	1-1/4"	2"	4-1/2"	6	51A232H
1-5/8"	1-1/4"	2"	4-1/2"	6	51A240G
1-3/4"	1-1/4"	2"	4-1/2"	4	51A248G
1-3/4"	1-1/4"	2"	4-1/2"	6	51A248H
1-7/8"	1-1/4"	2"	4-1/2"	6	51A256H
2"	3/4"	2"	4-1/2"	8	51A264D
2"	1-1/4"	2"	4-1/2"	6	51A264G
2"	1-1/4"	2"	4-1/2"	8	51A264H

FINISHER MULTI-FLUTE

05

END MILLS

DRILCO | WALTER

5150A SERIES

HIGH SPEED STEEL

Regular Length / Center Cutting / Single End Bright



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/8"	3/8"	3/8"	2-5/16"	4	515A108A
3/16"	3/8"	1/2"	2-3/8"	4	515A112A
7/32"	3/8"	5/8"	2-7/16"	4	515A114A
1/4"	3/8"	5/8"	2-7/16"	4	515A116A
9/32"	3/8"	11/16"	2-1/2"	4	515A118A
5/16"	3/8"	3/4"	2-1/2"	4	515A120A
11/32"	3/8"	3/4"	2-1/2"	4	515A122A
3/8"	3/8"	3/4"	2-1/2"	4	515A124A
13/32"	3/8"	1"	2-11/16"	4	515A126A
7/16"	3/8"	1"	2-11/16"	4	515A128A
15/32"	3/8"	1"	2-11/16"	4	515A130A
1/2"	1/2"	1-1/4"	3-1/4"	4	515A132B
9/16"	1/2"	1-3/8"	3-3/8"	4	515A136B
5/8"	1/2"	1-3/8"	3-3/8"	4	515A140B
5/8"	5/8"	1-5/8"	3-3/4"	4	515A140C

Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
11/16"	5/8"	1-5/8"	3-3/4"	4	515A144C
3/4"	3/4"	1-5/8"	3-7/8"	4	515A148D
3/4"	3/4"	1-5/8"	3-7/8"	6	515A148E
13/16"	3/4"	1-7/8"	4-1/8"	4	515A152D
7/8"	7/8"	1-7/8"	4-1/8"	4	515A156E
15/16"	3/4"	1-7/8"	4-1/8"	4	515A160E
1"	1"	2"	4-1/2"	4	515A164F
1"	1"	2"	4-1/2"	6	515A164G
1-1/8"	1"	2"	4-1/2"	4	515A208F
1-1/8"	1"	2"	4-1/2"	6	515A208G
1-1/4"	1-1/4"	2"	4-1/2"	6	515A216H
1-1/2"	1-1/4"	2"	4-1/2"	4	515A232G
1-1/2"	1-1/4"	2"	4-1/2"	6	515A232H
1-3/4"	1-1/4"	2"	4-1/2"	6	515A248G
2"	1-1/4"	2"	4-1/2"	6	515A264G

5250A SERIES

HIGH SPEED STEEL

Long Length / Center Cutting / Single End Bright



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/4"	3/8"	1-1/4"	3-1/16"	4	525A116A
5/16"	3/8"	1-3/8"	3-1/8"	4	525A120A
3/8"	3/8"	1-1/2"	3-1/4"	4	525A124A
1/2"	1/2"	2"	4"	4	525A132B
5/8"	5/8"	2-1/2"	4-5/8"	4	525A140C
3/4"	3/4"	3"	5-1/4"	4	525A148D
3/4"	3/4"	3"	5-1/4"	6	525A148H
7/8"	7/8"	3-1/2"	5-3/4"	4	525A156E
7/8"	7/8"	3-1/2"	5-3/4"	6	525A156H

Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1"	1"	4"	6-1/2"	4	525A164F
1"	1"	4"	6-1/2"	6	525A164H
1-1/4"	1-1/4"	4"	6-1/2"	4	525A216G
1-1/4"	1-1/4"	4"	6-1/2"	6	525A216H
1-1/2"	1-1/4"	4"	6-1/2"	4	525A232G
1-1/2"	1-1/4"	4"	6-1/2"	6	525A232H
2"	2"	6"	9-3/4"	6	525A264J

5350A SERIES

HIGH SPEED STEEL

Extra-Long Length / Center Cutting / Single End Bright



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/4"	3/8"	1-3/4"	3-9/16"	4	535A116A
5/16"	3/8"	2"	3-3/4"	4	535A120A
3/8"	3/8"	2-1/2"	4-1/4"	4	535A124A
15/32"	1/2"	3"	5"	4	535A130A
1/2"	1/2"	3"	5"	4	535A132B
5/8"	5/8"	4"	6-1/8"	4	535A140C
3/4"	3/4"	4"	6-1/4"	4	535A148D
3/4"	3/4"	4"	6-1/4"	6	535A148H

Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
7/8"	7/8"	5"	7-1/4"	4	535A156E
7/8"	7/8"	5"	7-1/4"	6	535A156H
1"	1"	6"	8-1/2"	4	535A164F
1"	1"	6"	8-1/2"	6	535A164H
1-1/4"	1-1/4"	6"	8-1/2"	6	535A216H
2"	2"	6"	9-3/4"	6	535A264G

FINISHER 4-FLUTE

HG-4MC

HIGH SPEED STEEL

Helix 30° / Single End / Center Cutting / Metric / Bright

HG-4MC end mills are high-speed steel (HSS), 4-flute general-purpose tools featuring a multi-cut geometry designed for smooth, stable milling. The added cutting edges improve finish quality and tool control, making HG-4MC ideal for profiling and finishing operations in steels, cast iron, and non-ferrous materials.

- ▷ 4-flute multi-cut geometry for improved surface finish and reduced vibration
- ▷ High-speed steel (HSS) construction for toughness and reliable performance
- ▷ General-purpose design for a wide range of milling applications
- ▷ Enhanced edge engagement for smoother cuts and better size control
- ▷ Ideal for profiling and finishing in light to moderate machining conditions

Best Material Application



STEEL



CAST IRON



Fractional						
Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
mm	Decimal					Bright
3	.1181	9.52	9.52	58.74	4	C75091
4	.1575	9.52	12.70	60.32	4	C75092
5	.1969	9.52	15.88	61.91	4	C75093
6	.2362	9.52	15.88	61.91	4	C75094
7	.2756	9.52	19.05	63.50	4	C75095
8	.3150	9.52	19.05	63.50	4	C75096
9	.3543	9.52	19.05	63.50	4	C75097
10	.3937	9.52	25.40	68.26	4	C75098
11	.4331	9.52	25.40	68.26	4	C75099
12	.4724	12.70	31.75	82.55	4	C75100
13	.5118	12.70	34.92	85.72	4	C75101
14	.5512	12.70	34.92	85.72	4	C75102
15	.5906	12.70	34.92	85.72	4	C75103
16	.6299	15.88	41.27	95.25	4	C75104
18	.7087	15.88	41.27	95.25	4	C75106
20	.7874	15.88	47.63	101.60	4	C75108
25	.9843	25.40	50.80	114.30	4	C75113

FINISHER 4-FLUTE

05

END MILLS

5650A SERIES

HIGH SPEED STEEL

Best Material Application



STEEL



CAST IRON

Regular Length / Center Cutting / Single End / Metric / Bright

5650A Series end mills are general-purpose high-speed steel (HSS), single-end finishing end mills designed for stable milling, profiling, and slotting in a wide range of materials. The multi-flute geometry provides improved surface finish and size control, making the 5650A Series a dependable choice for everyday shop and maintenance applications.

- ▷ Multi-flute finishing geometry for smoother finishes and better accuracy
- ▷ Single-end, regular-length design for versatile milling operations
- ▷ Ideal for general-purpose machining in steel, cast iron, and non-ferrous materials



Fractional					
Size (mm)	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
3.0	3/8"	3/8"	2-5/16"	4	565A030
3.5	3/8"	1/2"	2-3/8"	4	565A035
4.0	3/8"	1/2"	2-3/8"	4	565A040
4.5	3/8"	9/16"	2-1/2"	4	565A045
5.0	3/8"	9/16"	2-1/2"	4	565A050
5.5	3/8"	5/8"	2-1/2"	4	565A055
6.0	3/8"	5/8"	2-1/2"	4	565A060
7.0	3/8"	11/16"	2-1/2"	4	565A070
8.0	3/8"	3/4"	2-1/2"	4	565A080
8.5	3/8"	3/4"	2-1/2"	4	565A085
9.0	3/8"	3/4"	2-1/2"	4	565A090
10.0	3/8"	1"	2-11/16"	4	565A100
10.5	3/8"	1"	2-11/16"	4	565A105
11.0	3/8"	1"	2-11/16"	4	565A110
12.0	1/2"	1"	2-11/16"	4	565A120
12.5	1/2"	1-1/4"	3-1/4"	4	565A125

Fractional					
Size (mm)	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
13.0	1/2"	1-1/4"	3-1/4"	4	565A130
14.0	1/2"	1-3/8"	3-3/8"	4	565A140
15.0	1/2"	1-1/8"	3-3/8"	4	565A150
16.0	5/8"	1-5/8"	3-3/4"	4	565A160
18.0	5/8"	1-5/8"	3-3/4"	4	565A180
20.0	5/8"	1-7/8"	4-1/8"	4	565A200
21.0	5/8"	1-7/8"	4-1/8"	4	565A210
22.0	7/8"	1-7/8"	4-1/8"	4	565A220
23.0	7/8"	1-7/8"	4-1/8"	4	565A230
24.0	7/8"	2"	4-1/2"	4	565A240
25.0	7/8"	2"	4-1/2"	4	565A250
32.0	7/8"	2"	4-1/2"	4	565A320
36.0	7/8"	2"	4-1/2"	4	565A360
40.0	1-1/4"	2"	4-1/2"	4	565A400
45.0	1-1/4"	2"	4-1/2"	4	565A450

DRILCO | WALTER

BALL NOSE 4-FLUTE

HG-4B

HIGH SPEED STEEL

Helix 30° / Single Ball End / Center Cutting / Bright / TiN / TiCN

HG-4B end mills are high-speed steel (HSS), 4-flute general-purpose ball nose tools designed for profiling, contouring, and smooth 3D machining. The ball nose geometry produces consistent surface finishes, while the 4-flute design provides added rigidity and control in a wide range of milling applications.

- ▷ 4-flute ball nose geometry for smooth contouring and profiling
- ▷ High-speed steel (HSS) construction for toughness and reliability
- ▷ General-purpose design suitable for steel, cast iron, and non-ferrous materials
- ▷ Improved rigidity for better size control and surface finish
- ▷ Ideal for profiling and finishing in light to moderate milling operations

Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/4	.2500	.375	.625	2.438	4	C33301	C33303	C33313
1/4	.2500	.375	1.750	3.563	4	C33344	C33353	C33362
5/16	.3125	.375	1.375	3.125	4	C33324	C33327	C33336
3/8	.3750	.375	1.500	3.250	4	C33325	C33328	C33337
1/2	.5000	.500	1.000	3.000	4	C75114	C75115	C75116
1/2	.5000	.500	1.250	3.250	4	C41293	C33306	C33316
1/2	.5000	.500	3.000	5.000	4	C33347	C33356	C33365
5/8	.6250	.625	1.625	3.750	4	C41297	C33307	C33317
3/4	.7500	.750	1.625	3.875	4	C41300	C33308	C33318
1-1/4	1.2500	1.250	4.000	6.500	4	C41375	C33333	C33342
1-1/2	1.5000	1.250	4.000	6.500	4	C41377	C33334	C33343

BALL NOSE 4-FLUTE

05

END MILLS

6420A SERIES

HIGH SPEED STEEL

Best Material Application



STEEL



CAST IRON

Regular Length / Center Cutting / Single End / Bright

6420A Series end mills are high-speed steel (HSS), single-end ball nose end mills designed for profiling, contouring, and 3-D surface machining. The ball nose geometry allows smooth transitions and consistent surface finishes, making the 6420A Series a dependable choice for general-purpose milling in a wide range of materials.

- ▷ High-speed steel (HSS) construction for toughness and shock resistance
- ▷ Ball nose geometry ideal for contouring, profiling, and radius work
- ▷ Single-end, center-cutting design for versatile milling operations
- ▷ Smooth cutting action for improved surface finish
- ▷ Well-suited for general-purpose machining in steel, cast iron, and non-ferrous materials



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/4"	3/8"	5/8"	2-7/16"	4	642A116A
5/16"	3/8"	3/4"	2-1/2"	4	642A120A
3/8"	3/8"	3/4"	2-1/2"	4	642A124A
1/2"	1/2"	1-1/4"	3-1/4"	4	642A132B
5/8"	5/8"	1-5/8"	3-3/4"	4	642A140C
3/4"	3/4"	1-5/8"	3-7/8"	4	642A148D
1"	1"	2"	4-1/2"	4	642A164F

DRILCO

WALTER

FINISHER LEFT HAND HELIX, LEFT HAND CUT

HG-4LL

HIGH SPEED STEEL

Helix 30° / Single End / Center Cutting / Bright / TiN / TiCN

HG-4LL end mills are high-speed steel (HSS), 4-flute general-purpose tools featuring a left-hand helix and left-hand cut. This geometry helps control chip flow toward the shank and reduces the tendency to lift thin or poorly fixtured workpieces, making HG-4LL ideal for stable profiling and finishing operations in steels and non-ferrous materials.

- ▷ Left-hand helix / left-hand cut for controlled chip evacuation and reduced part lift
- ▷ 4-flute design for improved rigidity and surface finish
- ▷ High-speed steel (HSS) construction for toughness and versatility
- ▷ General-purpose geometry suitable for a wide range of materials
- ▷ Ideal for finishing and profiling where workholding stability is critical

Best Material Application



Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
3/16	.1875	.375	.500	2.375	4	C42294	C33610	C33618
1/4	.2500	.375	.625	2.438	4	C42297	C33611	C33619
5/16	.3125	.375	.750	2.500	4	C42299	C33612	C33620
3/8	.3750	.375	.750	2.500	4	C42302	C33613	C33621
7/16	.4375	.375	1.000	2.688	4	C33609	C33614	C33622
1/2	.5000	.500	1.250	3.250	4	C42306	C33615	C33623
5/8	.6250	.625	1.625	3.750	4	C42309	C33616	C33624
3/4	.7500	.750	1.625	3.875	4	C42312	C33617	C33625

Tech tip!

Using Style HG-4LL End Mills

- 32° left-hand helix for reverse spindle operation.
- 4 flute design delivers smoother finish.

CORNER RADIUS

CRE

HIGH SPEED STEEL

Bright



Best Material Application



STEEL

CAST IRON

Size		Shank Dia.	Fractional Overall Length	No. of Flutes	Corner Radius	Order Number
Fractional	Decimal					Bright
1/2	.500	.375	2.500	4	.0938	C75374
5/8	.625	.500	3.000	4	.1250	C75375
3/4	.750	.500	3.000	4	.1562	C75376
7/8	.875	.750	3.125	4	.1875	C75378
1	1.000	.500	3.000	4	.2500	C75379
1-1/4	1.250	.500	3.500	4	.3750	C75383
1-1/2	1.500	1.000	4.125	4	.5000	C75386

FINISHER - DOUBLE END 2-FLUTE

HDC-2

COBALT

Helix 30° / Double End
Bright / TiN / TiCN

► High red hardness for high heat conditions



Best Material Application



Bright

TiN

STEEL

STAINLESS

Best Material Application



TiCN

STEEL

STAINLESS

HIGH TEMP. ALLOYS

Size		Shank Dia.	Length of Cut	Fractional Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/8	.1250	.375	.375	3.063	2	C52151	C32847	C32880
3/16	.1875	.375	.438	3.250	2	C52153	C32851	C32884
1/4	.2500	.375	.500	3.375	2	C52155	C32855	C32888
5/16	.3125	.375	.563	3.500	2	C52157	C32859	C32892
11/32	.3438	.375	.563	3.500	2	C52158	—	C32894
3/8	.3750	.375	.563	3.500	2	C52159	C32863	C32896
7/16	.4375	.500	.813	4.125	2	C52161	C32867	C32900
1/2	.5000	.500	.813	4.125	2	C52163	C32871	C32904
5/8	.6250	.625	1.125	5.000	2	C52165	C32873	C32906
3/4	.7500	.750	1.313	5.625	2	C52167	C32875	C32908
7/8	.8750	.875	1.563	6.125	2	—	—	C32910

FINISHER - DOUBLE END 2-FLUTE

6900A SERIES

COBALT

Regular Length / Center Cutting / Double End / Bright

6900A Series end mills are general-purpose, high-speed steel (HSS) roughing end mills designed for fast stock removal in steel and other ferrous materials. The aggressive chip-breaker (roughing) geometry reduces cutting forces and vibration, allowing higher feed rates and improved tool stability during heavy milling operations.

- ▷ *Roughing (chip-breaker) flute geometry for rapid material removal*
- ▷ *High-speed steel (HSS) construction provides toughness and shock resistance*
- ▷ *Reduced cutting forces for improved tool life and machine stability*
- ▷ *Ideal for slotting and heavy profiling prior to finishing passes*
- ▷ *General-purpose performance in steels and cast iron*

Best Material Application



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/8"	3/8"	3/8"	3-1/16"	2	690A108A
5/32"	3/8"	7/16"	3-1/8"	2	690A110A
3/16"	3/8"	7/16"	3-1/8"	2	690A112A
7/32"	3/8"	1/2"	3-1/4"	2	690A114A
1/4"	3/8"	1/2"	3-3/8"	2	690A116A
9/32"	3/8"	9/16"	3-3/8"	2	690A118A
5/16"	3/8"	9/16"	3-1/2"	2	690A120A
3/8"	3/8"	9/16"	3-1/2"	2	690A124A
1/2"	1/2"	13/16"	3-3/4"	2	690A132B
5/8"	5/8"	1-1/8"	4-1/2"	2	690A140C
3/4"	3/4"	1-5/16"	5"	2	690A148D

FINISHER - DOUBLE END 4-FLUTE

HDC-4C

COBALT

Helix 30° / Double End / Center Cutting / Bright / TiN / TiCN

HDC-4C end mills are premium cobalt, 4-flute finisher end mills engineered for enhanced wear resistance and heat tolerance in demanding milling applications. Designed for smooth, controlled cutting, the HDC-4C series delivers improved tool life and consistent surface finish when machining tougher materials such as stainless steel and alloy steels.

- ▷ High red hardness for high heat conditions
- ▷ Cobalt construction for superior heat resistance and extended tool life
- ▷ 4-flute finisher geometry provides excellent surface finish and size control
- ▷ Higher red-hardness than standard HSS for improved performance at elevated speeds
- ▷ Center-cutting design supports plunging and slotting operations
- ▷ Ideal for stainless steel, alloy steel, and tougher materials in light to medium-duty milling



Best Material Application



Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/8	.1250	.375	.375	3.063	4	C52170	C32941	C32974
3/16	.1875	.375	.500	3.250	4	C52172	C32945	C32978
7/32	.2188	.375	.563	3.250	4	C52173	—	C32980
1/4	.2500	.375	.625	3.375	4	C52174	C32949	C32982
5/16	.3125	.375	.750	3.500	4	C52176	C32953	C32986
3/8	.3750	.375	.750	3.500	4	C52178	C32957	C32990
7/16	.4375	.500	1.000	4.125	4	C52180	C32961	C32994
1/2	.5000	.500	1.000	4.125	4	C52182	C32965	C32998
5/8	.6250	.625	1.375	5.000	4	C52184	C32967	C33000
3/4	.7500	.750	1.625	5.625	4	C52186	C32969	C33002

FINISHER - DOUBLE END 4-FLUTE

6950A SERIES

COBALT

Regular Length / Center Cutting / Double End / Bright

6950A Series end mills are high-speed steel (HSS) roughing end mills engineered for aggressive stock removal and reduced cutting forces. The roughing (chip-breaker) geometry helps minimize chatter and heat buildup, making the 6950A Series well suited for heavy milling operations where productivity and tool life are critical.

- ▷ *Roughing (chip-breaker) geometry for fast material removal*
- ▷ *Reduced cutting forces and vibration for improved stability*
- ▷ *Longer tool life in heavy milling applications*

Best Material Application



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/8"	3/8"	3/8"	3-1/16"	4	695A108A
3/16"	3/8"	1/2"	3-1/4"	4	695A112A
1/4"	3/8"	5/8"	3-3/8"	4	695A116A
5/16"	3/8"	3/4"	3-1/2"	4	695A120A
3/8"	3/8"	3/4"	3-1/2"	4	695A124A
1/2"	1/2"	1"	4-1/8"	4	695A132B
5/8"	5/8"	1-3/8"	5"	4	695A140C
3/4"	3/4"	1-5/8"	5-5/8"	4	695A148D

FINISHER 2-FLUTE

HGC-2

COBALT

Helix 30° / Single End / Bright / TiN / TiCN

HGC-2 end mills are cobalt, 2-flute finisher end mills engineered for improved heat resistance and wear life in tougher materials. The 2-flute geometry provides smooth cutting action and efficient chip evacuation, making HGC-2 ideal for finishing, slotting, and profiling in stainless steel and alloy steels.

- ▷ Cobalt (HSS-E) construction for superior heat resistance and longer tool life
- ▷ 2-flute finisher geometry for smooth cutting and efficient chip evacuation
- ▷ Reduced cutting forces for improved stability and surface finish
- ▷ General-purpose finisher for stainless steel, alloy steel, and tougher materials
- ▷ Reliable performance in light to medium-duty milling applications



Best Material Application



Best Material Application



05

END MILLS

Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/8	.1250	.375	.375	2.313	2	C42602	C32498	C32527
3/16	.1875	.375	.438	2.375	2	C42604	C32501	C32530
1/4	.2500	.375	.500	2.438	2	C42607	C32505	C32534
5/16	.3125	.375	.563	2.500	2	C42609	C32509	C32538
3/8	.3750	.375	.563	2.500	2	C42612	C32513	C32542
7/16	.4375	.375	.813	2.688	2	C32494	C32517	C32546
1/2	.5000	.500	1.000	3.250	2	C42616	C32521	C32550
1/2	.5000	.500	1.500	3.500	2	C75131	C75141	C75151
5/8	.6250	.625	1.313	3.750	2	C42619	C32522	C32551
3/4	.7500	.750	1.313	3.875	2	C42622	C32523	C32552
1	1.0000	1.000	1.625	4.500	2	C42629	C32524	C32553

CLEVELAND WALTER

FINISHER 2-FLUTE

6500A SERIES

COBALT

Regular Length / Center Cutting / Single End / Bright

6500A Series end mills are cobalt, single-end end mills designed for profiling, contouring, and 3-D milling in tougher materials. The added cobalt content improves heat resistance and edge strength, delivering longer tool life and more consistent performance compared to standard HSS in demanding applications.

- ▷ Cobalt (HSS-E) construction for superior heat and wear resistance
- ▷ Single-end design for precision machining and stability
- ▷ Improved edge strength for tougher steels and stainless steel
- ▷ General-purpose performance for light to medium-duty milling operations

Best Material Application



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/8"	3/8"	3/8"	2-5/16"	2	650A108A
3/16"	3/8"	7/16"	2-5/16"	2	650A112A
1/4"	3/8"	1/2"	2-5/16"	2	650A116A
5/16"	3/8"	9/16"	2-5/16"	2	650A120A
3/8"	3/8"	9/16"	2-5/16"	2	650A124A
7/16"	3/8"	13/16"	2-1/2"	2	650A128A
1/2"	1/2"	1"	3"	2	650A132B
5/8"	5/8"	1-5/16"	3-7/16"	2	650A140C
3/4"	3/4"	2-1/4"	4-1/2"	2	650A148C
3/4"	3/4"	1-5/16"	3-7/16"	2	650A148D
1"	1"	1-5/8"	4-1/8"	2	650A164F

FINISHER MULTI-FLUTE

05

END MILLS

CLEVELAND | WALTER

HGC-4C

COBALT

Helix 30° / Single End / Center Cutting
Bright / TiN / TiCN

- ▷ High red hardness for high heat conditions
- ▷ Heavy cross-section for high rigidity



Best Material Application



Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/8	.1250	.375	.375	2.313	4	C42684	C32574	C32610
5/32	.1562	.375	.500	2.375	4	C32556	C32575	C32611
3/16	.1875	.375	.500	2.375	4	C42686	C32577	C32613
7/32	.2188	.375	.625	2.438	4	C32559	C32579	C32615
1/4	.2500	.375	.625	2.438	4	C42689	C32581	C32617
1/4	.2500	.375	1.250	3.063	4	C32646	C32655	C32673
1/4	.2500	.375	1.750	3.563	4	C32691	C32700	C32718
17/64	.2656	.375	.750	2.500	4	C32561	C32582	C32618
9/32	.2812	.375	.750	2.500	4	C32562	C32583	C32619
9/32	.2812	.375	1.375	3.125	4	C32647	C32656	C32674
19/64	.2969	.375	.750	2.500	4	C32563	C32584	C32620
5/16	.3125	.375	.750	2.500	4	C42691	C32585	C32621
5/16	.3125	.375	1.375	3.125	4	C32648	C32657	C32675
5/16	.3125	.375	2.000	3.750	4	C32693	C32702	C32720
11/32	.3438	.375	2.500	4.250	4	C32694	C32703	C32721
3/8	.3750	.375	.750	2.500	4	C42694	C32589	C32625
3/8	.3750	.375	1.500	3.250	4	C42857	C32659	C32677
3/8	.3750	.375	2.500	4.250	4	C42913	C32704	C32722
13/32	.4062	.375	1.000	2.688	4	C32568	C32591	C32627
13/32	.4062	.375	1.750	3.750	4	C32650	C32660	C32678
7/16	.4375	.375	1.000	2.688	4	C32570	C32593	C32629
7/16	.4375	.375	1.750	3.750	4	C32651	C32661	C32679
7/16	.4375	.375	2.750	4.500	4	C32696	C32706	C32724
15/32	.4688	.500	1.250	3.250	4	C32572	C32595	C32631
15/32	.4688	.500	2.000	4.000	4	—	C32662	—
31/64	.4844	.500	1.250	3.250	4	C32573	C32596	C32632
1/2	.5000	.500	1.250	3.250	4	C42699	C32597	C32633
1/2	.5000	.500	1.250	3.250	6	C42698	C32598	C32634
1/2	.5000	.500	2.000	4.000	4	C42861	C32663	C32681
1/2	.5000	.500	3.000	5.000	4	C42917	C32708	C32726
5/8	.6250	.625	1.625	3.750	4	C42703	C32599	C32635
5/8	.6250	.625	2.500	4.625	4	C42864	C32664	C32682
5/8	.6250	.625	4.000	6.125	4	C42920	C32709	C32727
3/4	.7500	.750	1.625	3.875	4	C42707	C32601	C32637
3/4	.7500	.750	3.000	5.250	4	C42868	C32665	C32683
3/4	.7500	.750	3.000	5.250	6	C42867	C32666	C32684
3/4	.7500	.750	4.000	6.250	4	C42924	C32710	C32728
7/8	.8750	.875	3.500	5.750	4	C32653	C32667	C32685
7/8	.8750	.875	3.500	5.750	6	C32654	C32668	C32686
1	1.0000	1.000	2.000	4.500	4	C42715	C32603	C32639
1	1.0000	1.000	4.000	6.500	4	C42876	C32669	C32687
1	1.0000	1.000	4.000	6.500	6	C42875	C32670	C32688
1	1.0000	1.000	6.000	8.500	4	C42932	C32712	C32730
1-1/4	1.2500	1.250	2.000	4.500	4	C42720	C32605	C32641
1-1/4	1.2500	1.250	4.000	6.500	6	C42880	C32672	C32690
1-1/4	1.2500	1.250	6.000	8.500	4	C42937	C32714	C32732
1-1/2	1.5000	1.250	2.000	4.500	4	C42727	C32607	C32643
1-1/2	1.5000	1.250	8.000	10.500	6	C32699	C32717	C32735
2	2.0000	2.000	4.000	7.750	6	C42731	C32609	C32645

FINISHER MULTI-FLUTE

6700A SERIES

COBALT

Regular Length / Center Cutting
Single End / Bright

Best Material Application



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/8"	3/8"	3/8"	2-5/16"	4	670A108A
3/16"	3/8"	1/2"	2-3/8"	4	670A112A
1/4"	3/8"	5/8"	2-7/16"	4	670A116A
5/16"	3/8"	3/4"	2-1/2"	4	670A120A
3/8"	3/8"	3/4"	2-1/2"	4	670A124A
1/2"	1/2"	1-1/4"	3-1/4"	4	670A132B
5/8"	5/8"	1-5/8"	3-3/4"	4	670A140C
3/4"	3/4"	1-5/8"	3-7/8"	4	670A148D
3/4"	3/4"	1-5/8"	3-7/8"	6	670A148J
1"	1"	2"	4-1/2"	4	670A164F
1-1/4"	1-1/4"	2"	4-1/2"	4	670A216G
1-1/4"	1-1/4"	2"	4-1/2"	6	670A216J
1-1/2"	1-1/4"	2"	4-1/2"	4	670A232G
1-1/2"	1-1/4"	2"	4-1/2"	6	670A232J
2"	1-1/4"	2"	4-1/2"	6	670A264G

6725A SERIES

COBALT

Medium Length / Center Cutting
Single End / Bright

Best Material Application



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
3/8"	3/8"	1-1/2"	3-1/4"	4	672A124A
1/2"	1/2"	2"	4"	4	672A132B
5/8"	5/8"	2-1/2"	4-5/8"	4	672A140C

6750A SERIES

COBALT

Long Length / Center Cutting / Single End
Bright

Best Material Application



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
3/8"	3/8"	2-1/2"	4-1/2"	4	675A124A
1/2"	1/2"	3"	5"	4	675A132B
3/4"	3/4"	3"	5-1/4"	4	675A148D
1"	1"	4"	6-1/2"	4	675A164F
1-1/4"	1-1/4"	4"	6-1/2"	6	675A216G

BALL NOSE 4-FLUTE

6650A SERIES

COBALT

Regular Length / Center Cutting / Single End
Bright

Best Material Application



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/8"	3/8"	3/8"	2-5/16"	4	665A108A
3/16"	3/8"	1/2"	2-3/8"	4	665A112A
1/4"	3/8"	5/8"	2-7/16"	4	665A116A
5/16"	3/8"	3/4"	2-1/2"	4	665A120A
3/8"	3/8"	3/4"	2-1/2"	4	665A124A
1/2"	1/2"	1-1/4"	3-1/4"	4	665A132B
5/8"	5/8"	1-5/8"	3-3/4"	4	665A140C
3/4"	3/4"	1-5/8"	3-7/8"	4	665A148D
1"	1"	2"	4-1/2"	4	665A164F
1-1/4"	1-1/4"	2"	4-1/2"	6	665A216G



ROUGHING MULTI-FLUTE - FINE PITCH

RG6, RG6-TC, RG6-TA

COBALT

Helix 30° / Single End

Bright / TiCN / TiAlN

- ▷ Center cutting design for rapid plunge cutting
- ▷ Heavy cross-section for high rigidity
- ▷ High red hardness for high heat conditions

Best Material Application

Bright

TiN

STEEL

STAINLESS

HIGH TEMP ALLOYS

Best Material Application

TiCN

STEEL

STAINLESS



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					RG6 Bright	RG6-TC TiCN	RG6-TA TiAlN
1/4	.2500	.375	.250	2.063	4	C31160	C31279	—
1/4	.2500	.375	.625	2.438	4	C30826	C30976	—
3/8	.3750	.375	.375	2.156	4	C31161	C31280	—
3/8	.3750	.375	.750	2.500	4	C30829	C30978	C31054
3/8	.3750	.375	1.500	3.250	4	C30830	C30979	C31060
1/2	.5000	.500	1.250	3.250	4	C30831	C30980	C31055
5/8	.6250	.625	1.625	3.750	4	C30833	C30982	C31044
3/4	.7500	.750	.750	2.875	4	C30837	C30986	C31058
3/4	.7500	.750	1.625	3.875	4	C30835	C30984	C31057
3/4	.7500	.750	3.000	5.250	4	C30836	C30985	—
7/8	.8750	.875	.875	3.125	5	C31164	C31283	—
1	1.0000	1.000	1.000	3.500	5	C31166	C31284	C31063
1	1.0000	1.000	2.000	4.500	5	C30838	C30987	C31059
1	1.0000	1.000	3.000	5.500	5	C30839	C30988	C31087
1-1/4	1.2500	1.250	4.000	6.500	6	C31169	C31287	—

ROUGHING MULTI-FLUTE - COARSE PITCH

05

END MILLS

RG8, RG8-TC, RG8-TA

COBALT

Helix 30° / Single End

Bright / TiCN / TiAlN

Best Material Application



- ▷ Center cutting design for rapid plunge cutting
- ▷ Heavy cross-section for high rigidity
- ▷ High red hardness for high heat conditions



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					RG8 Bright	RG8-TC TiCN	RG8-TA TiAlN
1/4	.2500	.375	.250	2.063	3	C31173	C31291	—
3/8	.3750	.375	.375	2.156	4	C31177	C31294	C31065
3/8	.3750	.375	.750	2.500	4	C31178	C31295	C31067
3/8	.3750	.375	1.500	3.250	4	C31179	C31296	—
7/16	.4375	.500	1.250	3.250	4	C30710	—	—
1/2	.5000	.500	.500	2.500	4	C31180	C31297	C31069
1/2	.5000	.500	1.250	3.250	4	C31181	C31298	C31070
1/2	.5000	.500	2.000	4.000	4	C31182	C31299	C31109
1/2	.5000	.500	3.000	5.000	4	C30732	—	—
5/8	.6250	.625	.625	2.750	4	C31183	C31300	C31071
5/8	.6250	.625	1.625	3.750	4	C31184	C31301	C31072
3/4	.7500	.750	1.625	3.875	4	C31194	C31304	C31075
3/4	.7500	.750	3.000	5.250	4	C31195	C31305	—
3/4	.7500	3/4	4.000	6.250	4	C75344	C75357	—
7/8	.8750	3/4	1.875	4.125	5	C75345	C75358	—
7/8	.8750	7/8	1.875	4.125	5	C75346	C75359	—
1	1.0000	.750	2.000	4.250	5	C75347	—	—
1	1.0000	1.000	2.000	4.500	5	C31197	C31306	C31076
1	1.0000	1.000	3.000	5.500	5	C31198	C31307	C31111
1	1.0000	1.000	4.000	6.500	5	C31199	C31308	—
1-1/8	1.1250	.750	2.000	4.250	6	C75348	—	—
1-1/4	1.2500	.750	2.000	4.250	6	C75349	—	—
1-1/2	1.5000	1.250	2.000	4.250	6	C75350	—	—
1-1/2	1.5000	1.250	2.000	4.500	6	C75351	C75360	—
1-1/2	1.5000	1.250	4.000	6.500	6	C75352	C75387	—
1-1/2	1.5000	1.250	6.000	8.500	6	C75353	C75388	—
2	2.0000	.750	2.000	4.250	8	C75354	—	—
2	2.0000	1.250	4.000	6.500	8	C75356	C75362	—
2	2.0000	2.000	4.000	7.750	8	C75389	—	—
2	2.0000	2.000	4.000	7.750	6	C31208	C31313	—
2	2.0000	2.000	6.000	9.750	6	C31209	C31314	—
2	2.0000	2.000	6.000	9.750	8	C75390	—	—

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ROUGHING MULTI-FLUTE

7140 SERIES

COBALT

Regular Length / Center Cutting / Single End / Bright

7140 Series end mills are cobalt, multi-flute roughing end mills engineered for extremely rapid stock removal in demanding milling applications. Featuring a wavy tooth (chip-breaker) geometry, the 7140 Series produces small, manageable chips that reduce cutting forces and vibration, allowing significantly higher feed rates when machining low-alloy and high-strength steels.

- ▷ Cobalt high-speed steel construction for improved heat resistance and tool life
- ▷ Multi-flute roughing (wavy tooth) geometry enables aggressive material removal
- ▷ Ideal for low-alloy and high-strength steels where productivity is critical



Best Material Application



Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1/2"	1/2"	1-1/4"	3-1/4"	4	714A132B
1/2"	1/2"	2"	4"	4	714A132M
1/2"	1/2"	3"	5"	4	714A132L
5/8"	5/8"	3/4"	2-7/8"	4	714A140C
5/8"	5/8"	1-5/8"	3-3/4"	4	714A140M
5/8"	5/8"	3-1/8"	5-1/4"	4	714A140L
11/16"	5/8"	1-5/8"	3-3/4"	4	714A144C
3/4"	5/8"	1-5/8"	3-3/4"	4	714A148C
3/4"	3/4"	1-1/4"	3-1/2"	4	714A148D
3/4"	3/4"	2-1/2"	4-5/8"	4	714A148M
13/16"	3/4"	1-7/8"	4-1/8"	5	714A152D
7/8"	3/4"	1-1/8"	3-3/8"	5	714A156D
7/8"	3/4"	1-7/8"	4-1/8"	5	714A156M
7/8"	3/4"	3-1/2"	5-5/8"	5	714A156L
7/8"	7/8"	1-1/8"	3-3/8"	5	714A156E
1"	3/4"	1-1/2"	3-3/8"	5	714A164D

Fractional					
Size	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number
1"	3/4"	2"	4-1/4"	5	714A164M
1"	3/4"	4"	6-1/4"	5	714A164L
1"	1"	2"	4-1/2"	5	714A164F
1"	1"	6"	8-1/2"	5	714A164N
1-1/8"	3/4"	2"	4-1/4"	6	714A208D
1-1/8"	1"	2"	4-1/2"	6	714A208F
1-1/8"	1"	3-1/2"	6"	6	714A208L
1-1/4"	3/4"	1-1/8"	3-3/8"	6	714A216D
1-1/4"	3/4"	2"	4-1/4"	6	714A216M
1-1/4"	1-1/4"	3"	5-1/2"	6	714A216G
1-1/4"	1-1/4"	6"	8-1/2"	6	714A216N
1-3/8"	3/4"	2"	4-1/4"	6	714A224D
1-1/2"	3/4"	1-1/8"	3-3/8"	6	714A232D
1-1/2"	1-1/4"	2"	4-1/2"	6	714A232G
1-1/2"	1-1/4"	3"	5-1/2"	6	714A232N
1-1/2"	1-1/4"	4"	6-1/2"	6	714A232L

FINISHER PM PLUS™, HIGH HELIX 3-FLUTE

05

END MILLS

PM-539R

POWDERED METAL

Helix 42° / Single End / Center Cutting
Bright / TiCN

Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number				
Fractional	Decimal					Bright 0°	TiCN 0°	TiCN .060°	TiCN .090°	TiCN .120°
3/8	.3750	.375	.750	2.500	3	C40072	C40073	—	—	—
1/2	.5000	.500	1.250	3.250	3	C40076	C40077	—	—	—
5/8	.6250	.625	1.625	3.750	3	C40082	C40083	—	—	—
5/8	.6250	.625	2.500	4.625	3	C40084	C40085	—	—	—
3/4	.7500	.750	1.625	3.875	3	C40345	C40346	C40347	C40348	C40349
3/4	.7500	.750	3.000	5.250	3	C40350	C40351	C40352	C40353	C40354
1	1.0000	1.000	2.000	4.500	3	C40355	C40356	C40357	C40358	C40359
1	1.0000	1.000	3.000	5.500	3	C40360	C40361	C40362	C40363	C40364
1-1/4	1.2500	1.250	2.000	4.500	3	C40370	—	—	—	C40374
1-1/4	1.2500	1.250	4.000	6.500	3	C40380	—	—	—	C40384

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FINISHER PM PLUS™, LEFT HAND SPIRAL, LEFT HAND CUT

PM-539L

POWDERED METAL

Helix 42° / Single End / Center Cutting
High Helix / Bright / TiCN

Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number	
Fractional	Decimal					Bright	TiCN
1/2	.5000	.500	2.000	4.000	3	C40296	—
1/2	.5000	.500	3.000	5.000	3	C40297	—
5/8	.6250	.625	1.625	3.750	3	C40298	—
5/8	.6250	.625	2.500	4.625	3	C40299	—
1	1.0000	1.000	3.000	5.500	3	C40315	C40316

ROUGHER PM PLUS™, MULTI FLUTE - COARSE PITCH

PMRC-C

POWDERED METAL

Helix 30° / Single End / Center Cutting
Bright / TiN / TiCN

Best Material Application



Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/4	.2500	.375	.250	2.063	3	C43228	C32213	C32242
1/4	.2500	.375	.625	2.438	3	C43229	C32214	C32243
3/8	.3750	.375	.375	2.125	4	C43230	C32215	C32244
1/2	.5000	.500	1.250	3.250	4	C43300	C32219	C32248
5/8	.6250	.625	1.625	3.750	4	C43301	C32222	C32251
3/4	.7500	.750	.750	3.000	4	C43233	C32224	C32253
3/4	.7500	.750	1.625	3.875	4	C43302	C32225	C32254
7/8	.8750	.875	.875	3.125	5	C43234	C32227	C32256
1	1.0000	1.000	1.000	3.500	5	C43235	C32228	C32257
1	1.0000	1.000	2.000	4.500	5	C43236	C32229	C32258
1	1.0000	1.000	3.000	5.500	5	C43304	C32230	C32259
1	1.0000	1.000	4.000	6.500	5	C43305	C32231	C32260
1-1/8	1.1250	1.125	2.000	4.500	5	C43237	C32232	C32261
1-1/4	1.2500	1.250	2.000	4.500	5	C43238	C32233	C32262
1-1/4	1.2500	1.250	3.000	5.500	5	C43239	C32234	C32263

Tech tip!

Benefits of Multi Flute End Mills

- Generally, multi flute end mills give smoother finishes than 2 Flute end mills.
- Increased number of flutes mean more cutting edges, providing more cutting action.

ROUGHER PM PLUS™, MULTI FLUTE - FINE PITCH

PMRF-C

POWDERED METAL

Helix 42° / Single End / Center Cutting
Bright / TiCN / TiAlN



Best Material Application



Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiCN	TiAlN
3/8	.3750	.375	.750	2.500	4	C41122	C41145	C41168
3/8	.3750	.375	1.500	3.250	4	C41134	C41157	C41180
5/8	.6250	.625	1.625	3.750	4	C41124	C41147	C41170
5/8	.6250	.625	2.500	4.625	4	C41136	C41159	C41182
3/4	.7500	.750	3.000	5.250	4	C41137	C41160	C41183
7/8	.8750	.875	1.875	4.125	5	C41126	C41149	C41172
7/8	.8750	.875	3.500	5.750	5	C41138	C41161	C41184
1	1.0000	1.000	3.000	5.500	5	C41131	C41154	C41177
1-1/4	1.2500	1.250	2.000	4.500	6	C41128	C41151	C41174
1-1/4	1.2500	1.250	3.000	5.500	6	C41132	C41155	C41178
1-1/4	1.2500	1.250	4.000	6.500	6	C41140	C41163	C41186

ROUGHER PM PLUS™, COARSE PITCH 3-FLUTE

PM-538R

POWDERED METAL

Single End / Center Cutting
Bright / TiCN

▷ For HIGH VOLUME aluminum roughing



Best Material Application



Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number			
Fractional	Decimal					Bright 0°	TiCN 0°	TiCN .060°	TiCN .120°
3/4	.7500	.750	1.625	3.875	3	C40007	C40019	C40033	C40035
3/4	.7500	.750	2.250	4.500	3	C40062	C40063	C40064	C40066
3/4	.7500	.750	3.000	5.250	3	C40008	C40020	C40036	C40038
1	1.0000	1.000	2.000	4.500	3	C40009	C40021	C40039	C40041
1	1.0000	1.000	3.000	5.500	3	C40010	C40022	C40042	C40044
1	1.0000	1.000	4.000	6.500	3	C40011	C40023	C40045	C40047
1-1/4	1.2500	1.250	2.000	4.500	3	C40048	C40049	C40050	C40052
1-1/4	1.2500	1.250	3.000	5.500	3	C40012	C40024	C40053	C40055
1-1/4	1.2500	1.250	4.000	6.500	3	C40013	C40025	C40056	C40058
1-1/4	1.2500	1.250	6.000	8.500	3	C40014	C40026	C40059	C40061
1-1/2	1.5000	1.250	2.000	4.500	3	C43244	C43246	—	—
1-1/2	1.5000	1.250	3.000	5.500	3	C43247	C43249	—	—
1-1/2	1.5000	1.250	4.000	6.500	3	C43250	C43252	—	—
1-1/2	1.5000	1.250	6.000	8.500	3	C43253	C43255	—	—

FINISHER PM PLUS™, MULTI FLUTE

PM-4

POWDERED METAL

Helix 37° / Single End /Center Cutting
Bright / TiN / TiCN



Best Material Application



Best Material Application



Fractional								
Size		Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Order Number		
Fractional	Decimal					Bright	TiN	TiCN
1/8	.1250	.375	.375	2.313	4	C42500	C31960	C31987
5/32	.1562	.375	.500	2.375	4	C43280	C31961	C31988
3/16	.1875	.375	.500	2.375	4	C42502	C31962	C31989
7/32	.2188	.375	.625	2.438	4	C43281	C31963	C31990
1/4	.2500	.375	.625	2.438	4	C42504	C31964	C31991
9/32	.2812	.375	.750	2.500	4	C43282	C31965	C31992
5/16	.3125	.375	.375	2.125	4	C43211	C31927	C31942
5/16	.3125	.375	1.375	3.125	4	C43291	C32017	C32033
11/32	.3438	.375	.750	2.500	4	C43283	C31967	C31994
3/8	.3750	.375	.750	2.500	4	C42508	C31968	C31995
3/8	.3750	.375	1.500	3.250	4	C43292	C32018	C32034
13/32	.4062	.500	1.000	2.688	4	C43284	C31969	C31996
7/16	.4375	.375	1.750	3.750	4	C32014	C32019	C32035
5/8	.6250	.625	.625	2.750	6	C43216	C31932	C31947
5/8	.6250	.625	2.500	4.625	4	C43294	C32021	C32037
3/4	.7500	.750	.750	3.000	4	C43217	C31933	C31948
3/4	.7500	.750	.750	3.000	6	C43218	C31934	C31949
3/4	.7500	.750	1.625	3.875	4	C42514	C31976	C32003
3/4	.7500	.750	1.625	3.875	6	C42516	C31977	C32004
3/4	.7500	.750	3.000	5.250	4	C43295	C32022	C32038
13/16	.8125	.875	1.875	4.125	4	C31957	C31978	C32005
7/8	.8750	.875	1.250	3.500	4	C43220	C31935	C31950
7/8	.8750	.875	3.500	5.750	4	C32015	C32023	C32039
15/16	.9375	1.000	1.875	4.500	4	C31959	C31980	C32007
1	1.0000	1.000	1.000	3.500	6	C43222	C31937	C31952
1	1.0000	1.000	2.000	4.500	4	C42518	C31981	C32008
1	1.0000	1.000	2.000	4.500	6	C42520	C31982	C32009
1	1.0000	1.000	4.000	6.500	4	C43296	C32025	C32041
1-1/8	1.1250	1.000	2.000	4.500	6	C43223	C31983	C32010
1-1/4	1.2500	1.250	2.000	4.500	6	C43224	C31984	C32011
1-1/4	1.2500	1.250	4.000	6.500	6	C43297	C32027	C32043

TECHNICAL INFORMATION

END MILL NOMENCLATURE

An end mill is a straight or tapered shank milling cutter which extends or projects, unobstructed, from the milling machine spindle. It is one of the most versatile of cutting tools, capable of milling, drilling, reaming, planing, shaping, contour cutting, and more. Improvements in cutting efficiency, through both design and material changes, have increased the usage of this style tool over time.

AXIAL RELIEF

The relief measured in the axial direction between a plane perpendicular to the axis at the cutting edge and the relieved surface.

CLEARANCE (SECONDARY RELIEF)

The additional space provided behind the relieved land to eliminate undesirable contact between the mill and work piece.

CUTTING EDGE

The leading edge of the cutter tooth.

FLUTE

The chip space between the back of one tooth and the face of the following tooth.

GASH

Secondary cuts on a mill to provide chip room.

HAND OF CUT

Right Hand, RH: When viewed from the cutting end of the mill, a counterclockwise rotation of the end mill is required in order to cut. Most end mills are right hand.

Left Hand, LH: When viewed from the cutting end of mill, a clockwise rotation of mill is required to cut.

HEEL

The back edge of the relieved land.

HELIX ANGLE

The cutting edge angle which a helical cutting edge makes with a plane containing the axis of a cylindrical mill. When viewed from the cutter end of the mill, the flute will move clockwise for a right hand helix.

HELICAL RAKE

The helical rake at a given point on the flute face is the angle between the tool axis and a tangent plane at the given point.

HOOK

A concave condition of a tooth face. The rake of a hooked tooth face must be determined at a given point.

LAND

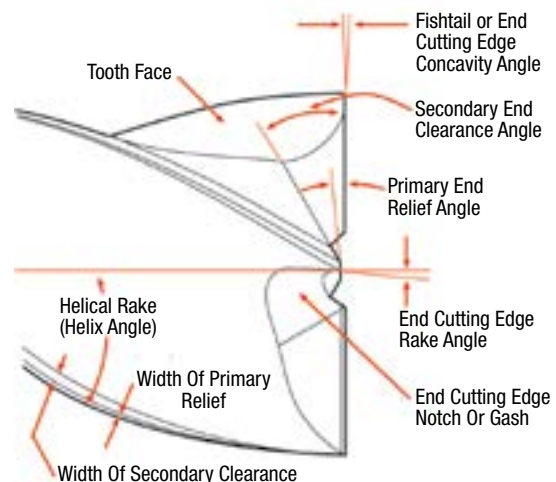
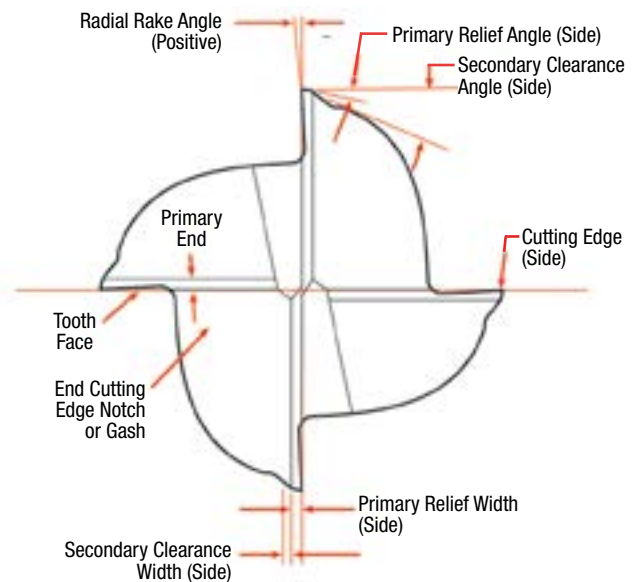
Used to define the width of a specified surface.

LENGTH OF CUT

The effective axial length of the peripheral cutting edge which has been relieved to cut

PRIMARY RELIEF

The relief measured in the axial direction between a plane perpendicular to the axis at the cutting edge and the relieved surface.



TECHNICAL INFORMATION

END MILL NOMENCLATURE CONTINUED

PRIMARY RELIEF

The relief immediately behind the cutting edge.

RAKE

The angular relationship between the tooth face or a tangent to the tooth face at a given point and a reference plane or line.

RADIAL RAKE

The angle between the tooth face and a radial line passing through the cutting edge in a plane perpendicular to the cutting axis.

RELIEF

The result of the removal of tool material behind or adjacent to the cutting edge to provide clearance and prevent rubbing.

RELIEF ANGLE

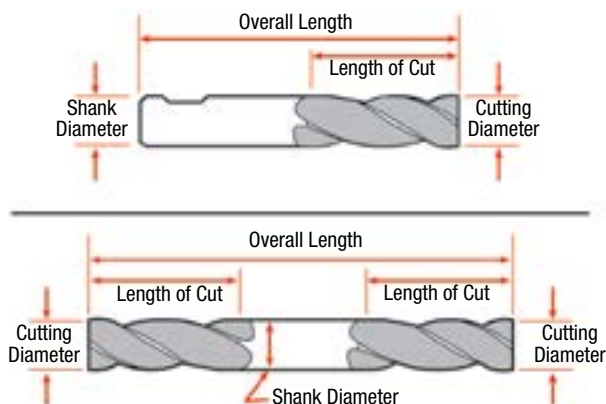
The angle formed between a relieved surface and a given plane tangent to the axis at the cutting edge or to a point on the cutting edge.

SHANK

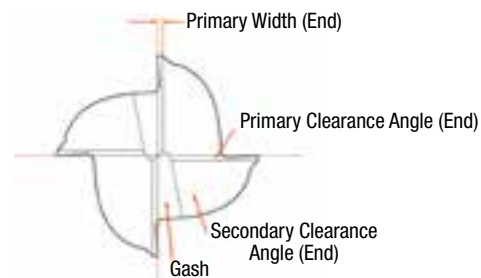
The projecting portion of a cutter which locates and drives the cutter from the machine spindle.

TOOTH FACE

The surface of the tooth on which the chip impinges.



CENTER CUTTING END VIEW



TECHNICAL INFORMATION

END MILL FINISHES

END MILL FINISHES AND THEIR APPLICATIONS

Cutting tools with TiN or TiCN coatings provide exceptional performance benefits. Coatings are matched with designs which are intended for aggressive material removal with significant increases in tool life and machining rates.

- Coatings reduce heat and abrasion to increase tool life.
- The increased lubricity of the coating surface reduces material adhesion and built-up edge, enabling even higher feed rates.
- Coatings reduce the amount of torque required for machining to allow more efficient use of equipment.
- Increase machining speeds to achieve optimum performance when using Cleveland coatings.

STRAW FINISH

- bronze color
- for general machining
- operate at conventional cobalt speeds and heavier feed rates.

TIN (TITANIUM NITRIDE) COATING

- gold color
- intended for aggressive machining
- increase machining speed 25% to 30% versus bright speeds

TICN (TITANIUM CARBONITRIDE) COATING

- blue-gray color
- for very aggressive machining of stainless steels and non-ferrous materials
- extremely hard, wear resistant
- increase machining speeds 35% to 50% versus bright speeds

TIALN (TITANIUM ALUMINUM NITRIDE) COATING

- violet/blue-gray color
- for aggressive machining of stainless steels, high alloy carbon steels, nickel-based high-temperature alloys, and titanium alloys
- increase machining speeds 75% to 100% versus bright speeds.

Tech tip!

Reducing Vibration & Chatter: When chatter arises it tends to be self-sustaining until the problem is corrected. This condition causes poor finish on the part and will damage and significantly reduce the life of end mills. Carbide end mills are peculiarly susceptible to damage.

A common source of chatter is the machining of corners. As the end mills enters the corner the percentage of engagement increases the number of teeth in the cut. This drastically increases the cutting forces, causing chatter. Using circular interpolation and producing a bigger corner radius than the part print calls for and then going back and removing the remaining stock with a smaller end mill using circular interpolation will reduce the tendency to chatter.

When experiencing chatter problems, the basic reflex action is the reduction of cutting forces. This can be done by:

- 1 Reducing the number of flutes.
 - 2 Decreasing the chip load per tooth by reducing the feed or increasing the speed or RPM.
 - 3 Reducing the axial or radial depth of cut.
- Even though these steps can and will reduce chatter, slowing down the cutting process is not always the best course of action and reducing the chip load can be detrimental to the cutter.

Better first steps are to improve rigidity and stability:

- 1 Use a larger end mill with a larger core diameter.
- 2 Use end mills with reduced clearance or a small circular margin.
- 3 Use the shortest overhang from spindle nose to tip of tool.
- 4 Use stub length end mills where possible.
- 5 Use balanced tool holders.
- 6 Rework fixture to hold the work piece more securely.
- 7 Reprogram the cutter path shifting cutting forces into stiffer portions of the work piece.
- 8 Look for sweet spots in spindle speeds then adjust feed accordingly.

TECHNICAL INFORMATION

SPEEDS AND FEEDS

SPEEDS AND FEEDS

Speeds and feeds are the most important factors to consider for best results in milling. Improper feeds and speeds often cause low production, poor work quality, and unnecessary damage to the cutter. Too high a speed or too light a feed leads to rapid wear and dulling of the cutter, reducing tool life.

In milling, **speed** is measured in peripheral feet per minute. Oftentimes, speed is referred to as cutting speed, surface speed, or peripheral speed. The relationship of peripheral speed to the diameter of the end mill and the rotational speed of the machine spindle are indicated in the table on page 201.

Feed is normally measured and stated in inches per minute (IPM). It is, as shown on page 201, the product of the number of cutting teeth in the end mill x the feed per tooth x the revolutions per minute. In establishing operating conditions, all feed rates should be calculated from the chip load or feed per tooth. The individual cutting tooth must be able to sustain the load or feed applied to it without fracturing, regardless of the number of teeth in the mill. Because feed per tooth affects thickness, it is a very important factor in tool life.

The highest possible feed per tooth will usually give longer tool life between grinds and greater production per grind. Excessive feeds may overload the mill teeth and cause breakage or chipping of the cutting edge. Reasonable safe starting feeds for end mills under 0.5000" diameter will range from 0.0002 to 0.002 inches per tooth. For end mills equal to or greater than 0.5000" diameter, starting feeds will range from 0.002 to 0.003 inches per tooth.

STARTING POINTS

All recommended speeds and feeds are suggested starting points. These may be increased or decreased depending upon variables, such as finish desired, condition of the milling machine, magnitude of the cut, rigidity of the part, use of coolant, power available, etc. Consider these points when choosing starting speeds and feeds.

ADJUSTING STARTING SPEEDS AND FEEDS

USE LOWER SPEEDS FOR:

Hard Materials, Tough Materials, Abrasive Materials, Heavy Cuts, Minimum Tool Wear, Maximum Mill Life

USE HIGHER SPEEDS FOR:

Softer Materials, Better Finishes, Small Diameter Mills, Light Cuts, Frail Work Piece Or Set-Ups, Maximum Production Rates, Non Metallic

FEED ADJUSTMENTS

USE LIGHTER FEEDS FOR:

Light and Finishing Cuts, Frail Set-Ups, Hard to Machine Work Materials, Deep Slots, Frail and Small Diameter Mills, Low Tensile Strength Materials

USE HIGHER SPEEDS FOR:

Heavy Roughing Cuts, Rigid Set-Ups, Easy to Machine Work Materials, Rugged Heavy Duty Mills, High Tensile Strength Materials, Coarse Tooth Mills, Abrasive Materials

MILLING CORRECTIVE ACTIONS

TROUBLE	CORRECTIVE ACTION
Lack of Rigidity	Increase Speed, Decrease Feed
Excessive Abrasion of the Tool	Decrease Speed, Increase Feed
Chipping of the Cutting Edge	Decrease Feed Per Tooth
Burning of the Cutting Edge	Decrease Speed
Chatter	Use Other Combinations of Speed And Feed

TECHNICAL INFORMATION

SPEED & FEEDS - POWER CALCULATIONS

TO FIND...	KNOWN VALUES	FORMULAE
peripheral cutting speed – SFM	mill diameter, D rotational speed RPM	$SFM = 0.262 \times RPM \times D$ $SFM \text{ estimated} = (RPM \times D) / 4$
rotational speed – RPM	peripheral cutting speed, SFM mill diameter, D	$RPM = SFM / (0.262 \times D)$ $RPM \text{ estimated} = (4 \times SFM) / D$
machine feed rate - IPM	rotational speed, RPM number of flutes (Teeth), T feed per tooth, IPT	$IPM = T \times IPT \times RPM$
feed per tooth - IPT	machine feed rate, IPM rotational speed, RPM number of teeth, T	$IPT = IPM / (RPM \times T)$
feed per revolution - IPR	machine feed rate, IPM	$IPR = IPM / RPM$
cutting power input - HP	width of cut, WOC depth of cut, DOC machine feed rate, IPM workpiece material power constant, K	$HP = WOC \times DOC \times IPM \times K$

POWER CONSTANTS* FOR USE IN POWER CALCULATIONS

WORK MATERIAL	K (CONSTANT)	WORK MATERIAL	K (CONSTANT)	WORK MATERIAL	K (CONSTANT)
Aluminum	0.3	High Temp. Alloys		High Tensile Alloys	
Magnesium	0.3	Ferritic	1.7	180,000 - 220,000 psi . . .	2.0
Copper	0.5	Austenitic	2.0	220,000 - 260,000 psi . . .	2.5
Brass	0.4	Nickel Base	2.5	260,000 - 300,000 psi . . .	3.3
Bronze	0.5	Cobalt Base	2.5	Titanium	
Cast Irons		Steel		under 100,000 psi	1.3
Ferritic	0.7	up to 150 Brinell	1.4	100,000 - 135,000 psi . . .	1.7
Pearlitic	1.0	up to 300 Brinell	1.7	135,000 psi & over	2.5
Chilled	1.7	up to 400 Brinell	2.0	Stainless Steel	
Malleable Iron	1.0	up to 500 Brinell	2.5	Free Machining	1.0
				Others	1.7

*HORSEPOWER REQUIRED TO REMOVE ONE CUBIC INCH OF MATERIAL PER MINUTE ASSUMING A 60% POWER EFFICIENCY AT THE SPINDLE NOSE AND A 25% ALLOWANCE FOR DULLING OF THE END MILL.

DEFINITION OF SYMBOLS AND MEASUREMENT UNITS

ATTRIBUTE	SYMBOL	MEASUREMENT UNIT
Cutting Speed	SFM	Surface Feet Per Minute
Rotational Speed	RPM	Revolutions Per Minute
End Mill Diameter	D	Inches
Feed Per Tooth	IPT	Inches Per Tooth
Machine Feed Rate	IPM	Inches Per Minute
Feed Per Revolution	IPR	Inches Per Revolution
Cutting Power Input	HP	Horsepower
Power Constant	K	Horsepower/Cubic Inch/Minute
Width Of Cut	WOC	Inches
Depth Of Cut	DOC	Inches
Number Of Teeth	T	—

TECHNICAL INFORMATION

OPERATING PARAMETERS - HSS & COBALT

SPEED & FEED DATA IN SELECTED MATERIALS – REGULAR HSS & COBALT HSS END MILLS

MATERIAL	Heat-Resistant Cobalt Base Alloys, High Tensile Steels (50-55C)	Heat-Resistant Austenitic Alloys, High Tensile Steels (46-50C)	Heat-Resistant Nickel Base Alloys, High Strength Stainless Steels, High Strength Titanium Alloys	High Strength Stainless Steels, High Tensile Steels (40-46C) Medium Strength Titanium Alloys	Heat-Resistant Ferritic Base Alloys, Medium Strength Stainless Steels, Unalloyed Titanium Tool Steels (30-40C)
END MILL STYLE	Cobalt HSS HSS 2 or more flute	Cobalt HSS HSS 2 or more flute	Cobalt HSS HSS 2 or more flute	Cobalt HSS HSS 2 or more flute	HSS 2 or more flute
SPEED ALL DIAMETERS	5-10 SFM	10-15 SFM	15-20 SFM	20-40 SFM	40-60 SFM (all diameters)

MILL DIAMETER	SPEED RPM	FEED Chip Load per tooth	SPEED RPM	FEED Chip Load per tooth	SPEED RPM	FEED Chip Load per tooth	SPEED RPM	FEED Chip Load per tooth	SPEED RPM	FEED Chip Load per tooth
1/16	*	*	*	*	*	*	1222-2444	.0002-.0005	2444-3667	.0002-.0005
3/32	*	*	*	*	611-815	.0002-.0005	815-1629	.0002-.0005	1629-2750	.0002-.0005
1/8	*	*	*	*	456-611	.0002-.0005	611-1222	.0002-.0005	1222-1833	.0002-.0005
3/16	*	*	204-306	.0002-.0005	306-407	.0002-.0005	407-815	.0002-.0005	815-1222	.0002-.0005
1/4	76-153	.0002-.0010	153-230	.0002-.0010	229-306	.0002-.0010	306-611	.0002-.0010	611-917	.0002-.0010
5/16	61-122	.0002-.0010	122-183	.0002-.0010	183-244	.0002-.0010	244-489	.0002-.0010	489-733	.0002-.0010
3/8	51-102	.0002-.0010	102-153	.0002-.0010	153-203	.0002-.0010	203-407	.0005-.0020	407-611	.0005-.0020
7/16	44-88	.0005-.0010	88-132	.0005-.0010	131-175	.0005-.0020	175-349	.0005-.0020	349-524	.0005-.0020
1/2	38-76	.0005-.0010	76-115	.0005-.0010	115-153	.0005-.0020	153-306	.0005-.0030	306-458	.0010-.0030
9/16	34-68	.0005-.0020	68-104	.0005-.0020	104-136	.0005-.0020	136-272	.0005-.0030	272-412	.0010-.0030
3/8	31-61	.0005-.0020	61-92	.0005-.0020	92-122	.0005-.0020	122-244	.0010-.0040	244-367	.0010-.0040
11/16	28-56	.0005-.0020	56-84	.0005-.0020	84-111	.0005-.0020	111-222	.0010-.0040	222-337	.0010-.0040
3/4	26-51	.0005-.0020	51-76	.0005-.0020	76-102	.0010-.0040	102-203	.0010-.0040	203-306	.0010-.0040
13/16	24-47	.0010-.0030	47-71	.0010-.0030	71-94	.0010-.0040	94-189	.0010-.0040	189-284	.0010-.0040
7/8	22-44	.0010-.0030	44-65	.0010-.0030	65-87	.0010-.0040	87-175	.0010-.0040	175-262	.0020-.0060
15/16	20-40	.0010-.0030	40-62	.0010-.0030	62-81	.0010-.0040	81-163	.0010-.0040	163-246	.0020-.0060
1	19-38	.0010-.0030	38-58	.0010-.0030	58-76	.0010-.0040	76-153	.0020-.0060	153-229	.0020-.0060
1-1/8	34	.0015-.0040	34-51	.0015-.0040	51-68	.0015-.0050	68-136	.0020-.0060	136-204	.0020-.0060
1-1/4	31	.0015-.0040	31-46	.0015-.0040	46-61	.0015-.0050	61-122	.0020-.0060	122-183	.0020-.0060
1-3/8	28	.0015-.0040	28-42	.0015-.0040	42-55	.0015-.0050	55-111	.0020-.0060	111-167	.0030 +
1-1/2	26	.0015-.0040	26-38	.0015-.0040	38-51	.0020 +	51-102	.0030 +	102-153	.0030 +
1-5/8	24	.0020 +	35	.0020 +	35-47	.0020 +	47-94	.0030 +	94-141	.0030 +
1-3/4	22	.0020 +	32	.0020 +	32-43	.0020 +	43-87	.0030 +	87-131	.0030 +
1-7/8	20	.0020 +	30	.0020 +	30-40	.0030 +	40-81	.0030 +	81-122	.0030 +
2	19	.0020 +	29	.0030 +	29-38	.0030 +	38-76	.0030 +	76-115	.0030 +
2-1/8	18	.0030 +	28	.0030 +	36	.0030 +	36-72	.0030 +	72-108	.0030 +
2-1/4	17	.0030 +	26	.0030 +	34	.0030 +	34-68	.0030 +	68-102	.0030 +
2-3/8	16	.0030 +	25	.0030 +	32	.0030 +	32-64	.0030 +	64-97	.0030 +
2-1/2	15	.0030 +	23	.0030 +	30	.0030 +	30-61	.0030 +	61-92	.0030 +
2-5/8	15	.0030 +	22	.0030 +	29	.0030 +	29-58	.0030 +	58-88	.0030 +
2-3/4	14	.0030 +	21	.0030 +	28	.0030 +	28-56	.0030 +	56-83	.0030 +
2-7/8	14	.0030 +	20	.0030 +	27	.0030 +	27-53	.0030 +	53-80	.0030 +
3	13	.0030 +	19	.0030 +	26	.0030 +	26-51	.0030 +	51-76	.0030 +

* For small diameter applications in materials harder than 46C consult Cleveland Technical Support.

TECHNICAL INFORMATION

OPERATING PARAMETERS - HSS AND COBALT
CONTINUED

SPEED & FEED DATA IN SELECTED MATERIALS – REGULAR HSS & COBALT HSS END MILLS CONTINUED

MATERIAL	Machine Steel Hard Brass & Bronze Electrolytic Copper Mild Steel Forming	Cast Iron Mild Steel Half-Hard Brass and Bronze	Brass and Bronze Alloyed Aluminum Abrasive Plastics	Aluminum Plastics Wood
END MILL STYLE	HSS 2 or more flute	HSS surface treatment helpful in cast iron 2 or more flute	High Helix HSS 1 to 6 flutes	High Helix HSS 1 to 6 flutes
SPEED ALL DIAMETERS	60-80 SFM	80-100 SFM	100-200 SFM	200-600 SFM

MILL DIAMETER	SPEED	FEED	SPEED	FEED	SPEED	FEED	SPEED	FEED
	RPM	Chip Load per tooth	RPM	Chip Load per tooth	RPM	Chip Load per tooth	RPM	Chip Load per tooth
1/16	3667-4888	.0002-.0005	4888-6111	.0002-.0005	6111-12222	.0002-.0005	12222 +	.0002-.0005
3/32	2750-3259	.0002-.0005	3259-4073	.0002-.0005	4073-8146	.0002-.0005	8146 +	.0002-.0005
1/8	1833-2440	.0002-.0010	2440-3056	.0002-.0010	3056-6112	.0002-.0010	6112 +	.0002-.0010
3/16	1222-1625	.0002-.0010	1625-2037	.0002-.0010	2037-4074	.0002-.0010	4074-12222	.0002-.0010
1/4	917-1222	.0005-.0020	1222-1528	.0005-.0020	1528-3056	.0005-.0020	3056-9168	.0005-.0020
5/16	733-978	.0005-.0020	978-1222	.0005-.0020	1222-2444	.0005-.0020	2444-7332	.0005-.0020
3/8	611-815	.0010-.0030	815-1019	.0010-.0030	1019-2038	.0005-.0030	2038-6114	.0005-.0020
7/16	524-698	.0010-.0030	698-873	.0010-.0030	873-1746	.0005-.0030	1746-5238	.0005-.0020
1/2	458-611	.0010-.0030	611-764	.0010-.0030	764-1528	.0005-.0030	1528-4584	.0005-.0020
9/16	412-543	.0010-.0040	543-678	.0010-.0040	678-1356	.0005-.0040	1356-4071	.0005-.0030
3/8	367-489	.0010-.0040	489-611	.0010-.0040	611-1222	.0005-.0040	1222-3666	.0005-.0030
11/16	337-444	.0010-.0040	444-555	.0010-.0040	555-1110	.0005-.0040	1110-3330	.0005-.0030
3/4	306-407	.0010-.0040	407-509	.0020-.0060	509-1018	.0010-.0060	1018-3054	.0010-.0040
13/16	284-379	.0020-.0060	379-469	.0020-.0060	469-938	.0010-.0060	938-2814	.0010-.0040
7/8	262-349	.0020-.0060	349-436	.0020-.0060	436-872	.0010-.0060	872-2616	.0010-.0040
15/16	246-326	.0020-.0060	326-407	.0020-.0060	407-814	.0010-.0060	814-2442	.0010-.0040
1	229-306	.0020-.0060	306-382	.0020-.0060	382-764	.0020 +	764-2292	.0020 +
1-1/8	204-272	.0020-.0060	272-340	.0030 +	340-680	.0020 +	680-2040	.0020 +
1-1/4	183-244	.0030 +	244-306	.0030 +	306-612	.0020 +	612-1836	.0020 +
1-3/8	167-222	.0030 +	222-278	.0030 +	278-556	.0020 +	556-1668	.0020 +
1-1/2	153-204	.0030 +	204-255	.0030 +	255-510	.0030 +	510-1530	.0020 +
1-5/8	141-188	.0030 +	188-235	.0030 +	235-470	.0030 +	470-1410	.0020 +
1-3/4	131-175	.0030 +	175-218	.0030 +	218-436	.0030 +	436-1308	.0020 +
1-7/8	122-163	.0030 +	163-204	.0030 +	201-408	.0030 +	408-1224	.0030 +
2	115-153	.0030 +	153-191	.0030 +	191-382	.0030 +	382-1146	.0030 +
2-1/8	108-144	.0030 +	144-179	.0030 +	179-358	.0030 +	358-1074	.0030 +
2-1/4	102-136	.0030 +	136-170	.0030 +	170-340	.0030 +	340-1020	.0030 +
2-3/8	97-128	.0030 +	128-161	.0030 +	161-322	.0030 +	322-966	.0030 +
2-1/2	92-122	.0030 +	122-153	.0030 +	153-306	.0030 +	306-918	.0030 +
2-5/8	88-116	.0030 +	116-145	.0030 +	145-290	.0030 +	290-870	.0030 +
2-3/4	83-111	.0030 +	111-139	.0030 +	139-278	.0030 +	278-834	.0030 +
2-7/8	80-106	.0030 +	106-132	.0030 +	132-264	.0030 +	264-792	.0030 +
3	76-102	.0030 +	102-127	.0030 +	127-254	.0030 +	254-762	.0030 +

TECHNICAL INFORMATION

OPERATING PARAMETERS - POWDERED METAL, HSS & COBALT

SPEED & FEED DATA IN SELECTED MATERIALS – PM PLUS™ POWDER METAL END MILLS

MATERIAL	HARDNESS	SURFACE FEET PER MINUTE SFM				CHIP LOAD PER TOOTH BY CUTTING DIAMETER			
		Bright	TiN	TiCN	TiAlN	1/8"	1/4"	1/2"	1"
Titanium	300	60-75	75-94	90-113	120-150	.0015	.0025	.0050	.0070
Annealed Alloys	340	30-45	38-56	45-68	60-90	.0010	.0020	.0040	.0060
Sol. Trtd. & Aged	400	15-30	19-38	23-45	30-60	.0007	.0015	.0020	.0040
High Temp. Alloys	300	30-45	38-56	45-68	60-90	.0020	.0025	.0040	.0060
Inconel, Monel, Hastelloy	400	10-24	13-30	15-36	20-48	.0015	.0020	.0030	.0050
Tool Steels	370	40-55	50-69	60-83	80-110	.0005	.0007	.0012	.0020
Tool Steels	450	20-30	25-38	30-45	40-60	.0003	.0005	.0007	.0010
Free Machining Steel	200	90-120	113-150	135-180	180-240	.0010	.0020	.0040	.0060
Alloyed & UnAlloyed	275	75-90	94-113	90-135	150-180	.0007	.0012	.0030	.0050
Alloy Steels - Med. to Hard	400	40-50	50-63	60-75	80-100	.0010	.0015	.0020	.0040
Stainless Steel									
Work Hardening	Various	55-75	69-94	83-113	110-150	.0005	.0007	.0012	.0020
Precipitation Hardening	Various	35-50	44-63	53-75	70-100	.0005	.0007	.0012	.0020
Copper Alloys									
Long Chip	Various	250-500	313-625	375-750	500-1000	.0050	.0025	.0050	.0080
Short Chip	250	180-240	225-300	270-360	360-480	.0010	.0020	.0040	.0060
Aluminum, Soft Gummy		750	938	1125	1500	.0020	.0030	.0060	.0100
Heat Treated Aluminum Alloys Aircraft Alloys	Various	1000	1250	1500	2000	.0020	.0030	.0060	.0100

SPEED & FEED DATA IN SELECTED MATERIALS – PM PLUS & COBALT HSS ROUGHING END MILLS

	SURFACE FEET PER MINUTE SFM			CHIP LOAD PER TOOTH BY CUTTING DIAMETER			
	Bright	TiCN	TiAlN	1/4"	1/2"	3/4"	1"
COARSE PROFILE COBALT ROUGHERS							
Steel < 20 HRc	98	230	262	.0006	.0022	.0033	.0039
Steels 20-30 HRc	82	180	197	.0005	.0019	.0032	.0039
Cast iron	82	180	197	.0005	.0019	.0032	.0039
FINE PROFILE COBALT ROUGHERS							
Steel < 20 HRc	96	230	295	.0006	.0021	.0031	.0043
Steels 20-30 HRc	82	131	246	.0005	.0019	.0028	.0038
Steels 32-40 HRc	49	131	147	.0005	.0016	.0024	.0031
Stainless Steels	33	82	115	.0004	.0016	.0024	.0031
Titanium > 40 HRc	33	82	82	.0004	.0016	.0024	.0031
PM ROUGHERS							
Steels < 32 HRc	59	157	180	.0005	.0019	.0032	.0033
Steels 32-42 HRc	49	98	157	.0006	.0017	.0029	.0034
Cast Iron < 180 HR	59	157	180	.0005	.0019	.0032	.0033
Cast Iron > 180 HR	49	98	157	.0006	.0017	.0029	.0034
Stainless Steels	39	72	98	.0005	.0016	.0028	.0031
Titanium > 40 HRc	32	59	82	.0004	.0016	.0028	.0030
High-Temp Alloys	22	36	49	.0006	.0017	.0029	.0034
	SURFACE FEET PER MINUTE SFM		CHIP LOAD PER TOOTH BY CUTTING DIAMETER				
	Bright	TiCN	1/8"	1/4"	1/2"	1"	2"
Aluminum, soft/gummy	250-500	400-2500	.005"	.007"	.010"	.012"	.015"
Aluminum alloys < 10% silicon	250-750	500-3250	.005"	.007"	.010"	.012"	.015"
Aluminum alloys > 10% silicon	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Copper alloys, long chipping	250-500	350-1500	.005"	.007"	.009"	.012"	.015"
Copper alloys, short chipping	150-250	200-1250	.003"	.006"	.008"	.010"	.013"

*for Style 538, .010" is recommended.

Note: All the speeds and feeds shown are suggested starting points. They may be increased or decreased, dependent upon such variables as finish desired, condition of milling machine, magnitude of cut, coolant, etc. In many cases they may be increased slightly. The above speeds and feeds are applicable for slotting cuts, one (1) diameter deep. For deeper slotting cuts or cavity applications, feeds should be decreased.

TECHNICAL INFORMATION

SELECTION AND USE

CHOOSING THE CORRECT TOOL MATERIAL

Cleveland end mills are available in a variety of tool materials: regular high speed steel, premium cobalt high speed steel, and PM/Plus powder metal cobalt high speed steel for higher production rates. The choice of tool material will depend on the following factors:

- Machinability of the workpiece
- Hardness and structure of the workpiece
- Shape and conditions of the workpiece
- Number of work pieces to be processed.

High speed steel end mills have low initial cost and general purpose versatility. End mills of high speed steel with cobalt have proven most effective in titanium alloys, alloy steels, Rc-40-50, high strength stainless steels, and thermal and heat resistant materials such as nickel or cobalt base alloys. PM/Plus end mills which use a special cobalt high speed steel coupled with a heat treatment and special mechanical designs, are capable of greater than normal feed rates and longer tool life in these same material groups.

CONSIDER THE NUMBER OF FLUTES

To determine selection of either a two flute or a multiple flute end mill, several basics need to be considered.

- Type of cut
- Chip space required
- Production rate desired
- Surface finish required

Two fluted end mills have greater chip handling capacity than multiple fluted end mills. In order for an end mill to axially plunge-cut (drill), it must be manufactured as a center cutting tool. All two flute and multiple flute tools are available as center cutting end mills.

When two flute end mills and multiple flute end mills are run at the same feed rate (inches per minute), multiple flute end mills may produce finer finishes and longer tool life than two flute end mills, owing to a lighter chip load per tooth. Some caution must be exercised to insure that the chip load does not become so light as to cause excessive wear. Generally for production runs where either a two flute or multiple flute end mill would be applicable, it is more economical to use the multiple flute end mill.

ROUGHING VERSUS FINISHING END MILLS

Roughing end mills are designed to be used in a variety of materials and to remove more cubic inches of material in the same period of time than conventional end mills. In order to achieve these rates of material removal, as well as to obtain full tool life, the feed rates employed must be heavier than with conventional end mills.

SELECTION OF CUTTING FLUIDS

Coolants control the temperatures of the end mill and the work, and provide a lubricant between the end mill, the chip and the workpiece. The proper type and application of coolant will protect the end mill cutting edges from damage, prevent deformation of the work piece through overheating, and improve finish by allowing cool, clean chip formation and efficient chip disposal.

The theory that a copious flow of coolant (or even total immersion of the workpiece in the coolant) is the surest way to provide proper cooling and lubrication, is not necessarily true. Recent tests have shown that multiple streams or jets of coolant, directed at strategic locations of the end mill rotating in or against the work, have greater cooling effects than a slow-moving copious flow.

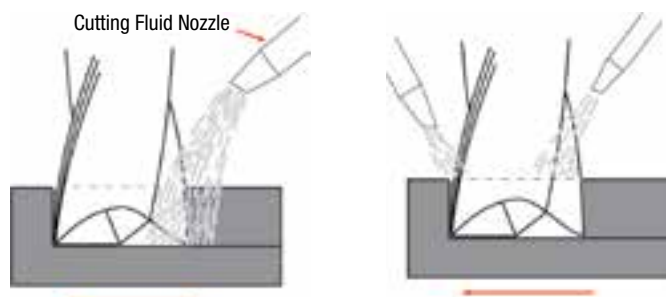
The optimum application of coolant is achieved by the use of coolant feeding end mills. These end mills are designed and manufactured to meet your specific need.

When using coolant, care should always be taken to insure that coolant lines are clean and free of obstructions, and that the coolant is both clean and free of fines.

No matter how well the cutting fluid is directed between the end mill and the work, a dull end mill will generate more heat than can be dissipated by adequate cooling. Proper cutting fluid application will protect a sharp cutting edge to insure maximum tool life per grind. An interrupted flow of cutting fluid can cause rapid damage to the cutting edges in a few revolutions of the end mill.

It is always wise to consult a cutting fluid supplier when experiencing problems of an unusual nature.

A cutting fluid or coolant is required when using high speed steel end mills for milling steel. For milling with high speed end mills, water emulsified cutting oil generally is considered the least expensive and most applicable coolant for nearly all materials except those that are milled dry. Some of the harder steel forgings and die steels may be milled with somewhat better results when mineral or lard oils, or sulfurized oils are used. Plastics and cast iron should be milled dry or with a jet of air, while aluminum and aluminum alloys are best milled with water emulsified cutting oil, either in a properly directed jet stream, or in a mist.



TECHNICAL INFORMATION

OPERATING PARAMETERS: CEM-V-4 (4R OR 4B)

TOLERANCES FOR SOLID CARBIDE END MILLS
CUTTING DIAMETER: 1/32" THROUGH 1": +0.000 -0.002 SHANK DIAMETER: H6

FORMULA: REGULAR AND STUB LENGTH -

SIDE MILLING AXIAL = 1.5 X D, SIDE MILLING RADIAL = 0.5 X D, SLOTTING AXIAL = 1 X D

MATERIAL	SPEED	FEED PER TOOTH (INCHES)								
	SFM	5/32	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
Easy to Cut Stainless Steel (303)	340	0.0010	0.0012	0.0016	0.0020	0.0024	0.0026	0.0028	0.0028	0.0030
Moderately Difficult to Cut Stainless (304)	290	0.0008	0.0010	0.0014	0.0018	0.0020	0.0022	0.0024	0.0026	0.0028
Difficult to Cut Stainless Steels (316L)	240	0.0006	0.0010	0.0012	0.0016	0.0018	0.0020	0.0022	0.0024	0.0024
Soft Steels (1020)	600	0.0010	0.0012	0.0016	0.0024	0.0024	0.0028	0.0030	0.0031	0.0039
Titanium Alpha Beta Alloys (Ti6Al4V)	200	0.0005	0.0006	0.0008	0.0012	0.0012	0.0016	0.0018	0.0020	0.0028
Gray Cast Iron (GG)	600	0.0010	0.0012	0.0016	0.0024	0.0024	0.0028	0.0030	0.0031	0.0039

FORMULA: LONG LENGTH

SIDE MILLING AXIAL = 1.3 X D, SIDE MILLING RADIAL = 0.2 - 0.3 X D, SLOTTING AXIAL = 0.3 - 0.5 X D

MATERIAL	SPEED	FEED PER TOOTH (INCHES)								
	SFM	5/32	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
Easy to Cut Stainless Steel (303)	340	0.0009	0.0011	0.0014	0.0018	0.0022	0.0023	0.0025	0.0025	0.0027
Moderately Difficult to Cut Stainless (304)	290	0.0007	0.0009	0.0013	0.0016	0.0018	0.0020	0.0022	0.0023	0.0025
Difficult to Cut Stainless Steels (316L)	240	0.0005	0.0009	0.0011	0.0014	0.0016	0.0018	0.0020	0.0022	0.0022
Soft Steels (1020)	600	0.0009	0.0011	0.0014	0.0022	0.0022	0.0025	0.0027	0.0028	0.0035
Titanium Alpha Beta Alloys (Ti6Al4V)	200	0.0005	0.0005	0.0007	0.0011	0.0011	0.0014	0.0016	0.0018	0.0025
Gray Cast Iron (GG)	600	0.0009	0.0011	0.0014	0.0022	0.0022	0.0025	0.0027	0.0028	0.0035

TECHNICAL INFORMATION

OPERATING PARAMETERS: CEM-V2-5R

ENHANCED GEOMETRY

FORMULA: SIDE MILLING AXIAL = 1.5 X D, SIDE MILLING RADIAL = 0.5 X D, SLOTTING AXIAL = 1 X D

MATERIAL	SPEED	CHIP LOAD PER TOOTH (INCHES)							
	SFM	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
Medium & High Carbon Steels >0.3% C	600-750	0.0015	0.0021	0.0023	0.0026	0.0028	0.0030	0.0031	0.0039
Alloy Steels & Tool Steels <330HB, <35HRc	600-700	0.0011	0.0017	0.0020	0.0023	0.0028	0.0030	0.0031	0.0039
Alloy Steels & Tool Steels 340-450 HB, 36-48 HRc	525-625	0.0010	0.0015	0.0016	0.0020	0.0028	0.0030	0.0031	0.0039
Austenitic Stainless Steel 302, 303, 304	350-445	0.0011	0.0017	0.0020	0.0023	0.0022	0.0024	0.0026	0.0028
Austenitic Stainless Steel 316, 316L	225-315	0.0009	0.0013	0.0016	0.0019	0.0020	0.0024	0.0024	0.0024
Austenitic Stainless Steel Duplex	190-230	0.0008	0.0010	0.0014	0.0015	0.0020	0.0024	0.0024	0.0024
Cast Iron, Gray GG	520-660	0.0014	0.0022	0.0025	0.0030	0.0028	0.0030	0.0031	0.0039
Ductile & Maleable Cast Iron CGI < 80 KSI	430-660	0.0009	0.0013	0.0018	0.0019	0.0028	0.0030	0.0031	0.0039
Nickel-Based Heat-Resistant Alloys	100-160	0.0004	0.0007	0.0011	0.0015	0.0016	0.0019	0.0023	0.0028
Alpha-Beta Titanium Alloys Ti6Al4V	195-240	0.0008	0.0010	0.0014	0.0015	0.0016	0.0018	0.0020	0.0028

TECHNICAL INFORMATION

OPERATING PARAMETERS: CEM-EMS

MATERIAL	HARDNESS		SPEED		CHIP LOAD PER TOOTH		
	BRINELL	HRC	RANGE	SFM	1/32" - 1/4"	1/4" - 1/2"	1/2" - 1"
Low Alloy Steels	<220 HB	<19	Low High	600 750	.0005 .0010	.0010 .0020	.0020 .0030
Medium Alloy Steels 01 to 07, W1 to W3, M1 to M3, T1 to T5, A2 to A3, S1 to S7, P2 to P3	225-286	20-30	Low High	600 750	.0003 .0005	.0005 .0010	.0010 .0015
High Alloy Steels M4 to M7, T6 to T15, D2 to D7, A4 to A7, P4	294-371	31-40	Low High	525 625	.0003 .0005	.0005 .0010	.0008 .0015
Stainless Steels 200/300 Series	135-275	<28	Low High	250 350	.0005 .0010	.0010 .0020	.0020 .0030
Stainless Steels 400/500 Series	135-330	<35	Low High	340 400	.0003 .0005	.0008 .0010	.0010 .0015
Nickel-Based Alloys	140-475	<32-50	Low High	100 160	.0005 .0010	.0010 .0015	.0015 .0040
Titanium Alloys	110-450	<48	Low High	195 240	.0005 .0010	.0010 .0030	.0025 .0050
Inconel	140-475	<48	Low High	100 160	.0005 .0010	.0010 .0015	.0015 .0030
Aluminum, Low Silicon	—	—	Low High	800 1600	.0030 .0040	.0040 .0060	.0060 .0080

Higher values for surface speed should be used for radial depths of cut less than 25% of the diameter. Lower values for surface speed should be used for radial depths of cut greater than 25% of the diameter. The above recommendations are for axial lengths of cut not to exceed 1 times the cutter diameter for profiling and .5 times the diameter for slotting. Recommended speeds above are for uncoated tools only and should be adjusted when using coated tools. Generally, speeds can

be increased by the following factors: TiCN-coated tools – 20-25% increase; TiAlN-coated tools – 40-50% increase. The above speeds are a recommended starting point only. If the tool is working well, without vibrations or significant noise, increase the SFM in 5-10% increments. Ultimate speeds will depend upon setup conditions. Higher or lower parameters may be required to achieve optimum conditions.

STAINLESS STEEL / EXOTIC MATERIAL

APPLICATIONS:

- Designed for cutting applications involving excessive mechanical stress.
- Ideally suited for use in stainless steel and exotics such as hastalloy, waspalloy, and inconel.
- 3 flute square end for pocketing, slotting, or roughing.
- 3 flute ball nose gives enhanced surface finish in contour cutting and rapid chip removal in plunge cutting.
- 5 flute design for profiling and finishing applications.

FEATURES AND BENEFITS:

- Maximized strength due to increased cross-sectional area in the core and flute body.
- Combination of micro grain carbide substrate with high-performance coatings.
- Achieve 50% greater chip loads and 20% to 40% higher speeds than conventional end mills.

TECHNICAL INFORMATION

OPERATING PARAMETERS: CEM-AM

FORMULA:

RPM = (SFM X 3.82) / TOOL DIAMETER, IPM = NUMBER OF FLUTES X RPM X CHIP LOAD PER TOOTH

TYPE OF CUT	ALUMINUM ALLOYS	DEPTH OF CUT	SPEED SFM	END MILLS DIAMETER CHIP LOAD PER TOOTH					
	6061-T6, 7075-T6, 440, 356, 380, 61300	% OF TOOL DIAMETER		1/4"	3/8"	1/2"	5/8"	3/4"	1"
Medium Radial 1.0 x dia. Depth	< 32 HRC > 32 HRC	30% x dia. radial	1200 + 600 +	.0045 .0036	.0071 .0057	.0100 .0080	.0123 .0098	.0149 .0119	.0200 .0160
Heavy Radial 1.0 x dia. Depth	< 32 HRC	50% x dia. radial	1200 +	.0036	.0057	.0080	.0098	.0119	.0160
Medium Radial 2.0 x dia. Depth	< 32 HRC > 32 HRC	30% x dia. radial	1200 + 600+	.0045 .0036	.0071 .0057	.0100 .0080	.0123 .0098	.0149 .0119	.0200 .0160
Heavy Radial 2.0 x dia. Depth	< 32 HRC	50% x dia. radial	1200 +	.0036	.0057	.0080	.0098	.0119	.0160
Finishing Medium Radial	< 32 HRC > 32 HRC	< 25% of dia.	1200 + 600 +	.0045 .0036	.0071 .0057	.0100 .0080	.0123 .0098	.0149 .0119	.0200 .0160
Finishing Light Radial	< 32HRC	< 10% of dia.	1200 +	.0045	.0071	.0100	.0123	.0149	.0200
Finishing	< 32 HRC > 32 HRC	< .010 radial depth	1200 + 600+	.0054 .0045	.0086 .0071	.0120 .0100	.0147 .0123	.0178 .0149	.0240 .0200

This chart represents starting points based on a coated tool. Reduce rates up to 50% when using an uncoated tool.

These speed and feed rates are suggested as general guidelines. Machine type, horsepower, spindle speed limitations, toolholding and workholding devices all may impact a cutting tool's ability to perform properly. Greenfield Industries is not responsible for tool failure, part damage, or injury that may be caused by following these general recommendations.

ALUMINUM AND NONFERROUS MATERIAL

APPLICATIONS:

- Delivers superior performance, providing increased tool life and improved part finish.
- Concentric margins stabilize the tool in the cut and reduce chatter at elevated speeds.
- Greater resistance to chipping with increased feed and speed rates over conventional carbide tools.
- Design incorporates rake enhancements in the flute for improved chip flow and higher feed rates at high and low spindle speeds.
- Tool design eliminates excess pressure that causes chip packing.

FEATURES AND BENEFITS:

- 2 flute square end offers excellent performance in roughing and finishing, in ramp cutting and in plunging.
- 2 flute ball nose designed for contouring aluminum, copper, and other non-ferrous materials.
- 3 flute square end gives superior surface finishes without sacrificing metal removal rates in high-speed slotting, profiling, and ramping.

TECHNICAL INFORMATION

OPERATING PARAMETERS: CEM-R (S OR A)

MATERIAL	HARDNESS		SFM			CHIP LOAD PER TOOTH	
	BRINELL	HRC	BRIGHT	TICN	TIALN	1/4" TO 1/2"	1/2" - 1"
Low and Plain Carbon, Alloy, and Tool Steels	<220 HB	<19	–	325 - 500	430 - 575	.0015 - .0030	.0030 - .0045
Plain Carbon, Alloy and Tool Steels	225 - 286 294 - 371	20 - 30 31-40	–	215 - 375 180 - 280	350 - 430	.0015 - .0030 .0011 - .0021	.0030 - .0045 .0021 - .0032
Austenitic Stainless Steels 200 and 300 Series	135 - 275	<28	–	215 - 440	250 - 500	.0010 - .0025	.0025 - .0040
Ferritic, Martensitic, 400/500 Series and PH Stainless Steels	135 - 330	<35	–	190 - 375	225 - 430	.0015 - .0030	.0030 - .0045
Aluminum, Low Silicon and Other Non-Ferrous Alloys	50 -150	600	2000	2400 - 2500	–	.0020 - .0038	.0038 - .0077
Aluminum, High Silicon			600 - 2000	720 - 2500	–	.0018 - .0035	.0035 - .0071

TECHNICAL INFORMATION

OPERATING PARAMETERS: CEM-V3-7R

The new Cleveland CEM-V3-7R High Performance 7 Flute Variable Index End Mills were specifically designed to excel at HEM Trochoidal Milling. High Efficiency Milling (HEM) is a style of machining that features high axial depths of cut and low radial depths of cut. One common type of HEM is Trochoidal Milling. The modified cutting depths in Trochoidal Milling allow the CNC Machine to implement a spiral machining pattern that reduces tool load and wear in a part. This is accomplished by allowing the end mill to alternate between repeated short cutting times within a part and longer spiral rotations outside of the part. Trochoidal Milling uses a much smaller tool diameter than one would typically use in slotting applications. By implementing this smaller tool, a wider slot in the part is created, allowing additional space for the chips produced and the spiral tool path of the end mill.

The process of Trochoidal Milling developed as a result of the theory of chip thinning. This theory holds that tools have an ideal chip load that creates chips with the perfect size and width. To prevent chips from thinning in the cut outside of this ideal range, it is best to maintain a higher chip load in the milling operation to maintain this ideal chip thickness. This need to maintain a higher and ever changing chip load while milling a part requires that HEM Trochoidal Milling only be attempted on CNC Machines with Trochoidal Milling capabilities.

BENEFITS:

- Lower heat and cycle times for machining applications.
- Better end mill tool life and accuracy.
- The ability to use one tool for multiple applications and different slots.

CHALLENGES:

Trochoidal Milling must be used on a CNC Machine capable of running the changing feed rates necessary in this process with software adept at generating HEM Tool Paths.

continued on next page

TECHNICAL INFORMATION

OPERATING PARAMETERS: CEM-V3-7R CONTINUED

MATERIAL	PERIPHERAL/ROUGHING HEM		SPEED (SFM)	FEED (IPT)						
	Axial DOC	Radial DOC		3/16	1/4	3/8	1/2	5/8	3/4	1
Gray Cast Iron	$\leq 3 \times D$	.1 x D	400	0.002	0.003	0.005	0.007	0.009	0.010	0.014
	3 x D - 4 x D	.08 x D		0.002	0.003	0.004	0.006	0.007	0.009	0.012
Malleable Cast Iron	$\leq 3 \times D$	.08 x D	400	0.002	0.002	0.004	0.005	0.007	0.008	0.011
	3 x D - 4 x D			0.001	0.002	0.003	0.004	0.006	0.007	0.009
Low Carbon Steels	$\leq 3 \times D$	.08 x D	500	0.002	0.003	0.005	0.007	0.009	0.011	0.015
	3 x D - 4 x D		450	0.002	0.003	0.004	0.006	0.007	0.010	0.012
Medium Carbon Steels	$\leq 3 \times D$	.08 x D	450	0.002	0.003	0.005	0.007	0.008	0.010	0.014
	3 x D - 4 x D			0.002	0.003	0.004	0.006	0.007	0.009	0.012
Tool and Die Steels	$\leq 3 \times D$	.08 x D	400	0.002	0.003	0.004	0.006	0.008	0.009	0.012
	3 x D - 4 x D			0.002	0.002	0.004	0.005	0.006	0.008	0.01
Austenitic Stainless Steels, FeNi Alloys, 300 Series Stainless Steels	$\leq 3 \times D$	.08 x D	400	0.002	0.003	0.004	0.006	0.008	0.009	0.012
	3 x D - 4 x D	.07 x D	450	0.002	0.002	0.004	0.005	0.006	0.008	0.01
Martensitic and Ferritic Stainless Steels	$\leq 3 \times D$	.08 x D	450	0.002	0.003	0.005	0.007	0.009	0.011	0.015
	3 x D - 4 x D			0.002	0.003	0.004	0.006	0.007	0.009	0.012
Precipitation Hardening Stainless Steels	$\leq 3 \times D$	.08 x D	450	0.002	0.003	0.004	0.006	0.007	0.009	0.012
	3 x D - 4 x D	.07 x D	400	0.002	0.002	0.003	0.005	0.006	0.007	0.01
Titanium Alloys	$\leq 3 \times D$	.1 x D	400	0.001	0.002	0.003	0.004	0.005	0.006	0.008
	3 x D - 4 x D	.08 x D		0.001	0.001	0.002	0.003	0.004	0.005	0.007
Difficult to Machine Titanium Alloys	$\leq 2.5 \times D$	.08 x D	350	0.001	0.002	0.003	0.004	0.005	0.006	0.008
	2.5 x D - 4 x D	.06 x D	300	0.001	0.001	0.002	0.003	0.004	0.005	0.006
Hi Temp Alloys	$\leq 1.5 \times D$	.07 x D	100	0.003	0.004	0.007	0.009	0.011	0.014	0.018
	1.5 x D - 3 x D	.06 x D		0.002	0.003	0.005	0.007	0.009	0.011	0.015

MATERIAL	FINISHING		SPEED (SFM)	FEED (IPT)						
	Axial DOC	Radial DOC		3/16	1/4	3/8	1/2	5/8	3/4	1
Gray Cast Iron	3 x D	.015 x D	450	0.001	0.001	0.002	0.002	0.003	0.003	0.005
Malleable Cast Iron			350	0.001	0.001	0.001	0.002	0.002	0.003	0.004
Low Carbon Steels			400	0.001	0.001	0.002	0.002	0.003	0.004	0.005
Medium Carbon Steels			400	0.001	0.001	0.001	0.002	0.003	0.003	0.005
Tool and Die Steels			350	0.001	0.001	0.001	0.002	0.002	0.003	0.004
Austenitic Stainless Steels, FeNi Alloys, 300 Series Stainless Steels			400	0.001	0.001	0.002	0.002	0.003	0.004	0.005
Martensitic and Ferritic Stainless Steels			400	0.001	0.001	0.001	0.002	0.003	0.003	0.005
Precipitation Hardening Stainless Steels			350	0.001	0.001	0.001	0.002	0.002	0.003	0.004
Titanium Alloys			350	0.001	0.001	0.001	0.001	0.002	0.002	0.003
Difficult to Machine Titanium Alloys			300	0.001	0.001	0.001	0.001	0.001	0.002	0.002
Hi Temp Alloys	2 x D	.01 x D	100	0.001	0.002	0.003	0.004	0.006	0.007	0.009

TECHNICAL INFORMATION

CUTTING DATA - GENERAL PURPOSE CARBIDE

MATERIAL	HARDNESS		SURFACE FEET PER MINUTE	CHIP LOAD PER TOOTH									
	Brinell	HRc		1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
Low and Plain Carbon, Alloy and Tool Steels	<220 HB	<19	Low 270 High 360	.0004	.0006	.0010	.0015	.0020	.0025	.0030	.0035	.0040	.0045
Plain Carbon, Alloy, and Tool Steels	225-286	20-30	Low 180 High 270	.0004	.0006	.0010	.0015	.0020	.0025	.0030	.0035	.0040	.0045
	294-371	31-40	Low 135 High 180	.0003	.0004	.0007	.0011	.0014	.0018	.0021	.0025	.0028	.0032
Austenitic Stainless Steels 200 and 300 Series	135-275	<28	Low 180 High 315	.0002	.0004	.0006	.0010	.0015	.0020	.0025	.0030	.0035	.0040
Ductile and Malleable Cast Iron	120-320	<35	Low 160 High 270	.0003	.0004	.0007	.0011	.0014	.0018	.0021	.0025	.0028	.0032
Cast Iron (Gray)	120-220	<18	Low 315 High 450	.0008	.0012	.0020	.0030	.0040	.0050	.0060	.0070	.0080	.0090
	220-320	19-34	Low 225 High 315	.0005	.0007	.0012	.0018	.0024	.0030	.0036	.0042	.0048	.0055
Low-Silicon Aluminum & Other Non-Ferrous Alloys	50-150	—	Low 720 High 900	.0006	.0010	.0016	.0024	.0032	.0040	.0048	.0560	.0064	.0072
Cobalt-Based High-Temperature Alloys	150-425	<45	Low 30 High 45	.0004	.0006	.0010	.0015	.0020	.0025	.0030	.0035	.0040	.0045
Nickel-Based High-Temperature Alloys	140-300	<32	Low 45 High 90	.0002	.0004	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0027
	300-475	32-50	Low 40 High 70	.0002	.0004	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0027

Higher values for surface speed should be used for radial depths of cut less than 25% of the diameter. Lower values for surface speed should be used for radial depths of cut greater than 25% of the diameter.

The above recommendations are for axial lengths of cut not to exceed 1 times the cutter diameter for profiling and .5 times the diameter for slotting.

Recommended speeds above are for uncoated tools only and should be adjusted when using coated tools. Generally, speeds can be increased by the following factors:

- TiCN-coated tools – 20-25% increase
- TiAlN-coated tools – 40-50% increase

The above speeds are a recommended starting point only. If the tool is working well, without vibrations or significant noise, increase the SFM in 5-10% increments. Ultimate speeds will depend upon setup conditions. Higher or lower parameters may be required to achieve optimum conditions.

APPLICATIONS

- Use in general milling applications in medium to low-carbon steels, cast iron, non-ferrous light metals, and plastics.
- Double-end end mills economically increase productivity.
- 2 flute end mills are generally used for plunging, slotting, and heavy peripheral cuts.
- 3 flute end mills provide a compromise between the chip clearance of a 2 flute tool and the rigidity and wear resistance of a 4 flute tool; especially useful for many slotting operations.
- 4 flute end mills are most commonly used in profiling and in harder materials; stiffer construction results in minimal deflection. They also provide good surface finishes and wear-resistant characteristics for excellent size control.

FEATURES AND BENEFITS:

- 10% cobalt submicron grain carbide substrate.
- 30° right-hand spiral, right-hand cut helix designed for maximum chip clearance.
- 2, 3, and 4 flute configurations available.
- Square end and ball nose end geometries available.
- Multiple lengths in select styles and sizes.
- TiAlN-coated tools available in most styles.

TECHNICAL INFORMATION

REGRINDING

In every manufacturing plant today, large and small, an effective, organized end mill regrinding program is essential. No matter how large or small the end mill usage may be, an organized regrinding system will pay dividends in greater production per end mill.

GENERAL INFORMATION

End mills should be removed from the machine at the end of a predetermined production run, or when dull. If possible, a predetermined amount of stock should be removed on dull end mills (normal stock removal is .005" or .010" for each regrind) and color coding or size etching might be marked on the end mill to indicate its size. After several regrinds (this, too, can be predetermined) the end mill will tend to lose its effective rake angle and flute depth, and, at this point, the end mill must be scrapped.

Charts and data for the correct relief angles, relief widths, and rake angles for regrinding end mills are shown on pages 268 and 270.

After regrinding and inspection, all end mills should be dipped in rust-preventative oil, and, if suitable cartons are not available, they should be dipped in plastic coating for the full flute length. They should be stored in their original container, in separate bins or wooden containers. Small wooden containers that can be carried about are usually better than ordinary bin storage, as rough handling, in some cases, ruins more cutting edges than the actual milling operation.

The basic requirements for efficient end mill regrinding are:

- Tool grinding equipment in good condition.
- Adequate information for particular applications with reference to correct reliefs and rake angles.
- A workable tool conservation program.
- Adequate storage facilities and efficient handling techniques.

Nothing decreases the usable tool life of an end mill more than continued use of a dull end mill. The cutting action of a dull end mill is such that all the shearing qualities are gone and the material being milled is actually pushed on ahead of the individual cutting edges. This results in drawing the temper of the individual high-speed steel cutting edges, poorer finishes and accelerated wear. Continued use of a dull end mill makes it necessary to remove much more stock at regrinding to make the end mill usable once again. In the case of carbide end mills excessive dullness will chip and crater the cutting edges and will often cause breakage.

The point in the milling operation at which an end mill begins to dull can be determined in several ways. A dull end mill begins to spring or chatter, causes finishes to become poorer, and glazes or smears some materials. In addition, a wear land begins to form on the top of each individual cutting edge. Many milling machine operators can determine the first signs of end mill dulling by the sound of the cutting action, or by slight variations in machine vibrations.

Generally, an end mill is ready for sharpening when a wear land is visible on the top of the cutting edge. For smaller diameter end mills, and when milling some of the harder, ferrous materials, a wear land

of approximately .005 may be used as an indication of the maximum allowable wear prior to sharpening. When using larger diameter end mills, and when milling in other classes of materials, a wider wear land may be used as an end point prior to regrinding.

In the final analysis, the many variables of each individual end mill application will determine the amount of cutting edge wear or degree of end mill dullness allowable before regrinding.

REGRINDING EQUIPMENT

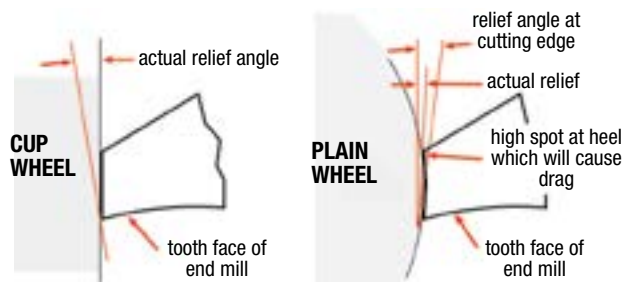
The tool cutter grinders on the market today are extremely versatile, and are capable of end mill regrinding between centers or off-the-shank. Tool and cutter grinders specifically designed for this type of work are easy to set up, operate and maintain, and versatile enough to regrind many types of cutting tools other than end mills. For a large volume of regrinding work some facilities utilize NC or CNC grinding equipment which maintains uniformity of reground mills at each regrinding.

WHEEL SELECTION FOR REGRINDING HIGH SPEED STEEL (HSS) END MILLS

Efficient end mill regrinding is possible without the necessity of stocking a large inventory of various wheel types. For general purpose regrinding, aluminum oxide wheels of 46 to 80 grit are usually satisfactory, although, for finer finishes finer grit wheels may be used. When using wheels with a grit finer than 80, and particularly when sharpening thin cutting edges, approximately .002" should be the maximum amount of stock removal. Heavier cuts than .002" with fine grit wheels usually cause wheel loading and cutting edge burning. CBN wheels are recommended for minimum heat generation and may allow greater stock removal on roughing operations.

Two basic types of wheels may be used: plain or cupped. The cutting edge sections shown below are those which will be produced on the end mill cutting edges by each of these wheels. For a conventional type of regrinding, cup-shaped wheels are often preferred. This preference is caused by the fact that regrinding with a plain wheel tends to leave a high heel portion on the cutting edge, which might cause drag. If the heel portion is too high, it must be cleared also, requiring an additional regrinding setup and operation. Then too, the relief ground on an end mill cutting edge with a cupped wheel is easier to measure, as this type of regrinding leaves a flat, angular relief.

EFFECT OF WHEEL SHAPE ON END MILL RELIEF ANGLE CUP WHEEL VERSUS PLAIN WHEEL



TECHNICAL INFORMATION

REGRINDING CONTINUED

REGRINDING THE SIDES

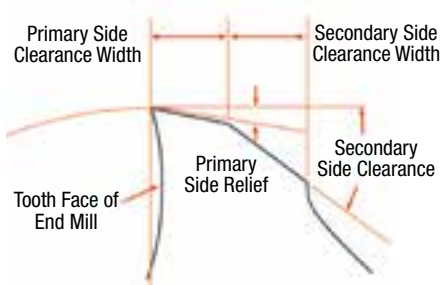
Producing the correct relief angle on an end mill is accomplished by establishing the proper location of the wheel and the end mill. On NC or CNC equipment, this relationship is established through use of a probe or other locating type device. On tool and cutter grinding equipment, a finger or flute rest is used as the locating device. The location of the flute finger should be such that it is mounted in proximity to the wheel. It must be adjustable but not attached to the table. The flute finger may be mounted on the table only when regrinding straight fluted end mills, and then its use is confined to that of an indexing finger.

In actual regrinding, after the flute finger and wheel-to-flute location have been set, each flute is traversed past the wheel, taking a light cut and maintaining a steady motion. After the first light cut, the end mill should be measured to make certain that no taper is being added to the end mill. After the proper amounts of stock have been removed, to re-sharpen the end mill completely, a very light cut should be taken on all flutes, to make certain that roundness and concentricity is maintained.

In choosing the correct relief for the milling job at hand, it is best to regrind end mills to produce just enough primary relief to eliminate drag. Drag will cause friction and overheating of the cutting edges, and

usually some buildup of the material on the heel of the primary relief. On the other hand, too much relief will cause the end mill to chatter and the cutting edges will tend to deteriorate rapidly. Too much relief is the least objectionable of the two choices, but the ideal situation is to have just enough relief. The amount of secondary clearance necessary is usually dependent on the size of the end mill, the width of the primary relief, and the feeds being used. For example, if the feed per tooth per revolution is .004", the heel of the secondary clearance must be at least .005" below the cutting edge. The table below lists the approximate side relief for various end mills.

The best re-sharpening procedure is to first regrind the primary relief until all of the wear has been removed, taking care to avoid excessive diameter loss. Next, the secondary clearance is ground to bring the primary relief land to the desired widths. After grinding the secondary clearance, it is often desirable that the primary relief surfaces be given a light finish grind to refine the cutting edges. To minimize runout, this light finishing cut should be made at one machine sitting, going completely around the end mill.



SIDE RELIEF ANGLES

	End Mill Diameter	Primary Clearance	Primary Width	Secondary Clearance Angle
HSS and Cobalt End Mills	1/8" - 1/4"	13° - 10°	.005" - .011"	26°
	1/2" - 3/4"	10° - 9°	.012" - .024"	17°
	1" - 2"	9° - 7°	.020" - .035"	15°
HSS High-Helix End Mills	1/8" - 1/4"	14°	.017" - .013"	27°
	1/2" - 3/4"	13° - 12°	.015" - .027"	21°
	1" - 2"	11° - 10°	.022" - .040"	18°
PM Plus Powder Metal End Mills	1/8" - 1/4"	22° - 18°	.004" - .013"	29°
	1/2" - 3/4"	16° - 12°	.010" - .018"	22°
	1" - 2"	11° - 10°	.015" - .030"	19°

TECHNICAL INFORMATION

REGRINDING CONTINUED

CHECKING RELIEF ANGLES

The universally accepted method of checking relief angles on the sides of end mills is to mount the end mill to rotate about its axis. Position a dial indicator above or to the side of the end mill, (with the dial indicator finger at right angles to the axis of the end mill being checked) and measure the indicator drop in thousandths of an inch on the primary relief.

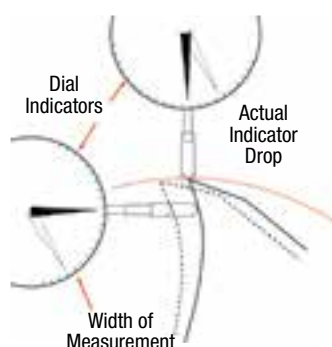
This method, shown in the illustration, may be used for any type of side relief, be it dish shaped, flat, or radial. The measurable width of primary relief may be any predetermined amount.

The table below shows the amount of indicator drop for various primary relief angles when the cutting edge of the end mill is moved or rotated the tabulated measured primary width.

Off-hand side relief regrinding of end mills for any milling application should never be done under any circumstance.

REGRINDING THE ENDS

Regrinding of the ends of end mills does not differ too much from regrinding of the sides, in that the basic principles still apply. However the method of grinding varies in that nearly all regrinding is done off of the shank. The task at hand is to reproduce an end that may be center cutting, square end, ball nose or square end with a corner radius. Almost any of the tool or cutter grinders may be used to produce accurate regrinding and re-notching of the square end style and some are built to also permit accurate reproduction of ball and radius ends. NC or CNC equipment can be programmed to achieve all of the required end configurations during regrinding.



Whenever possible, end notching or gashing cuts should be produced with grinding wheels which have corner radii so as to reduce stress concentration at the bottom of the gash. End tooth notch angles should produce about 0° to 5° positive axial rake.

In re-sharpening of end teeth the first step is always the removal of the wear on the end teeth and at the corner intersection of the end and peripheral teeth. Particular care must be taken so that all of the corner wear is removed.

Once the wear has been removed, it then is a matter of using the proper set-up and wheel shapes to produce the desired center cutting end configuration capability. On center cutting end mills one or more teeth must be cleared to cut to or past center. A gash is normally provided on the center cutting teeth to aid chip removal and prevent chip packing in the center of the end mill.

Ball end mills present re-sharpening problems due to their relieved radius form and roughly spherical form of the secondary clearance. Most users will end up using a machine to generate the cleared form and then hand clear the secondary and trailing heel. Care must always be exercised in regrinding the ends regardless of their shape to avoid generating any chip pockets.

Primary relief land widths of end teeth will be approximately 1-1/2 to 3 times that recommended for peripheral teeth. The table on the next page is a listing of typical details for clearing the ends of end mills.

Primary end relief is usually increased for softer materials and decreased as the hardness of the work material increases or the machinability of the work material decreases. Primary end relief angles should also be increased on small diameter mills used for plunge-cutting.

PRIMARY RELIEF ANGLE FOR SIDE TEETH OF END MILLS

END MILL DIAMETER	MEASURED PRIMARY RELIEF WIDTH	INDICATOR DROP IN MEASURED PRIMARY RELIEF WIDTH					
		4°	6°	8°	10°	12°	15°
1/8	1/64	.0000	.0000	.0002	.0008	.0015	.0021
3/16	1/64	.0000	.0003	.0009	.0014	.0020	.0028
1/4	1/64	.0001	.0007	.0012	.0018	.0023	.0031
5/16	1/64	.0003	.0009	.0014	.0019	.0025	.0033
3/8	1/64	.0004	.0010	.0015	.0021	.0026	.0034
7/16	1/64	.0005	.0011	.0016	.0022	.0027	.0035
1/2	1/64	.0006	.0012	.0017	.0022	.0028	.0036
5/8	1/32	.0006	.0017	.0028	.0039	.0050	.0066
3/4	1/32	.0009	.0020	.0029	.0042	.0052	.0069
7/8	1/32	.0011	.0022	.0032	.0043	.0054	.0070
1	1/32	.0012	.0023	.0034	.0045	.0056	.0072
1-1/8	1/32	.0013	.0024	.0035	.0046	.0057	.0073
1-1/4	3/64	.0015	.0032	.0048	.0064	.0080	.0105
1-3/8	3/64	.0017	.0033	.0050	.0066	.0082	.0106
1-1/2	3/64	.0018	.0034	.0051	.0067	.0083	.0107
1-3/4	3/64	.0020	.0037	.0053	.0069	.0085	.0109
2	3/64	.0022	.0038	.0054	.0071	.0087	.0111
2-1/4	1/16	.0027	.0048	.0070	.0092	.0113	.0145
2-1/2	1/16	.0028	.0050	.0072	.0093	.0115	.0147
2-3/4	1/16	.0029	.0051	.0073	.0095	.0116	.0148
3	1/16	.0031	.0052	.0074	.0096	.0117	.0150

TECHNICAL INFORMATION

REGRINDING CONTINUED

REGRINDING THE ENDS (CONTINUED)

Primary end relief is usually increased for softer materials and decreased as the hardness of the work material increases or the machinability of the work material decreases. Primary end relief angles should also be increased on small diameter mills used for plunge-cutting.

SECONDARY END CLEARANCE

Secondary end clearance depends on the material being milled and the type of operation. Some tracer milling operations, requiring comparatively heavy in-feeds, will necessitate additional secondary clearance, whereas shallow traversing cuts would require less secondary end clearance.

In addition, milling of the higher density steels require less secondary end clearance, but aluminum and other non-ferrous milling applications require increased secondary end clearances. In most cases, off hand grinding of secondary end clearances on end mills is the quickest and most economical method, as no absolute degree of accuracy is required. For combination notching and secondary end clearing of end mills, however, where the side of the wheel makes contact with the cutting face of one of the end teeth, care must be exercised, and some users prefer to notch and clear end teeth in one grinding operation, by machine.

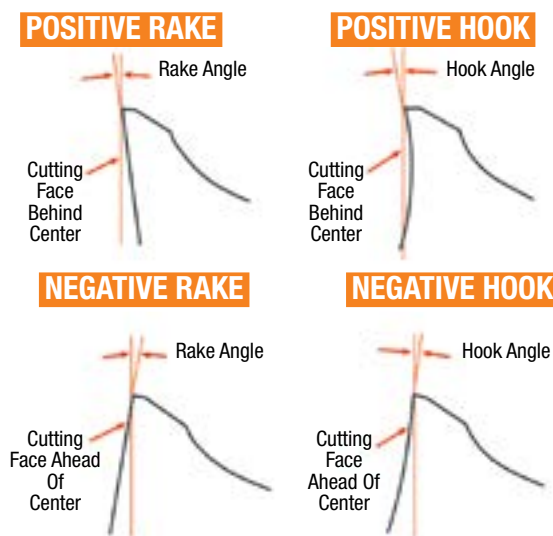
END RELIEF ANGLES

	End Mill Diameter	Primary Clearance	Primary Width	Secondary Clearance Angle
HSS, Cobalt and PM Plus End Mills	1/8" - 1/4"	6° - 8°	.025" - .035"	25° - 30°
	1/2" - 3/4"	6° - 8°	.035" - .050"	25° - 30°
	1" - 2"	6° - 8°	.045" - .075"	25° - 30°
HSS High-Helix End Mills	1/8" - 1/4"	8° - 10°	.025" - .045"	30°
	1/2" - 3/4"	8° - 10°	.035" - .060"	23°
	1" - 2"	8° - 10°	.035" - .060"	23°

REGRINDING END MILL TOOTH RAKE ANGLES

While correct relief angles on end mill teeth are essential for economical milling, too often little attention is given to maintaining the correct rake angles. Rake angles or hook angles are shown below.

As the illustration shows, the term rake is commonly used when referring to a comparatively straight cutting face. The rake or hook angle formed by the side cutting faces of an end mill is often referred to as radial rake.



Most end mills are manufactured with a hook rather than a rake because the curved cutting face aids in curling and ejecting the chips. The proper rake angle is governed by the material being cut and the material from which the end mill is made. Most high-speed steel end mills usually have generous positive rake angles on the side cutting teeth, whereas tungsten carbide types of end mills are usually manufactured with lower positive or even negative rake angles. Softer materials usually will allow higher rake angles to be used, whereas the harder, tougher materials require lower rake angles.

Radial rake is not to be confused with axial or helical rake. Axial rake is that angle formed about the axis of the mill by a straight cutting edge at one given point, whereas helical rake is that helical angle formed around the axis of the mill by the cutting edge.

Axial rake is formed by a straight angular cutting edge, and is not constant, whereas helical rake is formed by a helical cutting edge and is constant. Helix angles or helical rake angles for end mills may range, from 0° up to 60°. For general purpose milling, helix angles of 25° to 35° are the most popular.

TECHNICAL INFORMATION

REGRINDING CONTINUED

REGRINDING TOOTH RAKE ANGLES (CONTINUED)

During manufacturing a specific radial rake is built into each end mill type based upon its intended area of work material application. As an end mill is reground on the outside diameter, there is a continual reduction in the radial rake present in the tool, resulting in higher cutting forces and generally shorter tool life. An end mill generally can only be reduced in cutting diameter by about 10% to 15% of the original diameter before the mill must be discarded or the correct radial rake reground into face of the flute.

WIDTH OF TOOTH FACE BEING MEASURED

Rake Angle	INDICATOR DROP IN THOUSANDTHS OF AN INCH			
	1/32"	1/16"	3/32"	1/8"
1°	.0005	.0011	.0016	.0022
2°	.0011	.0022	.0034	.0044
3°	.0016	.0033	.0049	.0065
4°	.0022	.0044	.0066	.0087
5°	.0027	.0054	.0082	.0108
6°	.0033	.0065	.0099	.0131
7°	.0038	.0076	.0115	.0152
8°	.0044	.0087	.0132	.0174
9°	.0049	.0098	.0148	.0195
10°	.0055	.0109	.0165	.0217
11°	.0061	.0119	.0182	.0238
12°	.0066	.0130	.0200	.0260
15°	.0084	.0162	.0251	.0323
20°	.0114	.0227	.0341	.0455

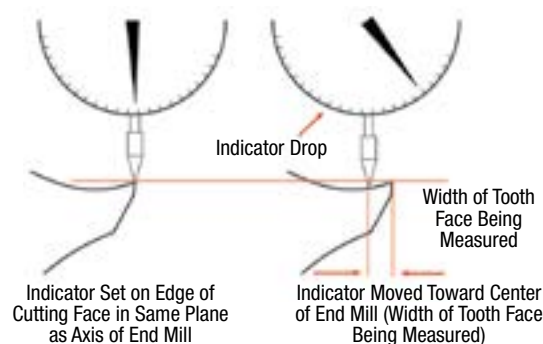
REGRINDING RADIAL RAKE ANGLES

The practice of regrounding radial rake or hook angles on end mills of diameters below 1/2" is usually not economical, unless large quantities of the same size are involved. Thus the regrounding of radial rake is usually confined to end mills of larger sizes. There are three accurate methods of regrounding the rake angles in the helical flutes of an end mill.

1. Use of a tool room grinder with a spiral lead attachment.
2. Use of a fixture, mounted on a tool room grinder having a former (a bar grooved with the same lead as the end mill) which rotates the end mill at the correct helix angle as it moves forward into the grinding wheel.
3. Use of a properly programmed CNC grinder.

INSPECTING RADIAL RAKE ANGLES

The illustration shows one method of inspecting the radial hook or rake in the side tooth of an end mill, when the end mill is located in inspection centers or in an accurate horizontal spindle. This method measures the amount of rake of the tooth being measured in indicator drop. Convert this amount of indicator drop to the angular equivalent of the actual rake angle by reference to the table at left.

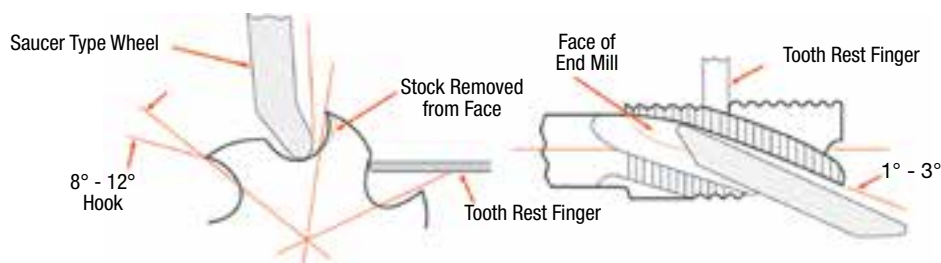


SHARPENING ROUGHING END MILLS

Roughing end mills are designed as form-relieved cutters, and as such, the OD wear is removed by grinding the radial rake face of the teeth and fillet of the flute. Generally this is accomplished on a tool and cutter grinding machine. If a roughing end mill is center or end cutting, the end teeth are re-sharpened the same way as end teeth on standard end mills.

A saucer-shaped grinding wheel, dressed to match the form of the flute face from OD to the fillet, is used. The grinding head is turned to an angle 1° to 3° greater than the helix angle of the mill. This will allow the leading edge of the wheel to hollow grind the rake face. (Typically the finished hook is 8° to 12°).

A tooth support finger or lead-generating device may be used to ensure that the proper lead is maintained. The support finger rides on the back of the tooth being sharpened, located below the form. Unless equal stock is removed from each rake face, the re-sharpened mill will have more radial run-out during use. Normally this should not prove to be a problem, provided enough stock is left on the roughed out part for finishing.





06

CARBIDE BURRS

QUICK PAGES REFERENCES

CARBIDE BURRS



CLE-LINE



WALTER

SINGLE, DOUBLE & ALUMINUM CUT BURRS

Bright Finish For most ferrous metals, hard alloys & aluminum			
CLE	Type	Series	Page Number
Cylindrical without End Cut	SA	1845	626
Cylindrical with End Cut	SB	1846	626
Cylindrical Ball Nose	SC	1847	627
Round Nose Tree	SF	1848	629
Pointed Tree	SG	1849	630
Pointed Cone	SM	1850	631
Egg Shaped	SE	1851	629
Included Angle	SL	1852	631
Ball Shaped	SD	1853	628
Flame Shaped	SH	1854	630
60° Included Angle (Countersink)	SJ	1856	632
90° Included Angle (Countersink)	SK	1857	632
Inverted Taper	SN	1858	632



DRILLCO



WALTER

SINGLE & DOUBLE CUT BURRS

Bright Finish For most ferrous metals, hard alloys & aluminum	
Series 7000	Page Number
7000A / 7000AX, 7000B	634
7000C / 7000CX, 7000D / 7000DX	635
7000E / 7000EX, 7000F / 7000FX, 7000G / 7000GX	636
7000H / 7000HX, 7000J, 7000K	637
7000L / 7000LX, 7000M, 7000N / 7000NE	638

BURR SETS

Bright Finish For high-performance on most ferrous metal, hard alloys & aluminum	
Series	Page Number
70S001SC / 70S001DC 70S002SC / 70S002DC 70S003SC / 70S003DC 70S004SC / 70S004DC 70S005SC / 70S005DC 70S006SC / 70S006DC 70S007SC / 70S007DC 70S011DC 70S010NF	640

ALUMINUM/NON-FERROUS CUT BURRS

Bright Finish For aluminum and other non-ferrous materials	
Series 7000	Page Number
7000AAL, 7000CAL, 7000DAL, 7000EAL 7000FAL, 7000LAL	639

CARBIDE BURRS

Chicago-Latrobe |  **WALTER**

SINGLE, DOUBLE & ALUMINUM CUT BURRS

Bright Finish For most ferrous metals, hard alloys & aluminum		
CLE	Series	Page number
Cylindrical without End Cut	SA	641
Cylindrical with End Cut	SB	641
Cylindrical Ball Nose	SC	642
Round Nose Tree	SF	643
Pointed Tree	SG	644
Pointed Cone	SM	645
Pointed Cone	SL	645
Egg Shaped	SE	643
Ball Shaped	SD	642
Flame Shaped	SH	644
Inverted Taper	SN	646



HEAVY-DUTY SINGLE & DOUBLE CUT BURRS

Bright Finish For Stainless Steel	
Series 01V	Page number
01V	647

BURR SETS

Production kit For most ferrous metals, hard alloys; aluminum	
Order No.	Page number
01V990 / 01V995 / 01V996	649

HEAVY-DUTY ALUMINUM / NON-FERROUS CUT BURRS

Bright Finish For most ferrous metals, hard alloys; aluminum	
Series 01V	Page number
01V	649

POINT GRINDER

Dialspeed™ 6141 For fitting and finishing work	
Order No.	Page number
30A141	650

TECHNICAL INFORMATION

BURR SELECTION CHART

Head Style	Description	Use	
SA	Cylindrical	Deburring	
SB	Cylindrical with end cut	Interior Contour Work	
SC	Cylindrical Ball Nose	Surface Milling & Contour Work	
SD	Ball Shape	Surface Milling, Deburring, & Contour Work	
SE	Oval Shape	Contour Work	
SF	Round Tree Shape	Narrow Contour Work	
SG	Pointed Tree Shape	Surface Milling & Narrow Contour Work	
SH	Flame Shape	Contour Work	
SJ	60° Included Angle	Machining of Acute Angle Areas & Countersinking	
SK	90° Included Angle	Machining of Acute Angle Areas & Countersinking	
SL	14° Included Angle	Surface Machining & Narrow Contour Work	
SM	Cone Shape	Surface Machining & Narrow Contour Work	
SN	Inverted Cone	Machining from the Rear in hard to reach areas	
SNE	Inverted Cone with end cut	Machining from the Rear in hard to reach areas	

TECHNICAL INFORMATION

Head Profiles / RPM Chart / Speed Recommendations



SINGLE CUT

Single Cut burrs produce a smooth finish for general purpose use on steel, cast iron and other ferrous and non-ferrous materials. Most of our Carbide Burrs are available in the Single Cut right hand spiral design.

Best Material Application



DOUBLE CUT

Double Cut, with its chisel type cutting edge, is a machine ground tool built to exacting tolerances of concentricity, size and shape. When combined with precision grinders, this accuracy results in smooth running, fast metal removal and fine finishes.

The right and left hand helical flutes combine to produce a chisel-type cutting tooth. This results in faster penetration and stock removal with minimal bounce or chatter. The Double Cut design also produces an easy-to-handle granular type chip, in most metals, as opposed to the conventional sliver type chips. Throughout its life, the Double Cut gives faster stock removal, less operator fatigue, and maintains a good finish on the widest possible variety of materials.

Best Material Application



ALUMINUM CUT

Aluminum Cut burrs are outstanding on soft or non-ferrous type materials. Use the Aluminum Cut design on aluminum, magnesium, brass, lead and most plastics.

Best Material Application



RPM Chart	
Burr Diameter	RPM
1/16"	60,000 - 90,000
1/8"	40,000 - 70,000
3/16"	35,000 - 60,000
1/4"	30,000 - 50,000
5/16"	20,000 - 40,000
3/8"	20,000 - 40,000
7/16"	15,000 - 40,000
1/2"	15,000 - 40,000
5/8"	12,000 - 25,000
3/4"	10,000 - 20,000
1"	7,500 - 20,000

Bur Selection by Material		
Workpiece Material	First Choice	Alternative
aluminum	aluminum cut	—
brass	double cut	standard cut
bronze	double cut	standard cut
cast iron	double cut	standard cut
copper	aluminum cut	—
fiberglass	double cut	standard cut
inconel	double cut	standard cut
malleable iron	double cut	standard cut
magnesium	aluminum cut	—
masonite	double cut	standard cut
plastic	standard cut	—
steel alloy	double cut	—
carbon steel	double cut	—
stainless steel	double cut	—
titanium	double cut	—
zinc	aluminum cut	standard cut

STANDARD SHANK STYLES

Shank A

1/8" (3mm) solid carbide



Shank B

1/8" (3mm) hardened steel



Shank C

1/4" (6mm) hardened steel



Shank D

1/4" (6mm) solid carbide



SPEED

High speeds are essential for efficient and economical use of a carbide burr. At high speeds, there will be less tendency for chips to build up in the flute. Also, the burr will cut more freely in corners or pockets and reduce the chances of jamming or wedging.

The selection of operating speeds for a carbide burr is usually less exacting than for most other cutting tools. Rather than specify a different grinder speed for every burr diameter used, one grinder will normally be used for many different burr sizes. However, for most efficient operations, the grinder should be specified with consideration given to the diameter of the burrs that will be used.

Carbide burrs should operate between 1,500 and 3,000 surface feet per minute. Using these guidelines, a grinder can be selected that will efficiently work with a broad range of burr sizes. For example, a 30,000 RPM grinder can be used with a 3/16" to a 3/8" diameter burr. A 22,000 RPM grinder will be satisfactory for burrs ranging from 1/4" to 1/2".

Speeds are an important factor in achieving desired stock removal rates and workpiece finish. Increasing the speed will improve finishes, while lower speeds will remove material more rapidly.

CYLINDRICAL WITHOUT END CUT

1845 SERIES (SA)



Fractional								
Tool No.	Cutting Diameter		Shank Dia.	Length of Cut	Overall Length	Shank Type	Single Cut Order No.	Double Cut Order No.
	Inch	Decimal						
SA-41	1/16	.0625	1/8	1/4	1-1/2	A	C10005	C10008
SA-42	3/32	.0938	1/8	7/16	1-1/2	A	C17601	C17550
SA-43	1/8	.1250	1/8	9/16	1-1/2	A	C17602	C17551
SA-14	3/16	.1875	1/4	5/8	2	C	C17608	—
SA-51	1/4	.2500	1/8	5/8	2	B	C17606	C17605
SA-1	1/4	.2500	1/4	5/8	2	D	C17609	C17552
SA-1L6	1/4	.2500	1/4	1/2	6-1/2	C	C17800	C17823
SA-2	5/16	.3125	1/4	3/4	2-1/2	C	C17610	C17553
SA-3	3/8	.3750	1/4	3/4	2-1/2	C	C17611	C17554
SA-3L6	3/8	.3750	1/4	3/4	6-3/4	C	C17801	C17824
SA-4	7/16	.4375	1/4	1	2-3/4	C	C17612	—
SA-5	1/2	.5000	1/4	1	2-3/4	C	C17613	C17555
SA-5L6	1/2	.5000	1/4	1	7	C	C17802	C17825
SA-6	5/8	.6250	1/4	1	2-3/4	C	C10006	C17556
SA-7	3/4	.7500	1/4	1	2-3/4	C	C10007	C17615
SA-9	1	1.000	1/4	1	2-3/4	C	C17616	C17557
Metric								
	(mm)	Decimal	(mm)	(mm)	(mm)			
SA-43	3	.1181	3	14.3	38.1	A	—	C17591
SA-1	6	.2362	6	15.9	50.8	D	—	C17588
SA-2	7.94	.3125	6	19.1	63.5	C	—	C17589
SA-3	9.53	.3750	6	19.1	63.5	C	—	C17590
SA-5	12.7	.5000	6	25.4	69.9	C	—	C17592

CYLINDRICAL WITH END CUT

1846 SERIES (SB)



Fractional									
Tool No.	Cutting Diameter		Shank Dia.	Length of Cut	Overall Length	Shank Type	Single Cut Order No.	Double Cut Order No.	Aluminum Cut Order No.
	Inch	Decimal							
SB-41	1/16	.0625	1/8	1/4	1-1/2	A	C10009	—	—
SB-42	3/32	.0938	1/8	7/16	1-1/2	A	C10010	—	—
SB-43	1/8	.1250	1/8	9/16	1-1/2	A	C17622	—	—
SB-11	1/8	.1250	1/4	1/2	2	C	C17625	—	—
SB-14	3/16	.1875	1/4	5/8	2	C	C17626	—	—
SB-1	1/4	.2500	1/4	5/8	2	D	C17627	C17546	C10015
SB-51	1/4	.2500	1/8	3/16	1-11/16	B	C17624	—	—
SB-51	1/4	.2500	1/8	3/16	1-11/16	A	C10011	C10013	—
SB-3	3/8	.3750	1/4	3/4	2-1/2	C	C17629	C17547	C10016
SB-5	1/2	.5000	1/4	1	2-3/4	C	C17631	C17548	C10017
SB-6	5/8	.6250	1/4	1	2-3/4	C	—	C17549	C10018
SB-7	3/4	.7500	1/4	1	2-3/4	C	—	C10014	C10019
SB-9	1	1.0000	1/4	1	2-3/4	C	C10012	—	—
Metric									
	(mm)	Decimal	(mm)	(mm)	(mm)				
SB-43	3	.1181	3	14.30	38.1	A	C17632	C17510	—
SB-1	6	.2362	6	15.90	50.8	D	—	C17507	—
SB-2	7.94	.3125	6	19.10	63.5	C	—	C17508	—
SB-3	9.53	.3750	6	19.10	63.5	C	—	C17509	—
SB-5	12.7	.5000	6	25.40	69.9	C	—	C17511	—
SB-6	15.88	.6250	6	25.40	69.9	C	C17633	C17512	—

Best Material Application

Single Cut			Double Cut			Aluminum Cut	
STEEL	CAST IRON	NON-FERROUS	STEEL	CAST IRON	NON-FERROUS	HIGH TEMP. ALLOYS	NON-FERROUS

Shank A = 1/8" (3mm) solid carbide Shank B = 1/8" (3mm) hardened steel Shank C = 1/4" (6mm) hardened steel Shank D = 1/4" (6mm) solid carbide

CYLINDRICAL BALL NOSE

1847 SERIES (SC)



Fractional									
Tool No.	Cutting Diameter		Shank Dia.	Length of Cut	Overall Length	Shank Type	Single Cut Order No.	Double Cut Order No.	Aluminum Cut Order No.
Inch	Decimal								
SC-41	3/32	.0938	1/8	7/16	1-1/2	A	C17635	C10023	—
SC-42	1/8	.1250	1/8	9/16	1-1/2	A	C17636	C17540	—
SC-11	1/8	.1250	1/4	1/2	2	C	—	C17539	—
SC14	3/16	.1875	1/4	5/8	2	C	C17641	—	—
SC-51	1/4	.2500	1/8	1/2	1-3/4	B	C10020	C10024	—
SC-1	1/4	.2500	1/4	5/8	2	D	C17642	C17541	C10026
SC-1L6	1/4	.2500	1/4	1/2	6-1/2	C	C17803	C17826	—
SC-2	5/16	.3125	1/4	3/4	2-1/2	C	—	C17542	—
SC-3	3/8	.3750	1/4	3/4	2-1/2	C	C17644	C17543	C10027
SC-3L6	3/8	.3750	1/4	3/4	6-3/4	C	C17804	C17827	—
SC-5	1/2	.5000	1/4	1	2-3/4	C	—	—	C10028
SC-5	1/2	.5000	1/4	1	2-3/4	C	C17646	C17544	—
SC-5L6	1/2	.5000	1/4	1	7	C	C17805	C17828	—
SC-6	5/8	.6250	1/4	1	2-3/4	C	C10021	C17545	—
SC-7	3/4	.7500	1/4	1	2-3/4	C	C10022	C10025	C10029
Metric									
	(mm)	Decimal	(mm)	(mm)	(mm)				
SC-43	3	.1181	3	14.3	38.1	A	C17634	C17517	—
SC-52	3.97	.1562	3	12.7	38.1	A	—	C17520	—
SC-53	4.76	.1875	3	12.7	38.1	A	—	C17521	—
SC-1	6	.2362	6	15.9	50.8	D	—	C17513	—
SC-51	6.35	.2500	3	12.7	44.5	B	—	C17519	—
SC-2	7.94	.3125	6	19.1	63.5	C	—	C17514	—
SC-3	9.53	.3750	6	19.1	63.5	C	—	C17515	—
SC-5	12.7	.5000	6	25.4	69.9	C	—	C17518	—
SC-6	15.88	.6250	6	25.4	69.9	C	—	C17522	—
SC-7	19.05	.7500	6	25.4	69.9	C	—	C17523	—

06

CARBIDE BURRS

CLE-LINE

WALTER

Best Material Application		
Single Cut	Double Cut	Aluminum Cut
STEEL CAST IRON NON-FERROUS	STEEL CAST IRON NON-FERROUS HIGH TEMP. ALLOYS	NON-FERROUS

Shank A = 1/8" (3mm) solid carbide Shank B = 1/8" (3mm) hardened steel Shank C = 1/4" (6mm) hardened steel Shank D = 1/4" (6mm) solid carbide

BALL SHAPE

1853 SERIES (SD)



Fractional									
Tool No.	Cutting Diameter		Shank Dia.	Length of Cut	Overall Length	Shank Type	Single Cut Order No.	Double Cut Order No.	Aluminum Cut Order No.
Inch	Decimal								
SD-40	1/16	.0625	1/8	1/16	1-1/2	A	C17725	—	—
SD-41	3/32	.0938	1/8	3/32	1-1/2	A	C17726	C10064	—
SD-42	1/8	.1250	1/8	1/8	1-1/2	A	C17727	C17531	—
SD-11	1/8	.1250	1/4	1/8	2	A	C17730	C17530	—
SD-53	3/16	.1875	1/8	3/16	1-1/2	A	C17728	—	—
SD-14	3/16	.1875	1/4	1/8	2	A	C17731	C17532	—
SD-51	1/4	.2500	1/8	1/4	1-3/4	B	C17729	C10065	—
SD-1	1/4	.2500	1/4	1/4	2	D	C17732	C17533	C10068
SD-1L6	1/4	.2500	1/4	7/32	6-7/32	C	C17806	C17829	—
SD-2	5/16	.3125	1/4	5/16	2-1/32	C	C17733	C17534	—
SD-3	3/8	.3750	1/4	3/8	2-5/64	C	C17734	C17535	C10069
SD-3L6	3/8	.3750	1/4	5/16	6-5/16	C	C17807	C17830	—
SD-5	1/2	.5000	1/4	1/2	2-13/64	C	C17736	C17536	C10070
SD-5L6	1/2	.5000	1/4	7/16	6-7/16	C	C17808	C17831	—
SD-6	5/8	.6250	1/4	5/8	2-5/16	C	C17737	C17537	—
SD-7	3/4	.7500	1/4	3/4	2-7/16	C	C17738	C17538	—
SD-9	1	1.0000	1/4	1	2-11/16	C	C17739	C10066	—
Metric									
(mm)	Decimal		(mm)	(mm)	(mm)				
SD-40	3	.0625	3	1.6	38	A	C17723	—	—
SD-42	3	.1181	3	2.5	38	A	C17724	C17457	—
SD-53	4.76	.1875	3	4.76	38.1	A	C17741	C17412	—
SD-1	6	.2362	6	6.0	50.8	D	C17721	C17455	—
SD-51	6.35	.2500	3	6.35	44.45	B	—	C17411	—
SD-3	9.53	.3750	6	9.53	52.8	C	C17722	C17456	—
SD-5	12.7	.5000	6	12.7	56.0	C	C17740	C17458	—

Best Material Application

Single Cut			Double Cut				Aluminum Cut	
STEEL	CAST IRON	NON-FERROUS	STEEL	CAST IRON	NON-FERROUS	HIGH TEMP. ALLOYS	NON-FERROUS	

Shank A = 1/8" (3mm) solid carbide **Shank B** = 1/8" (3mm) hardened steel **Shank C** = 1/4" (6mm) hardened steel **Shank D** = 1/4" (6mm) solid carbide

EGG SHAPE

1851 SERIES (SE)



Fractional									
Tool No.	Cutting Diameter		Shank Dia.	Length of Cut	Overall Length	Shank Type	Single Cut Order No.	Double Cut Order No.	Aluminum Cut Order No.
	Inch	Decimal							
SE-41	1/8	.1250	1/8	7/32	1-1/2	A	C17700	C10052	—
SE-51	1/4	.2500	1/8	3/8	1-5/8	B	C17702	C10053	—
SE-1	1/4	.2500	1/4	3/8	2	D	C17703	C17558	—
SE-1L6	1/4	.2500	1/4	3/8	6-3/8	C	C17809	C17832	—
SE-3	3/8	.3750	1/4	5/8	2-3/8	C	C17704	C17559	C10054
SE-3L6	3/8	.3750	1/4	5/8	6-5/8	C	C17810	C17833	—
SE-5	1/2	.5000	1/4	7/8	2-5/8	C	C17705	C17560	C10055
SE-5L6	1/2	.5000	1/4	7/8	6-7/8	C	C17811	C17834	—
SE-6	5/8	.6250	1/4	1	2-3/4	C	C17706	—	C10056
SE-7	3/4	.7500	1/4	1	2-3/4	C	C10051	C17561	—
Metric									
	(mm)	Decimal	(mm)	(mm)	(mm)				
SE-41	3.0	.1181	3	5.5	38	A	C17708	—	—
SE-53	4.76	.1875	3	7.1	38.1	A	—	C17489	—

ROUND NOSE TREE

1848 SERIES (SF)



Fractional									
Tool No.	Cutting Diameter		Shank Dia.	Length of Cut	Overall Length	Shank Type	Single Cut Order No.	Double Cut Order No.	Aluminum Cut Order No.
	Inch	Decimal							
SF-41	1/8	.1250	1/8	1/4	1-1/2	A	C17650	C10033	—
SF-42	1/8	.1250	1/8	1/2	1-1/2	A	C17651	C10034	—
SF-51	1/4	.2500	1/8	1/2	1-3/4	B	C10030	C10035	—
SF-1	1/4	.2500	1/4	5/8	2	D	C17654	C17580	C10036
SF-1L6	1/4	.2500	1/4	1/2	6-1/2	C	C17812	C17835	—
SF-3	3/8	.3750	1/4	3/4	2-3/4	C	C17655	C17581	C10037
SF-3L6	3/8	.3750	1/4	3/4	6-3/4	C	C17813	C17836	—
SF-13	1/2	.5000	1/4	3/4	2-1/2	C	C17657	—	—
SF-5	1/2	.5000	1/4	1	2-3/4	C	C17658	C17582	C10038
SF-5L6	1/2	.5000	1/4	1	7	C	C17814	C17837	—
SF-6	5/8	.6250	1/4	1	2-3/4	C	C10031	C17583	C10039
SF-7	3/4	.7500	1/4	1	2-3/4	C	C10032	C17584	—
SF-14	3/4	.7500	1/4	1-1/4	3	C	C17661	—	—
SF-15	3/4	.7500	1/4	1-1/2	3-1/4	C	C17662	—	—
Metric									
	(mm)	Decimal	(mm)	(mm)	(mm)				
SF-42	3	.1181	3	12.7	38	A	C17663	C17526	—
SF-53	4.76	.1875	3	12.7	38.1	A	—	C17528	—
SF-1	6	.2362	6	15.9	50.8	D	—	C17524	—
SF-51	6.35	.2500	3	12.7	44.5	B	C17596	C17597	—
SF-3	9.53	.3750	6	19.1	63.5	C	—	C17525	—
SF-5	12.7	.5000	6	25.4	69.9	C	—	C17527	—

Best Material Application

Single Cut			Double Cut			Aluminum Cut		
STEEL	CAST IRON	NON-FERROUS	STEEL	CAST IRON	NON-FERROUS	HIGH TEMP. ALLOYS	NON-FERROUS	

Shank A = 1/8" (3mm) solid carbide **Shank B** = 1/8" (3mm) hardened steel **Shank C** = 1/4" (6mm) hardened steel **Shank D** = 1/4" (6mm) solid carbide

POINTED TREE

1849 SERIES (SG)



Fractional								
Tool No.	Cutting Diameter		Shank Dia.	Length of Cut	Overall Length	Shank Type	Single Cut Order No.	Double Cut Order No.
	Inch	Decimal						
SG-41	1/8	.1250	1/8	1/4	1-1/2	A	C17675	C10044
SG-42	1/8	.1250	1/8	5/16	1-1/2	A	C17676	C10042
SG-43	1/8	.1250	1/8	3/8	1-1/2	A	C10040	C10043
SG-51	1/4	.2500	1/8	1/2	1-3/4	B		C10045
SG-53	3/16	.1875	1/8	1/2	1-1/2	A	C17679	—
SG-51	1/4	.2500	1/8	1/2	1-3/4	B	C17680	—
SG-1	1/4	.2500	1/4	5/8	2	D	C17681	C17575
SG-1L6	1/4	.2500	1/4	1/2	6-1/2	C	C17815	C17838
SG-3	3/8	.3750	1/4	3/4	2-1/2	C	C17683	C17576
SG-3L6	3/8	.3750	1/4	3/4	6-3/4	C	C17816	C17839
SG-13	1/2	.5000	1/4	3/4	2-1/2	C	—	C17577
SG-5	1/2	.5000	1/4	1	2-3/4	C	C17685	C17578
SG-5L6	1/2	.5000	1/4	1	7	C	C17817	C17840
SG-6	5/8	.6250	1/4	1	2-3/4	C	C10041	C17579
Metric								
	(mm)	Decimal	(mm)	(mm)	(mm)			
SG-44	3	.1181	3	12.7	38	A	C17674	C17486
SG-53	4.76	.1875	3	12.7	38.1	A	—	C17488
SG-1	6	.2362	6	15.9	50.8	D	—	C17483
SG-2	7.94	.3125	6	19.1	63.5	C	—	C17484
SG-3	9.53	.3750	6	19.1	63.5	C	—	C17485
SG-5	12.7	.5000	6	25.4	69.9	C	—	C17487

FLAME SHAPE

1854 SERIES (SH)



Fractional								
Tool No.	Cutting Diameter		Shank Dia.	Length of Cut	Overall Length	Shank Type	Single Cut Order No.	Double Cut Order No.
	Inch	Decimal						
SH-41	1/8	.1250	1/8	1/4	1-1/2	A	C17750	C10072
SH-2	5/16	.3125	1/4	3/4	2-1/2	C	C10071	C17562
SH-2L6	5/16	.3125	1/4	3/4	6-3/4	C	C17818	C17841
SH-5	1/2	.5000	1/4	1-1/4	3	C	C17753	C17563
SH-5L6	1/2	.5000	1/4	1-1/4	7-1/4	C	C17819	C17842
Metric								
	(mm)	Decimal	(mm)	(mm)	(mm)			
SH-53	4.76	.1875	3.0	9.5	38.1	A	C17749	C17529

Best Material Application

Single Cut		Double Cut		Aluminum Cut	
					
STEEL	CAST IRON	STEEL	CAST IRON	NON-FERROUS	NON-FERROUS

Shank A = 1/8" (3mm) solid carbide Shank B = 1/8" (3mm) hardened steel Shank C = 1/4" (6mm) hardened steel Shank D = 1/4" (6mm) solid carbide

INCLUDED ANGLE

1852 SERIES (SL)



Fractional										
Tool No.	Cutting Diameter Inch	Decimal	Shank Dia.	Length of Cut	Overall Length	Included Angle	Shank Type	Single Cut Order No.	Double Cut Order No.	Aluminum Cut Order No.
SL-41	1/8	.1250	1/8	3/8	1-1/2	14°	A	C10057	C10058	—
SL-42	1/8	.1250	1/8	1/2	1-1/2	8°	A	C17711	C10059	C10060
SL-1	1/4	.2500	1/4	5/8	2	14°	D	C17713	C17564	C10061
SL-1L6	1/4	.2500	1/4	5/8	6-5/8	14°	C	C17820	C17843	—
SL-2	5/16	.3125	1/4	7/8	2-3/4	14°	C	C17714	C17565	—
SL-3	3/8	.3750	1/4	1-1/16	2-15/16	14°	C	C17715	C17566	—
SL-3L6	3/8	.3750	1/4	1-1/16	7-1/16	14°	C	C17821	C17844	—
SL-4	1/2	.5000	1/4	1-1/8	3	14°	C	C17716	C17567	C10062
SL-4L6	1/2	.5000	1/4	1-1/8	7-1/8	14°	C	C17822	C17845	—
SL-6	5/8	.6250	1/4	1-5/16	3-3/16	14°	C	C17717	C17587	C10063
Metric										
	(mm)	Decimal	(mm)	(mm)	(mm)					
SL-41	3	.1181	3	9.5	38	8°	A	C17720	C17595	—
SL-3	9.53	.3750	6	27.0	74.6	14°	C	C17719	C17593	—
SL-4	12.7	.5000	6	28	73	14°	C	—	C17594	—

POINTED CONE

1850 SERIES (SM)



Fractional									
Tool No.	Cutting Diameter Inch	Decimal	Shank Dia.	Length of Cut	Overall Length	Included Angle	Shank Type	Single Cut Order No.	Double Cut Order No.
SM-41	1/8	.1250	1/8	3/8	1-1/2	12°	A	C10046	C10049
SM-42	1/8	.1250	1/8	7/16	1-1/2	14°	A	C17690	C17568
SM-43	1/8	.1250	1/8	5/8	1-1/2	7°	A	C10047	C10050
SM-51	1/4	.2500	1/8	1/2	1-7/8	22°	B	C17693	C10076
SM-1	1/4	.2500	1/4	1/2	2	22°	D	C17694	C17569
SM-2	1/4	.2500	1/4	3/4	2	14°	D	C17695	C17570
SM-3	1/4	.2500	1/4	1	2	10°	D	C17696	C17571
SM-4	3/8	.3750	1/4	5/8	2-1/2	28°	C	C10048	C17572
SM-5	1/2	.5000	1/4	7/8	2-3/4	28°	C	C17698	C17573
SM-6	5/8	.6250	1/4	1	2-7/8	31°	C	C17699	C17574
Metric									
	(mm)	Decimal	(mm)	(mm)	(mm)				
SM-42	3	.1181	3	11.1	38.1	14°	A	C17672	C17498
SM-53	4.76	.1875	3	12.7	38.1	16°	A	C17664	—
SM-2	6	.2362	6	19.1	50.8	12°	D	—	C17496
SM-4	9.5	.3750	6	16	61	28°	C	—	C17497
SM-5	12.7	.5000	6	22.2	69.9	28°	C	C17673	C17499
SM-6	15.88	.6250	6	25.4	66.7	31°	C	—	C17502

Best Material Application



Single Cut



Double Cut



Aluminum Cut



STEEL



CAST IRON



NON-FERROUS



STEEL



CAST IRON



NON-FERROUS



HIGH TEMP. ALLOYS



NON-FERROUS

Shank A = 1/8" (3mm) solid carbide Shank B = 1/8" (3mm) hardened steel Shank C = 1/4" (6mm) hardened steel Shank D = 1/4" (6mm) solid carbide

60°/ 90° ANGLE (COUNTERSINK)

1856 SERIES (SJ), 1857 SERIES (SK)



Metric									
Tool No.	Cutting Diameter		Shank Dia. (mm)	Length of Cut (mm)	Overall Length (mm)	Included Angle	Shank Type	Single Cut Order No. (60° incl.)	Double Cut Order No. (90° incl.)
	mm	Decimal							
SK-5	12.7	.5000	6	6.35	57.9	90°	C	—	C17742
SJ-6	15.88	.6250	6	14.50	61.9	60°	C	C17766	—
SK-6	15.88	.6250	6	8	61.9	90°	C	—	C17767

INVERTED TAPER

1858 SERIES (SN)



Fractional									
Tool No.	Cutting Diameter		Shank Dia.	Length of Cut	Overall Length	Included Angle	Shank Type	Single Cut Order No.	Double Cut Order No.
	Inch	Decimal							
SN-41	3/32	.0938	1/8	3/16	1-1/2	—	A	C10073	—
SN-51	1/4	.2500	1/8	1/4	1-3/4	10°	A	C10074	C10075
Metric									
	(mm)	Decimal	(mm)	(mm)	(mm)				
SN-51	6.35	.2500	3.0	6.4	38.1	10°	A	C17780	—

BURR SETS

1855 SERIES

8-Piece Set
Bright
#C17763



 SINGLE CUT

 DOUBLE CUT

Set Contains Tool No.	Cutting Diameter			Shank Dia.	No. of Pieces	Shank Type	Single Cut Order No.	Double Cut Order No.
	Fractional	Decimal	Metric					
SA-42, SA-43, SC-41, SC-42, SF-42, SG-42, SM-43, SE-41, SD-42	3/32 & 1/8	.0938 .1250	2.38 3.18	1/8	9	A	C17760	C17768
SA-51, SB-51, SC-51, SF-51, SG-51, SM-51, SE-51, SD-51, SN-51	1/4	.2500	6.35	1/8	9	B	C17761	C17769
SA-1, SC-1, SF-1, SG-1, SM-2, SE-1, SL-1, SD-1	1/4	.2500	6.35	1/4	8	C	C17762	C17770
SA-5, SC-5, SF-5, SG-5, SM-5, SE-5, SL-4, SD-5	1/2	.5000	12.70	1/4	8	C	C17763	C17771

Plastic Cases

Best Material Application

 Single Cut		 Double Cut		 Aluminum Cut	
 STEEL	 CAST IRON	 NON-FERROUS	 STEEL	 CAST IRON	 NON-FERROUS
			 HIGH TEMP. ALLOYS		 NON-FERROUS

Shank A = 1/8" (3mm) solid carbide **Shank B** = 1/8" (3mm) hardened steel **Shank C** = 1/4" (6mm) hardened steel **Shank D** = 1/4" (6mm) solid carbide



CARBIDE BURRS

Manufactured from premium-grade tungsten carbide, they are primarily used to remove burrs (the small flakes of metal) that often remain on the workpiece after the machining process.

CYLINDRICAL 7000A / 7000AX SERIES (SA)

Use: Deburring



7000A



7000AX



SA Burr Profile

- ▷ One of the most widely used and versatile cutting tools
- ▷ Burrs are available in single cut, double cut, and non-ferrous/aluminum cut
- ▷ All sizes are individually packaged
- ▷ Special sizes and profiles are available upon request

Fractional					
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000A – Cylindrical					
SA-11	1/8"	1/4"	1/2"	7A108BSC	7A108BDC
SA-12	1/8"	1/4"	5/8"	7A108ASC	7A108ADC
SA-14	3/16"	1/4"	5/8"	7A112ASC	7A112ADC
SA-1	1/4"	1/4"	5/8"	7A116ASC	7A116ADC
SA-1L	1/4"	1/4"	1"	7A116BSC	7A116BDC
SA-2	5/16"	1/4"	3/4"	7A120ASC	7A120ADC
SA-2L	5/16"	1/4"	1"	7A120BSC	7A120BDC
SA-3	3/8"	1/4"	3/4"	7A124ASC	7A124ADC
SA-3L	3/8"	1/4"	1"	7A124BSC	7A124BDC
SA-3XL	3/8"	1/4"	1-1/2"	7A124CSC	7A124CDC
SA-4	7/16"	1/4"	1"	7A128BSC	7A128BDC
SA-5	1/2"	1/4"	1"	7A132BSC	7A132BDC
SA-6	5/8"	1/4"	1"	7A140BSC	7A140BDC
SA-16	3/4"	1/4"	3/4"	7A148ASC	7A148ADC
SA-7	3/4"	1/4"	1"	7A148BSC	7A148BDC
SA-9	1"	1/4"	1"	7A164BSC	7A164BDC

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000A – Miniature					
SA-41	1/16"	1/8"	1/4"	70A041SC	70A041DC
SA-42	3/32"	1/8"	7/16"	70A042SC	70A042DC
SA-43	1/8"	1/8"	9/16"	70A043SC	70A043DC
SA-51	1/4"	1/8"	1/2"	70A051SC	70A051DC
SA-52	5/32"	1/8"	1/2"	70A052SC	70A052DC
SA-53	3/16"	1/8"	1/2"	70A053SC	70A053DC
SA-61	1/16"	3/32"	1/4"	70A061SC	70A061DC
SA-63	3/32"	3/32"	3/8"	70A063SC	70A063DC
SA-81	3/16"	3/16"	1/2"	70A081SC	70A081DC
SA-43L2	1/8"	1/8"	9/16"	7A43L2SC	7A43L2DC
SA-43L3	1/8"	1/8"	9/16"	7A43L3SC	7A43L3DC
Series 7000AX – 6" Extra Long					
SA-1L6	1/4"	1/4"	1/2"	7AX116SC	7AX116DC
SA-3L6	3/8"	1/4"	3/4"	7AX124SC	7AX124DC
SA-5L6	1/2"	1/4"	1"	7AX132SC	7AX132DC
SA-9L6	1"	1/4"	1"	—	7AX164DC

CYLINDRICAL WITH END CUT 7000B SERIES (SB)

Use: Interior Contour Work



7000B



SB Burr Profile

Fractional					
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000B – Cylindrical With End Cut					
SB-12	1/8"	1/4"	5/8"	7B108ASC	7B108ADC
SB-11	1/8"	1/4"	1/2"	7B108BSC	7B108BDC
SB-14	3/16"	1/4"	5/8"	7B112ASC	7B112ADC
SB-1	1/4"	1/4"	5/8"	7B116ASC	7B116ADC
SB-1L	1/4"	1/4"	1"	7B116BSC	7B116BDC
SB-2	5/16"	1/4"	3/4"	7B120ASC	7B120ADC
SB-2L	5/16"	1/4"	1"	7B120BSC	7B120BDC
SB-3	3/8"	1/4"	3/4"	7B124ASC	7B124ADC
SB-3L	3/8"	1/4"	1"	7B124BSC	7B124BDC

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
SB-3XL	3/8"	1/4"	1-1/2"	7B124CSC	7B124CDC
SB-4	7/16"	1/4"	1"	7B128BSC	7B128BDC
SB-5	1/2"	1/4"	1"	7B132BSC	7B132BDC
SB-6	5/8"	1/4"	1"	7B140BSC	7B140BDC
SB-16	3/4"	1/4"	3/4"	7B148ASC	7B148ADC
SB-7	3/4"	1/4"	1"	7B148BSC	7B148BDC
SB-9	1"	1/4"	1"	7B164BSC	7B164BDC
Series 7000B – Miniature					
SB-43	1/8"	1/8"	9/16"	70B043SC	70B043DC
SB-51	1/4"	1/8"	3/16"	70B051SC	70B051DC

Best Material Application



Single Cut



Double Cut



Aluminum Cut



STEEL



CAST IRON



NON-FERROUS



STEEL



CAST IRON



NON-FERROUS



HIGH TEMP ALLOYS



NON-FERROUS

CYLINDRICAL BALL NOSE

7000C / 7000CX SERIES (SC)

Use: Surface Milling & Contour Work



7000C



7000CX



SC Burr Profile

Fractional					
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000C – Cylindrical Ball Nose					
SC-11	1/8"	1/4"	1/2"	7C108BSC	7C108BDC
SC-12	1/8"	1/4"	5/8"	7C108ASC	7C108ADC
SC-14	3/16"	1/4"	5/8"	7C112ASC	7C112ADC
SC-1	1/4"	1/4"	5/8"	7C116ASC	7C116ADC
SC-1L	1/4"	1/4"	1"	7C116BSC	7C116BDC
SC-2	5/16"	1/4"	3/4"	7C120ASC	7C120ADC
SC-2L	5/16"	1/4"	1"	7C120BSC	7C120BDC
SC-3	3/8"	1/4"	3/4"	7C124ASC	7C124ADC
SC-3L	3/8"	1/4"	1"	7C124BSC	7C124BDC
SC-3XL	3/8"	1/4"	1-1/2"	7C124CSC	7C124CDC
SC-4	7/16"	1/4"	1"	7C128BSC	7C128BDC
SC-5	1/2"	1/4"	1"	7C132BSC	7C132BDC
SC-6	5/8"	1/4"	1"	7C140BSC	7C140BDC
SC-7	3/4"	1/4"	1"	7C148BSC	7C148BDC
SC-9	1"	1/4"	1"	7C164BSC	7C164BDC

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000C – Miniature					
SC-41	3/32"	1/8"	7/16"	70C041SC	70C041DC
SC-42	1/8"	1/8"	9/16"	70C042SC	70C042DC
SC-51	1/4"	1/8"	1/2"	70C051SC	70C051DC
SC-52	5/32"	1/8"	1/2"	70C052SC	70C052DC
SC-53	3/16"	1/8"	1/2"	70C053SC	70C053DC
SC-61	3/32"	3/32"	3/8"	70C061SC	70C061DC
SC-81	3/16"	3/16"	1/2"	70C081SC	70C081DC
SC-42L2	1/8"	1/8"	9/16"	7C42L2SC	7C42L2DC
SC-42L3	1/8"	1/8"	9/16"	7C42L3SC	7C42L3DC
Series 7000CX – 6" Extra Long					
SC-1L6	1/4"	1/4"	1/2"	7CX116SC	7CX116DC
SC-3L6	3/8"	1/4"	3/4"	7CX124SC	7CX124DC
SC-5L6	1/2"	1/4"	1"	7CX132SC	7CX132DC

BALL SHAPE

7000D / 7000DX SERIES (SD)

Use: Surface Milling, Deburring & Contour Work



7000D



7000DX



SD Burr Profile

Fractional					
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000D – Ball Shape					
SD-12	1/8"	1/4"	1/8"	7D108ASC	7D108ADC
SD-14	3/16"	1/4"	3/16"	7D112ASC	7D112ADC
SD-1	1/4"	1/4"	1/4"	7D116ASC	7D116ADC
SD-2	5/16"	1/4"	5/16"	7D120ASC	7D120ADC
SD-3	3/8"	1/4"	3/8"	7D124ASC	7D124ADC
SD-4	7/16"	1/4"	7/16"	7D128ASC	7D128ADC
SD-5	1/2"	1/4"	1/2"	7D132ASC	7D132ADC
SD-6	5/8"	1/4"	5/8"	7D140ASC	7D140ADC
SD-7	3/4"	1/4"	3/4"	7D148ASC	7D148ADC
SD-9	1"	1/4"	1"	7D164ASC	7D164ADC

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000D – Miniature					
SD-41	3/32"	1/8"	3/32"	70D041SC	70D041DC
SD-42	1/8"	1/8"	1/8"	70D042SC	70D042DC
SD-51	1/4"	1/8"	7/32"	70D051SC	70D051DC
SD-53	3/16"	1/8"	5/32"	70D053SC	70D053DC
SD-61	3/32"	3/32"	3/32"	70D061SC	70D061DC
SD-81	3/16"	3/16"	5/32"	70D081SC	70D081DC
SD-42L2	1/8"	1/8"	1/8"	7D42L2SC	7D42L2DC
SD-42L3	1/8"	1/8"	1/8"	7D42L3SC	7D42L3DC
Series 7000DX – 6" Extra Long					
SD-1L6	1/4"	1/4"	7/32"	7DX116SC	7DX116DC
SD-3L6	3/8"	1/4"	5/16"	7DX124SC	7DX124DC
SD-5L6	1/2"	1/4"	7/16"	7DX132SC	7DX132DC
SD-4L6	7/16"	1/4"	7/16"	—	7DX128DC

Best Material Application



Single Cut



Double Cut



Aluminum Cut



STEEL



CAST IRON



NON-FERROUS



STEEL



CAST IRON



NON-FERROUS



HIGH TEMP. ALLOYS



NON-FERROUS

OVAL SHAPE

7000E / 7000EX SERIES (SE)

Use: Contour Work



7000E



7000EX



SE Burr Profile

Fractional					
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000E – Oval Shape					
SE-11	3/16"	1/4"	5/16"	7E112ASC	7E112ADC
SE-1	1/4"	1/4"	3/8"	7E116ASC	7E116ADC
SE-2	5/16"	1/4"	5/8"	7E120ASC	7E120ADC
SE-3	3/8"	1/4"	5/8"	7E124ASC	7E124ADC
SE-5	1/2"	1/4"	7/8"	7E132ASC	7E132ADC
SE-6	5/8"	1/4"	1"	7E140ASC	7E140ADC
SE-7	3/4"	1/4"	1"	7E148ASC	7E148ADC

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000E – Miniature					
SE-41	1/8"	1/8"	7/32"	70E041SC	70E041DC
SE-51	1/4"	1/8"	3/8"	70E051SC	70E051DC
SE-53	3/16"	1/8"	9/32"	70E053SC	70E053DC
SE-61	3/32"	3/32"	1/8"	70E061SC	70E061DC
SE-81	3/16"	3/16"	9/32"	70E081SC	70E081DC
SE-41L2	1/8"	1/8"	7/32"	7E41L2SC	7E41L2DC
SE-41L3	1/8"	1/8"	7/32"	7E41L3SC	7E41L3DC
Series 7000EX – 6" Extra Long					
SE-1L6	1/4"	1/4"	3/8"	7EX116SC	7EX116DC
SE-3L6	3/8"	1/4"	5/8"	7EX124SC	7EX124DC
SE-5L6	1/2"	1/4"	7/8"	7EX132SC	7EX132DC

ROUND TREE

7000F / 7000FX SERIES (SF)

Use: Narrow Contour Work



7000F



7000FX



SF Burr Profile

Fractional					
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000F – Round Tree Shape					
SF-11	1/8"	1/4"	5/8"	7F108BSC	7F108BDC
SF-12	1/8"	1/4"	1/2"	7F108ASC	7F108ADC
SF-1	1/4"	1/4"	5/8"	7F116ASC	7F116ADC
SF-1L	1/4"	1/4"	3/4"	7F116BSC	7F116BDC
SF-3	3/8"	1/4"	3/4"	7F124ASC	7F124ADC
SF-4	7/16"	1/4"	1"	7F128ASC	7F128ADC
SF-13	1/2"	1/4"	3/4"	7F132ASC	7F132ADC
SF-5	1/2"	1/4"	1"	7F132BSC	7F132BDC
SF-6	5/8"	1/4"	1"	7F140ASC	7F140ADC
SF-7	3/4"	1/4"	1"	7F148ASC	7F148ADC
SF-14	3/4"	1/4"	1-1/4"	7F148BSC	7F148BDC
SF-15	3/4"	1/4"	1-1/2"	7F148CSC	7F148CDC

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000F – Miniature					
SF-41	1/8"	1/8"	1/4"	70F041SC	70F041DC
SF-42	1/8"	1/8"	1/2"	70F042SC	70F042DC
SF-51	1/4"	1/8"	1/2"	70F051SC	70F051DC
SF-53	3/16"	1/8"	1/2"	70F053SC	70F053DC
SF-61	3/32"	3/32"	1/4"	70F061SC	70F061DC
SF-81	3/16"	3/16"	1/2"	70F081SC	70F081DC
SF-42L2	1/8"	1/8"	1/2"	7F42L2SC	7F42L2DC
SF-42L3	1/8"	1/8"	1/2"	7F42L3SC	7F42L3DC
Series 7000FX – 6" Extra Long					
SF-1L6	1/4"	1/4"	1/2"	7FX116SC	7FX116DC
SF-3L6	3/8"	1/4"	3/4"	7FX124SC	7FX124DC
SF-5L6	1/2"	1/4"	1"	7FX132SC	7FX132DC

POINTED TREE

7000G / 7000GX SERIES (SG)

Use: Surface Milling & Narrow Contour Work



7000G



7000GX



SG Burr Profile

Fractional					
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000G – Pointed Tree Shape					
SG-1	1/4"	1/4"	5/8"	7G116ASC	7G116ADC
SG-1L	1/4"	1/4"	3/4"	7G116BSC	7G116BDC
SG-2	5/16"	1/4"	3/4"	7G120ASC	7G120ADC

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
SG-3	3/8"	1/4"	3/4"	7G124ASC	7G124ADC
SG-13	1/2"	1/4"	3/4"	7G132ASC	7G132ADC
SG-5	1/2"	1/4"	1"	7G132BSC	7G132BDC
SG-6	5/8"	1/4"	1"	7G140ASC	7G140ADC

Best Material Application

Single Cut			Double Cut			Aluminum Cut		
STEEL	CAST IRON	NON-FERROUS	STEEL	CAST IRON	NON-FERROUS	HIGH TEMP. ALLOYS	NON-FERROUS	

continued on next page

POINTED TREE CONTINUED 7000G / 7000GX SERIES (SG)

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
SG-7	3/4"	1/4"	1"	7G148ASC	7G148ADC
SG-15	3/4"	1/4"	1-1/2"	7G148BSC	7G148BDC
Series 7000G – Miniature					
SG-41	1/8"	1/8"	1/4"	7G041SC	7G041DC
SG-42	1/8"	1/8"	5/16"	7G042SC	7G042DC
SG-43	1/8"	1/8"	3/8"	7G043SC	7G043DC
SG-44	1/8"	1/8"	1/2"	7G044SC	7G044DC
SG-51	1/4"	1/8"	1/2"	7G051SC	7G051DC
SG-53	3/16"	1/8"	1/2"	7G053SC	7G053DC

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
SG-61	3/32"	3/32"	1/4"	7G061SC	7G061DC
SG-81	3/16"	3/16"	1/2"	7G081SC	7G081DC
SG-44L2	1/8"	1/8"	1/2"	7G44L2SC	7G44L2DC
SG-44L3	1/8"	1/8"	1/2"	7G44L3SC	7G44L3DC
Series 7000GX – 6" Extra Long					
SG-1L6	1/4"	1/4"	1/2"	7GX116SC	7GX116DC
SG-3L6	3/8"	1/4"	3/4"	7GX124SC	7GX124DC
SG-5L6	1/2"	1/4"	1"	7GX132SC	7GX132DC

FLAME SHAPE 7000H / 7000HX (SH)

Shape: Flame
Use: Contour Work



7000H



7000HX



SH Burr Profile

Fractional					
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000H – Flame Shape					
SH-1	1/4"	1/4"	1/2"	7H116ASC	7H116ADC
SH-2	5/16"	1/4"	3/4"	7H120ASC	7H120ADC
SH-5	1/2"	1/4"	1-1/4"	7H132ASC	7H132ADC
SH-6	5/8"	1/4"	1-7/16"	7H140ASC	7H140ADC
SH-7	3/4"	1/4"	1-5/8"	7H148ASC	7H148ADC

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000H – Miniature					
SH-41	1/8"	1/8"	1/4"	7H041SC	7H041DC
SH-53	3/16"	1/8"	3/8"	7H053SC	7H053DC
SH-41L2	1/8"	1/8"	1/4"	7H41L2SC	7H41L2DC
SH-41L3	1/8"	1/8"	1/4"	7H41L3SC	7H41L3DC
Series 7000HX – 6" Extra Long					
SH-2L6	5/16"	1/4"	3/4"	7HX120SC	7HX120DC
SH-5L6	1/2"	1/4"	1-1/4"	7HX132SC	7HX132DC

60° ANGLE INCLUDED ANGLE 7000J SERIES (SJ)

Use: Machining of Acute Angle Areas & Countersinking



7000J



SJ Burr Profile

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
SJ-1	3/16"	1/4"	3/16"	7J116ASC	7J116ADC
SJ-2	1/4"	1/4"	1/4"	7J120ASC	7J120ADC
SJ-3	5/16"	1/4"	1/4"	7J124ASC	7J124ADC
SJ-5	3/8"	1/4"	7/16"	7J132ASC	7J132ADC
SJ-6	1/2"	1/4"	1/2"	7J140ASC	7J140ADC
SJ-7	5/8"	1/4"	5/8"	7J148ASC	7J148ADC
SJ-9	3/4"	1/4"	3/4"	7J164ASC	7J164ADC
SJ-42	1/8"	1/8"	3/32"	70J042SC	70J042DC

90° ANGLE INCLUDED ANGLE 7000K SERIES (SK)

Use: Machining of Acute Angle Areas & Countersinking



7000K



SK Burr Profile

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
SK-1	1/4"	1/4"	1/8"	7K116ASC	7K116ADC
SK-2	5/16"	1/4"	3/16"	7K120ASC	7K120ADC
SK-3	3/8"	1/4"	3/16"	7K124ASC	7K124ADC
SK-5	1/2"	1/4"	1/4"	7K132ASC	7K132ADC
SK-6	5/8"	1/4"	5/16"	7K140ASC	7K140ADC
SK-7	3/4"	1/4"	3/8"	7K148ASC	7K148ADC
SK-9	1"	1/4"	1/2"	7K164ASC	7K164ADC
SK-42	1/8"	1/8"	7/32"	70K042SC	70K042DC

Best Material Application



Single Cut



Double Cut



Aluminum Cut



STEEL



CAST IRON



NON-FERROUS



STEEL



CAST IRON



NON-FERROUS



HIGH TEMP. ALLOYS



NON-FERROUS

14° INCLUDED ANGLE 7000L / 7000LX SERIES (SL)

Use: Surface Machining & Narrow Contour Work



7000L



7000LX



SL Burr Profile

Fractional					
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000L – 14° Included Angle					
SL-1	1/4"	1/4"	5/8"	7L116ASC	7L116ADC
SL-2	5/16"	1/4"	7/8"	7L120ASC	7L120ADC
SL-3	3/8"	1/4"	1-1/16"	7L124ASC	7L124ADC
SL-4	1/2"	1/4"	1-1/8"	7L132ASC	7L132ADC
SL-5	5/8"	1/4"	1-3/16"	7L140ASC	7L140ADC
SL-6	5/8"	1/4"	1-5/16"	7L140BSC	7L140BDC
SL-7	3/4"	1/4"	1-1/2"	7L148ASC	7L148ADC
Series 7000L – Miniature					
SL-41	1/8"	1/8"	3/8"	70L041SC	70L041DC

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
SL-42	1/8"	1/8"	1/2"	70L042SC	70L042DC
SL-53	3/16"	1/8"	1/2"	70L053SC	70L053DC
SL-81	3/16"	3/16"	7/16"	70L081SC	70L081DC
SL-42L2	1/8"	1/8"	1/2"	7L42L2SC	7L42L2DC
SL-42L3	1/8"	1/8"	1/2"	7L42L3SC	7L42L3DC
Series 7000LX – 6" Extra Long					
SL-1L6	1/4"	1/4"	5/8"	7LX116SC	7LX116DC
SL-3L6	3/8"	1/4"	1-1/16"	7LX124SC	7LX124DC
SL-4L6	1/2"	1/4"	1-1/8"	7LX132SC	7LX132DC

CONE 7000M SERIES (SM)

Use: Surface Machining & Narrow Contour Work

Fractional					
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000M – Cone Shape					
SM-1	1/4"	1/4"	1/2"	7M116ASC	7M116ADC
SM-2	1/4"	1/4"	3/4"	7M116BSC	7M116BDC
SM-3	1/4"	1/4"	1"	7M116CSC	7M116CDC
SM-3L	1/4"	1/4"	1-1/4"	7M116DSC	7M116DDC
SM-4	3/8"	1/4"	5/8"	7M124ASC	7M124ADC
SM-4L	3/8"	1/4"	1"	7M124BSC	7M124BDC
SM-5	1/2"	1/4"	7/8"	7M132ASC	7M132ADC
SM-6	5/8"	1/4"	1"	7M140ASC	7M140ADC



7000M



SM Burr Profile

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000M – Miniature					
SM-41	1/8"	1/8"	11/32"	70M041SC	70M041DC
SM-42	1/8"	1/8"	7/16"	70M042SC	70M042DC
SM-43	1/8"	1/8"	1/2"	70M043SC	70M043DC
SM-51	1/4"	1/8"	1/2"	70M051SC	70M051DC
SM-53	3/16"	1/8"	1/2"	70M053SC	70M053DC
SM-61	3/32"	3/32"	1/4"	70M061SC	70M061DC
SM-42L2	1/8"	1/8"	7/16"	7M42L2SC	7M42L2DC
SM-42L3	1/8"	1/8"	7/16"	7M42L3SC	7M42L3DC

INVERTED CONE 7000N / 7000NE SERIES (SN)

7000N: Shape: Inverted cone / 7000NE: Shape: Inverted cone with end cut
Use: Machining from the rear in hard to reach areas



7000N



7000NE



SN Burr Profile

Fractional					
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
Series 7000N – Inverted Cone					
SN-1	1/4"	1/4"	5/16"	7N116ASC	7N116ADC
SN-2	3/8"	1/4"	3/8"	7N124ASC	7N124ADC
SN-4	1/2"	1/4"	1/2"	7N132ASC	7N132ADC
SN-6	5/8"	1/4"	3/4"	7N140ASC	7N140ADC
SN-7	3/4"	1/4"	5/8"	7N148ASC	7N148ADC
Series 7000N – Miniature					
SN-41	1/8"	1/8"	1/8"	70N041SC	70N041DC

Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Single Cut Order No.	Double Cut Order No.
SN-42	1/8"	1/8"	3/16"	70N042SC	70N042DC
SN-51	1/4"	1/8"	1/4"	70N051SC	70N051DC
SN-53	3/16"	1/8"	1/4"	70N053SC	70N053DC
SN-61	3/32"	3/32"	1/8"	70N061SC	70N061DC
SN-81	3/16"	3/16"	1/4"	70N081SC	70N081DC
Series 7000NE – Inverted Cone With End Cut					
SN-1E	1/4"	1/4"	5/16"	7N116ESC	7N116EDC
SN-2E	3/8"	1/4"	3/8"	7N124ESC	7N124EDC
SN-4E	1/2"	1/4"	1/2"	7N132ESC	7N132EDC
SN-7E	3/4"	1/4"	5/8"	7N148ESC	7N148EDC

Best Material Application



Single Cut



Double Cut



Aluminum Cut



STEEL



CAST IRON



NON-FERROUS



STEEL



CAST IRON



NON-FERROUS



HIGH TEMP. ALLOYS



NON-FERROUS

ALUMINUM / NON-FERROUS

Aluminum cut burrs have more aggressive cutting edges for rapid stock removal with minimum chip. Ideal for aluminum and other non-ferrous materials.

CYLINDRICAL 7000AAL SERIES (SA)



Fractional				
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Order No.
Series 7000AAL – Cylindrical				
SA-1NF	1/4"	1/4"	3/4"	7AAL116
SA-3NF	3/8"	1/4"	3/4"	7AAL124
SA-5NF	1/2"	1/4"	1"	7AAL132
SA-6NF	5/8"	1/4"	1"	7AAL140
SA-7NF	3/4"	1/4"	1"	7AAL148

CYLINDRICAL BALL NOSE 7000CAL SERIES (SC)



Fractional				
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Order No.
Series 7000CAL – Cylindrical Ball Nose				
SC-1NF	1/4"	1/4"	3/4"	7CAL116
SC-3NF	3/8"	1/4"	3/4"	7CAL124
SC-5NF	1/2"	1/4"	1"	7CAL132
SC-6NF	5/8"	1/4"	1"	7CAL140
SC-7NF	3/4"	1/4"	1"	7CAL148

BALL SHAPE 7000DAL SERIES (SD)



Fractional				
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Order No.
Series 7000DAL – Ball Shape				
SD-1NF	1/4"	1/4"	7/32"	7DAL116
SD-3NF	3/8"	1/4"	5/16"	7DAL124
SD-5NF	1/2"	1/4"	7/16"	7DAL132
SD-6NF	5/8"	1/4"	9/16"	7DAL140
SD-7NF	3/4"	1/4"	11/16"	7DAL148

OVAL 7000EAL SERIES (SE)



Fractional				
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Order No.
Series 7000EAL – Oval Shape				
SE-1NF	1/4"	1/4"	7/32"	7EAL116
SE-3NF	3/8"	1/4"	5/16"	7EAL124
SE-5NF	1/2"	1/4"	7/16"	7EAL132
SE-6NF	5/8"	1/4"	9/16"	7EAL140
SE-7NF	3/4"	1/4"	11/16"	7EAL148

ROUND TREE 7000FAL SERIES (SF)



Fractional				
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Order No.
Series 7000FAL – Round Tree Shape				
SF-1NF	1/4"	1/4"	3/4"	7FAL116
SF-3NF	3/8"	1/4"	3/4"	7FAL124
SF-5NF	1/2"	1/4"	1"	7FAL132
SF-6NF	5/8"	1/4"	1"	7FAL140
SF-14NF	3/4"	1/4"	1-1/4"	7FAL148

14° INCLUDED ANGLE 7000LAL SERIES (SL)



Fractional				
Tool No.	Cutter Dia.	Shank Dia.	Length of Cut	Order No.
Series 7000LAL – 14° Included Angle				
SL-1NF	1/4"	1/4"	5/8"	7LAL116
SL-3NF	3/8"	1/4"	1-1/16"	7LAL124
SL-4NF	1/2"	1/4"	1-1/8"	7LAL132
SL-5NF	5/8"	1/4"	1-3/16"	7LAL140
SL-6NF	5/8"	1/4"	1-5/16"	7LAL140A

Best Material Application



Single Cut



Double Cut



Aluminum Cut



STEEL



CAST IRON



NON-FERROUS



STEEL



CAST IRON



NON-FERROUS



HIGH TEMP. ALLOYS



NON-FERROUS

BURR SETS



SINGLE CUT



DOUBLE CUT

Set No.	No. of Pieces	Shank Sizes	Includes	Single Cut Order No.	Double Cut Order No.
Carbide Burr Sets					
1	8	1/4	SA-1, SC-1, SD-1, SE-1, SF-1, SG-1, SL-1, SM-1	70S001SC	70S001DC
2	8	1/4	SA-3, SC-3, SD-3, SE-3, SF-3, SG-3, SL-3, SM-4	70S002SC	70S002DC
3	8	1/4	SA-5, SC-5, SD-5, SE-5, SF-5, SG-5, SL-4, SM-5	70S003SC	70S003DC
4	10	1/4	SA-1, SA-3, SA-5, SC-1, SC-3, SC-5, SD-3, SF-3, SF-5, SH-1	70S004SC	70S004DC
5	10	1/4	SA-5, SC-3, SC-5, SD-5, SE-3, SF-3, SF-5, SG-3, SG-5, SL-4	70S005SC	70S005DC
6	8	1/8	SA-43, SC-42, SD-42, SE-41, SF-42, SG-42, SL-41, SN-42	70S006SC	70S006DC
7	8	1/8	SA-51, SB-51, SC-51, SD-51, SE-51, SF-51, SG-51, SM-51	70S007SC	70S007DC
8	5	1/4	SA-5, SC-5, SF-5, SG-5, SM-5	N/A	70S011DC
Aluminum/Non Ferrous Cut					
10	8	1/4	SA-3NF, SA-5NF, SC-3NF, SC-5NF, SD-3NF, SF-3NF, SF-5NF, SL-3NF	70S010NF	



70S004DC



70S011DC

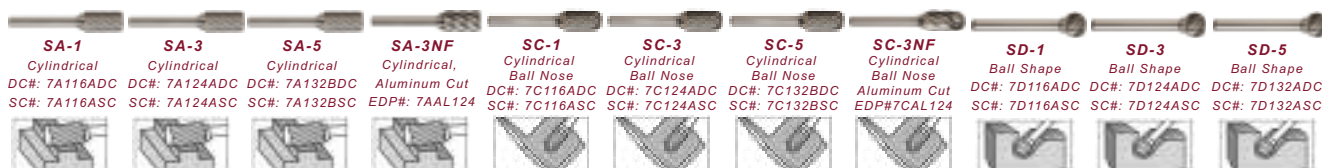
BURR DISPLAY

- ▷ A wide range of popular styles and sizes
- ▷ Comes complete with attractive, compact and light-weight acrylic display, ideal for your showroom and managing your inventory
- ▷ Display has a lock for added security. There is a shelf hidden in the back for holding additional replenishment inventory, or empty packages
- ▷ Detailed labels (sample pictured below) make filling the display simple and easy

REACH OUT TO WALTER MARKETING SUPPORT
FOR ALL MERCHANDISING NEEDS AT
MARKETINGSUPPORT@WALTER.COM



Storage drawer in back of display



Best Material Application



Single Cut



Double Cut



Aluminum Cut



STEEL



CAST IRON



NON-FERROUS



STEEL



CAST IRON



NON-FERROUS



HIGH TEMP ALLOYS



NON-FERROUS

CYLINDRICAL WITHOUT END CUT

SA SERIES



Tool No.	Cutting Diameter		Length of Cut	Overall Length	Shank Dia.	Shank Type	Single Cut Order No.	Double Cut Order No.
	fractional	decimal						
SA-41	1/16	.0625	1/4	1-1/2	1/8	A	B55600	B55601
SA-42	3/32	.0938	7/16	1-1/2	1/8	A	B55608	B55609
SA-43	1/8	.1250	9/16	1-1/2	1/8	A	B54801	B54810
SA-51	1/4	.2500	5/8	2	1/8	B	B55700	B55712
SA-1	1/4	.2500	5/8	2	1/4	D	B54802	B54811
SA-1L6	1/4	.2500	1/2	6-1/2	1/4	C	B55900	B55923
SA-3	3/8	.3750	3/4	2-1/2	1/4	C	B54803	B54812
SA-3L6	3/8	.3750	3/4	6-3/4	1/4	C	B55901	B55924
SA-5	1/2	.5000	1	2-3/4	1/4	C	B54804	B54813
SA-5L6	1/2	.5000	1	7	1/4	C	B55902	B55925
SA-6	5/8	.6250	1	2-3/4	1/4	C	B54805	B54814
SA-7	3/4	.7500	1	2-3/4	1/4	C	B54806	B54815
SA-9	1	1.0000	1	2-3/4	1/4	C	B54807	B54816

CYLINDRICAL WITH END CUT

SB SERIES



Tool No.	Cutting Diameter		Length of Cut	Overall Length	Shank Dia.	Shank Type	Single Cut Order No.	Double Cut Order No.	Aluminum Cut Order No.
	fractional	decimal							
SB-41	1/16	.0625	1/4	1-1/2	1/8	A	B55604	—	—
SB-42	3/32	.0938	7/16	1-1/2	1/8	A	B55612	—	—
SB-43	1/8	.1250	9/16	1-1/2	1/8	A	B54837	—	—
SB-51	1/4	.2500	1/2	1-3/4	1/8	B	B55701	B55713	—
SB-1	1/4	.2500	5/8	2	1/4	D	B54838	B54847	B55856
SB-3	3/8	.3750	3/4	2-1/2	1/4	C	B54839	B54848	B55857
SB-5	1/2	.5000	1	2-3/4	1/4	C	B54840	B54849	B55858
SB-6	5/8	.6250	1	2-3/4	1/4	C	—	B54850	B55859
SB-7	3/4	.7500	1	2-3/4	1/4	C	—	B54851	B55860
SB-9	1	1.0000	1	2-3/4	1/4	C	B54843	—	—

Best Material Application



Single Cut



Double Cut



Aluminum Cut



STEEL



CAST IRON



NON-FERROUS



STEEL



CAST IRON



NON-FERROUS



HIGH TEMP. ALLOYS



NON-FERROUS

BALL NOSE SC SERIES



Tool No.	Cutting Diameter		Length of Cut	Overall Length	Shank Dia.	Shank Type	Single Cut Order No.	Double Cut Order No.	Aluminum Cut Order No.
	fractional	decimal							
SC-41	3/32	.0938	7/16	1-1/2	1/8	A	B55620	B55621	—
SC-42	1/8	.1250	9/16	1-1/2	1/8	A	B54873	B54882	—
SC-51	1/4	.2500	1/2	1-3/4	1/8	B	B55704	B55716	—
SC-1	1/4	.2500	5/8	2	1/4	D	B54874	B54883	B55862
SC-1L6	1/4	.2500	1/2	6-1/2	1/4	C	B55903	B55926	—
SC-3	3/8	.3750	3/4	2-1/2	1/4	C	B54875	B54884	B55863
SC-3L6	3/8	.3750	3/4	6-3/4	1/4	C	B55904	B55927	—
SC-5	1/2	.5000	1	2-3/4	1/4	C	B54876	B54885	B55864
SC-5L6	1/2	.5000	1	7	1/4	C	B55905	B55928	—
SC-6	5/8	.6250	1	2-3/4	1/4	C	B54877	B54886	—
SC-7	3/4	.7500	1	2-3/4	1/4	C	B54878	B54887	B55865

BALL SD SERIES



Tool No.	Cutting Diameter		Length of Cut	Overall Length	Shank Dia.	Shank Type	Single Cut Order No.	Double Cut Order No.	Aluminum Cut Order No.
	fractional	decimal							
SD-41	3/32	.0938	3/32	1-1/2	1/8	A	B55624	B55625	—
SD-42	1/8	.1250	1/8	1-1/2	1/8	A	B54909	B54918	—
SD-51	1/4	.2500	1/4	1-3/4	1/8	B	B55705	B55717	—
SD-1	1/4	.2500	1/4	2	1/4	D	B54910	B54919	B55867
SD-1L6	1/4	.2500	7/32	6-7/32	1/4	C	B55906	B55929	—
SD-3	3/8	.3750	3/8	2-5/64	1/4	C	B54911	B54920	B55868
SD-3L6	3/8	.3750	5/16	6-5/16	1/4	C	B55907	B55930	—
SD-5	1/2	.5000	1/2	2-13/64	1/4	C	B54912	B54921	B55869
SD-5L6	1/2	.5000	7/16	6-7/16	1/4	C	B55908	B55931	—
SD-6	5/8	.6250	5/8	2-5/16	1/4	C	B54913	B54922	—
SD-7	3/4	.7500	3/4	2-7/16	1/4	C	B54914	B54923	—
SD-9	1	1.0000	1	2-11/16	1/4	C	B54915	B54924	—

Best Material Application

Single Cut			Double Cut			Aluminum Cut	
STEEL	CAST IRON	NON-FERROUS	STEEL	CAST IRON	NON-FERROUS	NON-FERROUS	NON-FERROUS

EGG SHAPE SE SERIES



Fractional									
Tool No.	Cutting Diameter		Length of Cut	Overall Length	Shank Dia.	Shank Type	Single Cut Order No.	Double Cut Order No.	Aluminum Cut Order No.
SE-41	1/8	.1250	7/32	1-1/2	1/8	A	B54945	B54954	—
SE-51	1/4	.2500	3/8	1-5/8	1/8	B	—	B55718	—
SE-1	1/4	.2500	3/8	2	1/4	D	B54946	B54955	—
SE-1L6	1/4	.2500	3/8	6-3/8	1/4	C	B55909	B55932	—
SE-3	3/8	.3750	5/8	2-3/8	1/4	C	B54947	B54956	B55873
SE-3L6	3/8	.3750	5/8	6-5/8	1/4	C	B55910	B55933	—
SE-5	1/2	.5000	7/8	2-5/8	1/4	C	B54948	B54957	B55874
SE-5L6	1/2	.5000	7/8	6-7/8	1/4	C	B55911	B55934	—
SE-6	5/8	.6250	1	2-3/4	1/4	C	—	—	B55875
SE-7	3/4	.7500	1	2-3/4	1/4	C	B54950	B54959	—

ROUND NOSE TREE SF SERIES



Fractional									
Tool No.	Cutting Diameter		Length of Cut	Overall Length	Shank Dia.	Shank Type	Single Cut Order No.	Double Cut Order No.	Aluminum Cut Order No.
SF-41	1/8	.1250	1/4	1-1/2	1/8	A	B55628	B55629	—
SF-42	1/8	.1250	1/2	1-1/2	1/8	A	B54981	B54990	—
SF-51	1/4	.2500	1/2	1-3/4	1/8	B	B55707	B55719	—
SF-1	1/4	.2500	5/8	2	1/4	D	B54982	B54991	B55878
SF-1L6	1/4	.2500	1/2	6-1/2	1/4	C	B55912	B55935	—
SF-3	3/8	.3750	3/4	2-1/2	1/4	C	B54983	B54992	B55879
SF-3L6	3/8	.3750	3/4	6-3/4	1/4	C	B55913	B55936	—
SF-5	1/2	.5000	1	2-3/4	1/4	C	B54984	B54993	B55880
SF-5L6	1/2	.5000	1	7	1/4	C	B55914	B55937	—
SF-6	5/8	.6250	1	2-3/4	1/4	C	B54985	B54994	B55881
SF-7	3/4	.7500	1	2-3/4	1/4	C	B54986	B54995	—

Best Material Application



Single Cut



Double Cut



Aluminum Cut



STEEL



CAST IRON



NON-FERROUS



STEEL



CAST IRON



NON-FERROUS



HIGH TEMP. ALLOYS



NON-FERROUS

POINTED TREE

SG SERIES



Tool No.	Cutting Diameter		Length of Cut	Overall Length	Shank Dia.	Shank Type	Single Cut Order No.	Double Cut Order No.
	fractional	decimal						
SG-42	1/8	.1250	5/16	1-1/2	1/8	A	B55636	B55637
SG-43	1/8	.1250	3/8	1-1/2	1/8	A	B55017	B55026
SG-41	1/8	.1250	1/4	1-1/2	1/8	A	B55632	B55633
SG-51	1/4	.2500	1/2	1-3/4	1/8	B	—	B55720
SG-1	1/4	.2500	5/8	2	1/4	D	B55018	B55027
SG-1L6	1/4	.2500	1/2	6-1/2	1/4	C	B55915	B55938
SG-3	3/8	.3750	3/4	2-1/2	1/4	C	B55019	B55028
SG-3L6	3/8	.3750	3/4	6-3/4	1/4	C	B55916	B55939
SG-5	1/2	.5000	1	2-3/4	1/4	C	B55020	B55029
SG-5L6	1/2	.5000	1	7	1/4	C	B55917	B55940
SG-6	5/8	.6250	1	2-3/4	1/4	C	B55021	B55030

FLAME SHAPE

SH SERIES



Tool No.	Cutting Diameter		Length of Cut	Overall Length	Shank Dia.	Shank Type	Single Cut Order No.	Double Cut Order No.
	fractional	decimal						
SH-41	1/8	.1250	1/4	1-1/2	1/8	A	B55053	B55060
SH-2	5/16	.3125	3/4	2-1/2	1/4	C	B55054	B55061
SH-2L6	5/16	.3125	3/4	6-3/4	1/4	C	B55918	B55941
SH-5	1/2	.5000	1-1/4	3	1/4	C	B55055	B55062
SH-5L6	1/2	.5000	1-1/4	7-1/4	1/4	C	B55919	B55942

Best Material Application

Single Cut			Double Cut				Aluminum Cut	
STEEL	CAST IRON	NON-FERROUS	STEEL	CAST IRON	NON-FERROUS	HIGH TEMP. ALLOYS	NON-FERROUS	

POINTED CONE - 14° INCLUDED ANGLE

SL SERIES



Tool No.	Cutting Diameter		Length of Cut	Overall Length	Shank Dia.	Shank Type	Single Cut Order No.	Double Cut Order No.	Aluminum Cut Order No.
	fractional	decimal							
SL-41	1/8	.1250	3/8	1-1/2	1/8	A	B55640	B55641	—
SL-42	1/8	.1250	1/2	1-1/2	1/8	A	B55145	B55154	B55170
SL-1	1/4	.2500	5/8	2	1/4	D	B55146	B55155	B55171
SL-1L6	1/4	.2500	5/8	6-5/8	1/4	C	B55920	B55943	—
SL-3	3/8	.3750	1-1/16	2-15/16	1/4	C	B55147	B55156	—
SL-3L6	3/8	.3750	1-1/16	7-1/16	1/4	C	B55921	B55944	—
SL-4	1/2	.5000	1-1/8	3	1/4	C	B55148	B55157	B55884
SL-5L6	1/2	.5000	1-1/8	7-1/8	1/4	C	B55922	B55945	—
SL-6	5/8	.6250	1 5/16	3 3/16	1/4	C	B55149	B55158	B55885

POINTED CONE

SM SERIES



Tool No.	Included Angle	Cutting Diameter		Length of Cut	Overall Length	Shank Dia.	Shank Type	Single Cut Order No.	Double Cut Order No.
		fractional	decimal						
SM-41	12°	1/8	.1250	3/8	1-1/2	1/8	A	B55644	B55645
SM-42	14°	1/8	.1250	7/16	1-1/2	1/8	A	B55181	B55190
SM-43	7°	1/8	.1250	5/8	1-1/2	1/8	A	B55648	B55649
SM-51	22°	1/4	.2500	1/2	1-7/8	1/8	B	B55709	B55721
SM-1	22°	1/4	.2500	1/2	2	1/4	D	B55182	B55191
SM-3	10°	1/4	.2500	1	2	1/4	D	B55183	B55192
SM-4	28°	3/8	.3750	5/8	2-1/2	1/4	C	B55184	B55193
SM-5	28°	1/2	.5000	7/8	2-3/4	1/4	C	B55185	B55194

Best Material Application

Single Cut			Double Cut				Aluminum Cut	
STEEL	CAST IRON	NON-FERROUS	STEEL	CAST IRON	NON-FERROUS	HIGH TEMP. ALLOYS	NON-FERROUS	

INVERTED TAPER

BN SERIES



Tool No.	Included Angle	Cutting Diameter		Length of Cut	Overall Length	Shank Dia.	Shank Type	Single Cut Order No.	Double Cut Order No.
		fractional	decimal						
SN-41	—	3/32	.0938	3/16	1-1/2	1/8	A	B55652	—
SN-51	10°	1/4	.2500	1/4	1-1/2	1/8	A	B55710	B55722

Best Material Application

Single Cut			Double Cut				Aluminum Cut	
								
STEEL	CAST IRON	NON-FERROUS	STEEL	CAST IRON	NON-FERROUS	HIGH TEMP. ALLOYS	NON-FERROUS	

HEAVY-DUTY DOUBLE CUT BURRS



06

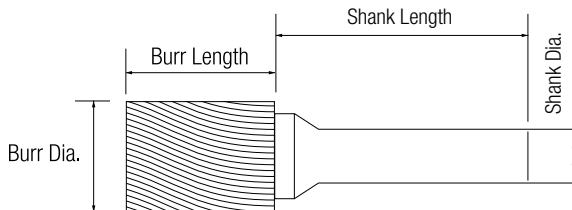
CARBIDE BURRS

WALTER

HIGH PERFORMANCE

WALTER carbide burrs are made from the highest-grade tungsten carbide and are manufactured to ensure perfect concentricity and balance. This means you get a safer product that removes material faster and is guaranteed to provide the longest working life in the industry.

- ▷ *Precise manufacturing – Burrs run perfectly true without vibration*
- ▷ *First-grade tungsten carbide – For the toughest applications in a wide range of materials*
- ▷ *Exclusive tooth design – Guarantees maximum cutting performance*
- ▷ *Advanced flute geometry – Ensures maximum cutting capacity and chip evacuation from tip to bottom*



HIGH-STRENGTH BRAZED JOINT GUARANTEED TO PREVENT BREAKAGE



1/4" SHANK Ø, DOUBLE CUT

Burr Dia.xLength	USCTI Type	Order No.	6" Shank Order No.	Std. Pkg.	Std. Ctn.
Cylindrical (SA)					
1/4" x 5/8"	SA-1	01V001	01V601	1	10
5/16" x 3/4"	SA-2	01V037		1	10
3/8" x 3/4"	SA-3	01V002	01V602	1	10
7/16" x 1"	SA-4	01V038		1	10
1/2" x 1"	SA-5	01V004	01V604	1	10
5/8" x 1"	SA-6	01V055		1	10
Cylindrical (SB)					
1/4" x 5/8"	SB-1	01V056		1	10
3/8" x 3/4"	SB-3	01V057		1	10
1/2" x 1"	SB-5	01V059		1	10
Cylindrical round nose (SC)					
1/4" x 5/8"	SC-1	01V005	01V605	1	10
5/16" x 3/4"	SC-2	01V039		1	10
3/8" x 3/4"	SC-3	01V006	01V606	1	10
7/16" x 1"	SC-4	01V040		1	10
1/2" x 1"	SC-5	01V007	01V607	1	10
5/8" x 1"	SC-6	01V062		1	10
3/4" x 1"	SC-7	01V073		1	10
Ball (SD)					
1/4" x 7/32"	SD-1	01V009	01V609	1	10
3/8" x 5/16"	SD-3	01V010	01V610	1	10
1/2" x 7/16"	SD-5	01V026	01V626	1	10
5/8" x 9/16"	SD-6	01V011		1	10
Egg (SE)					
3/8" x 5/8"	SE-3	01V027		1	10
1/2" x 7/8"	SE-5	01V028		1	10
Tree (SF)					
1/4" x 5/8"	SF-1	01V041	01V641	1	10
5/16" x 5/8"	SF-2	01V042		1	10
3/8" x 3/4"	SF-3	01V014	01V614	1	10
7/16" x 1"	SF-4	01V043		1	10
1/2" x 1"	SF-5	01V015	01V615	1	10
5/8" x 1"	SF-6	01V066		1	10
Tapered (SG)					
1/4" x 5/8"	SG-1	01V044	01V644	1	10
5/16" x 3/4"	SG-2	01V045		1	10
3/8" x 3/4"	SG-3	01V046	01V646	1	10
1/2" x 1"	SG-5	01V013	01V613	1	10
Flame (SH)					
5/16" x 3/4"	SH-3	01V029		1	10
1/2" x 1 1/4"	SH-5	01V030		1	10
Cone 90° (SK)					
3/8" x 1/5"	SK-3	01V067		1	10
1/2" x 1/4"	SK-5	01V068		1	10
Cone (SL)					
1/4" x 5/8"	SL-1 14°	01V017		1	10
5/16" x 7/8"	SL-2	01V051		1	10
3/8" x 1 1/16"	SL-3 14°	01V031	01V631	1	10
1/2" x 1 1/8"	SL-4 14°	01V032		1	10
5/8" x 3/16"	SL-5	01V052	01V652	1	10
Conical (SM)					
1/4" x 1/2"	SM-1	01V047		1	10
1/4" x 3/4"	SM-2	01V048		1	10
1/4" x 1"	SM-3	01V049		1	10
3/8" x 5/8"	SM-4	01V050		1	10
1/2" x 7/8"	SM-5 28°	01V018		1	10
Inverted cone (SN)					
1/4" x 1/2"	SN-1	01V070		1	10
1/4" x 3/4"	SN-2	01V071		1	10
1/4" x 1"	SN-4	01V072		1	10

1/4" SHANK Ø, HARD ALLOYS



Burr Dia.xLength	USCTI Type	Order No.	Std. Pkg.	Std. Ctn.
1/2" x 1"	SC-5	01V033	1	10
1/2" x 1"	SF-5	01V034	1	10
1/2" x 1 1/8"	SL-4	01V035	1	10

1/8" SHANK Ø, DOUBLE CUT



Burr Dia.xLength	USCTI Type	Order No.	Std. Pkg.	Std. Ctn.
1/8" x 9/16"	SA-43	01V020	1	10
1/8" x 1/8"	SD-42	01V021	1	10
1/8" x 1/2"	SF-42	01V022	1	10
1/8" x 1/2"	SG-44	01V023	1	10
1/8" x 1/2"	SL-42	01V024	1	10
1/8" x 7/16"	SM-42 12°	01V025	1	10

CYLINDRICAL (SA)

CYLINDRICAL ROUND NOSE (SC)

BALL (SD)

EGG (SE)

TREE (SF)

TAPERED (SG)

FLAME (SH)

CONE (SL)

CONICAL (SM)

Burr diameter	Maximum cutting speed (RPM) for standard length burrs	Maximum cutting speed (RPM) for 6" long burrs
1/4"	70,000	35,000
5/16"	68,000	34,000
3/8"	66,000	33,000
7/16"	58,000	29,000
1/2"	50,000	25,000
5/8"	40,000	20,000

For safety reasons, never use the 6" tungsten carbide burrs below 20,000 RPM.

Material	Double cut	Non-ferrous
Aluminum	-	x
Brass	x	x
Bronze	x	-
Cast iron	x	-
Copper	-	x
Carbon fiber	-	x
Fiberglass	x	-
Hard rubber	x	-
Inconel	x	-
Magnesium	-	x
Plastics	x	-

Material	Double cut	Non-ferrous
Steel - 45-55Rc	x	-
Steel - 55-60Rc	x	-
Steel - Carbon	x	-
Steel - Nickel Chrome	x	-
Steel - Stainless	x	-
Steel - Weldments	x	-
Titanium	x	-
Zinc	-	x

HEAVY-DUTY ALUMINUM /NON-FERROUS CUT BURRS



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CARBIDE BURRS

WALTER

1/4" SHANK Ø



Burr Dia. x Length	USCTI Type	Order No.	Std. Pkg.	Std. Ctn.
3/8" x 3/4"	SA-3	01V003	1	10
1/2" x 1"	SA-5	01V054	1	10
3/8" x 3/4"	SB-3	01V058	1	10
1/4" x 5/8"	SC-1	01V060	1	10
3/8" x 3/4"	SC-3	01V061	1	10
1/2" x 1"	SC-5	01V008	1	10
1/2" x 1/2"	SD-5	01V063	1	10
1/2" x 7/8"	SE-5	01V064	1	10
3/8" x 3/4"	SF-3	01V065	1	10
1/2" x 1"	SF-5	01V016	1	10
3/8" x 1 1/4"	SL-3	01V036	1	10
1/2" x 1 1/8"	SL-4	01V069	1	10

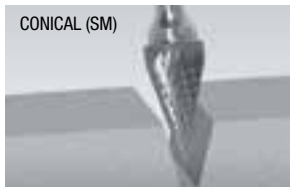
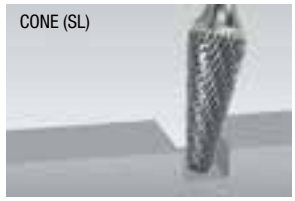
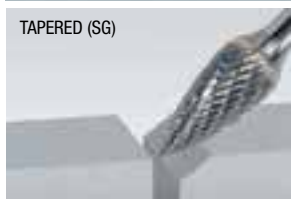
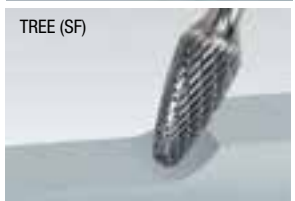
Material	Double cut	Non-ferrous
Aluminum	-	x
Brass	x	x
Bronze	x	-
Cast iron	x	-
Copper	-	x
Carbon fiber	-	x
Fiberglass	x	-
Hard rubber	x	-
Inconel	x	-
Magnesium	-	x
Plastics	x	-

Material	Double cut	Non-ferrous
Steel - 45-55Rc	x	-
Steel - 55-60Rc	x	-
Steel - Carbon	x	-
Steel - Nickel Chrome	x	-
Steel - Stainless	x	-
Steel - Weldments	x	-
Titanium	x	-
Zinc	-	x



BURR SETS

WALTER Carbide Burr Kit	
Description	Order No.
Carbide Burr Production Kit Contains one of each of the following: 01V002, 006, 011, 015 and 018	01V990
5-Piece Alu Cut Carbide Burr Kit	01V995
10-Piece Double Cut Carbide Burr Kit	01V996



POINT GRINDER

DIALSPEED™ 6141

For fitting and finishing work

The convenient design of this very popular point grinder results in increased performance and operator comfort to let you reach new levels of productivity. Proven electronics and the quality construction of the motor deliver more power to the spindle while the ergonomic housing minimizes fatigue. This tool is the perfect companion to our premium carbide burrs for any deburring or shaping applications.

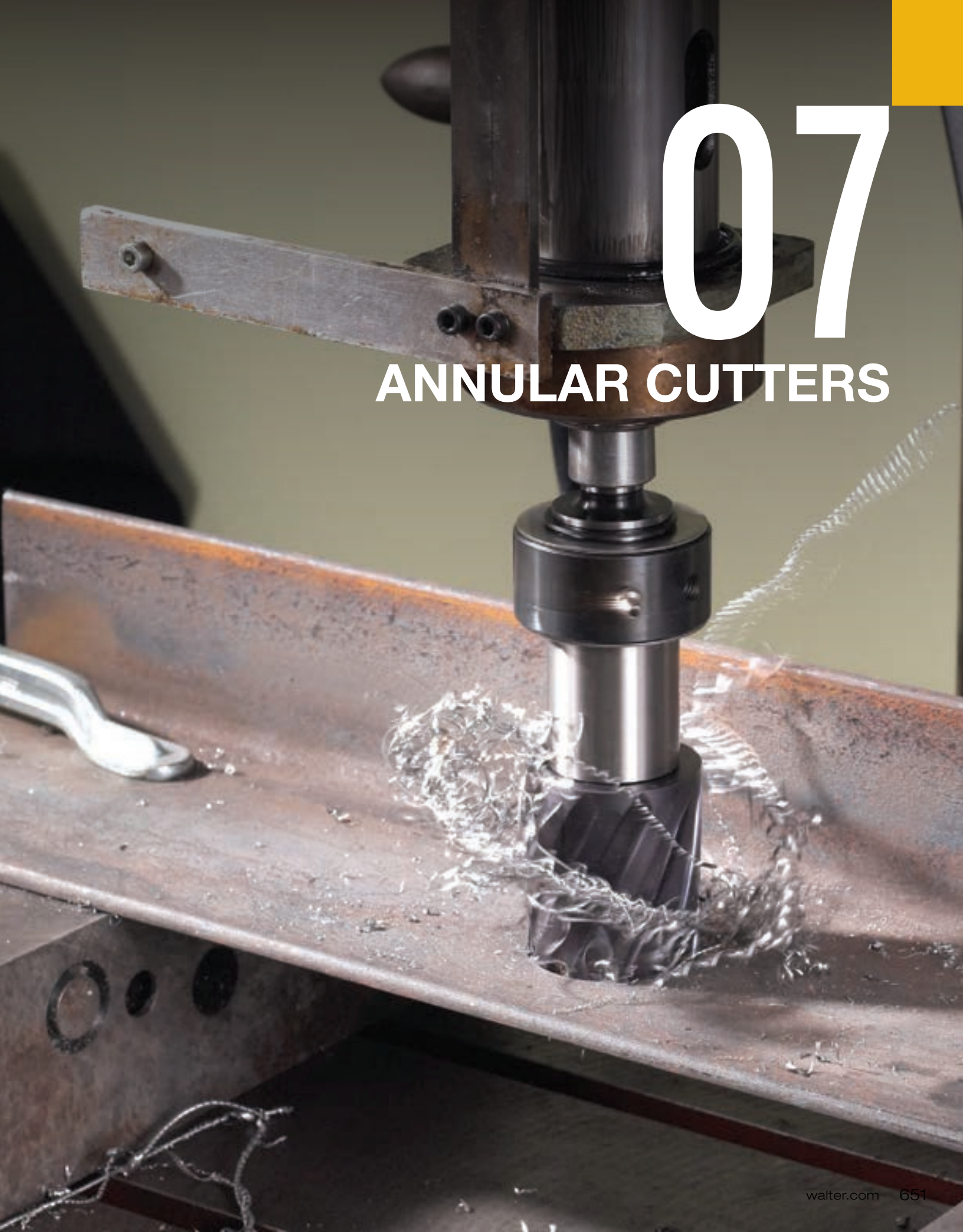


RPM	
SPEED 1	10,000 rpm
SPEED 2	14,000 rpm
SPEED 3	18,500 rpm
SPEED 4	22,000 rpm
SPEED 5	26,000 rpm
SPEED 6	30,500 rpm

DIALSPEED™ 6141	
Model name	6141E
Order No.	30A141
Lock-on switch	•
AC/DC compatibility	AC compatibility only
Soft-Start™	•
Restart protection	•
DYNAMAX™ RPM monitoring	•
POWERGUARD™ overheat protection	•
DIALSPEED™ variable RPM selector	•
Collet	1/4"
RPM no-load	10,000 to 30,500
Amps	6.4 A
Power	710 W
Tool weight	4.2 lbs
Tool length	13.75"
Maximum wheel diameter	1.5"
Standard equipment	
1/4 collet	30B046
Spanner	48Z019
Optional equipment	
Cutting guard	30B051

Flexible shaft	
Description	Order No.
For delicate finishing work with 6141 and 6145. 1/4" collet, 5 ft. long.	30B050





07

ANNULAR CUTTERS

QUICK PAGES REFERENCES

ANNULAR CUTTERS

HIGH SPEED STEEL + ALUMINUM (M2AL)

Bronze Finish

For mild steel, structural steel, construction steel, aluminum, copper / brass, plastics

Series	Page Number
4505, 4506	655



HIGH SPEED STEEL

Bright Finish

For steel, structural steel, construction steel, aluminum, copper / brass, plastics

Series	Page Number
4500, 4501	656



CARBIDE TIPPED ANNULAR CUTTERS

Bright Finish

For high performance on cast iron, cast steel, other hard materials

Type	Series	Page Number
	9100CT, 9200CT	657



COBALT ANNULAR CUTTERS

NITRO

Bronze Finish

For long life on stainless steel, titanium, high tensile steel, other hard materials

Type	Series	Page Number
	9100N, 9200N, 9300N	658



HIGH SPEED STEEL

Bright Finish

For low-to-medium tensile strength materials

Type	Series	Page Number
	9100SE, 9200SE	660
	9300SE, 9400SE	662



CARBIDE TIPPED

Bright Finish

For high performance on cast iron, cast steel, other hard materials

Type	Series	Page Number
	05D, 05F, 05H	666



COATED HIGH SPEED STEEL + ALUMINUM (M2AL)

Chromium Aluminium Based Coating
For longer tool life

Type	Series	Page Number
ICECUT™	05B, 05F	667



HIGH SPEED STEEL + ALUMINUM (M2AL)

Bronze Surface Treatment
For most materials

Type	Series	Page Number
SST	05A, 05E	668



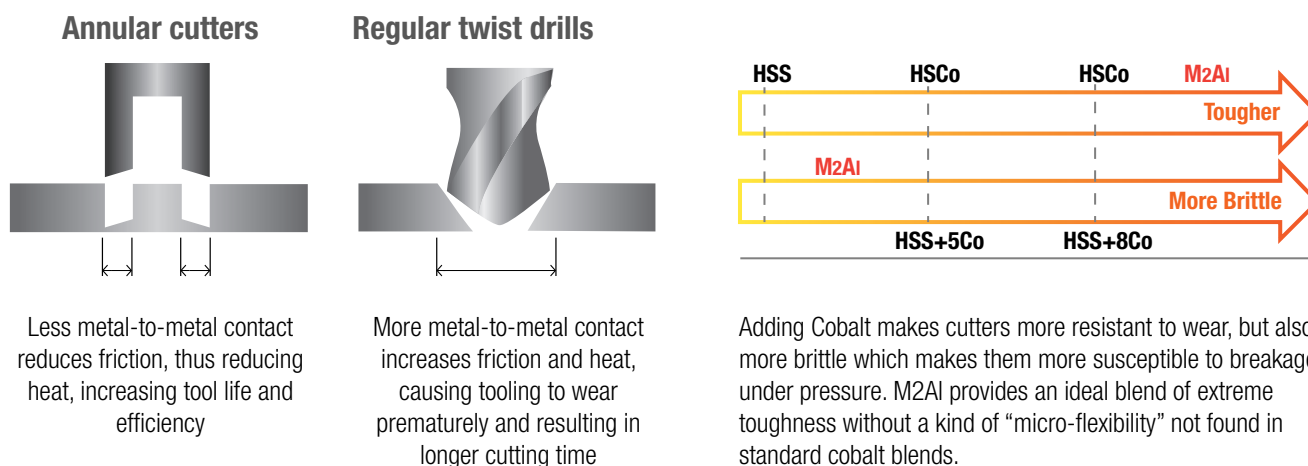
ANNULAR CUTTERS EXPLAINED

HIGH-PERFORMANCE ANNULAR CUTTERS

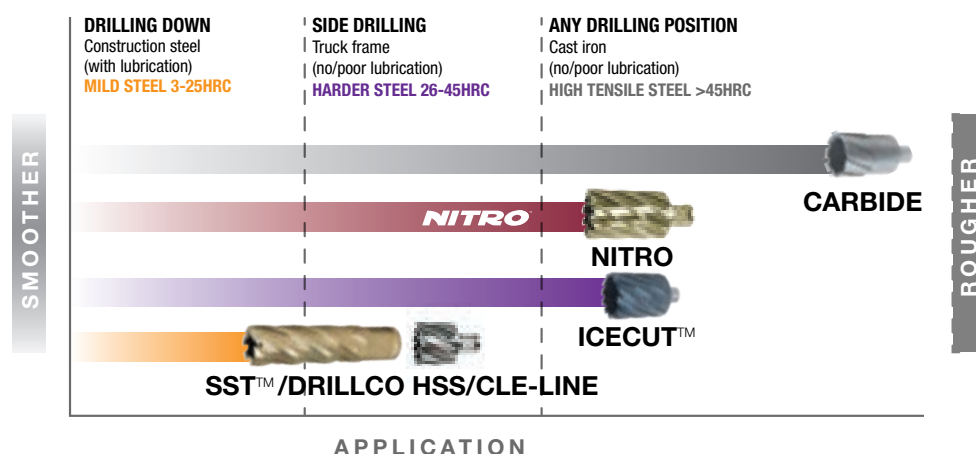
When drilling large holes through thick, flat metal surfaces, it is often more cost-effective to use an annular cutter, which cuts at the circumference of the circle, instead of cutting through the entire area of the circle. This allows you to make holes faster and more efficiently.

WALTER annular cutters are made from a high-speed steel and aluminum blend (M2Al) that enhances toughness and durability, extending their lifespan. Unlike conventional cutting tools enhanced with cobalt (HSCo), which can become brittle and prone to breakage, WALTER's advanced HSS blend reduces brittleness, providing superior performance under load.

Through graduated hardening and the addition of aluminum, WALTER core cutters gain "micro-flexibility," making them less brittle and longer-lasting than regular HSCo annular cutters. The exclusive triple tooth design and special fluting angle optimize chip evacuation and eliminate debris. WALTER's AlCrN coating on the ICECUT™ line forms a self-lubricating nano-layer when heated, preventing materials from sticking, melting, or deforming. ICECUT™ annular cutters offer the longest lifespan among coated HSS annular cutters.



ANNULAR CUTTERS PERFORMANCE CHART



ANNULAR CUTTERS EXPLAINED

Annular Cutter Selection Chart. Match the Best Cutter for your Application

	SST™ Core Cut/DRILLCO HSS/CLE-LINE	ICECUT™	NITRO™ Cobalt	Carbide (WALTER/DRILLCO)
SPECIFICATIONS				
Diameter Range	1/2" - 4"	1/2" - 2-3/8"	7/16" - 2-1/4"	1/2" - 4"
Drilling Depth	1", 2", 3" and 4"	Up to 4" depth cutters on selected items	1", 2" and 3"	1-1/2", 2", 3", 4"
Shank Size	3/4" and 1-1/4"	3/4"	3/4"	3/4", 1-1/4"
Shank Type	Universal & Weldon shank with 2 flats	Universal & Weldon shank with 2 flats	Weldon shank	Universal & Weldon shank with 2 flats*
MATERIAL				
Mild Steel (3 to 25 HRC)	✓	✓	✓	✓
Harder Steel (26 to 45 HRC)	✓	✓	✓	✓
Stainless Steel (300 and 400 series)	✓	✓	✓	✓
Cast Iron	—	✓	✓	✓
Aluminum	✓	✓	✓	✓
Brass and Bronze	✓	✓	✓	✓
Hardox / Scandia	—	—	✓	✓
Rough / Uneven material	—	—	✓	✓
Railroad Track	—	—	✓	✓
CHARACTERISTICS				
Cutting Speed	Fast	Very Fast	Very Fast	Extra Fast
Cutter Life	Long	Very Long	Very Long	Extra Long

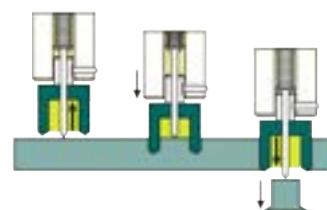
✓ Highly Recommended
 ✓ Recommended

*Metric line available

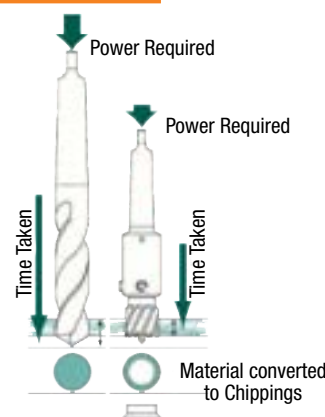
ANNULAR CUTTERS CUTTING SPEEDS (RPM) / APPLICATION

Material Strength N/mm ²	Diameter						
	.472 to .709	.748 to .984	1.024 to 1.260	1.575 to 1.811	1.850 to 2.087	2.126 to 2.362	2.402 to 2.559
<500 High Speed	660	420	305	240	195	165	145
<500 Low Speed	440	320	250	200	170	150	130
<750 High Speed	530	340	245	195	160	135	115
<750 Low Speed	350	250	200	165	140	120	105
<900 High Speed	340	250	185	145	120	100	88
<900 Low Speed	265	190	150	125	105	90	80
Stainless Steel - High Speed	320	200	145	115	90	80	70
Stainless Steel - Low Speed	210	150	120	95	85	72	63
Aluminum - High Speed	980	620	455	360	295	250	220
Aluminum - Low Speed	655	470	370	305	255	225	195
Cast Iron - High Speed	480	300	200	175	143	122	106
Cast Iron - Low Speed	320	230	180	147	125	108	95
Brass - High Speed	660	420	305	240	195	165	145
Brass - Low Speed	440	320	250	200	170	150	130
Copper - High Speed	1060	670	490	390	320	270	235
Copper - Low Speed	700	510	400	330	280	240	210

Series	Material Application
4505 / 4506	Steel, Non-Ferrous
4500 / 4501	Steel, Non-Ferrous
9100CT / 9200CT	Steel, Stainless, Cast Iron, Non-Ferrous, Hardened Steel
9100N / 9200N / 9300N	Steel, Stainless, Cast Iron, Non-Ferrous
9100SE / 9200SE / 9300SE / 9400SE	Steel, Non-Ferrous
05D / 05F / 05H Carbide Tipped	Steel, Stainless, Cast Iron, Non-Ferrous, Hardened Steel
05B / 05F Icecut	Steel, Stainless, Aluminum
05A / 05E SST	Steel, Non-Ferrous



COMPARISON OF TWIST DRILL AND BROACHING CUTTER PERFORMANCE



- ▷ Can cut materials up a maximum tensile strength of 900 N/mm2 (266 BHn / 27 HRC)
- ▷ 1 Inch and 2 Inch Depth of Cut
- ▷ 1/2 Inch (0.500") Diameter to 2 Inch (2.000") Diameter Range
- ▷ Used in Magnetic (MAG) Drills
- ▷ 3/4" (0.750") Shanks on all sizes
- ▷ Used on the following applications: Mild Steel, Structural Steel, Construction Steel, Aluminum, Copper / Brass, Plastics
- ▷ Annular Cutters allows hole to be produced quicker and more efficiently, compared to conventional drills
- ▷ Due to the cutter design the load per tooth is greatly reduced and the power used by the machine is kept to a minimum
- ▷ This greatly increases productivity and the life expectancy of the tool and machine
- ▷ All cutter come with Locator Pin

4505

1" Depth of Cut



Size	Decimal equivalent	Order No.
1/2	0.5000	C34130
9/16	0.5625	C34131
5/8	0.6250	C34132
11/16	0.6875	C34133
3/4	0.7500	C34134
13/16	0.8125	C34135
7/8	0.8750	C34136
15/16	0.9375	C34137
1	1.0000	C34138
1-1/16	1.0625	C34139
1-1/8	1.1250	C34140
1-3/16	1.1875	C34141
1-1/4	1.2500	C34142
1-1/2	1.5000	C34143
1-5/8	1.6250	C34144
1-13/16	1.8125	C34145
2	2.0000	C34146

4506

2" Depth of Cut



Size	Decimal equivalent	Order No.
1/2	0.5000	C34147
9/16	0.5625	C34148
5/8	0.6250	C34149
11/16	0.6875	C34150
3/4	0.7500	C34151
13/16	0.8125	C34152
7/8	0.8750	C34153
15/16	0.9375	C34154
1	1.0000	C34155
1-1/16	1.0625	C34156
1-1/8	1.1250	C34157
1-3/16	1.1875	C34158
1-1/4	1.2500	C34159
1-5/16	1.3125	C34160
1-3/8	1.3750	C34161
1-1/2	1.5000	C34162
1-9/16	1.5625	C34163
1-5/8	1.6250	C34164
1-11/16	1.6875	C34165
1-3/4	1.7500	C34166
1-13/16	1.8125	C34167
1-7/8	1.8750	C34168
2	2.0000	C34169

HIGH SPEED STEEL

- ▷ Can cut materials up a maximum tensile strength of 900 N/mm² (266 BHn / 27 HRC)
- ▷ 1 Inch and 2 Inch Depth of Cut
- ▷ 1/2 Inch (0.500") Diameter to 2 Inch (2.000") Diameter Range
- ▷ Used in Magnetic (MAG) Drills
- ▷ 3/4" (0.750") Shanks on all sizes
- ▷ Used on the following applications: Mild Steel, Structural Steel, Construction Steel, Aluminum, Copper / Brass, Plastics
- ▷ Annular Cutters allows hole to be produced quicker and more efficiently, compared to conventional drills
- ▷ Due to the cutter design the load per tooth is greatly reduced and the power used by the machine is kept to a minimum
- ▷ This greatly increases productivity and the life expectancy of the tool and machine
- ▷ All cutter come with Locator Pin

4500

1" Depth of Cut



Size	Decimal equivalent	Order No.
1/2	0.5000	C34060
9/16	0.5625	C34061
5/8	0.6250	C34062
11/16	0.6875	C34063
3/4	0.7500	C34064
13/16	0.8125	C34065
7/8	0.8750	C34066
15/16	0.9375	C34102
1	1.0000	C34067
1-1/16	1.0625	C34068
1-1/8	1.1250	C34069
1-3/16	1.1875	C34070
1-1/4	1.2500	C34071
1-1/2	1.5000	C34073
1-5/8	1.6250	C34074
1-13/16	1.8125	C34075
2	2.0000	C34076

4501

2" Depth of Cut



Size	Decimal equivalent	Order No.
1/2	0.5000	C34077
9/16	0.5625	C34078
5/8	0.6250	C34079
11/16	0.6875	C34080
3/4	0.7500	C34081
13/16	0.8125	C34082
7/8	0.8750	C34083
15/16	0.9375	C34084
1	1.0000	C34085
1-1/16	1.0625	C34086
1-1/8	1.1250	C34087
1-3/16	1.1875	C34088
1-1/4	1.2500	C34089
1-5/16	1.3125	C34090
1-3/8	1.3750	C34091
1-1/2	1.5000	C34092
1-9/16	1.5625	C34093
1-5/8	1.6250	C34094
1-11/16	1.6875	C34095
1-3/4	1.7500	C34096
1-13/16	1.8125	C34097
1-7/8	1.8750	C34098
2	2.0000	C34099

4502 SERIES

Locator Pin



Diameter (mm)	Decimal equivalent	Locator Pin for:	Order No.
6	0.236	1" long cutter	C34100
6.20	0.244	2" long cutter	C34101

CARBIDE TIPPED

07

ANNULAR CUTTERS

DRILCO | WALTER

Maximize the performance of any Magnetic Drill Machine

- ▷ Deliver reamer-quality, burr-free holes in a fraction of the time of a twist drill
- ▷ Eliminates the need for costly pilot holes & step drilling
- ▷ Larger diameters and depths available by special order
- ▷ Universal Shank

9100CT SERIES

1-3/8" Depth of Cut
Fractional



3/4" SHANK	
Size	Order No.
9/16"	91CT136
5/8"	91CT140
11/16"	91CT144
3/4"	91CT148
13/16"	91CT152
7/8"	91CT156
15/16"	91CT160
1"	91CT164
1-1/16"	91CT204
1-1/8"	91CT208
1-3/16"	91CT212
1-1/4"	91CT216
1-5/16"	91CT220
1-3/8"	91CT224

Annular Cutter Pilot Pin	
Description	Order No.
1-3/8" depth of cut pilot pin for 3/4" and above	91CT001
1-3/8" depth of cut pilot pin for 9/16" - 11/16"	91CT002



9200CT SERIES

2" Depth of Cut
Fractional



3/4" SHANK	
Size	Order No.
9/16"	92CT136
5/8"	92CT140
11/16"	92CT144
3/4"	92CT148
13/16"	92CT152
7/8"	92CT156
15/16"	92CT160
1"	92CT164
1-1/16"	92CT204
1-1/8"	92CT208
1-3/16"	92CT212
1-1/4"	92CT216
1-5/16"	92CT220
1-3/8"	92CT224
1-7/16"	92CT228
1-1/2"	92CT232
1-9/16"	92CT236
1-5/8"	92CT240
1-11/16"	92CT244
1-3/4"	92CT248
1-13/16"	92CT252
1-7/8"	92CT256
1-15/16"	92CT260
2"	92CT264
2-1/8"	92CT308
2-1/4"	92CT316
2-3/8"	92CT324

Annular Cutter Pilot Pin	
Description	Order No.
2" depth of cut pilot pin for 3/4" and above	92CT001
2" depth of cut pilot pin for 9/16" - 11/16"	92CT002



COBALT

Offer even better performance over the standard High Speed Steel ranges

- ▷ Cobalt substrate helps deflect heat, allowing for faster speeds and feeds than HSS annular cutters
- ▷ Suitable for more demanding applications, such as stainless steel and titanium
- ▷ Bronze surface treatment for added lubricity
- ▷ Weldon Shank

NITRO®**9100N SERIES**

1" Depth of Cut
Fractional



3/4" SHANK	
Size	Order No.
7/16"	91N128
1/2"	91N132
9/16"	91N136
5/8"	91N140
11/16"	91N144
3/4"	91N148
13/16"	91N152
7/8"	91N156
15/16"	91N160
1"	91N164
1-1/16"	91N204
1-1/8"	91N208
1-3/16"	91N212
1-1/4"	91N216
1-5/16"	91N220
1-3/8"	91N224
1-7/16"	91N228
1-1/2"	91N232
1-9/16"	91N236
1-5/8"	91N240
1-11/16"	91N244
1-3/4"	91N248
1-13/16"	91N252
1-7/8"	91N256
1-15/16"	91N260
2"	91N264
2-1/16"	91N304
2-1/8"	91N308
2-3/16"	91N312
2-1/4"	91N316

3/4" SHANK	
Size	Order No.
2-5/16"	91N320
2-3/8"	91N324
2-7/16"	91N328
2-1/2"	91N332



Annular Cutter Sets, 7 pc.			
Material	Series	Includes	Order No.
NITRO® (Cobalt)	9100N	9/16, 5/8, 11/16, 3/4, 13/16, 15/16, and 1 pin.	91N7S

Annular Cutter Pilot Pins (1 per package)			
Diameter	Max Drilling Depth (Inch)	Pin Diameter	Order No.
1/2"-2 1/2" Dia.	1.0	1/4	91SE001
7/16 Dia.	1.0	3/16	91SE005
2-9/16"- 4" Dia.	1.0	1/4	91SE003
2-9/16"- 4" Dia.	1.0	5/16	91SE004

9200N SERIES

2" Depth of Cut
Fractional



3/4" SHANK	
Size	Order No.
7/16"	92N128
1/2"	92N132
9/16"	92N136
5/8"	92N140
11/16"	92N144
3/4"	92N148
13/16"	92N152
7/8"	92N156
15/16"	92N160
1"	92N164
1-1/16"	92N204
1-1/8"	92N208
1-3/16"	92N212
1-1/4"	92N216
1-5/16"	92N220
1-3/8"	92N224
1-7/16"	92N228
1-1/2"	92N232
1-9/16"	92N236
1-5/8"	92N240
1-11/16"	92N244
1-3/4"	92N248
1-13/16"	92N252
1-7/8"	92N256
1-15/16"	92N260
2"	92N264
2-1/16"	92N304
2-1/8"	92N308
2-3/16"	92N312
2-1/4"	92N316

Annular Cutters Sets - 9200N

NITRO Cobalt

6 pieces: 9/16", 5/8", 11/16", 3/4", 13/16", 15/16", and pilot pin

Depth of Cut	Order No.
2" Depth of Cut	92N7S

Annular Cutter Pilot Pins (1 per package)

Diameter	Max Drilling Depth (Inch)	Pin Diameter	Order No.
1/2"-2 1/2" Dia.	2.0	1/4	92SE001
7/16 Dia.	2.0	3/16	92SE005
2-9/16"- 4" Dia.	2.0	1/4	92SE003
2-9/16"- 4" Dia.	2.0	5/16	92SE004

9300N SERIES

3" Depth of Cut
Fractional



3/4" SHANK	
Size	Order No.
3/4"	93N148
13/16"	93N152
7/8"	93N156
15/16"	93N160
1"	93N164
1-1/16"	93N204
1-1/8"	93N208
1-3/16"	93N212
1-1/4"	93N216
1-5/16"	93N220
1-3/8"	93N224
1-7/16"	93N228
1-1/2"	93N232
1-9/16"	93N236
1-5/8"	93N240
1-11/16"	93N244
1-3/4"	93N248
1-13/16"	93N252
1-7/8"	93N256
1-15/16"	93N260
2"	93N264
2-1/16"	93N304
2-1/8"	93N308
2-3/16"	93N312
2-1/4"	93N316

Annular Cutter Pilot Pin

Description	Order No.
3" depth of cut pilot pin	93SE001

HIGH SPEED STEEL

Produce large diameter holes efficiently and quickly with less energy

Rather than drilling out the metal with a solid drill, DRILLCO cutters remove only the periphery of the hole, ejecting a slug at the end of the cut.

- ▷ For a wide range of materials
- ▷ Up to 4" diameter and 4" depth of cut
- ▷ Weldon Shank



9100SE SERIES

**1" Depth of Cut
Fractional**



3/4" SHANK		
Size	Order No.	Order No. WITH PINS
7/16"	91SE128	91SE128K
1/2"	91SE132	91SE132K
9/16"	91SE136	91SE136K
5/8"	91SE140	91SE140K
11/16"	91SE144	91SE144K
3/4"	91SE148	91SE148K
13/16"	91SE152	91SE152K
7/8"	91SE156	91SE156K
15/16"	91SE160	91SE160K
1"	91SE164	91SE164K
1-1/16"	91SE204	91SE204K
1-1/8"	91SE208	91SE208K
1-3/16"	91SE212	91SE212K
1-1/4"	91SE216	91SE216K
1-5/16"	91SE220	91SE220K
1-3/8"	91SE224	91SE224K
1-7/16"	91SE228	91SE228K
1-1/2"	91SE232	91SE232K
1-9/16"	91SE236	—
1-5/8"	91SE240	—
1-11/16"	91SE244	—
1-3/4"	91SE248	—
1-13/16"	91SE252	—
1-7/8"	91SE256	—
1-15/16"	91SE260	—
2"	91SE264	—
2-1/16"	91SE304	—
2-1/8"	91SE308	—
2-3/16"	91SE312	—
2-1/4"	91SE316	—
2-5/16"	91SE320	—
2-3/8"	91SE324	—
2-7/16"	91SE328	—
2-1/2"	91SE332	—

1-1/4" SHANK	
Size	Order No.
2-9/16"	91SE336
2-5/8"	91SE340
2-11/16"	91SE344
2-3/4"	91SE348
2-13/16"	91SE352
2-7/8"	91SE356
2-15/16"	91SE360
3"	91SE364
4"	91SE464

Annular Cutter Pilot Pins (1 per package)			
Diameter	Max Drilling Depth (Inch)	Pin Diameter	Order No.
1/2"-2 1/2" Dia.	1.0	1/4	91SE001
7/16 Dia.	1.0	3/16	91SE005
2-9/16" - 4" Dia.	1.0	1/4	91SE003
2-9/16" - 4" Dia.	1.0	5/16	91SE004

HIGH SPEED STEEL

07

ANNULAR CUTTERS

9200SE SERIES

2" Depth of Cut
Fractional



3/4" SHANK		
Size	Order No.	Order No. WITH PINS
7/16"	92SE128	92SE128K
1/2"	92SE132	92SE132K
9/16"	92SE136	92SE136K
5/8"	92SE140	92SE140K
11/16"	92SE144	92SE144K
3/4"	92SE148	92SE148K
13/16"	92SE152	92SE152K
7/8"	92SE156	92SE156K
15/16"	92SE160	92SE160K
1"	92SE164	92SE164K
1-1/16"	92SE204	92SE204K
1-1/8"	92SE208	92SE208K
1-3/16"	92SE212	92SE212K
1-1/4"	92SE216	92SE216K
1-5/16"	92SE220	92SE220K
1-3/8"	92SE224	92SE224K
1-7/16"	92SE228	92SE228K
1-1/2"	92SE232	92SE232K
1-9/16"	92SE236	-
1-5/8"	92SE240	-
1-11/16"	92SE244	-
1-3/4"	92SE248	-
1-13/16"	92SE252	-
1-7/8"	92SE256	-
1-15/16"	92SE260	-
2"	92SE264	-
2-1/16"	92SE304	-
2-1/8"	92SE308	-
2-3/16"	92SE312	-
2-1/4"	92SE316	-
2-5/16"	92SE320	-
2-3/8"	92SE324	-
2-7/16"	92SE328	-
2-1/2"	92SE332	-

1-1/4" SHANK	
Size	Order No.
2-9/16"	92SE336
2-5/8"	92SE340
2-11/16"	92SE344
2-3/4"	92SE348
2-13/16"	92SE352
2-7/8"	92SE356
2-15/16"	92SE360
3"	92SE364
3-1/16"	92SE404
3-1/8"	92SE408
3-3/16"	92SE412
3-1/4"	92SE416
3-5/16"	92SE420
3-3/8"	92SE424
4"	92SE464

Annular Cutter Pilot Pins (1 per package)			
Diameter	Max Drilling Depth (Inch)	Pin Diameter	Order No.
1/2"-2 1/2" Dia.	2.0	1/4	92SE001
7/16 Dia.	2.0	3/16	92SE005
2-9/16"- 4" Dia.	2.0	1/4	92SE003
2-9/16"- 4" Dia.	2.0	5/16	92SE004

DRILCO

WALTER

HIGH SPEED STEEL

9300SE SERIES

3" Depth of Cut
Fractional

3/4" SHANK	
Size	Order No.
3/4"	93SE148
13/16"	93SE152
7/8"	93SE156
15/16"	93SE160
1"	93SE164
1-1/16"	93SE204
1-1/8"	93SE208
1-3/16"	93SE212
1-1/4"	93SE216
1-5/16"	93SE220
1-3/8"	93SE224
1-7/16"	93SE228
1-1/2"	93SE232
1-9/16"	93SE236
1-5/8"	93SE240
1-11/16"	93SE244
1-3/4"	93SE248
1-13/16"	93SE252
1-7/8"	93SE256
1-15/16"	93SE260
2"	93SE264
2-1/16"	93SE304
2-1/8"	93SE308
2-3/16"	93SE312
2-1/4"	93SE316
2-5/16"	93SE320
2-3/8"	93SE324
2-7/16"	93SE328
2-1/2"	93SE332

1-1/4" SHANK	
Size	Order No.
2-9/16"	93SE336
2-5/8"	93SE340
2-11/16"	93SE344
2-3/4"	93SE348
2-13/16"	93SE352
2-7/8"	93SE356
2-15/16"	93SE360
3"	93SE364
3-1/16"	93SE404
3-1/8"	93SE408
3-3/16"	93SE412
3-1/4"	93SE416
3-5/16"	93SE420
3-3/8"	93SE424
3-7/16"	93SE428
3-1/2"	93SE432
4"	93SE464

Annular Cutter Pilot Pins (1 per package)			
Diameter	Max Drilling Depth (Inch)	Pin Diameter	Order No.
1/2"-2 1/2" Dia.	3.0	1/4	93SE001
1/2"-2 1/2" Dia.	3.0	5/16	93SE004
2-9/16"- 4" Dia.	3.0	5/16	93SE006



HIGH SPEED STEEL

07

ANNULAR CUTTERS

DRILCO
WALTER

9400SE SERIES

4" Depth of Cut
Fractional



3/4" SHANK	
Size	Order No.
3/4"	94SE148
13/16"	94SE152
7/8"	94SE156
15/16"	94SE160
1"	94SE164
1-1/16"	94SE204
1-1/8"	94SE208
1-3/16"	94SE212
1-1/4"	94SE216
1-5/16"	94SE220
1-3/8"	94SE224
1-7/16"	94SE228
1-1/2"	94SE232
1-9/16"	94SE236
1-5/8"	94SE240
1-11/16"	94SE244
1-3/4"	94SE248
1-13/16"	94SE252
1-7/8"	94SE256
1-15/16"	94SE260
2"	94SE264
2-1/16"	94SE304
2-1/8"	94SE308
2-3/16"	94SE312
2-1/4"	94SE316
2-5/16"	94SE320
2-3/8"	94SE324
2-7/16"	94SE328
2-1/2"	94SE332

1-1/4" SHANK	
Size	Order No.
2-9/16"	94SE336
2-5/8"	94SE340
2-11/16"	94SE344
2-3/4"	94SE348
2-13/16"	94SE352
2-7/8"	94SE356
2-15/16"	94SE360
3"	94SE364
3-1/16"	94SE404
3-1/8"	94SE408
3-3/16"	94SE412
3-1/4"	94SE416
3-5/16"	94SE420
3-3/8"	94SE424
3-7/16"	94SE428
3-1/2"	94SE432
4"	94SE464

Annular Cutter Pilot Pins (1 per package)			
Diameter	Max Drilling Depth (Inch)	Pin Diameter	Order No.
1/2"-2 1/2" Dia.	4.0	1/4	94SE001
2-9/16"- 4" Dia.	4.0	1/4	94SE003
1/2"-2 1/2" Dia.	4.0	5/16	94SE004
2-9/16"- 4" Dia.	4.0	5/16	94SE006



91SE7S



HSS Annular Cutters Sets	
Includes	
9/16", 5/8", 11/16", 3/4", 13/16", 15/16", and pilot pin	
Depth of Cut	Order No.
1" Depth of Cut	91SE7S
2" Depth of Cut	92SE7S

ANNULAR CUTTERS ACCESSORIES

ADAPTERS

Description	EDP No.
Machine Accessories	
1/2" chuck to annular adapter	MA000
Annular Cutter Reduced & Morse Taper Shank Holders	
1/2" thru 2-1/4" Dia. x 1" & 2" LOC	Annchuck1
1/2" thru 2-1/4" Dia. x 3" LOC	RSA003
1/2" thru 2-1/4" Dia. x 4" LOC	RSA004
3/4" Shank Adapters w/ 3 Flats	
2-5/16"-4" x 1&2" LOC	Annadapt1
2-5/16" thru 4" Dia. x 3" LOC	RSA007
2-5/16" thru 4" Dia. x 4" LOC	RSA008
#2 Morse Taper Shank Adapters	
7/16" thru 2-1/4" Dia. x 1" & 2" LOC	MTA001
1/2" thru 2-1/4" Dia. x 3" & 4" LOC	MTA002
#3 Morse Taper Shank Adapters	
7/16" thru 2-1/4" Dia. x 1" & 2" LOC	MTA003
1/2" thru 2-1/4" Dia. x 3" & 4" LOC	MTA004
2-5/16" thru 4" Dia. x 1" & 2" LOC	MTA005
2-5/16" thru 4" Dia. x 3" & 4" LOC	MTA006
#4 Morse Taper Shank Adapters	
2-5/16" thru 4" Dia. x 1" & 2" LOC	MTA007
2-5/16" thru 4" Dia. x 3" & 4" LOC	MTA008



MA000



MTA003



CARBIDE TIPPED

05D / 05F/ 05HSERIES

1-3/8", 2", 3" & 4" Depth of Cut
Fractional

Top performance and maximum productivity on hard metals and uneven surfaces!

WALTER Carbide Core Cut annular cutters accurately drill large diameter holes in a variety of hard or abrasive materials such as stainless steel, cast iron, tough alloys or composite materials. They outperform and outlast conventional HSS cutters and allow for higher speed and feed rates while requiring less effort to cut through some of the industry's toughest metals.

3/4" Weldon Shank							
Diameter	1-3/8" cutters	2" cutters	3" cutters	4" cutters	Diameter	35 mm	55 mm
Inches	Order No.	Order No.	Order No.	Order No.	mm	Order No.	Order No.
Use with pilot pin	05Z019	05Z021	05Z018	05Z031		05Z019	05Z021
1/2"	05D008	05D308			12 mm	05F112	05F212
9/16"	05D009	05D309			13 mm	05F113	05F213
5/8"	05D010	05D310			14 mm	05F114	05F214
11/16"	05D011	05D311			15 mm	05F115	05F215
					16 mm	05F116	05F216
					17 mm	05F117	05F217
Use with pilot pin	05Z020	05Z022	05Z032	05Z033		05Z020	05Z022
3/4"	05D012	05D312		05D812	18 mm	05F118	05F218
13/16"	05D013	05D313	05D613	05D813	19 mm	05F119	05F219
7/8"	05D014	05D314			20 mm	05F120	05F220
15/16"	05D015	05D315	05D615	05D815	21 mm	05F121	05F221
1"	05D100	05D400	05D700	05D900	22 mm	05F122	05F222
1-1/16"	05D101	05D401	05D701	05D901	23 mm	05F123	05F223
1-1/8"	05D102	05D402			24 mm	05F124	05F224
1-3/16"	05D103	05D403			25 mm	05F125	05F225
1-1/4"	05D104	05D404			26 mm	05F126	05F226
1-5/16"	05D105	05D405			27 mm	05F127	05F227
1-3/8"	05D106	05D406			28 mm	05F128	05F228
1-7/16"	05D107	05D407			29 mm	05F129	05F229
1-1/2"	05D108	05D408			30 mm	05F130	05F230
1-9/16"	05D109	05D409			31 mm	05F131	05F231
1-5/8"	05D110	05D410			32 mm	05F132	05F232
1-3/4"	05D112	05D412			33 mm	05F133	05F233
1-13/16"	05D113	05D413			34 mm	05F134	05F234
1-7/8"	05D114	05D414			35 mm	05F135	05F235
1-15/16"	05D115	05D415			36 mm	05F136	05F236
2"	05D200	05D500	05D716	05D916	37 mm	05F137	05F237
2-1/16"	05D201	05D501			38 mm	05F138	05F238
2-1/8"	05D202	05D502			39 mm	05F139	05F239
2-3/16"		05D503			40 mm	05F140	05F240
2-1/4"		05D504			41 mm	05F141	05F241
2-5/16"		05D505			42 mm	05F142	05F242
2-3/8"		05D506			43 mm	05F143	05F243
					44 mm	05F144	05F244
					45 mm	05F145	05F245
					46 mm	05F146	05F246
					47 mm	05F147	05F247
					48 mm	05F148	05F248
					49 mm	05F149	05F249
					50 mm	05F150	05F250
					51 mm	05F151	05F251

1-1/4" Weldon Shank				
Use with pilot pin	05Z019	05Z034	05Z035	05Z036
2-1/4"			05D720	05D920
2-7/16"		05D507		
2-1/2"		05D508	05D724	05D924
2-9/16"		05D509	05D725	05D925
2-5/8"		05D510		
2-3/4"		05D512	05D728	05D928
2-7/8"		05D514		
3"		05D532	05D732	05D932
3-1/4"		05D536	05D736	05D936
3-1/2"		05D540	05D740	
3-3/4"		05D544	05D744	
4"		05D548	05D748	

Universal Shank		
Dia.	1" cutters	2" cutters
Inches	Order No.	Order No.
Use with pilot pin	05Z027	05Z021
1/2"	05H008	05H308
9/16"	05H009	05H309
5/8"	05H010	05H310
11/16"	05H011	05H311
Use with pilot pin	05Z028	05Z022
3/4"	05H012	05H312
13/16"	05H013	05H313
7/8"	05H014	05H314
15/16"	05H015	05H315
1"	05H100	05H400
1-1/16"	05H101	05H401
1-1/8"	05H102	05H402
1-3/16"	05H103	05H403
1-1/4"	05H104	05H404
1-5/16"	05H105	05H405
1-3/8"	05H106	05H406
1-7/16"	05H107	05H407
1-1/2"	05H108	05H408



Carbide Core Cut Kits

Material

Highest quality TCT for premium performance
Weldon shank

Includes

1 of each diameter:
9/16", 11/16", 13/16", 15/16", 1",
1-1/16" and pilot pin

Depth of Cut	Item Number
1-3/8" annular cutter kit	05D991
2" annular cutter kit	05D992

COATED HIGH SPEED STEEL

07

ANNULAR CUTTERS

ICECUT™ ANNULAR CORE CUTTERS 05B/ 05F Series

1", 2", 3" & 4" Depth of Cut
Fractional

Guaranteed to cut more holes in less time!

ICECUT™ annular cutters are coated with an exclusive chromium and aluminum blend (AlCrN), designed for use where lubricants are not permitted or difficult to apply. This technology outperforms cutters coated with Titanium Nitride (TiN) or Titanium Aluminum Nitride (TiAlN). The AlCrN coating generates less heat and withstands temperatures at least 200°C higher than TiAlN cutters, making ICECUT™ more resistant to stress and impact under load.

- ▷ Well-known quality and durability
- ▷ Lasts longer than uncoated core cutters
- ▷ Exclusive ICECUT™ AlCrN coating
- ▷ Fully ground extra large flutes
- ▷ Packaged in reusable plastic packaging



ICECUT™ Core Cut Kits

Material

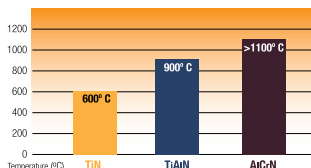
Exclusive ICECUT™ surface coating
Weldon shank

Includes

1 of each diameter:
9/16", 11/16", 13/16", 15/16", 1",
1-1/16" and pilot pin

Depth of Cut	Item Number
1" annular cutter kit	05B991
2" annular cutter kit	05B992

Maximum temperature before deformation



Diameter		Std pkg	Weldon Shank				Universal Shank	
			1" cutters	2" cutters	3" cutters	4" cutters	1" cutters	2" cutters
Inches	mm		Order No.	Order No.	Order No.	Order No.	Order No.	Order No.
Use with pilot pin			05Z001	05Z002	05Z018 05Z032	05Z031 05Z033	05Z001	05Z002
7/16"	11.1	1					05F007* *Use with pilot pin 05Z029	05F307* *Use with pilot pin 05Z030
1/2"	12.7	1	05B008	05B308			05F008	05F308
9/16"	14.3	1	05B009	05B309			05F009	05F309
5/8"	15.9	1	05B010	05B310			05F010	05F310
11/16"	17.5	1	05B011	05B311	05B611	05B811	05F011	05F311
3/4"	19.0	1	05B012	05B312			05F012	05F312
13/16"	20.6	1	05B013	05B313	05B613	05B813	05F013	05F313
7/8"	22.2	1	05B014	05B314			05F014	05F314
15/16"	23.8	1	05B015	05B315	05B615	05B815	05F015	05F315
1"	25.4	1	05B100	05B400			05F100	05F400
1-1/16"	27.0	1	05B101	05B401	05B701	05B901	05F101	05F401
1-1/8"	28.6	1	05B102	05B402			05F102	05F402
1-3/16"	30.2	1	05B103	05B403			05F103	05F403
1-1/4"	31.8	1	05B104	05B404			05F104	05F404
1-5/16"	33.3	1	05B105	05B405			05F105	05F405
1-3/8"	34.9	1	05B106	05B406			05F106	05F406
1-7/16"	36.5	1	05B107	05B407			05F107	05F407
1-1/2"	38.1	1	05B108	05B408			05F108	05F408
1-9/16"	39.7	1	05B109	05B409				
1-5/8"	41.3	1	05B110	05B410				
1-3/4"	44.5	1	05B112	05B412				
1-13/16"	46.0	1	05B113	05B413				
1-7/8"	47.6	1	05B114	05B414				
1-15/16"	49.2	1	05B115	05B415				
2"	51.0	1	05B200	05B500				
2-1/16"	52.4	1	05B201	05B501				
2-1/8"	54.0	1	05B202	05B502				
2-3/16"	55.6	1		05B503				
2-1/4"	57.2	1		05B504				
2-5/16"	58.7	1		05B505				
2-3/8"	60.3	1		05B506				

Other sizes are available upon special request. Please speak with your WALTER sales representative.

WALTER

HIGH SPEED STEEL

SST™ CORE CUT

05A/ 05E Series

1", 2" & 3" Depth of Cut

Fractional

Guaranteed to outperform all uncoated cutters

Super Speed Tip (SST) Core Cutters are made with state-of-the-art surface treatment technology that removes porosity during the fabrication process. This creates a perfectly smooth finish which allows for a better evacuation of material while cutting. It also helps to improve product life and reduce cutting time as it decreases friction with the work surface, which in turn reduces the amount of heat generated.

- ▷ Cuts faster
- ▷ Lasts longer
- ▷ Universal shank
- ▷ Exclusive SST surface treatment
- ▷ Multiple tooth design
- ▷ Packaged in reusable plastic packaging



Diameter		Std pkg	Weldon Shank			Universal Shank	
			1" cutters	2" cutters	3" cutters	1" cutters	2" cutters
Inches	mm		Order No.	Order No.	Order No.	Order No.	Order No.
Use with pilot pin		05Z001	05Z002	05Z018	05Z001	05Z002	
7/16"	11.1	1			05E007*	05E307	
					*Use with pilot pin 05Z029		
1/2"	12.7	1	05A008	05A308		05E308	
9/16"	14.3	1	05A009	05A309		05E309	
5/8"	15.9	1	05A010	05A310		05E310	
11/16"	17.5	1	05A011	05A311	05A611	05E311	
3/4"	19.0	1	05A012	05A312		05E312	
13/16"	20.6	1	05A013	05A313	05A613	05E313	
7/8"	22.2	1	05A014	05A314		05E314	
15/16"	23.8	1	05A015	05A315	05A615	05E315	
1"	25.4	1	05A100	05A400		05E400	
1-1/16"	27.0	1	05A101	05A401	05A701	05E401	
1-1/8"	28.6	1	05A102	05A402	05A702	05E402	
1-3/16"	30.2	1	05A103	05A403		05E403	
1-1/4"	31.8	1	05A104	05A404		05E404	
1-5/16"	33.3	1	05A105	05A405		05E405	
1-3/8"	34.9	1	05A106	05A406		05E406	
1-7/16"	36.5	1	05A107	05A407		05E407	
1-1/2"	38.1	1	05A108	05A408		05E408	
1-9/16"	39.7	1	05A109	05A409		05E409	
1-5/8"	41.3	1	05A110	05A410			
1-3/4"	44.5	1	05A112	05A412			
1-13/16"	46.0	1	05A113	05A413			
1 7/8"	47.6	1	05A114	05A414			
1-15/16"	49.2	1	05A115	05A415			
2"	51.0	1	05A200	05A500			
2-1/16"	52.4	1	05A201	05A501			
2-1/8"	54.0	1	05A202	05A502			
2-3/16"	55.6	1	—	05A503			
2-1/4"	57.2	1		05A504			
2-5/16"	58.7	1		05A505			
2-3/8"	60.3	1		05A506			

Other sizes are available upon special request. Please speak with your WALTER sales representative.



SST Core Cut Kits

Material

Special bronze SST surface treatment
Weldon shank

Includes

1 of each diameter:
9/16", 11/16", 13/16", 15/16", 1",
1-1/16" and pilot pin"

Depth of Cut	Order No.
1" annular cutter kit	05A991
2" annular cutter kit	05A992

SST Core Cut Kits

Material

Special bronze SST surface treatment universal shank

Includes

1 of each diameter:
9/16", 11/16", 13/16", 15/16", 1",
1-1/16" and pilot pin"

Depth of Cut	Order No.
1" annular cutter kit	05E991
2" annular cutter kit	05E992

PILOT PINS

Precisely position annular cutters over drilling spot and eject slug after drilling is completed. All WALTER pilot pins are hardened and precision ground to provide the longest life in the industry.



Cutter family	Diameter	Max. drilling depth	Order No.	Std. Pkg.	Std. Ctn.
For use with these cutters					
SST Core Cut and ICECUT™	1/2" – 2 3/8" dia.	1"	05Z001	1	10
SST Core Cut and ICECUT™	1/2" – 2 3/8" dia.	2"	05Z002	1	10
SST Core Cut and ICECUT™	13/16" – 1 1/16" dia.	3"	05Z018	1	10
SST Core Cut and ICECUT™	11/16" – 2" dia.	4"	05Z031	1	10
SST Core Cut and ICECUT™	7/16" dia.	1"	05Z029	1	10
SST Core Cut and ICECUT™	7/16" dia.	2"	05Z030	1	10
2-piece, SST and ICECUT™	11/16" – 2" dia.	3"	05Z032	1	10
2-piece, SST and ICECUT™	11/16" – 2" dia.	4"	05Z033	1	10
For use with these cutters					
CARBIDE core cutters	1/2" – 11/16" dia.	1"	05Z027	1	10
	1/2" – 11/16" dia.	1 1/2"	05Z019	1	10
	1/2" – 11/16" dia.	2"	05Z021	1	10
	3/4" – 1 1/2" dia.	1"	05Z028	1	10
	3/4" – 2 3/8" dia.	1 1/2"	05Z020	1	10
	3/4" – 2 3/8" dia.	2"	05Z022	1	10
	2 7/16" – 4" dia.	2"	05Z034	1	10
	13/16" – 1 1/16" dia.	3"	05Z018	1	10
	2 1/4" – 4" dia.	3"	05Z035	1	10
	2 1/4" – 4" dia.	4"	05Z036	1	10



Morse taper shank adaptors with coolant inducer

For use of WALTER annular cutters on drilling units with a Morse taper spindle. Coolant inducer feeds coolant through the pilot pin to increase cutter life.



Morse taper shank adaptors without coolant inducer

For use of WALTER annular cutters on drilling units with a Morse taper spindle. Ideal for all drilling machines that are equipped with an external cooling source.



Fein and Nitto adaptors

For use of WALTER annular cutters on all Fein and Nitto magnetic drills.



Extension adaptors

Leverage an arbor adaptor with your WALTER core cutters to drill deeper holes. These durable arbor adaptors allow you to drill up to 4" for a fraction of the price of a full-size core cutter.

Morse taper	Order No.	Std. Pkg.	Std. Ctn.
No. 2	05Z012	1	10
No. 3	05Z013	1	10
No. 3 (with 1 1/4" Weldon)	05Z037	1	10
No. 3 Extra Length (with 1 1/4" Weldon)	05Z038	1	10

Morse taper	Order No.	Std. Pkg.	Std. Ctn.
No. 2	05Z010	1	10
No. 3	05Z011	1	10

Drilling Unit	Order No.	Std. Pkg.	Std. Ctn.
Fein (Adaptor)	05Z014	1	10
Fein (Pilot Pin)	05Z016	1	10
Nitto (Adaptor)	05Z015	1	10
Nitto (Pilot Pin)	05Z017	1	10

Extension Length	Description	Order No.	Std. Pkg.	Std. Ctn.
1"	Adaptor	05Z023	1	10
	Pilot pin	05Z025	1	10
2"	Adaptor	05Z024	1	10
	Pilot pin	05Z026	1	10

TECHNICAL INFORMATION

Feeds and Speeds for Annular Cutters

Material to Be Drilled	HSS Cutter	SST Cutter	ICECUT™ Cutter	NITRO® Cutter	CT Cutter
Cutting Speed In Feet/Min. (SFPM)					
Freecutting-Leaded	100	100	100	150	175
Up To 180 Brinell	80 to 110	80 to 110	80 to 110	130	165
A-36	80 to 110	80 to 110	80 to 110	130	165
180 To 285 Brinell	45 to 70	45 to 70	45 to 70	80	90
285 To 375 Brinell	30 to 45	30 to 45	30 to 45	55	60
375 & Up Brinell	15 to 25	15 to 25	15 to 25	35	40
Manganese (low)	15 to 20	15 to 20	15 to 20	25	30
Stainless-Freecutting	30 to 60	30 to 60	30 to 60	70	100
Stainless 304,316,	—	—	—	—	—
320 & Tougher	20 to 40	20 to 40	20 to 40	50	60
Inconel, Hastelloy	25 to 40	25 to 40	25 to 40	55	70
Inconel - X	20 to 25	20 to 25	20 to 25	35	45
Titanium	30 to 40	30 to 40	30 to 40	50	60
A-286	25 to 35	25 to 35	25 to 35	50	60

Material To Be Drilled	HSS Cutter	SST Cutter	ICECUT™ Cutter	NITRO® Cutter	CT Cutter
Cutting Speed in Feet/Min. (SFPM)					
Aluminum	150	150	150	250	450-600
Brass	Ordinary	150	150	250	250-550
	Leaded	200	200	300	300-600
Bronze	Ordinary	100	100	200	200-500
	Hi-tensile	70	70	100	100-200
Cast Iron	Soft	100	100	150	175
	Medium	80	80	90	100
	Hard	50	50	70	80
	Chilled	25	25	35	40
Copper	100	100	100	200	250
Magnesium	Up to 300	Up to 300	Up to 300	400	400-800
Malleable Iron	70	70	70	80	100-130
Monel	40	40	40	50	50

Cutter Dia.	Feed Ins./Rev.
Operating Feed*	
7/16" to 9/16"	.002 to .006
5/8" to 3/4"	.003 to .003
1-3/16" - 1-1/16"	.004 to .008
1-1/8" - 1-7/16"	.006 to .010
1-1/2" to 2"	.008 to .012
2" to 2-1/2"	.012 to .025

*Always commence operations at the lower end of RPM.

		DIAMETER																		
		7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"	1-1/8"	1-1/4"	1-3/8"	1-1/2"	1-5/8"	1-3/4"	2"	2-1/4"	2-1/2"
CUTTING SPEEDS (SFPM)	10	87	76	68	61	56	51	47	44	41	38	34	31	28	25	24	22	19	17	15
	20	175	153	136	122	111	102	94	87	82	76	68	61	56	51	47	44	38	34	31
	30	262	229	204	183	167	153	141	131	122	115	102	92	83	76	71	65	57	51	46
	40	349	306	272	245	222	204	188	175	163	153	136	122	111	102	94	87	76	68	61
	50	437	382	339	306	278	255	235	218	204	191	170	153	140	127	118	109	95	85	76
	60	524	458	407	367	333	306	282	353	245	229	204	183	167	153	141	131	115	102	92
	70	611	535	475	428	389	357	329	306	285	267	238	214	194	178	165	153	134	119	107
	80	700	611	543	489	444	408	376	350	326	306	272	244	222	204	188	175	153	136	122
	90	786	688	611	550	500	458	426	393	367	344	306	275	250	229	212	196	172	153	138
	100	873	764	679	611	556	509	470	436	408	382	340	306	278	255	235	218	191	170	153
	120	1048	917	815	733	667	611	564	524	489	458	407	367	333	306	282	262	229	204	183
	140	1222	1070	950	856	778	713	658	611	571	535	475	428	390	356	329	306	267	238	214
	150	1310	1146	1018	917	833	764	705	655	611	573	509	458	417	382	353	327	286	255	229
	160	1397	1222	1086	978	889	815	752	698	652	611	543	490	444	407	376	350	306	272	244
	180	1572	1375	1222	1100	1000	917	846	786	734	688	611	550	500	458	423	393	344	306	275
	200	1747	1528	1358	1222	1111	1020	940	874	815	764	680	611	556	510	470	437	382	340	306
	220	1920	1681	1494	1345	1222	1121	1034	960	897	840	747	672	611	560	517	480	420	374	336
240	2096	1833	1630	1467	1333	1222	1128	1048	978	917	815	733	667	611	564	524	458	407	367	
250	2183	1910	1697	1528	1389	1274	1175	1091	1020	955	850	764	694	637	588	546	477	424	382	
260	2270	1986	1765	1590	1444	1325	1221	1135	1060	993	883	795	722	662	611	568	497	441	397	
280	2445	2140	1900	1712	1556	1426	1316	1222	1140	1070	950	856	778	713	658	611	535	475	428	
300	2620	2292	2037	1834	1667	1528	1410	1310	1222	1146	1020	917	833	7	705	655	573	510	458	

Speed and Feed Formulas

SPEED OF CUTTER IN SURFACE FEET PER MINUTE (SFM)
SFM = D x .26 x RPM

REVOLUTIONS PER MINUTE (RPM)
RPM = SFM x 3.82 divided b Dia.

FEED IN INCHES PER MINUTE (IPM) OR (F)
F = f x T x RPM

Recommended Cutting Speed for CARBIDE CORE CUT Annular Cutter (RPM)

Diameter		Mild Steel	Steel	Steel	Steel	Steel	Stainless Steel	Aluminum
mm	Inch	500N/mm ²	750N/mm ²	900N/mm ²	1200N/mm ²	1400N/mm ²		
11.1	7/16"	1147	1061	1003	860	717	573	2580
12.7	1/2"	1003	928	878	752	627	502	2257
14.3	9/16"	892	825	781	669	558	446	2007
15.9	5/8"	802	742	702	602	501	401	1805
17.5	11/16"	730	675	638	547	456	365	1642
19.1	3/4"	669	619	585	502	418	334	1505
20.6	13/16"	617	571	540	463	386	309	1389
22.2	7/8"	573	530	502	430	358	287	1290
23.8	15/16"	535	495	468	401	334	268	1204
25.4	1"	502	464	439	376	313	251	1128
27.0	1-1/16"	472	437	413	354	295	236	1062
28.6	1-1/8"	446	412	390	334	279	223	1003
30.2	1-3/16"	422	391	370	317	264	211	950
31.8	1-1/4"	401	371	351	301	251	201	903
33.3	1-5/16"	382	353	334	287	239	191	860
34.9	1-3/8"	365	337	319	274	228	182	821
36.5	1-7/16"	349	323	305	262	218	174	785
38.1	1-1/2"	334	309	293	251	209	167	752
39.7	1-9/16"	321	297	281	241	201	161	722
41.3	1-5/8"	309	285	270	231	193	154	694
42.9	1-11/16"	297	275	260	223	186	149	669
44.5	1-3/4"	287	265	251	215	179	143	645
46.0	1-13/16"	277	256	242	208	173	138	623
47.6	1-7/8"	267	247	234	201	167	134	602
49.2	1-15/16"	259	239	227	194	162	129	582
50.8	2"	251	232	219	188	157	125	564
52.4	2-1/16"	243	225	213	182	152	122	547
54.0	2-1/8"	236	218	207	177	148	118	531
55.6	2-3/16"	229	212	201	172	143	115	516
57.2	2-1/4"	223	206	195	167	139	111	502
58.7	2-5/16"	217	201	190	163	136	108	488
60.4	2-3/8"	211	195	185	158	132	106	475
61.9	2-7/16"	206	190	180	154	129	103	463
63.5	2-1/2"	201	186	176	150	125	100	451
65.1	2-9/16"	196	181	171	147	122	98	440
66.7	2-5/8"	191	177	167	143	119	96	430
68.3	2-11/16"	187	173	163	140	117	93	420
69.9	2-3/4"	182	169	160	137	114	91	410
71.4	2-13/16"	178	165	156	134	111	89	401
73.0	2-7/8"	174	161	153	131	109	87	393
74.6	2-15/16"	171	158	149	128	107	85	384
76.2	3"	167	155	146	125	104	84	376
77.8	3-1/16"	164	151	143	123	102	82	368
79.4	3-1/8"	160	148	140	120	100	80	361
81.0	3-3/16"	157	146	138	118	98	79	354
82.6	3-1/4"	154	143	135	116	96	77	347
84.1	3-5/16"	151	140	132	114	95	76	341
85.7	3-3/8"	149	137	130	111	93	74	334
87.3	3-7/16"	146	135	128	109	91	73	328
88.9	3-1/2"	143	133	125	107	90	72	322
90.5	3-9/16"	141	130	123	106	88	70	317
92.1	3-5/8"	138	128	121	104	86	69	311
93.7	3-11/16"	136	126	119	102	85	68	306
95.3	3-3/4"	134	124	117	100	84	67	301
96.8	3-13/16"	132	122	115	99	82	66	296
98.4	3-7/8"	129	120	113	97	81	65	291
100.0	3-15/16"	127	118	111	96	80	64	287
101.6	4"	125	116	110	94	78	63	282

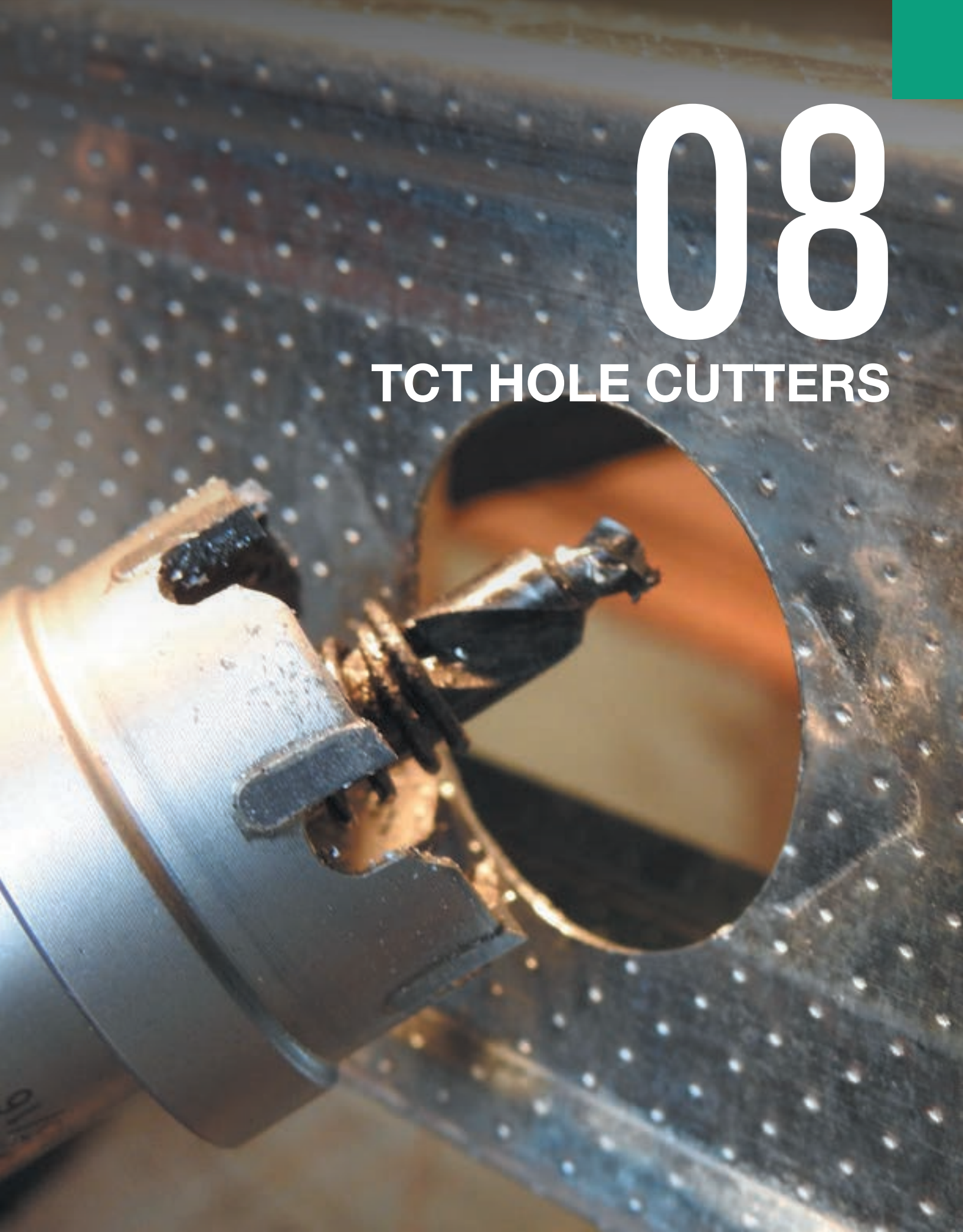
TECHNICAL INFORMATION

Recommended Cutting Speed for SST™ CORE CUT and ICECUT™ Annular Cutter (RPM)

Diameter		Mild Steel	Steel	Steel	Steel	Steel	Stainless Steel	Aluminum
mm	Inch	500N/mm ²	750N/mm ²	900N/mm ²	1200N/mm ²	1400N/mm ²		
11.1	7/16"	717	573	373	287	201	344	1433
12.7	1/2"	627	502	326	251	176	301	1254
14.3	9/16"	558	446	290	223	156	268	1115
15.9	5/8"	501	401	261	201	140	241	1003
17.5	11/16"	456	365	237	182	128	219	912
19.1	3/4"	418	334	217	167	117	201	836
20.6	13/16"	386	309	201	154	108	185	771
22.2	7/8"	358	287	186	143	100	172	717
23.8	15/16"	334	268	174	134	94	161	669
25.4	1"	313	251	163	125	88	150	627
27.0	1-1/16"	295	236	153	118	83	142	590
28.6	1-1/8"	279	223	145	111	78	134	557
30.2	1-3/16"	264	211	137	106	74	127	528
31.8	1-1/4"	251	201	130	100	70	120	502
33.3	1-5/16"	239	191	124	96	67	115	478
34.9	1-3/8"	228	182	119	91	64	109	456
36.5	1-7/16"	218	174	113	87	61	105	436
38.1	1-1/2"	209	167	109	84	59	100	418
39.7	1-9/16"	201	161	104	80	56	96	401
41.3	1-5/8"	193	154	100	77	54	93	386
42.9	1-11/16"	186	149	97	74	52	89	372
44.5	1-3/4"	179	143	93	72	50	86	358
46.0	1-13/16"	173	138	90	69	48	83	346
47.6	1-7/8"	167	134	87	67	47	80	334
49.2	1-15/16"	162	129	84	65	45	78	324
50.8	2"	157	125	81	63	44	75	313
52.4	2-1/16"	152	122	79	61	43	73	304
54.0	2-1/8"	148	118	77	59	41	71	295
55.6	2-3/16"	143	115	75	57	40	69	287
57.2	2-1/4"	139	111	72	56	39	67	279
58.7	2-5/16"	136	108	70	54	38	65	271
60.4	2-3/8"	132	106	69	53	37	63	264

Recommended Feed for Annular Cutter

Material	Feed (mm/r)	Coolant (ml/min)
Steel 500N/mm ²	0.08-0.13	60-80
Steel 750N/mm ²	0.08-0.13	60-80
Steel 900N/mm ²	0.05-0.1	80-100
Steel 1200N/mm ²	0.05-0.1	80-100
Steel 1400N/mm ²	0.05-0.1	80-100
Stainless Steel	0.05-0.1	150-200
Aluminum	0.1-0.15	80-100

A close-up photograph of a TCT (Tungsten Carbide Tipped) hole cutter in the process of cutting a hole in a metal plate. The cutter is a cylindrical tool with a sharp, polished cutting edge. It is positioned at an angle, and a large, circular chip of metal is being removed, revealing a smooth, polished interior surface of the hole. The metal plate has a pattern of small, evenly spaced holes. The lighting is bright, highlighting the metallic surfaces and the texture of the metal. A small green square is visible in the top right corner of the image.

08

TCT HOLE CUTTERS

TCT HOLE CUTTERS

Ideal for drilling large diameter holes in both ferrous and non-ferrous materials

DRILLCO's line of carbide-tipped hole cutters are ideal for drilling large diameter holes in both ferrous and non-ferrous materials such as sheet metal, steel, aluminum, copper, plastics, brass, cast iron, and the difficult-to-machine stainless steel.

9500CT = thinner material, up to 3/16" depth of cut / 9600CT = thicker material, up to 1" depth of cut

- ▷ **Ultra-hard teeth increase performance and tool life**
- ▷ **Cost effective alternative to bi-metal hole saws**
- ▷ **Excellent portability**
- ▷ **Premium grade tungsten carbide**
- ▷ **Ideal for plumbers, electricians, mechanics, general contractors, HVAC technicians, DIY'ERS**
- ▷ **3-flat shank. Diameters 9/16" to 2-5/8" have a 3/8" shank; 2-11/16" to 4-1/2" have a 1/2" shank**



9500CT SERIES

CARBIDE TIPPED

3/16" Depth of Cut Fractional



9600CT SERIES

CARBIDE TIPPED

1" Depth of Cut Fractional



Size	9500CT Order No.
9/16"	95CT136
5/8"	95CT140
11/16"	95CT144
3/4"	95CT148
13/16"	95CT152
7/8"	95CT156
15/16"	95CT160
1"	95CT164
1-1/16"	95CT204
1-1/8"	95CT208
1-3/16"	95CT212
1-1/4"	95CT216
1-5/16"	95CT220
1-3/8"	95CT224
1-7/16"	95CT228
1-1/2"	95CT232
1-9/16"	95CT236
1-5/8"	95CT240
1-11/16"	95CT244
1-3/4"	95CT248
1-13/16"	95CT252
1-7/8"	95CT256
1-15/16"	95CT260

Size	9500CT Order No.
2"	95CT264
2-1/16"	95CT304
2-1/8"	95CT308
2-3/16"	95CT312
2-1/4"	95CT316
2-5/16"	95CT320
2-3/8"	95CT324
2-7/16"	95CT328
2-1/2"	95CT332
2-9/16"	95CT336
2-5/8"	95CT340
2-11/16"	95CT344
2-3/4"	95CT348
2-13/16"	95CT352
2-7/8"	95CT356
2-15/16"	95CT360
3"	95CT364
3-1/4"	95CT416
3-1/2"	95CT432
3-5/8"	95CT440
3-3/4"	95CT448
4"	95CT464

Size	9600CT Order No.
9/16"	96CT136
5/8"	96CT140
11/16"	96CT144
3/4"	96CT148
13/16"	96CT152
7/8"	96CT156
15/16"	96CT160
1"	96CT164
1-1/16"	96CT204
1-1/8"	96CT208
1-3/16"	96CT212
1-1/4"	96CT216
1-5/16"	96CT220
1-3/8"	96CT224
1-7/16"	96CT228
1-1/2"	96CT232
1-9/16"	96CT236
1-5/8"	96CT240
1-11/16"	96CT244

Size	9600CT Order No.
1-3/4"	96CT248
1-13/16"	96CT252
1-7/8"	96CT256
1-15/16"	96CT260
2"	96CT264
2-1/8"	96CT308
2-1/4"	96CT316
2-3/8"	96CT324
2-1/2"	96CT332
2-5/8"	96CT340
2-3/4"	96CT348
2-7/8"	96CT356
3"	96CT364
3-1/4"	96CT416
3-1/2"	96CT432
3-5/8"	96CT440
3-3/4"	96CT448
4"	96CT464
4-1/2"	96CT532

All sizes are individually packaged. Sizes up to 2-5/8" have a tab for hanging on a wall display.

All sizes are individually packaged. Sizes up to 3" have a tab for hanging on a wall display.

Set	
Description	Order No.
6pc Set: 7/8", 1", 1-1/8", 1-3/8", 1-3/4", 2" + Two Pilot Drills	95CT6S

Spare Parts	
Description	Order No.
HSS Pilot Drill 4.35mm	95CT001
M6 Screw	95CT002
Spring M8.5 x 20mm	95CT003
Allen Wrench	95CT004



Set	
Description	Order No.
6pc Set: 9/16", 5/8", 11/16", 3/4", 7/8", 1-1/16" + Two Pilot Drills	96CT6S

Spare Parts	
Description	Order No.
HSS Pilot Drill 6mm	96CT001
M6 Screw	96CT002
Spring M8.5 x 35mm	96CT003
Allen Wrench	96CT004

Speed Recommendations

Cutter Size	Aluminum	Copper	Steel	Stainless Steel	Alloy Steel	Non-Metallic Material
Revolution Per Minute (RPM)						
< 13/16"	1500-1800	800-1000	700-1000	700-800	700-900	1500-1800
13/16" - 1-3/16"	1500-1800	800-1000	700-800	400-600	600-700	1500-1800
1-7/32" - 1-9/16"	1500-1800	800-1000	500-600	350-450	450-500	1500-1800
1-5/8" - 2"	800-1000	600-800	400-500	250-400	300-400	1000-1500
2-1/16" - 2-3/8"	600-850	400-600	300-400	200-300	200-300	800-1000
2-7/16" - 3"	400-600	200-400	150-200	150-200	150-200	500-800
> 3"	200-400	100-200	100-150	100-150	100-150	5000-80

Drilling Recommendations

- ▷ Inspect the hole cutter to ensure it is properly assembled and complete before use.
- ▷ To operate, use cutters on an electric hand drill, impact drill (rotary type), drill press or similar. Consult your power drill manufacturer's manual to see RPM ranges on low and high settings.
- ▷ Let the tool do the work! When beginning the drilling process, use a lower feed rate. Do not apply too much pressure or force onto the cutter or you may damage the carbide teeth.
- ▷ During operation, ensure the revolving speed is not too slow. This will help to prevent locking which can damage the tool.
- ▷ Shanks have 3-flats to reduce slippage in the chuck. Shank sizes of DRILLCO's TCT Hole Cutters are as follows: 9/16" to 2-5/8" have a 3/8" shank; 2-11/16" to 4" have a 1/2" shank.
- ▷ Can be used in a wide range of materials including aluminum, copper, steel, alloy steel, stainless steel, brass, and non-metallic materials such as plastics.
- ▷ To ensure optimal performance and extend tool life, a cutting fluid should always be used. DRILLCO offers a wide range of sizes and styles of environmentally safe heavy-duty cutting fluid.



09

MAGNETIC DRILLS



MAGNETIC DRILLS AT A GLANCE

ICECUT FAMILY

Product name	Series	Page Number
ICECUT MINI™	39D	680
ICECUT 100™		681
ICECUT 200		682
ICECUT 200PM™		682
ICECUT 250 AUTO™		683
ICECUT 250™		684
ICECUT 250P™		684
ICECUT 300™		686
ICECUT 400™		686



Magnetic Drills

WALTER Surface Technologies magnetic drills are the most reliable and versatile workhorses on the market. Their compact design allows for easy portability, and the added magnetized safety switch keeps you operating safely. With the addition of the central lubricating system that delivers cutting lubricant directly to the cutter and a complete offering of High Speed Steel, Cobalt, and Carbide Tipped Annular Cutters, you have the most complete solution for your hole making needs.



Annular Cutters



Cutting Fluids



Video

Watch the video to learn more about the ICECUT™!

Mag Drill Selection Chart

Model	Order No.	No Load RPM	Dynamax Variable Speed Control	Twist Drill Capacity	Annular Cutter Capacity (Diameter)	Annular Cutter Capacity (Depth)	Accudrill Integrated Ampmeter	Tapping Functionality	Special Features
ICECUT MINI™	39D050	200-500 RPM	Yes	N/A	2"	2"	Yes	No	Largest drilling capacity for a machine of its size
ICECUT 100™	39D100	600 RPM	No	1/2" (stub length only)	1-3/8"	1-1/2"	Yes	No	Compact and mobile
ICECUT 200™	39D200	Speed #1: 300 RPM Speed #2: 600 RPM	No	1/2"	2"	2"	Yes	No	2 speeds for versatile cutting
ICECUT 200PM™	39D201	Speed #1: 300 RPM Speed #2: 600 RPM	No	1/2"	2"	2"	Yes	No	Permanent magnet for additional safety
ICECUT 250™	39D250	Speed #1: 100-265 RPM Speed #2: 200-500 RPM	Yes	1/2"	2-3/8"	3"	Yes	Yes (up to 3/4")	Tapping capabilities & variable speed selection
ICECUT 250P™	39D251	Speed #1: 100-265 RPM Speed #2: 200-500 RPM	Yes	1/2"	2-3/8"	3"	Yes	Yes (up to 3/4")	Permanent magnet perfect for curved surfaces
ICECUT 250 AUTO™	39D252	Speed #1: 100-265 RPM Speed #2: 200-500 RPM	Yes	1/2"	2-3/8"	3"	Yes	Yes (up to 3/4")	Manual and auto-feed modes
ICECUT 300™	39D300	Speed #1: 70-180 RPM Speed #2: 200-500 RPM	Yes	1-1/4"	3"	3"	Yes	Yes (up to 1-1/8")	120° swivel, 2" sliding magnetic base
ICECUT 400™	39D400	Speed #1: 45-129 RPM Speed #2: 70-208 RPM Speed #3: 150-434 RPM Speed #4: 240-700 RPM	Yes	1-1/4"	4"	4"	Yes	Yes (up to 1-1/8")	120° swivel, 2" sliding magnetic base 4-speed gearbox

FEATURES

All ICECUT™ Magnetic Drilling Units



1 Centered Control Panel

Centered positioning of the electronics for easy control from any position. Whether it's a personal preference, or if the operation requires drilling from a specific side, the central control panel allows for efficient and easy operation.



2 Mandrel Support

Absorbs vibration for added stability and easy centering. The ball bearing support ensures the motor and chuck are perfectly aligned. It also provides smooth and precise cutting operations, and reduces chipping or breakage of the cutter.



3 Full-Body Integrated Wiring

For convenience and improved durability. No electrical wires will get in the way while drilling or moving your unit. Moreover, this prevents common failures due to mishandling (like carrying the unit by the wire, or the wire catching on an object).



4 Steel Sliding Guard

Easily accessible and extra safe. Slide guard upwards, position unit, slide guard down and start drilling safely while containing chips and lubricant to prevent them from spilling out onto the rest of the work surface.



5 Direct Access

Direct access to carbon brushes makes maintenance simple. The powerful motor will always operate at maximum efficiency, and when it is time to change out the carbon brushes, their easily accessible location makes maintenance very convenient.



6 Ergonomic Handle

The ergonomic handle with a smooth grip – sturdy and lightweight – makes moving the unit easy. Its design further reduces overall weight, and the smooth grip ensures easy portability.



7 Quick-Release Reversible Handle

Quick-release reversible handle – allows for positioning in confined or restricted spaces. The handle can be removed and reattached on whichever side the operator prefers, making this a very user-friendly system.



8 Material & Thickness Detector

Unit will not start when the magnetic holding power is insufficient to secure the unit to the workpiece and operate safely. Prevents accidental starts: unit will not start on any non-ferrous material like wood, plastic, or when held in the air.



9 Mechanical Clutch

The ICECUT 200™ has a safety slip clutch, built into the gear drive, that will neutralize momentum and eliminate dangerous backlash for added safety. Prevents cutter breakage.



Lightweight

At 10 kg (22 lbs.) and 12.2 kg (27 lbs.) respectively, the ICECUT 100™ and ICECUT 200™ are the lightweight champions in their category. With a slim body, simplified carrying handle and powerful magnet, these units were designed with portability and ergonomics in mind.



Swivel Base

As a feature for the ICECUT 300™ and ICECUT 400™, it allows to swivel the magnetic drill by 60° on each side, and slide by 3" for a perfect and easy alignment.



Equipped with SAFETY strap

For added security when hung upside down or for frame drilling operations.

ICECUT MINI™

Low-profile magnetic drilling unit for confined spaces

Measuring in at only 7-inches tall, the ICECUT MINI™ is the ultimate compact, low-profile magnetic drilling unit for making holes in tight spaces from H-beams to truck frames, and other applications where space may be limited. This unit has a powerful electromagnet for safety while drilling and has a 2" x 2" drilling capacity, making it the most versatile unit in its class.

- ▷ *Lightweight unit*
- ▷ *Electromagnet for safety and functionality*
- ▷ *Low-profile and compact body allows for making holes in extremely tight spaces (7" tall)*
- ▷ *WALTER's Dynamax™ speed control ensures RPM speeds remain constant even under load*
- ▷ *Accudrill™ system protects unit from overload and the risk of cutter breakage*
- ▷ *2" x 2" drilling capacity—Largest on the market*



"Accudrill" system protects against overload and reduces the risk of cutter breakage. When you want to achieve the most productive drilling operation, you need to make sure you use the most power. This prevents the motor from overloading to reduce damage to the tool itself while also minimizing the risk of eventual damage to the cutter from overheating or movement.



SCAN TO
WATCH VIDEO



Video available at The WALTER Network
www.youtube.com/user/TheWalterNetwork



2" x 2" drilling capacity!
The largest on the market!

ICECUT MINI™ DIALSPEED™ RPM Setting	
SPEED DIAL SETTING	RPM
1	250
2	300
3	350
4	400
5	450
6	500

Order No.	39D050
Watts	1200 W
Rated Amperage	10.0 A
Speeds	1 speed variable
DYNAMAX speed control	YES
No load RPM	250-500 RPM
Rated current	110-120V
Total stroke	61 mm (2-3/8")
Core cutter capacity (diameter)	2" (50 mm)
Core cutter capacity (depth)	2" (50 mm)
Twist drill capacity (diameter)	N/A
Weight	23.14 lbs (10.5 kg)
Swivel and sliding magnet	NO
Magnetic holding force (at 1")	10,000N
Max drill point pressure	2248 lbs (1020 kg)
Reversible handle	Tool-free ratchet handle
Powerguard motor overload protection	YES
Short-Circuit protection	YES
ACCUDRILL LED Torque display	Integrated Amp meter (both sides)
Magnetic field sensor	NO
Guard	YES, pivoting
Wiring	Internal
Lubrication	Not integrated
Control board	Rear, S/S switches with LED
Arbor	3/4" Weldon arbor fixed
Maintenance	Easy access to carbon brushes

ICECUT 100™

Compact and portable

When you pair the best drilling machines with highly engineered annular cutters and superior cooling solutions, you know you have the best overall system for consistently drilling holes quickly and precisely with minimal interruption for changing out worn tooling.

- ▷ Compact
- ▷ Extra lightweight
- ▷ Perfect when mobility is key

Drilling Made Easy and Safe



Order No.	39D100
Watts	850 W
Speed	1 speed
No load RPM	600 RPM
Rated current	8 A
Core cutter capacity (diameter)	1 3/8" (35 mm)
Core cutter capacity (depth)	1 1/2" (38 mm)
Twist drill capacity (diameter)	1/2" (stub length only)
Tapping function	NO
Weight	22 lbs (10 kg)
Swivel and sliding magnet	NO
Max drill point pressure	1875 lbs (850 kg)
Reversible handle	Tool free press-button
Powerguard electronic overload protection	15 A
Motor overload protection	NO
Short-Circuit protection	Integrated fuse
Accudrill LED torque display	Integrated Amp meter
Magnetic field sensor	Material and thickness detector
Tool free guard	Metal, sliding up
Wiring	Internal
Lubrication	On motor head
Control board	Centered, S/S switches with LED
Handle	Open on main housing
Arbor	Weld on shank with support
Maintenance	Easy access to carbon brushes
Total Stroke	2.6"



"Accudrill" system protects against overload and reduces the risk of cutter breakage. When you want to achieve the most productive drilling operation, you need to make sure you use the most power. This prevents the motor from overloading to reduce damage to the tool itself while also minimizing the risk of eventual damage to the cutter from overheating or movement.

SCAN TO
WATCH VIDEO



Video available at The WALTER Network
www.youtube.com/user/TheWalterNetwork

ICECUT 200™

The versatile unit

Powerful – 2-speed – yet only 27 lbs – ideal for a wide range of production or job site operations.



ICECUT 200PM™

Permanent Magnet Magnetic Drill

Operator safety is the number 1 priority with the new ICECUT 200PM™. By swapping the electromagnetic base for permanent magnet, the machine does not need electricity to be securely fixed in place. This is the perfect unit to use on job sites or any applications that may involve inconsistent power sources.



Permanent Magnet for additional safety. With its double action lever, accidental magnet deactivation can be avoided. The magnet will also remain activated in the event of sudden power loss.

Order No.	39D200	39D201
Watts	1200 W	1200 W
Speed	2 speeds	2 speeds
No load RPM	Speed #1: 300 RPM / Speed #2: 600 RPM	Speed #1: 300 RPM / Speed #2: 600 RPM
Rated Amperage	10 A	10 A
Core cutter capacity (diameter)	2" (50 mm)	2" (50 mm)
Core cutter capacity (depth)	2" (50 mm)	2" (50 mm)
Twist drill capacity (diameter)	1/2"	1/2"
Tapping function	NO	NO
Weight	27 lbs (12.2 kg)	28.6 lbs (13 kg)
Swivel and sliding magnet	NO	NO
Max drill point pressure	1875 lbs (850 kg)	1875 lbs (850 kg)
Reversible handle	Tool-Free press button	Tool-Free press button
Powerguard electronic overload protection	15 A	15 A
Motor overload protection	Mechanical clutch	Mechanical clutch
Short-Circuit protection	Integrated fuse	Integrated fuse
Accudrill LED torque display	Integrated Amp meter	Integrated Amp meter
Magnetic field sensor	Material and thickness detector	Material thickness detector
Tool free guard	Metal, sliding up	Metal, sliding
Wiring	Internal	Internal
Lubrication	On motor head	Internal thru feed, on motor head
Control board	Centered, S/S switches with LED	Centered, S/S switches with LED
Handle	Open with anti-slip support	Open with anti-slip support
Arbor	Weldon shank with support	Weldon shank with support
Maintenance	Easy access to carbon brushes	Easy access to carbon brushes
Total Stroke	2.9"	2.9"

ICECUT 250 AUTO™

Continuous Feed Magnetic Drill

Building off the most versatile drilling platform WALTER has to offer, ICECUT 250 AUTO™ comes with all the great features of the 250 model as well as a new continuous feed setting. Just push in the machine's quill and watch the drill do all the work. Automatic feed, automatic return and automatic safety shut off after the hole is completed. This is the unit of choice for working in production style environments. A single operator can operate several machines at once to improve productivity.

- ▷ **Automatic feed and auto-retract**
- ▷ **Twist drilling, core cutting, & tapping functionality**
- ▷ **ACCUDRILL system protects unit from overload and the risk of cutter breakage**
- ▷ **WALTER's DYNAMAX speed control ensures RPM remains constant even under load**



ICECUT 250 AUTO™ DIALSPEED™ RPM Setting		
SPEED DIAL SETTING	SPEED 1	SPEED 2
1	100	200
2	130	260
3	160	320
4	200	380
5	230	440
6	265	500

Thanks to the drills optimized auto-feed system, cutter life can be extended. The continuous feed also allows for improved productivity and the operation of multiple units at once.



Order No.	39D252
Watts	1500 W
Rated Amperage	15.0 A
Speeds	2 speeds variable
No load RPM	Speed #1: 100-265 RPM Speed #2: 200-500 RPM
Rated current	110-120V
Core cutter capacity (diameter)	2-3/8" (in manual), 2" (in auto)
Core cutter capacity (depth)	3" (in manual), 2" (in auto)
Twist drill capacity (diameter)	1"
Tapping function	YES (up to 3/4" - 16")
Weight	40.78 lbs (18.5 kg)
Swivel and sliding magnet	NO
Max drill point pressure	3035 lbs (1377 kg)
Reversible handle	NO
Powerguard motor overload protection	20 A
Powerguard electronic overload protection	27 A
Short-Circuit protection	Integrated fuse
Accudrill LED torque display	Integrated Amp meter
Magnetic field sensor	YES
Tool free guard	Metal, sliding
Wiring	Internal
Lubrication	Internal thru feed, on motor head
Control board	Centered, S/S switches with LED
Handle	1 on main housing, 1 pistol grip
Arbor	Morse Taper 2 shank; 3/4" Weldon
Maintenance	Easy access to carbon brushes
Total stroke	6.65"

Tech tip!

Always ensure the coolant tank is filled and a constant stream of ICECUT™ (53C055) is flowing when drilling automatically.

ICECUT 250™ AND ICECUT 250P™

Features

Get all the power and versatility from the ICECUT™ magnetic drilling systems, now available in a more compact size for easy portability. Use the ICECUT 250™ for ultimate versatility when drilling or tapping larger holes. The ICECUT 250P™ is the unit of choice for working on curved surfaces or pipes thanks to a convenient permanent magnet.



**Weights only
35 pounds!**



"Accudrill" system protects against overload and reduces the risk of cutter breakage. When you want to achieve the most productive drilling operation, you need to make sure you use the most power. This prevents the motor from overloading to reduce damage to the tool itself while also minimizing the risk of eventual damage to the cutter from overheating or movement.



SCAN TO
WATCH VIDEO



Video available at The WALTER Network
www.youtube.com/user/TheWalterNetwork

ICECUT 250™

Lightweight, powerful with variable speed

The powerful, intuitive and lightweight ICECUT 250™ is a truly versatile machine, especially for its size.



ICECUT 250-250P™ DIALSPEED™ RPM Setting		
SPEED DIAL SETTING	SPEED 1	SPEED 2
1	100	200
2	130	260
3	160	320
4	200	380
5	230	440
6	265	500

Tech tip!

Use carbide core cutter
05D518 with included morse
Tape Shank no. 2 to drill
to 2-1/2" large holes.
3/4" Weldon shank
Diameter: 2-1/2"
Length: 1-1/2"

ICECUT 250P™

Drill faster and easier on pipe-related jobs

The double magnet ICECUT 250P™ sets up fast for pipe applications and is curved-surface-ready.



Order No.	39D250	39D251
Watts	1550 W	1500 W
Speed	2 speeds + Reversible	2 speeds + Reversible
Dynamax variable speed control	YES	YES
No load RPM	100-500 RPM	100-500 RPM
Rated current	15 A	15 A
Core cutter capacity (diameter)	2-3/8"	2-3/8"
Core cutter capacity (depth)	3" (w/ 2-piece pilot pin)	3" (w/ 2-piece pilot pin)
Twist drill capacity (diameter)	1/2"	1/2"
Tapping function	YES, up to 3/4" - 16	YES, up to 3/4" - 16
Weight	34.1 lbs (15.4 kg)	39.6 lbs (18 kg)
Swivel and sliding magnet	NO	NO
Max drill point pressure	3035 lbs (1376 kg)	3035 lbs (1376 kg)
Reversible handle	Tool-Free press button	Tool-Free press button
Powerguard motor overload protection	20 A	20 A
Powerguard electronic overload protection	27 A	27 A
Short-Circuit protection	Integrated fuse	Integrated fuse
Accudrill LED torque display	Integrated Amp meter	Integrated Amp meter
Magnetic field sensor	Material & thickness detector	NO (Permanent Magnet)
Tool free guard	Metal, sliding	Metal, sliding
Wiring	Internal	Internal
Lubrication	Internal thru feed, on motor head	Internal thru feed, on motor head
Control board	Centered, S/S switches with LEDs	Centered, S/S switches with LED
Handle	1 reversible on main housing, 1 pistol grip	1 reversible on main housing, 1 pistol grip
Arbor	Morse Taper 2 shank; 3/4" Weldon	Morse Taper 2 shank; 3/4" Weldon
Maintenance	Easy access to carbon brushes	Easy access to carbon brushes
Total Stroke	5.5"	5.5"

ICECUT 300™ and ICECUT 400™

Features

Now you can get all the benefits of using an ICECUT™ magnetic drilling machine while using annular cutters up to 4" wide and a depth of up to 4". To make the drilling operation even safer and easier, each machine features a swivel base for easy positioning of the tool along with our top-of-the-line safety features such as DIALSPEED™, POWERGUARD™, and DYNAMAX™.

Drill more, bigger, faster and safer!



ICECUT 300™

For deeper, wider holes

With a swivel base and electronic speed control, allows you to drill safer and faster.



ICECUT 400™

The most powerful and most versatile unit

With 4 mechanically controlled speeds and a wider RPM range, this powerful tool can tackle any drilling operation with ease.



Order No.	39D300	39D400
Watts	1800 W	2000 W
Speed	2 speeds + reversible	4 speeds + reversible
Dynamax variable speed control	YES	YES
No load RPM	Speed #1: 70-180 RPM / Speed #2: 200-500 RPM	Speed #1: 45-129 RPM / Speed #2: 70-208 RPM Speed #3: 150-434 RPM / Speed #4: 240-700 RPM
Rated current	18 A	20 A
Core cutter capacity (diameter)	3" (75 mm)	4" (100 mm)
Core cutter capacity (depth)	3" (75 mm)	4" (100 mm)
Twist drill capacity (diameter)	1-1/4" (31.75 mm)	1-1/4" (31.75 mm)
Tapping function	YES (1-1/8")	YES (1-1/8")
Weight	52 lbs (23.5 kg)	54.5 lbs (24.8 kg)
Swivel and sliding magnet	Swivel 120°, sliding 2"	Swivel 120°, sliding 2"
Max drill point pressure	4160 lbs (1890 kg)	4950 lbs (2240 kg)
Reversible handle	Tool free press-button	Tool free press-button
Powerguard motor overload protection	22 A	24 A
Powerguard electronic overload protection	25 A	27 A
Short-Circuit protection	Integrated fuse	Integrated fuse
Accudrill LED torque display	Integrated Amp meter	Integrated Amp meter
Magnetic field sensor	Material and thickness detector	Material and thickness detector
Tool free guard	Metal, sliding up	Metal, sliding up
Wiring	Internal	Internal
Lubrication	On motor head	On motor head
Control board	Centered, s/s switches with LEDS	Centered, S/S switches with LED
Handle	1 on main housing, 1 rear handle	1 on main housing, 1 rear handle
Arbor	Weldon taper morse #3	Weldon taper morse #3
Maintenance	Easy access to carbon brushes	Easy access to carbon brushes
Total Stroke	9.4"	10.2"

MAGNETIC DRILLS FAMILY ICECUT™ SYSTEMS

ICECUT MINI™ - ICECUT 100™ - ICECUT 200™ - ICECUT 200PM™ - ICECUT 250™
ICECUT 250 AUTO™ - ICECUT 250P™ - ICECUT 300™ - ICECUT 400™



Includes a 1/2" chuck adaptor for drilling smaller holes



For larger holes, 1/2" and above, use the magnetic base with the standard Weldon shank



Comes in a foam padded case for superior protection

ICECUT 300™ (39D300) DIALSPEED™ RPM Setting				
	RPM			
	SPEED 1 ↓	SPEED 2 ↑	SPEED 3	SPEED 4
1	70	200	x	x
2	92	260	x	x
3	114	320	x	x
4	136	380	x	x
5	158	440	x	x
6	180	500	x	x

ICECUT 400™ (39D400) DIALSPEED™ RPM Setting (Left/Right)				
	RPM			
	SPEED 1 ↓/↑	SPEED 2 ↓/↓	SPEED 3 ↑/↑	SPEED 4 ↑/↓
1	45	70	150	240
2	62	98	207	332
3	79	126	264	424
4	96	154	321	516
5	113	181	378	608
6	129	208	434	700

Model	Order No.	No load RPM	Motor	Amps	Twist drill capacity (diameter)	Annular cutter	Max. drilling depth	Magnet strength	Weight
ICECUT MINI™	39D050	250-500 RPM	120V .A.C.	10A	N/A	2"	2"	2248 lbs (1019.6 kg)	23.1 lbs (10.4 kg)
ICECUT 100™	39D100	600 RPM	120V .A.C.	8A	1/2" (stub length only)	1-3/8"	1-1/2"	1875 lbs (850.5 kg)	22 lbs (9.9 kg)
ICECUT 200™	39D200	Speed #1: 300 RPM Speed #2: 600 RPM	120V .A.C.	10A	1/2"	2"	2"	1875 lbs (850.5 kg)	27 lbs (12.2 kg)
ICECUT 200PM™	39D201	Speed #1: 300 RPM Speed #2: 600 RPM	120V .A.C.	10A	1/2"	2"	2"	1875 lbs (850.5 kg)	28 lbs (12.7 kg)
ICECUT 250™	39D250	Speed #1: 100-265 RPM Speed #2: 200-500 RPM	120V .A.C.	15A	1/2"	2-3/8"	3"	3035 lbs (1376.6 kg)	34.1 lbs (15.4 kg)
ICECUT 250 AUTO™	39D252	Speed #1: 100-265 RPM Speed #2: 200-500 RPM	120V .A.C.	15A	1/2"	2-3/8"	3"	3035 lbs (1376.6 kg)	40 lbs (18 kg)
ICECUT 250P™	39D251	Speed #1: 100-265 RPM Speed #2: 200-500 RPM	120V .A.C.	15A	1/2"	2-3/8"	3"	3035 lbs (1376.6 kg)	39.6 lbs (17.9 kg)
ICECUT 300™	39D300	Speed #1: 70-180 RPM Speed #2: 200-500 RPM	120V .A.C.	18A	1 1/4"	3"	3"	4160 lbs (1886.9 kg)	52 lbs (23.6 kg)
ICECUT 400™	39D400	Speed #1: 45-129 RPM Speed #2: 70-208 RPM Speed #3: 150-434 RPM Speed #4: 240-700 RPM	120V .A.C.	20A	1 1/4"	4"	4"	4950 lbs (2945.2 kg)	54.5 lbs (24.7 kg)

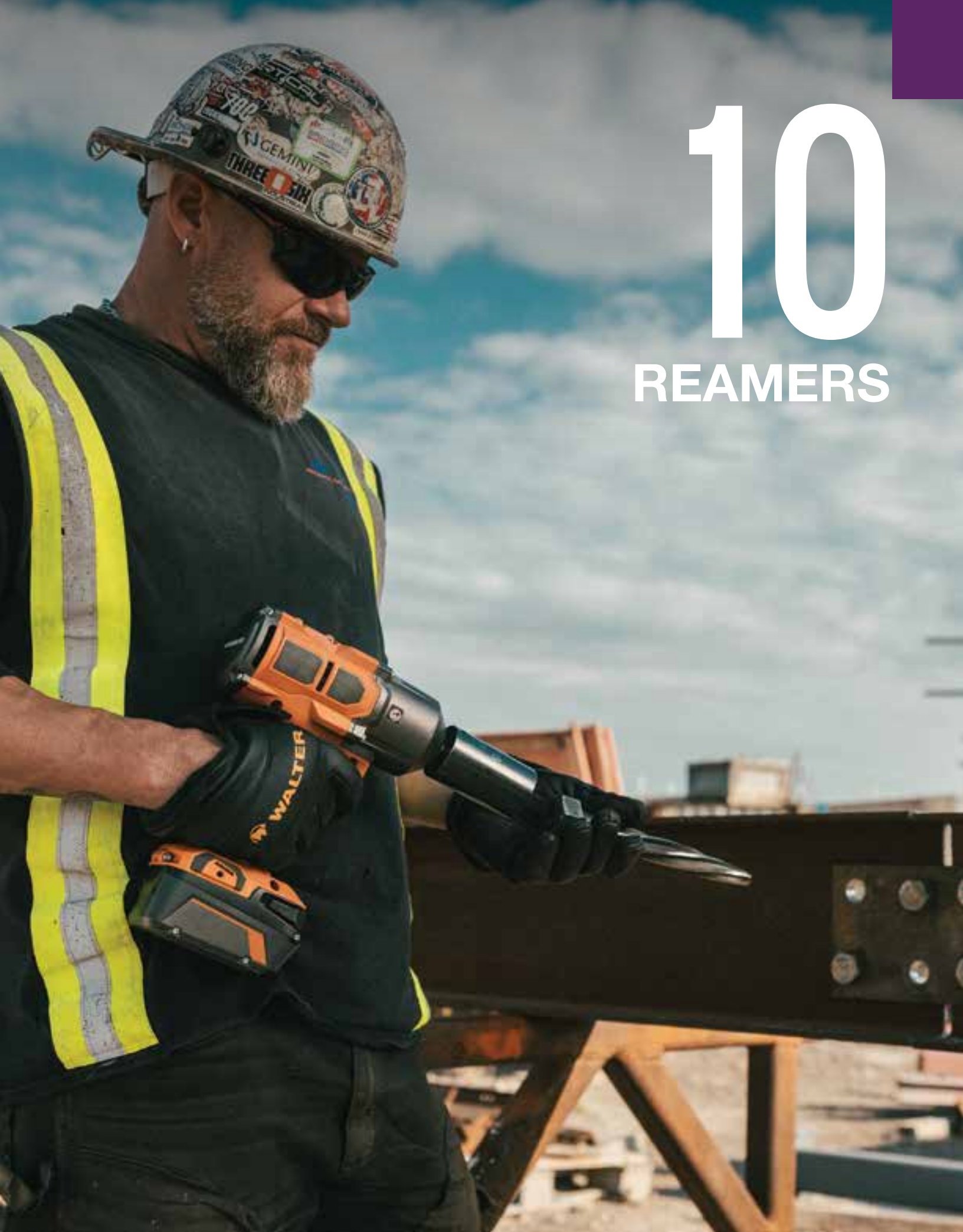
STRAIGHT DRILL 716B- 5/8"

End handle drill with a heavy-duty 120V motor and 2-speed gear box. Use low speed to drill large holes with extra torque and high speed to drill small holes. The reversing feature makes this drill also suitable for tapping applications.



Capacities - Steel								
Model	Order No.	Speed under load	Motor	Max. torque	Amps	Twist drill	Hole saw	Weight
716B	38A716	0-430/760 rev.	120V A.C.	30/17 Nm	9.2	5/8"	3"	9 lbs (4 kg)

STANDARD EQUIPMENT: 5/8" capacity keyed chuck 22A072, chuck key 22A202, side handle (model 716) 48E063 and 9 ft. cord.



10

REAMERS

QUICK PAGES REFERENCES

Reamers are available in car (shorter) and bridge (longer) length as:

Shank Styles



Taper Shank



Hex Shank



3-Flat Shank

Flute Styles



Spiral Flute



High-Spiral Flute



Straight Flute

CONSTRUCTION REAMERS



HEX

HIGH SPEED STEEL NITRO			
Black & Gold / Heavy-Duty Magnetic For heavy-duty reaming applications			
Length	Flute	Series	Page Number
Bridge	Spiral	125SF	694



HIGH SPEED STEEL NITRO			
Black & Gold / Heavy-Duty Magnetic For heavy-duty reaming applications			
Length	Flute	Series	Page Number
Car	Spiral	4290N	694



HIGH SPEED STEEL			
Black Oxide For better performance on low to medium tensile strength materials			
Length	Flute	Series	Page Number
Bridge	Spiral	125HX	695



HIGH SPEED STEEL			
Black Oxide For better performance on low to medium tensile strength materials			
Length	Flute	Series	Page Number
Bridge	Straight	100HX	695



HIGH SPEED STEEL			
Black Oxide For better performance on low to medium tensile strength materials			
Length	Flute	Series	Page Number
Car	Spiral	4290	696



HIGH SPEED STEEL			
Black Oxide For better performance on low to medium tensile strength materials			
Length	Flute	Series	Page Number
Car	Straight	150HX	696



REDUCED SHANK

HIGH SPEED STEEL NITRO			
Black & Gold For heavy-duty reaming applications			
Length	Flute	Series	Page Number
Car (3-Flats)	High Spiral	4285N	697



HIGH SPEED STEEL			
Black & Gold For Cast Iron, Non-Ferrous Metals, Stainless Steel			
Length	Flute	Series	Page Number
Car (3-Flats)	Spiral	TCR	698



HIGH SPEED STEEL NITRO			
Black & Gold For heavy-duty reaming applications			
Length	Flute	Series	Page Number
Car (3-Flats)	Spiral	4275N	699



HIGH SPEED STEEL			
Black Oxide For better performance on low to medium tensile strength materials			
Length	Flute	Series	Page Number
Car (3-Flats)	High Spiral	4285	700



HIGH SPEED STEEL			
Black Oxide For better performance on low to medium tensile strength materials			
Length	Flute	Series	Page Number
Car (3-Flats)	Spiral	4275	700



QUICK PAGES REFERENCES

CONSTRUCTION REAMERS continued



TAPER SHANK

HIGH SPEED STEEL			
Black Oxide			
For use with Morse taper holders			
Length	Flute	Series	Page Number
Bridge	Spiral	4250	701



HIGH SPEED STEEL			
Black Oxide			
For use with Morse taper holders			
Length	Flute	Series	Page Number
Bridge	Straight	4200	701



HIGH SPEED STEEL			
Black Oxide			
For use with Morse taper holders			
Length	Flute	Series	Page Number
Car	Spiral	175H	702



MULTI STEP

HIGH SPEED STEEL			
Black Oxide			
For enlarging existing holes in steel to a new diameter			
Length	Flute	Series	Page Number
—	Straight	4700SE	702



HEX SHANK

HIGH SPEED STEEL			
Black & Gold			
Length	Flute	Series	Page Number
Bridge	Spiral	2616	703



HIGH SPEED STEEL			
Black & Gold			
Length	Flute	Series	Page Number
Car	Spiral	2618	703



REDUCED SHANK

HIGH SPEED STEEL			
Black & Gold			
Length	Flute	Series	Page Number
Car	High Spiral	2619	704



MULTI STEP

HIGH SPEED STEEL			
Black Oxide			
Flute	Series	Page Number	
Straight	2874	704	



REDUCED SHANK

HIGH SPEED STEEL			
Black & Bright			
Length	Flute	Series	Page Number
Car (3-Flats)	High Spiral	01P	705



MULTI STEP

HIGH SPEED STEEL		
Black Oxide		
Flute	Series	Page Number
Straight	MULTI STEP	706



QUICK PAGES REFERENCES

CONSTRUCTION REAMERS continued



CLEVELAND



WALTER

TAPER SHANK

HIGH SPEED STEEL Black Oxide

Length	Flute	Series	Page Number
Bridge	Spiral	616	707



HIGH SPEED STEEL Black Oxide

Length	Flute	Series	Page Number
Car	Spiral	618	707



MACHINING REAMERS



DRILLCO



WALTER

CHUCKING

HIGH SPEED STEEL

Black & Bright
Provides an accurate hole size with a smooth finish

Flute	Series	Page Number
Straight	4300E, 4375E	708



HIGH SPEED STEEL

Black & Bright
Provides an accurate hole size with a smooth finish

Flute	Series	Page Number
Spiral	4350E	709



HAND

HIGH SPEED STEEL

Black & Bright
Designed for hand help applications

Flute	Series	Page Number
Straight	4400E	709



HIGH SPEED STEEL

Black & Bright
Designed for hand help applications

Flute	Series	Page Number
Spiral	4450E	710



TAPER PIN

HIGH SPEED STEEL

Black & Bright
For reaming holes to allow a taper pin fastener to fit

Flute	Series	Page Number
Straight	4500E	711



HIGH SPEED STEEL

Black & Bright
For reaming holes to allow a taper pin fastener to fit

Flute	Series	Page Number
Spiral	4550E	711



HIGH SPEED STEEL

Black & Bright
For reaming holes to allow a taper pin fastener to fit

Flute	Series	Page Number
High Spiral	4570E	711



CHUCKING

HIGH SPEED STEEL

Bright

Flute	Series	Page Number
Straight	4001	712



HIGH SPEED STEEL

Taper Shank / Bright

Flute	Series	Page Number
Straight	4005	714



CLEVELAND



WALTER

MACHINING REAMERS continued



CHUCKING

SOLID CARBIDE

Bright

Flute	Series	Page Number
Straight	1730	715



HIGH SPEED STEEL

Bright

Flute	Series	Page Number
Spiral	4030	716



TAPER PIN

HIGH SPEED STEEL

Bright

Flute	Series	Page Number
Straight	657	717



HIGH SPEED STEEL

Bright

Flute	Series	Page Number
Spiral	659	718



HIGH SPEED STEEL

Bright

Flute	Series	Page Number
High Spiral	650	719



PIPE

HIGH SPEED STEEL

Bright

Flute	Series	Page Number
Spiral	642	720



CONSTRUCTION - HEX SHANK

125SF SERIES

HIGH SPEED STEEL

Bridge Length / Magnetic / Spiral Flute / Black & Gold

Protect against the danger and loss of a falling reamer

- ▷ Manufactured from a premium grade of high speed steel
- ▷ Body and clearance are black and gold surface-treated for maximum lubricity
- ▷ Two NE040 Magnets are placed 180° apart in hex nut to reduce the risk of the reamer falling out of the socket while in use
- ▷ Meets OSHA 29CFR Part 1926.759 (falling objects protection)
- ▷ All sizes are individually packaged

NITRO
SAFETY FIRST



Best Material Application



Reamer Specifications



Fractional				
Size	Hex Dia.	Flute Length	Overall Length	Order Number
9/16"	1-1/16"	5-1/8"	6-7/8"	125SF136
5/8"	1-1/16"	6-1/8"	7-7/8"	125SF140
11/16"	1-1/16"	7-1/8"	9-1/4"	125SF144
3/4"	1-1/4"	7-3/8"	9-3/8"	125SF148
13/16"	1-1/4"	7-3/8"	9-3/8"	125SF152
7/8"	1-7/16"	7-3/8"	9-3/8"	125SF156
15/16"	1-7/16"	7-3/8"	9-3/8"	125SF160
1"	1-7/16"	7-3/8"	9-3/8"	125SF164
1-1/16"	1-5/8"	7-3/8"	9-3/8"	125SF204

Size	Hex Dia.	Flute Length	Overall Length	Order Number
1-1/8"	1-5/8"	7-3/8"	9-3/8"	125SF208
1-3/16"	1-13/16"	7-3/8"	9-3/8"	125SF212
1-1/4"	1-13/16"	7-3/8"	9-3/8"	125SF216
1-5/16"	2"	7-3/8"	10"	125SF220
1-3/8"	2"	7-3/8"	10"	125SF224
1-7/16"	2"	7-3/8"	10"	125SF228
1-1/2"	2"	7-3/8"	10"	125SF232
1-9/16"	2"	7-3/8"	10"	125SF236
1-5/8"	2"	7-3/8"	10"	125SF240

4290N SERIES

HIGH SPEED STEEL

Car Length / Magnetic / Spiral Flute / Black & Gold



Best Material Application



Reamer Specifications



Fractional				
Size	Hex Dia.	Flute Length	Overall Length	Order Number
1/2"	1-1/16"	4"	5-1/2"	429N132
9/16"	1-1/16"	4"	5-7/8"	429N136
5/8"	1-1/16"	4-1/2"	6"	429N140
11/16"	1-1/16"	4-1/2"	6-3/8"	429N144
3/4"	1-1/4"	5"	7"	429N148
13/16"	1-1/4"	5"	7"	429N152
7/8"	1-7/16"	5"	7"	429N156
15/16"	1-7/16"	5"	7"	429N160
1"	1-7/16"	5"	7"	429N164
1-1/16"	1-5/8"	5"	7"	429N204
1-1/8"	1-5/8"	5"	7"	429N208
1-3/16"	1-13/16"	5"	7"	429N212
1-1/4"	1-13/16"	5"	7"	429N216
1-5/16"	2"	5"	7-7/8"	429N220

CONSTRUCTION - HEX SHANK

125HX SERIES

HIGH SPEED STEEL

Bridge Length / Spiral Flute / Black Oxide

Best Material Application



Reamer Specifications



Fractional				
Size	Hex Dia.	Flute Length	Overall Length	Order Number
9/16"	1-1/16"	5-1/8"	6-7/8"	125HX136
5/8"	1-1/16"	6-1/8"	7-7/8"	125HX140
11/16"	1-1/16"	7-1/8"	9-1/4"	125HX144
3/4"	1-1/4"	7-3/8"	9-3/8"	125HX148
13/16"	1-1/4"	7-3/8"	9-3/8"	125HX152
7/8"	1-7/16"	7-3/8"	9-3/8"	125HX156
15/16"	1-7/16"	7-3/8"	9-3/8"	125HX160
1"	1-7/16"	7-3/8"	9-3/8"	125HX164
1-1/16"	1-5/8"	7-3/8"	9-3/8"	125HX204

Size	Hex Dia.	Flute Length	Overall Length	Order Number
1-1/8"	1-5/8"	7-3/8"	9-3/8"	125HX208
1-3/16"	1-13/16"	7-3/8"	9-3/8"	125HX212
1-1/4"	1-13/16"	7-3/8"	9-3/8"	125HX216
1-5/16"	2"	7-3/8"	10"	125HX220
1-3/8"	2"	7-3/8"	10"	125HX224
1-7/16"	2"	7-3/8"	10"	125HX228
1-1/2"	2"	7-3/8"	10"	125HX232
1-9/16"	2"	7-3/8"	10"	125HX236
1-5/8"	2"	7-3/8"	10"	125HX240

100HX SERIES

HIGH SPEED STEEL

Bridge Length / Straight Flute / Black Oxide

Best Material Application



Reamer Specifications



Fractional				
Size	Hex Dia.	Flute Length	Overall Length	Order Number
9/16"	1-1/16"	5-1/8"	6-7/8"	100HX136
5/8"	1-1/16"	6-1/8"	7-7/8"	100HX140
11/16"	1-1/16"	7-1/8"	9-1/4"	100HX144
3/4"	1-1/4"	7-3/8"	9-3/8"	100HX148
13/16"	1-1/4"	7-3/8"	9-3/8"	100HX152
7/8"	1-7/16"	7-3/8"	9-3/8"	100HX156
15/16"	1-7/16"	7-3/8"	9-3/8"	100HX160
1"	1-7/16"	7-3/8"	9-3/8"	100HX164
1-1/16"	1-5/8"	7-3/8"	9-3/8"	100HX204
1-1/8"	1-5/8"	7-3/8"	9-3/8"	100HX208
1-3/16"	1-13/16"	7-3/8"	9-3/8"	100HX212
1-1/4"	1-13/16"	7-3/8"	9-3/8"	100HX216
1-5/16"	2"	7-3/8"	10"	100HX220
1-3/8"	2"	7-3/8"	10"	100HX224
1-7/16"	2"	7-3/8"	10"	100HX228
1-1/2"	2"	7-3/8"	10"	100HX232
1-9/16"	2"	7-3/8"	10"	100HX236
1-5/8"	2"	7-3/8"	10"	100HX240

CONSTRUCTION - HEX SHANK

4290 SERIES

HIGH SPEED STEEL

Car Length / Spiral Flute / Black Oxide



Fractional				
Size	Hex Dia.	Flute Length	Overall Length	Order Number
1/2"	1-1/16"	4"	5-1/2"	429A132
9/16"	1-1/16"	4"	5-7/8"	429A136
5/8"	1-1/16"	4-1/2"	6"	429A140
11/16"	1-1/16"	4-1/2"	6-3/8"	429A144
3/4"	1-1/4"	5"	7"	429A148
13/16"	1-1/4"	5"	7"	429A152
7/8"	1-7/16"	5"	7"	429A156
15/16"	1-7/16"	5"	7"	429A160
1"	1-7/16"	5"	7"	429A164
1-1/16"	1-5/8"	5"	7"	429A204
1-1/8"	1-5/8"	5"	7"	429A208
1-3/16"	1-13/16"	5"	7"	429A212
1-1/4"	1-13/16"	5"	7"	429A216
1-5/16"	2"	5"	7-7/8"	429A220
1-3/8"	2"	5"	7-7/8"	429A224
1-7/16"	2"	5"	7-7/8"	429A228
1-1/2"	2"	5"	7-7/8"	429A232
1-9/16"	2"	5"	7-7/8"	429A236

Best Material Application



Reamer Specifications



150HX SERIES

HIGH SPEED STEEL

Car Length / Straight Flute / Black Oxide



Fractional				
Size	Hex Dia.	Flute Length	Overall Length	Order Number
1/2"	1-1/16"	4"	5-1/2"	150HX132
9/16"	1-1/16"	4"	5-1/2"	150HX136
5/8"	1-1/16"	4-1/2"	6"	150HX140
11/16"	1-1/16"	4-1/2"	6-3/8"	150HX144
3/4"	1-1/4"	5"	7"	150HX148
13/16"	1-1/4"	5"	7"	150HX152
7/8"	1-7/16"	5"	7"	150HX156
15/16"	1-7/16"	5"	7"	150HX160
1"	1-7/16"	5"	7"	150HX164
1-1/16"	1-5/8"	5"	7"	150HX204
1-1/8"	1-5/8"	5"	7"	150HX208
1-3/16"	1-13/16"	5"	7"	150HX212
1-1/4"	1-13/16"	5"	7"	150HX216
1-5/16"	2"	5"	7-7/8"	150HX220

Best Material Application



Reamer Specifications



CONSTRUCTION - REDUCED SHANK

10

REAMERS

4285N SERIES

HIGH SPEED STEEL

Car Length / High Spiral Flute / Black & Gold

For enlarging or aligning holes in structural steel, truck and trailer body framers, ship building, and bridge construction applications

- ▷ Especially adapted for heavy-duty reaming
- ▷ Tapered at the point to facilitate entering of holes which are out of alignment
- ▷ Safety collar added on 4285N series to help prevent over penetration
- ▷ All sizes are individually packaged

Best Material Application



Reamer Specifications



NITRO



Fractional				
Size	Shank Dia.	Flute Length	Overall Length	Order Number
1/4"	1/4"	2-1/2"	4-3/8"	428N116
5/16"	5/16"	2-3/4"	4-5/8"	428N120
3/8"	3/8"	2-3/4"	4-5/8"	428N124
13/32"	13/32"	3-1/2"	5-3/8"	428N126
7/16"	7/16"	3-1/2"	5-3/8"	428N128
15/32"	15/32"	3-3/4"	5-7/8"	428N130
1/2"	1/2"	4"	5-7/8"	428N132
17/32"	1/2"	4"	5-7/8"	428N134
9/16"	1/2"	4"	5-7/8"	428N136
19/32"	1/2"	4-1/2"	6-3/8"	428N138
5/8"	1/2"	4-1/2"	6-3/8"	428N140
.652	1/2"	4-1/2"	6-3/8"	428N141
21/32"	1/2"	4-1/2"	6-3/8"	428N142
11/16"	1/2"	4-1/2"	6-3/8"	428N144
23/32"	1/2"	4-1/2"	6-3/8"	428N146
3/4"	1/2"	5"	6-7/8"	428N148
.776	1/2"	5"	6-7/8"	428N149
25/32"	1/2"	5"	6-7/8"	428N150
13/16"	1/2"	5"	6-7/8"	428N152
27/32"	1/2"	5"	6-7/8"	428N154

Size	Shank Dia.	Flute Length	Overall Length	Order Number
7/8"	1/2"	5"	6-7/8"	428N156
29/32"	1/2"	5"	6-7/8"	428N158
15/16"	1/2"	5"	6-7/8"	428N160
31/32"	1/2"	5"	6-7/8"	428N162
1"	1/2"	5"	6-7/8"	428N164
1.027	1/2"	5"	6-7/8"	428N201
1-1/16"	1/2"	5"	6-7/8"	428N204
1-1/8"	1/2"	5"	6-7/8"	428N208-132
1-1/8"	3/4"	5"	6-7/8"	428N208
1-3/16"	1/2"	5"	6-7/8"	428N212-132
1-3/16"	3/4"	5"	6-7/8"	428N212
1-1/4"	1/2"	5"	6-7/8"	428N216-132
1-1/4"	3/4"	5"	6-7/8"	428N216
1-5/16"	1/2"	5"	6-7/8"	428N220-132
1-5/16"	3/4"	5"	6-7/8"	428N220
1-3/8"	1/2"	5"	6-7/8"	428N224-132
1-3/8"	3/4"	5"	6-7/8"	428N224
1-7/16"	1/2"	5"	6-7/8"	428N228-132
1-7/16"	3/4"	5"	6-7/8"	428N228
1-1/2"	1/2"	5"	6-7/8"	428N232-132
1-1/2"	3/4"	5"	6-7/8"	428N232



Corresponding Set NITRO® Construction Reamer Display Sets		
No. of Pcs.	Sizes	Order Number
8	1 each of: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16	428N8D
16	2 each of: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16	428N16D
24	3 each of: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16	428N24D



Corresponding Set NITRO® Construction Reamer Set		
No. of Pcs.	Sizes	Order Number
3	1/2", 5/8", 3/4"	428N3S

DRILCO | WALTER

CONSTRUCTION - REDUCED SHANK

TCR SERIES

HIGH SPEED STEEL

Spiral Flute / Black & Gold

- ▷ All sizes are individually packaged
- ▷ Left hand spiral with right hand cut to push down on the material and prevent lifting of the material

Best Material Application



Reamer Specifications



Fractional				
Size	Decimal Equivalent	Flute Length	Overall Length	Order Number
7/16"	.4375	2-1/4"	4"	072279
3/8"*	.3750	3-1/16"	5-1/4"	072280
1/2"	.5000	3-3/4"	5-15/16"	072281
9/16"	.5625	4-5/16"	6-9/16"	072282
5/8"	.6250	4-5/16"	6-9/16"	072283
11/16"	.6875	4-13/16"	7"	072284
3/4"	.7500	4-13/16"	7"	072285
13/16"	.8125	5-1/8"	7-1/4"	072286
7/8"	.8750	5-1/8"	7-1/4"	072287
15/16"	.9375	5-1/8"	7-1/4"	072288
1"	1.0000	5-1/8"	7-1/4"	072289
1-1/16"	1.0625	5-1/4"	7-1/4"	072291
1-1/8"***	1.1250	5-1/4"	7-1/4"	072292
1-3/16"***	1.1875	5-1/4"	7-1/4"	072293
1-1/4"***	1.2500	5-1/2"	7-1/2"	072294
1-5/16"***	1.3125	5-1/2"	7-1/2"	072295
1-3/8"***	1.3750	5-1/2"	7-1/2"	072296
1-7/16"***	1.4375	5-1/2"	7-1/2"	072297
1-1/2"***	1.5000	5-1/2"	7-1/2"	072298

*3/8" shank **3/4" shank

Corresponding Set				
Style	Description	Pieces	Size Range	Order Number
TCR3	Resealable Plastic Tube	3 Piece	1/2", 5/8", 3/4"	072290



CONSTRUCTION - REDUCED SHANK

10

REAMERS

DRILCO
WALTER

4275N SERIES

HIGH SPEED STEEL

Spiral Flute / Black & Gold

For enlarging or aligning holes in structural steel, truck and trailer body framers, ship building, and bridge construction applications

- ▷ Especially adapted for heavy-duty reaming
- ▷ Tapered at the point to facilitate entering of holes which are out of alignment
- ▷ Available in Spiral Flute and High Spiral Flute with 3 Flats Round Shanks, or with Hex Nut Shanks
- ▷ All sizes are individually packaged

Best Material Application



Reamer Specifications



NITRO



Fractional				
Size	Shank Dia.	Flute Length	Overall Length	Order Number
1/4"	1/4"	2-1/2"	4-3/8"	427N116
5/16"	5/16"	2-3/4"	4-5/8"	427N120
3/8"	3/8"	2-3/4"	4-5/8"	427N124
13/32"	13/32"	3-1/2"	5-3/8"	427N126
7/16"	7/16"	3-1/2"	5-3/8"	427N128
15/32"	15/32"	3-3/4"	5-7/8"	427N130
1/2"	1/2"	4"	5-7/8"	427N132
17/32"	1/2"	4"	5-7/8"	427N134
9/16"	1/2"	4"	5-7/8"	427N136
19/32"	1/2"	4-1/2"	6-3/8"	427N138
5/8"	1/2"	4-1/2"	6-3/8"	427N140
.652	1/2"	4-1/2"	6-3/8"	427N141
21/32"	1/2"	4-1/2"	6-3/8"	427N142
11/16"	1/2"	4-1/2"	6-3/8"	427N144
23/32"	1/2"	4-1/2"	6-3/8"	427N146
3/4"	1/2"	5"	6-7/8"	427N148
.776	1/2"	5"	6-7/8"	427N149
25/32"	1/2"	5"	6-7/8"	427N150
13/16"	1/2"	5"	6-7/8"	427N152
27/32"	1/2"	5"	6-7/8"	427N154

Size	Shank Dia.	Flute Length	Overall Length	Order Number
7/8"	1/2"	5"	6-7/8"	427N156
15/16"	1/2"	5"	6-7/8"	427N160
31/32"	1/2"	5"	6-7/8"	427N162
1"	1/2"	5"	6-7/8"	427N164
1.027	1/2"	5"	6-7/8"	427N201
1-1/16"	1/2"	5"	6-7/8"	427N204
1-1/8"	1/2"	5"	6-7/8"	427N208-132
1-1/8"	3/4"	5"	6-7/8"	427N208
1-3/16"	1/2"	5"	6-7/8"	427N212-132
1-3/16"	3/4"	5"	6-7/8"	427N212
1-1/4"	1/2"	5"	6-7/8"	427N216-132
1-1/4"	3/4"	5"	6-7/8"	427N216
1-5/16"	1/2"	5"	6-7/8"	427N220-132
1-5/16"	3/4"	5"	6-7/8"	427N220
1-3/8"	1/2"	5"	6-7/8"	427N224-132
1-3/8"	3/4"	5"	6-7/8"	427N224
1-7/16"	1/2"	5"	6-7/8"	427N228-132
1-7/16"	3/4"	5"	6-7/8"	427N228
1-1/2"	1/2"	5"	6-7/8"	427N232-132
1-1/2"	3/4"	5"	6-7/8"	427N232



Corresponding Set NITRO® Construction Reamer Display Sets		
No. of Pcs.	Sizes	Order Number
8	1 each of: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16	427N8D
16	2 each of: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16	427N16D
24	3 each of: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16	427N24D



Corresponding Set NITRO® Construction Reamer Set		
No. of Pcs.	Sizes	Order Number
3	1/2", 5/8", 3/4"	427N3S

CONSTRUCTION - REDUCED SHANK

4285 SERIES

HIGH SPEED STEEL

High Spiral Flute/ 3-Flat Shank / Black Oxide



Best Material Application



Reamer Specifications



Fractional				
Size	Shank Dia.	Flute Length	Overall Length	Order Number
1/4"	1/4"	2-1/2"	4-3/8"	428A116
5/16"	5/16"	2-3/4"	4-5/8"	428A120
3/8"	3/8"	2-3/4"	4-5/8"	428A124
13/32"	13/32"	3-1/2"	5-3/8"	428A126
7/16"	7/16"	3-1/2"	5-3/8"	428A128
15/32"	15/32"	3-3/4"	5-7/8"	428A130
1/2"	1/2"	4"	5-7/8"	428A132
17/32"	1/2"	4"	5-7/8"	428A134
9/16"	1/2"	4"	5-7/8"	428A136
19/32"	1/2"	4-1/2"	6-3/8"	428A138
5/8"	1/2"	4-1/2"	6-3/8"	428A140
.652	1/2"	4-1/2"	6-3/8"	428A141
21/32"	1/2"	4-1/2"	6-3/8"	428A142
11/16"	1/2"	4-1/2"	6-3/8"	428A144
23/32"	1/2"	4-1/2"	6-3/8"	428A146
3/4"	1/2"	5"	6-7/8"	428A148
.776	1/2"	5"	6-7/8"	428A149
25/32"	1/2"	5"	6-7/8"	428A150
13/16"	1/2"	5"	6-7/8"	428A152

Size	Shank Dia.	Flute Length	Overall Length	Order Number
27/32"	1/2"	5"	6-7/8"	428A154
7/8"	1/2"	5"	6-7/8"	428A156
15/16"	1/2"	5"	6-7/8"	428A160
1"	1/2"	5"	6-7/8"	428A164
1.027	1/2"	5"	6-7/8"	428A201
1-1/32"	1/2"	5"	6-7/8"	428A202
1-1/16"	1/2"	5"	6-7/8"	428A204
1-1/8"	1/2"	5"	6-7/8"	428A208-132
1-1/8"	3/4"	5"	6-7/8"	428A208
1-3/16"	1/2"	5"	6-7/8"	428A212-132
1-3/16"	3/4"	5"	6-7/8"	428A212
1-1/4"	1/2"	5"	6-7/8"	428A216-132
1-1/4"	3/4"	5"	6-7/8"	428A216
1-5/16"	1/2"	5"	6-7/8"	428A220-132
1-5/16"	3/4"	5"	6-7/8"	428A220
1-3/8"	1/2"	5"	6-7/8"	428A224-132
1-3/8"	3/4"	5"	6-7/8"	428A224
1-7/16"	1/2"	5"	6-7/8"	428A228-132
1-7/16"	3/4"	5"	6-7/8"	428A228
1-1/2"	1/2"	5"	6-7/8"	428A232-132
1-1/2"	3/4"	5"	6-7/8"	428A232

4275 SERIES

HIGH SPEED STEEL

Spiral / Black Oxide



Best Material Application



Reamer Specifications



Fractional				
Size	Shank Dia.	Flute Length	Overall Length	Order Number
1/4"	1/4"	2-1/2"	4-3/8"	427A116
5/16"	5/16"	2-3/4"	4-5/8"	427A120
3/8"	3/8"	2-3/4"	4-5/8"	427A124
13/32"	13/32"	3-1/2"	5-3/8"	427A126
7/16"	7/16"	3-1/2"	5-3/8"	427A128
1/2"	1/2"	4"	5-7/8"	427A132
17/32"	1/2"	3-3/4"	5-7/8"	427A134
9/16"	1/2"	4"	5-7/8"	427A136
19/32"	1/2"	4-1/4"	6-3/8"	427A138
39/64"	1/2"	4-1/4"	6-3/8"	427A139
5/8"	1/2"	4-1/2"	6-3/8"	427A140
.652	1/2"	4-1/2"	6-3/8"	427A141
21/32"	1/2"	4-1/2"	6-3/8"	427A142
11/16"	1/2"	4-1/2"	6-3/8"	427A144
23/32"	1/2"	4-1/2"	6-3/8"	427A146
3/4"	1/2"	5"	6-7/8"	427A148
.776"	1/2"	5"	6-7/8"	427A149
25/32"	1/2"	5"	6-7/8"	427A150
13/16"	1/2"	5"	6-7/8"	427A152

Size	Shank Dia.	Flute Length	Overall Length	Order Number
7/8"	1/2"	5"	6-7/8"	427A156
15/16"	1/2"	5"	6-7/8"	427A160
1"	1/2"	5"	6-7/8"	427A164
1-027	1/2"	5"	6-7/8"	427A201
1-1/16"	1/2"	5"	6-7/8"	427A204
1-3/32"	1/2"	5"	6-7/8"	427A206
1-1/8"	3/4"	5"	6-7/8"	427A208
1-3/16"	1/2"	5"	6-7/8"	427A212-132
1-3/16"	3/4"	5"	6-7/8"	427A212
1-1/4"	1/2"	5"	6-7/8"	427A216-132
1-1/4"	3/4"	5"	6-7/8"	427A216
1-5/16"	1/2"	5"	6-7/8"	427A220-132
1-5/16"	3/4"	5"	6-7/8"	427A220
1-3/8"	1/2"	5"	6-7/8"	427A224-132
1-3/8"	3/4"	5"	6-7/8"	427A224
1-7/16"	1/2"	5"	6-7/8"	427A228-132
1-7/16"	3/4"	5"	6-7/8"	427A228
1-1/2"	1/2"	5"	6-7/8"	427A232-132
1-1/2"	3/4"	5"	6-7/8"	427A232

CONSTRUCTION - TAPER SHANK

4250 SERIES

HIGH SPEED STEEL

Spiral Flute / Black Oxide

For enlarging or aligning holes in structural steel, truck and trailer body frames, ship building, and bridge construction applications.

- ▷ For use with Morse taper holders
- ▷ Spiral Flute- for more aggressive reaming
- ▷ All sizes are individually packaged



Best Material Application



Reamer Specifications



Fractional					
Size	Point Dia.	Flute Length	Overall Length	Morse Taper	Order Number
5/16"	11/64"	4-3/8"	8-1/4"	2	425A120
11/32"	11/64"	4-3/8"	8-1/4"	2	425A122
3/8"	7/32"	4-3/8"	8-1/4"	2	425A124
13/32"	7/32"	4-3/8"	8-1/4"	2	425A126
7/16"	17/64"	4-3/8"	8-1/4"	2	425A128
15/32"	9/32"	5-1/8"	9"	2	425A130
1/2"	5/16"	5-1/8"	9"	2	425A132
17/32"	11/32"	5-1/8"	9"	2	425A134
9/16"	3/8"	5-1/8"	9"	2	425A136
19/32"	3/8"	5-1/8"	9"	2	425A138
5/8"	25/64"	6-1/8"	10"	2	425A140
21/32"	25/64"	7-1/8"	11-3/4"	3	425A142
11/16"	13/32"	7-1/8"	11-3/4"	3	425A144
3/4"	15/32"	7-3/8"	12"	3	425A148
25/32"	15/32"	7-3/8"	12"	3	425A150
13/16"	35/64"	7-3/8"	12"	3	425A152
27/32"	35/64"	7-3/8"	12"	3	425A154

Size	Point Dia.	Flute Length	Overall Length	Morse Taper	Order Number
7/8"	39/64"	7-3/8"	12"	3	425A156
29/32"	39/64"	7-3/8"	12"	3	425A158
15/16"	43/64"	7-3/8"	12"	3	425A160
31/32"	5/8"	7-3/8"	12"	3	425A162
1"	47/64"	7-3/8"	12"	3	425A164
1-1/32"	47/64"	7-3/8"	12"	3	425A202
1-1/16"	13/16"	7-3/8"	12"	3	425A204
1-1/8"	55/64"	7-3/8"	12"	3	425A208
1-3/16"	59/64"	7-3/8"	12"	3	425A212
1-1/4"	63/64"	7-3/8"	13"	4	425A216
1-5/16"	1-1/16"	7-3/8"	13"	4	425A220
1-3/8"	1-1/8"	7-3/8"	13"	4	425A224
1-7/16"	1-3/16"	7-3/8"	13"	4	425A228
1-1/2"	1-1/4"	7-3/8"	13"	4	425A232
1-9/16"	1-1/4"	7-3/8"	13"	4	425A236
1-5/8"	1-3/8"	7-3/8"	13"	4	425A240

4200 SERIES

HIGH SPEED STEEL

Bridge Length / Spiral Flute / Black Oxide

- ▷ For enlarging or aligning holes in structural steel, truck and trailer body frames, ship building, and bridge construction applications.
- ▷ For use with Morse taper holders
- ▷ Straight Flute - for a smoother finish;
- ▷ All sizes are individually packaged



Best Material Application



Reamer Specifications



Fractional					
Size	Point Dia.	Flute Length	Overall Length	Morse Taper	Order Number
5/16"	11/64"	4-3/8"	8-1/4"	2	420A120
11/32"	11/64"	4-3/8"	8-1/4"	2	420A122
3/8"	7/32"	4-3/8"	8-1/4"	2	420A124
13/32"	7/32"	4-3/8"	8-1/4"	2	420A126
7/16"	17/64"	4-3/8"	8-1/4"	2	420A128
15/32"	9/32"	5-1/8"	9"	2	420A130
1/2"	5/16"	5-1/8"	9"	2	420A132
17/32"	11/32"	5-1/8"	9"	2	420A134
9/16"	3/8"	5-1/8"	9"	2	420A136
19/32"	3/8"	5-1/8"	9"	2	420A138
5/8"	25/64"	6-1/8"	10"	2	420A140
21/32"	25/64"	7-1/8"	11-3/4"	3	420A142
11/16"	13/32"	7-1/8"	11-3/4"	3	420A144
3/4"	15/32"	7-3/8"	12"	3	420A148
25/32"	15/32"	7-3/8"	12"	3	420A150
13/16"	35/64"	7-3/8"	12"	3	420A152
27/32"	35/64"	7-3/8"	12"	3	420A154

Size	Point Dia.	Flute Length	Overall Length	Morse Taper	Order Number
7/8"	39/64"	7-3/8"	12"	3	420A156
29/32"	39/64"	7-3/8"	12"	3	420A158
15/16"	43/64"	7-3/8"	12"	3	420A160
1"	47/64"	7-3/8"	12"	3	420A164
1-1/32"	47/64"	7-3/8"	12"	3	420A202
1-1/16"	13/16"	7-3/8"	12"	3	420A204
1-1/8"	55/64"	7-3/8"	12"	3	420A208
1-3/16"	59/64"	7-3/8"	12"	3	420A212
1-1/4"	63/64"	7-3/8"	13"	4	420A216
1-5/16"	1-1/16"	7-3/8"	13"	4	420A220
1-3/8"	1-1/8"	7-3/8"	13"	4	420A224
1-7/16"	1-3/16"	7-3/8"	13"	4	420A228
1-1/2"	1-1/4"	7-3/8"	13"	4	420A232
1-9/16"	1-1/4"	7-3/8"	13"	4	420A236
1-5/8"	1-3/8"	7-3/8"	13"	4	420A240

CONSTRUCTION - TAPER SHANK

175H SERIES

HIGH SPEED STEEL

Car Length / Spiral Flute / Black Oxide

Best Material Application



Reamer Specifications



Fractional				
Size	Flute Length	Overall Length	Morse Taper	Order Number
1/4"	2-1/2"	5-7/16"	1	175H116
9/32"	2-1/2"	5-7/16"	1	175H118
5/16"	2-3/4"	5-11/16"	1	175H120
11/32"	2-3/4"	5-11/16"	1	175H122
3/8"	2-3/4"	5-11/16"	1	175H124
13/32"	3-1/2"	6-15/16"	2	175H126
7/16"	3-1/2"	6-15/16"	2	175H128
15/32"	3-1/2"	7-1/16"	2	175H130
1/2"	4"	7-9/16"	2	175H132
17/32"	4"	7-9/16"	2	175H134
9/16"	4"	7-9/16"	2	175H136
19/32"	4-1/2"	8-1/16"	2	175H138
5/8"	4-1/2"	8-1/16"	2	175H140
21/32"	4-1/2"	8-13/16"	3	175H142
11/16"	4-1/2"	8-13/16"	3	175H144
23/32"	4-1/2"	8-13/16"	3	175H146
3/4"	5"	9-1/2"	3	175H148
25/32"	5"	9-1/2"	3	175H150

Size	Flute Length	Overall Length	Morse Taper	Order Number
13/16"	5"	9-1/2"	3	175H152
27/32"	5"	9-1/2"	3	175H154
7/8"	5"	9-1/2"	3	175H156
29/32"	5"	9-1/2"	3	175H158
15/16"	5"	9-1/2"	3	175H160
31/32"	5"	9-1/2"	3	175H162
1"	5"	9-1/2"	3	175H164
1-1/32"	5"	9-1/2"	3	175H202
1-1/16"	5"	9-1/2"	3	175H204
1-1/8"	5"	9-1/2"	3	175H208
1-3/16"	5"	9-1/2"	3	175H212
1-1/4"	5"	9-1/2"	3	175H216
1-5/16"	5"	10-1/2"	4	175H220
1-3/8"	5"	10-1/2"	4	175H224
1-7/16"	5"	10-1/2"	4	175H228
1-1/2"	5"	10-1/2"	4	175H232
1-9/16"	5"	10-1/2"	4	175H236
1-5/8"	5"	10-1/2"	4	175H240

CONSTRUCTION - MULTI STEP

4700SE SERIES

HIGH SPEED STEEL

Flat Reduced Shank / Black Oxide

15 Sizes, 3 Tools: Clean, Deburr, and Free Holes in Seconds!

- ▷ Feature 3-flat shanks to reduce slippage in the chuck
- ▷ Shanks are 3/8"
- ▷ Reamers are made from high quality High Speed Steel (HSS)
- ▷ Black oxide surface treatment increases wear resistance



Special geometry split point reduces "walking" when beginning the reaming process. Can start a hole from scratch.

Available in 3 tools, with sizes from 5/16" thru 1-1/16"

Fractional		
Tool Number	Description	Order Number
1	5 Steps: 5/16", 3/8", 7/16", 1/2", 9/16"	470SE001
2	5 Steps: 9/16", 5/8", 11/16", 3/4", 13/16"	470SE002
3	5 Steps: 13/16", 7/8", 15/16", 1", 1-1/16"	470SE003
SET	3pcs: 1 of each Reamer	470SESET



CONSTRUCTION - HEX SHANK

2616 SERIES

HIGH SPEED STEEL

Bridge Length / Spiral Flute / Black & Gold

- ▷ Heavy duty reaming in steel assemblies
- ▷ Tapered at the point which is ideal for holes which are out of alignment
- ▷ Magnets are 180° apart in the hex shank to reduce the chance of falling out of the socket



Best Material Application



Reamer Specifications



Fractional								
Reamer Size		Point Diameter		Hex Size	Flute Length	Overall Length	No. of Flutes	Order Number
9/16	.5625	11/32	.344	1-1/16	5-1/8	6-7/8	5	C36000
5/8	.6250	3/8	.375	1-1/16	6-1/8	7-7/8	5	C36001
11/16	.6875	3/8	.375	1-1/16	7-1/8	9-1/4	5	C36002
3/4	.7500	13/32	.406	1-1/4	7-3/8	9-3/8	5	C36003
13/16	.8125	1/2	.500	1-1/4	7-3/8	9-3/8	5	C36004
7/8	.8750	9/16	.563	1-7/16	7-3/8	9-3/8	5	C36005
15/16	.9375	19/32	.594	1-7/16	7-3/8	9-3/8	5	C36006
1	1.0000	11/16	.687	1-7/16	7-3/8	9-3/8	5	C36007
1-1/16	1.0625	3/4	.750	1-5/8	7-3/8	9-3/8	5	C36008
1-1/8	1.1250	13/16	.812	1-5/8	7-3/8	9-3/8	5	C36009
1-3/16	1.1875	7/8	.875	1-13/16	7-3/8	9-3/8	5	C36010
1-1/4	1.2500	15/16	.937	1-13/16	7-3/8	9-3/8	5	C36011
1-5/16	1.3125	1	1.000	2	7-3/8	10	6	C36012
1-3/8	1.3750	1-1/16	1.062	2	7-3/8	10	6	C36013
1-7/16	1.4375	1-1/8	1.125	2	7-3/8	10	6	C36014
1-1/2	1.5000	1-3/16	1.187	2'	7-3/8	10	6	C36015
1-9/16	1.5625	1-9/16	1.562	2	7-3/8	10	6	C36016
1-5/8	1.6250	1-5/16	1.312	2	7-3/8	10	6	C36017

2618 SERIES

HIGH SPEED STEEL

Car Length / Spiral Flute / Black & Gold

- ▷ Heavy duty reaming in steel assemblies
- ▷ Tapered at the point which is ideal for holes which are out of alignment
- ▷ Magnets are 180° apart in the hex shank to reduce the chance of falling out of the socket



Best Material Application



Reamer Specifications



Fractional								
Reamer Size		Point Diameter		Hex Size	Flute Length	Overall Length	No. of Flutes	Order Number
1/2	.5000	9/32	.281	1-1/16	4	5-1/2	5	C36018
9/16	.5625	11/32	.344	1-1/16	4	5-7/8	5	C36019
5/8	.6250	11/32	.344	1-1/16	4-1/2	6	5	C36020
11/16	.6875	3/8	.375	1-1/16	4-1/2	6-3/8	5	C36021
3/4	.7500	13/32	.406	1-1/4	5	7	5	C36022
13/16	.8125	1/2	.500	1-1/4	5	7	5	C36023
7/8	.8750	9/16	.562	1-7/16	5	7	5	C36024
15/16	.9375	19/32	.594	1-7/16	5	7	5	C36025
1	1.0000	11/16	.687	1-7/16	5	7	5	C36026
1-1/16	1.0625	3/4	.750	1-5/8	5	7	5	C36027
1-1/8	1.1250	13/16	.812	1-5/8	5	7	5	C36028
1-3/16	1.1875	7/8	.875	1-13/16	5	7	5	C36029
1-1/4	1.2500	15/16	.937	1-13/16	5	7	5	C36030
1-5/16	1.3125	1	1.000	2	5	7-7/8	5	C36031

CONSTRUCTION - REDUCED SHANK

2619 SERIES

HIGH SPEED STEEL

Car Length / High Spiral Flute / Black & Gold

Best Material Application



Reamer Specifications



Fractional									
Reamer Size	Decimal Equivalent	Diameter at Point	Length of Taper	Flute Length	Overall Length	Number of Flutes	Helix	Shank Diameter	Order Number
5/16	.3125	0.183	2.000	3.179	5.000	4	25 LHS	0.313	C24002
3/8	.3750	0.193	2.000	3.179	5.000	4	25 LHS	0.375	C24003
7/16	.4375	0.223	2.250	3.429	5.250	4	25 LHS	0.438	C24004
1/2	.5000	0.236	2.625	4.117	5.938	5	25 LHS	0.500	C24005
9/16	.5625	0.299	2.625	4.117	5.938	5	25 LHS	0.500	C24006
5/8	.6250	0.264	3.375	4.742	6.563	5	25 LHS	0.500	C24007
11/16	.6875	0.327	3.375	4.742	6.563	5	25 LHS	0.500	C24008
3/4	.7500	0.458	3.750	5.179	7.000	5	25 LHS	0.500	C24009
13/16	.8125	0.522	3.750	5.179	7.000	5	25 LHS	0.500	C24010
7/8	.8750	0.585	3.875	5.429	7.250	5	25 LHS	0.500	C24011
15/16	.9375	0.648	3.875	5.429	7.250	5	25 LHS	0.500	C24012
1	1.0000	0.713	3.875	5.429	7.250	5	25 LHS	0.500	C24013
1-1/16	1.0625	0.778	3.875	5.429	7.250	5	25 LHS	0.500	C24014

CONSTRUCTION - MULTI STEP

2874 SERIES

HIGH SPEED STEEL

Straight Flute / Black Oxide

Best Material Application



Reamer Specifications



Step Description	Hole Sizes	Decimal Equivalent	Shank Diameter	Step Length	No. of Flutes	Order Number
5/16 - 9/16 x 1/16	5/16 - 9/16	.3125 - .5625	3/8	1/2	2	C20300
9/16 - 13/16 x 1/16	9/16 - 13/16	.5625 - .8125	3/8	1/2	2	C20301
13/16 - 1-1/16 x 1/16	13/16 - 1-1/16	.8125 - 1.0625	3/8	1/2	2	C20302

Corresponding Set

Style	Description	Drilling Diameter Range	No. of Pieces	Order Number
2874	Metal Case	5/16 - 1-1/16	3	C20303

Set includes one of each size



CONSTRUCTION - REDUCED SHANK

10

REAMERS

01P SERIES

HIGH SPEED STEEL

Car Length / High Spiral Flute / Black & Bright

- ▷ Spiral flutes for faster chip ejection and cutting operation
- ▷ 3- flats reduced shank for use in portable power tools
- ▷ Tapered point for easy realignment of holes

Best Material Application



Reamer Specifications



Fractional			
Size	Shank Diameter	Overall Length	Order Number
5/16	3/8	5	01P005
3/8	3/8	5	01P006
7/16	1/2	5 1/4	01P007
1/2	1/2	5 15/16	01P008
9/16	1/2	5 15/16	01P009
5/8	1/2	6 9/16	01P010
11/16	1/2	7	01P011
3/4	1/2	7	01P012
13/16	1/2	7 1/4	01P013
7/8	1/2	7 1/4	01P014
15/16	1/2	7 1/4	01P015
1	1/2	7 1/4	01P100
1-1/16	1/2	7 1/4	01P101

01P, 6 PC Set

Made from premium high-speed steel, WALTER reamers deliver the best cutting performance and longest life. They are the perfect tool for enlarging and aligning holes in separate pieces of metal. Tapered design enables ease of use and the shank with three flats makes use with hand-held drills hassle-free. Reamers available in six different sizes in 1/8" increments from 3/8" diameter to 1" diameter. WALTER's Reamer Kit is the perfect tooling to meet the majority of hole alignment and enlarging needs in metal pieces of all kinds.

Corresponding Set			
Size	No. of Pieces	Shank Diameter	Order Number
3/8" - 1" (by 1/8")	6	Various	01P990



WALTER

CONSTRUCTION - MULTI STEP

MULTI STEP REAMER

HIGH SPEED STEEL

Straight Flute / Black Oxide

- ▷ Made with premium grade HSS to last longer
- ▷ Stepped geometry for fast hole making and enlarging
- ▷ 3/8" reduced shank with 3 flats to reduce slippage in drill chucks
- ▷ Black oxide surface treatment increases wear resistance



Fractional				
Min Size	Max Size	Step Increment	Step Number	Order Number
5/16	9/16	1/16	5	01W151
9/16	13/16	1/16	5	01W152
13/16	1 1/16	1/16	5	01W153

Best Material Application



Reamer Specifications



STEP DRILL REAMER SET

HIGH SPEED STEEL

Black Oxide

The Multi-Step reamer step drill kit comes in three different sizes, providing only the only tools you'll need to enlarge holes in metal plates up to 1/2" thick - from 5/16" diameter all the way to 1-1/16".

Corresponding Set			
Size	No. of Pieces	Shank Diameter	Order Number
5/16" - 1 1/16" (by 1/16")	3	3/8"	01W955



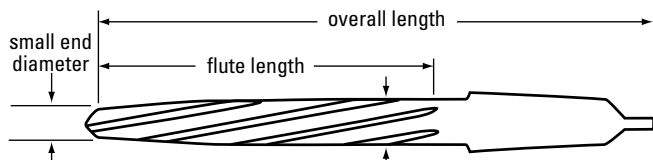
CONSTRUCTION - TAPER SHANK

616 SERIES

HIGH SPEED STEEL

Bridge Length / Spiral Flute / Black Oxide

- ▷ Suited for use in structural iron or steel bridgework and ship construction
- ▷ Left-hand helix, right-hand cut for difficult materials and applications
- ▷ Sharp point and long taper for easy entry in badly misaligned holes
- ▷ Commonly used in electric and pneumatic portable equipment



Best Material Application



Reamer Specifications



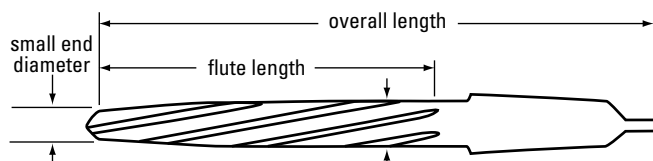
Fractional											
Reamer Diameter			Small End Diameter		Flute Length		Overall Length		Morse Taper	Number of Flutes	Order Number
Fraction	Decimal	mm	Inch	mm	Inch	mm	Inch	mm			
7/16	.4375	11.11	.2656	6.75	4.3750	111.13	8.2500	209.55	2	4	C23812
1/2	.5000	12.70	.3125	7.94	5.1250	130.18	9.0000	228.60	2	4	C23813
9/16	.5625	14.29	.3750	9.53	5.1250	130.18	9.0000	228.60	2	4	C23814
5/8	.6250	15.88	.3906	9.92	6.1250	155.58	10.0000	254.00	2	4	C23815
11/16	.6875	17.46	.4062	10.32	7.1250	180.98	11.7500	298.45	3	4	C23816
3/4	.7500	19.05	.4688	11.91	7.3750	187.33	12.0000	304.80	3	4	C23817
13/16	.8125	20.64	.5469	13.89	7.3750	187.33	12.0000	304.80	3	4	C23818
7/8	.8750	22.23	.6094	15.48	7.3750	187.33	12.0000	304.80	3	4	C23819
15/16	.9375	23.81	.6719	17.07	7.3750	187.33	12.0000	304.80	3	4	C23820
1	1.0000	25.40	.7344	18.65	7.3750	187.33	12.0000	304.80	3	4	C23821
1-1/16	1.0625	26.99	.8125	20.64	7.3750	187.33	12.0000	304.80	3	4	C23822
1-1/8	1.1250	28.58	.8594	21.83	7.3750	187.33	12.0000	304.80	3	4	C23823
1-3/16	1.1875	30.16	.9219	23.42	7.3750	187.33	12.0000	304.80	3	4	C23824

618 SERIES

HIGH SPEED STEEL

Car Length / Spiral Flute / Black Oxide

- ▷ Suited for use in structural iron or steel
- ▷ Left-hand helix, right-hand cut for difficult materials and applications
- ▷ Sharp point and long taper for easy entry in badly misaligned holes
- ▷ Commonly used in electric and pneumatic portable equipment
- ▷ Use for aligning misaligned holes



Best Material Application



Reamer Specifications



Fractional											
Reamer Diameter			Small End Diameter		Flute Length		Overall Length		Morse Taper	Number of Flutes	Order Number
Fraction	Decimal	mm	Inch	mm	Inch	mm	Inch	mm			
9/16	.5625	14.290	.3125	7.94	3.9375	100.01	7.5625	192.09	2	5	C23957
5/8	.6250	15.880	.3281	8.33	4.4375	112.71	8.0625	204.79	2	5	C23958
11/16	.6875	17.460	.3594	9.13	4.4375	112.71	8.8125	223.84	3	5	C23959
3/4	.7500	19.050	.4219	10.72	5.0000	127.00	9.5000	241.30	3	5	C23960
13/16	.8125	20.640	.4688	11.91	5.0000	127.00	9.5000	241.30	3	5	C23961
15/16	.9375	23.810	.5625	14.29	5.0000	127.00	9.5000	241.30	3	5	C23962

MACHINING - CHUCKING

4300E SERIES

HIGH SPEED STEEL

Straight Flute / Black & Bright

Best Material Application



Reamer Specifications



Provides a smooth, accurate finish to a hole

- ▷ Designed for general purpose reaming in machines such as drill presses, turret lathes, and screw machines
- ▷ Shorter and deeper flutes than hand reamers
- ▷ Regularly pointed with a 45° chamfer
- ▷ Suitable for machine reaming a wide range of materials
- ▷ All sizes are individually packaged



Fractional			
Size	Flute Length	Overall Length	Order Number
1/8"	7/8"	3-1/2"	430E108
9/64"	1"	3-1/2"	430E109
5/32"	1"	4"	430E110
11/64"	1-1/8"	4"	430E111
3/16"	1-1/8"	4-1/2"	430E112
13/64"	1-1/4"	4-1/2"	430E113
7/32"	1-1/4"	5"	430E114
15/64"	1-1/2"	5"	430E115
1/4"	1-1/2"	6"	430E116
17/64"	1-1/2"	6"	430E117
9/32"	1-1/2"	6"	430E118
19/64"	1-1/2"	6"	430E119
5/16"	1-1/2"	6"	430E120
21/64"	1-1/2"	6"	430E121
11/32"	1-1/2"	6"	430E122
23/64"	1-3/4"	6"	430E123
3/8"	1-3/4"	7"	430E124
25/64"	1-3/4"	7"	430E125
13/32"	1-3/4"	7"	430E126
27/64"	1-3/4"	7"	430E127
7/16"	1-3/4"	7"	430E128
15/32"	1-3/4"	7"	430E130
1/2"	2"	8"	430E132
17/32"	2"	8"	430E134
9/16"	2"	8"	430E136
19/32"	2"	8"	430E138
5/8"	2-1/4"	9"	430E140
21/32"	2-1/4"	9"	430E142
11/16"	2-1/4"	9"	430E144
23/32"	2-1/4"	9"	430E146
3/4"	2-1/2"	9-1/2"	430E148
25/32"	2-1/2"	9-1/2"	430E150
13/16"	2-1/2"	9-1/2"	430E152
27/32"	2-1/2"	9-1/2"	430E154
7/8"	2-5/8"	10"	430E156
29/32"	2-5/8"	10"	430E158
15/16"	2-5/8"	10"	430E160
31/32"	2-5/8"	10"	430E162
1"	2-3/4"	10-1/2"	430E164
1-1/32"	2-3/4"	10-1/2"	430E202
1-1/16"	2-3/4"	10-1/2"	430E204
1-3/32"	2-3/4"	10-1/2"	430E206
1-1/8"	2-7/8"	11"	430E208
1-5/32"	2-7/8"	11"	430E210
1-3/16"	2-7/8"	11"	430E212
1-1/4"	3"	11-1/2"	430E216
1-5/16"	3"	11-1/2"	430E220
1-3/8"	3-1/4"	12"	430E224
1-7/16"	3-1/4"	12-1/2"	430E228
1-1/2"	3-1/2"	12-1/2"	430E232

4375E SERIES

HIGH SPEED STEEL

Spiral Flute / Black & Bright

Best Material Application



Reamer Specifications



Fractional			
Size	Flute Length	Overall Length	Order Number
1/8"	7/8"	3-1/2"	437E108
9/64"	1"	3-1/2"	437E109
5/32"	1"	4"	437E110
11/64"	1-1/8"	4"	437E111
3/16"	1-1/8"	4-1/2"	437E112
13/64"	1-1/4"	4-1/2"	437E113
7/32"	1-1/4"	5"	437E114
15/64"	1-1/2"	5"	437E115
1/4"	1-1/2"	6"	437E116
17/64"	1-1/2"	6"	437E117
9/32"	1-1/2"	6"	437E118
19/64"	1-1/2"	6"	437E119
5/16"	1-1/2"	6"	437E120
21/64"	1-1/2"	6"	437E121
11/32"	1-1/2"	6"	437E122
23/64"	1-3/4"	6"	437E123
3/8"	1-3/4"	7"	437E124
25/64"	1-3/4"	7"	437E125
13/32"	1-3/4"	7"	437E126
27/64"	1-3/4"	7"	437E127
7/16"	1-3/4"	7"	437E128
15/32"	1-3/4"	7"	437E130
1/2"	2"	8"	437E132
17/32"	2"	8"	437E134
9/16"	2"	8"	437E136
19/32"	2"	8"	437E138
5/8"	2-1/4"	9"	437E140
21/32"	2-1/4"	9"	437E142
11/16"	2-1/4"	9"	437E144
23/32"	2-1/4"	9"	437E146
3/4"	2-1/2"	9-1/2"	437E148
25/32"	2-1/2"	9-1/2"	437E150
13/16"	2-1/2"	9-1/2"	437E152
27/32"	2-1/2"	9-1/2"	437E154
7/8"	2-5/8"	10"	437E156
29/32"	2-5/8"	10"	437E158
15/16"	2-5/8"	10"	437E160
31/32"	2-5/8"	10"	437E162
1"	2-3/4"	10-1/2"	437E164
1-1/16"	2-3/4"	10-1/2"	437E204
1-1/8"	2-7/8"	11"	437E208
1-3/16"	2-7/8"	11"	437E212
1-1/4"	3"	11-1/2"	437E216
1-5/16"	3"	11-1/2"	437E220
1-3/8"	3-1/4"	12"	437E224
1-7/16"	3-1/4"	12-1/2"	437E228
1-1/2"	3-1/2"	12-1/2"	437E232

4350E SERIES

HIGH SPEED STEEL

Straight Flute / Black & Bright



Best Material Application



Reamer Specifications



Metric				
Size (mm)	Shank Diameter (mm)	Flute Length (mm)	Overall Length (mm)	Order Number
2.5	2.5	20	70	435E025
3.0	3.0	20	70	435E030
3.2	3.2	22	80	435E032
3.5	3.5	22	80	435E035
4.0	4.0	22	80	435E040
4.5	4.5	22	80	435E045
5.0	5.0	25	90	435E050
6.0	6.0	28	100	435E060
7.0	7.0	30	110	435E070
8.0	8.0	32	120	435E080
9.0	9.0	36	130	435E090
10.0	10.0	40	140	435E110
11.0	9.0	40	145	435E111

Size (mm)	Shank Diameter (mm)	Flute Length (mm)	Overall Length (mm)	Order Number
12.0	10.0	40	155	435E112
13.0	11.0	45	160	435E113
14.0	11.0	45	170	435E114
15.0	13.0	45	175	435E115
16.0	13.0	45	180	435E116
17.0	14.0	50	190	435E117
18.0	14.0	50	195	435E118
19.0	16.0	50	205	435E119
20.0	16.0	50	210	435E120
21.0	18.0	55	215	435E121
22.0	18.0	55	225	435E122
23.0	18.0	60	230	435E123
24.0	20.0	60	240	435E124

4400E SERIES

HIGH SPEED STEEL

Straight Flute / Black & Bright



Best Material Application



Reamer Specifications



Fractional			
Size	Flute Length	Overall Length	Order Number
1/8"	1-1/2"	3"	440E108
5/32"	1-5/8"	3-1/4"	440E110
11/64"	1-3/4"	3-1/2"	440E111
3/16"	1-3/4"	3-1/2"	440E112
7/32"	1-7/8"	3-3/4"	440E114
1/4"	2"	4"	440E116
9/32"	2-1/8"	4-1/4"	440E118
5/16"	2-1/4"	4-1/2"	440E120
11/32"	2-3/8"	4-3/4"	440E122
3/8"	2-1/2"	5"	440E124
13/32"	2-5/8"	5-1/4"	440E126
7/16"	2-3/4"	5-1/2"	440E128
15/32"	2-7/8"	5-3/4"	440E130
1/2"	3"	6"	440E132
17/32"	3-1/8"	6-1/4"	440E134
9/16"	3-1/4"	6-1/2"	440E136
19/32"	3-3/8"	6-3/4"	440E138
5/8"	3-1/2"	7"	440E140
21/32"	3-11/16"	7-3/8"	440E142

Fractional			
Size	Flute Length	Overall Length	Order Number
11/16"	3-7/8"	7-3/4"	440E144
23/32"	4-1/16	8-1/8"	440E146
3/4"	4-3/16"	8-3/4"	440E148
25/32"	4-3/8"	8-3/4"	440E150
13/16"	4-9/16"	9-1/8"	440E152
27/32"	4-11/16"	9-3/8"	440E154
7/8"	4-7/8"	9-3/4"	440E156
29/32"	5"	10"	440E158
15/16"	5-1/8"	10-1/4"	440E160
31/32"	5-5/16"	10-5/8"	440E162
1"	5-7/16"	10-7/8"	440E164
1-1/16"	5-5/8"	11-1/4"	440E204
1-1/8"	5-13/16"	11-5/8"	440E208
1-3/16"	6"	12"	440E212
1-1/4"	6-1/8"	12-1/4"	440E216
1-5/16"	6-1/4"	12-1/2"	440E220
1-3/8"	6-5/16"	12-5/8"	440E224
1-7/16"	6-7/16"	12-7/8"	440E228
1-1/2"	6-1/2"	13"	440E232

MACHINING - HAND

4450E SERIES

HIGH SPEED STEEL

Spiral Flute / Black & Bright

Widely used for final sizing of drilled holes, by hand

- ▷ The square on the shank-end is suitable for holding in a tap wrench or vise
- ▷ The cutting edge is ground with a starting taper to provide easy entry
- ▷ All sizes are individually packaged

Best Material Application



Reamer Specifications



Fractional			
Size	Flute Length	Overall Length	Order Number
1/8"	1-1/2"	3"	445E108
5/32"	1-5/8"	3-1/4"	445E110
3/16"	1-3/4"	3-1/2"	445E112
7/32"	1-7/8"	3-3/4"	445E114
1/4"	2"	4"	445E116
9/32"	2-1/8"	4-1/4"	445E118
5/16"	2-1/4"	4-1/2"	445E120
11/32"	2-3/8"	4-3/4"	445E122
3/8"	2-1/2"	5"	445E124
13/32"	2-5/8"	5-1/4"	445E126
7/16"	2-3/4"	5-1/2"	445E128
15/32"	2-7/8"	5-3/4"	445E130
1/2"	3"	6"	445E132
17/32"	3-1/8"	6-1/4"	445E134
9/16"	3-1/4"	6-1/2"	445E136
19/32"	3-3/8"	6-3/4"	445E138
5/8"	3-1/2"	7"	445E140
21/32"	3-11/16"	7-3/8"	445E142

Size	Flute Length	Overall Length	Order Number
11/16"	3-7/8"	7-3/4"	445E144
23/32"	4-1/16"	8-1/8"	445E146
3/4"	4-3/16"	8-3/4"	445E148
25/32"	4-3/8"	8-3/4"	445E150
13/16"	4-9/16"	9-1/8"	445E152
27/32"	4-11/16"	9-3/8"	445E154
7/8"	4-7/8"	9-3/4"	445E156
29/32"	5"	10"	445E158
15/16"	5-1/8"	10-1/4"	445E160
31/32"	5-5/16"	10-5/8"	445E162
1"	5-7/16"	10-7/8"	445E164
1-1/16"	5-5/8"	11-1/4"	445E204
1-1/8"	5-13/16"	11-5/8"	445E208
1-3/16"	6"	12"	445E212
1-1/4"	6-1/8"	12-1/4"	445E216
1-5/16"	6-1/4"	12-1/2"	445E220
1-3/8"	6-5/16"	12-5/8"	445E224
1-7/16"	6-7/16"	12-7/8"	445E228
1-1/2"	6-1/2"	13"	445E232

MACHINING - TAPER PIN

10

REAMERS

Used to finish, shape, or increase the size of holes for a near-perfect fit when inserting taper pins into your workpiece.

STRAIGHT FLUTE – for hand use in easy-to-ream materials

LEFT HAND SPIRAL FLUTE – for hand use in hard-to-ream materials

HIGH SPIRAL FLUTE – for machine reaming on a production basis. Helical design throws the chips forward to relieve packing of the flutes

- ▷ Designed to ream holes to fit standard taper pins
- ▷ Taper Pin Reamers are manufactured with a taper of 1/4" per foot
- ▷ Square shank allows hand (straight and spiral flute) reamers to be held in a tap wrench or vise
- ▷ All sizes are individually packaged

Best Material Application



Reamer Specifications



4500E SERIES

HIGH SPEED STEEL

Straight Flute / Black & Bright



Fractional						
Size	Shank Dia.	Flute Length	Overall Length	Small End Dia.	Large End Dia.	Order Number
0	11/64"	1-11/16"	2-15/16"	.1287	.1638	450E000
2/0	5/32"	1-9/16"	2-9/16"	.1137	.1462	450E002
3/0	9/64"	1-5/16"	2-5/16"	.1029	.1302	450E003
4/0	1/8"	1-5/16"	2-5/16"	.0869	.1142	450E004
5/0	7/64"	1-3/16"	2-3/16"	.0719	.0966	450E005
7/0	5/64"	13/16"	1-13/16"	.0497	.0666	450E007
1	3/16"	1-11/16"	2-15/16"	.1447	.1798	450E010
2	13/64"	1-15/16"	3-3/16"	.1605	.2008	450E020
3	15/64"	2-5/16"	3-11/16"	.1813	.2294	450E030
4	17/64"	2-9/16"	4-1/16"	.2071	.2604	450E040
5	5/16"	2-13/16"	4-5/16"	.2409	.2994	450E050
6	23/64"	3-11/16"	5-7/16"	.2773	.3540	450E060
7	13/32"	4-7/16"	6-5/16"	.3297	.4220	450E070
8	7/16"	5-3/16"	7-3/16"	.3971	.505	450E080
9	9/16"	6-1/16"	8-5/16"	.4805	.6066	450E090
10	5/8"	6-13/16"	9-5/16"	.5799	.7219	450E100

4550E SERIES

HIGH SPEED STEEL

Spiral Flute / Black & Bright



Fractional						
Size	Shank Dia.	Flute Length	Overall Length	Small End Dia.	Large End Dia.	Order Number
0	11/64"	1-11/16"	2-15/16"	.1287	.1638	455E000
2/0	5/32"	1-9/16"	2-9/16"	.1137	.1462	455E002
3/0	9/64"	1-5/16"	2-5/16"	.1029	.1302	455E003
4/0	1/8"	1-5/16"	2-5/16"	.0869	.1142	455E004
5/0	7/64"	1-3/16"	2-3/16"	.0719	.0966	455E005
7/0	5/64"	13/16"	1-13/16"	.0497	.0666	455E007
1	3/16"	1-11/16"	2-15/16"	.1447	.1798	455E010
2	13/64"	1-15/16"	3-3/16"	.1605	.2008	455E020
3	15/64"	2-5/16"	3-11/16"	.1813	.2294	455E030
4	17/64"	2-9/16"	4-1/16"	.2071	.2604	455E040
5	5/16"	2-13/16"	4-5/16"	.2409	.2994	455E050
6	23/64"	3-11/16"	5-7/16"	.2773	.3540	455E060
7	13/32"	4-7/16"	6-5/16"	.3297	.4220	455E070
8	7/16"	5-3/16"	7-3/16"	.3971	.505	455E080
9	9/16"	6-1/16"	8-5/16"	.4805	.6066	455E090
10	5/8"	6-13/16"	9-5/16"	.5799	.7219	455E100

4570E SERIES

HIGH SPEED STEEL

High Spiral Flute / Black & Bright



Fractional						
Size	Shank Dia.	Flute Length	Overall Length	Small End Dia.	Large End Dia.	Order Number
0	11/64"	1-11/16"	2-15/16"	.1287	.1638	457E000
2/0	5/32"	1-9/16"	2-9/16"	.1137	.1462	457E002
3/0	9/64"	1-5/16"	2-5/16"	.1029	.1302	457E003
5/0	7/64"	1-3/16"	2-3/16"	.0719	.0966	457E005
6/0	3/32"	15/16"	1-15/16"	.0611	.0806	457E006
7/0	5/64"	13/16"	1-13/16"	.0497	.0666	457E007
1	3/16"	1-11/16"	2-15/16"	.1447	.1798	457E010
2	13/64"	1-15/16"	3-3/16"	.1605	.2008	457E020
3	15/64"	2-5/16"	3-11/16"	.1813	.2294	457E030
4	17/64"	2-9/16"	4-1/16"	.2071	.2604	457E040
5	5/16"	2-13/16"	4-5/16"	.2409	.2994	457E050
6	23/64"	3-11/16"	5-7/16"	.2773	.3540	457E060
7	13/32"	4-7/16"	6-5/16"	.3297	.4220	457E070
8	7/16"	5-3/16"	7-3/16"	.3971	.505	457E080
9	9/16"	6-1/16"	8-5/16"	.4805	.6066	457E090
10	5/8"	6-13/16"	9-5/16"	.5799	.7219	457E100

DRILCO

WALTER

MACHINING - CHUCKING

4001 SERIES

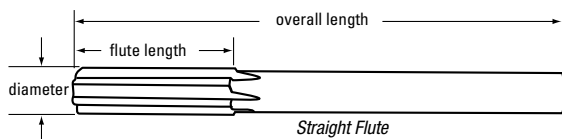
HIGH SPEED STEEL

Straight Flute / Bright

Best Material Application



Reamer Specifications



Fractional					
Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Number of Flutes	Order Number
3/64	.0469	.5000	2.5000	4	C25020
1/16	.0625	.5000	2.5000	4	C25060
5/64	.0781	.7500	3.0000	4	C25100
3/32	.0938	.7500	3.0000	4	C25140
7/64	.1094	.8750	3.5000	4	C25178
1/8	.1250	.8750	3.5000	6	C25216
9/64	.1406	1.0000	4.0000	6	C25254
5/32	.1562	1.0000	4.0000	4	C25290
11/64	.1719	1.1250	4.5000	6	C25327
3/16	.1875	1.1250	4.5000	6	C25366
13/64	.2031	1.2500	5.0000	6	C25402
7/32	.2188	1.2500	5.0000	6	C25438
15/64	.2344	1.5000	6.0000	6	C25474
1/4	.2500	1.5000	6.0000	6	C25513
17/64	.2656	1.5000	6.0000	6	C25550
9/32	.2812	1.5000	6.0000	6	C25608
19/64	.2969	1.5000	6.0000	6	C25622
5/16	.3125	1.5000	6.0000	6	C25661
21/64	.3281	1.5000	6.0000	6	C25698
11/32	.3438	1.5000	6.0000	6	C25733
23/64	.3594	1.7500	7.0000	6	C25768
3/8	.3750	1.7500	7.0000	6	C25807
25/64	.3906	1.7500	7.0000	6	C25844
13/32	.4062	1.7500	7.0000	6	C25878
27/64	.4219	1.7500	7.0000	6	C25911
7/16	.4375	1.7500	7.0000	6	C25947
29/64	.4531	1.7500	7.0000	6	C25981
15/32	.4688	1.7500	7.0000	6	C26014
31/64	.4844	2.0000	8.0000	6	C26048
1/2	.5000	2.0000	8.0000	6	C26083
17/32	.5312	2.0000	8.0000	8	C26150
9/16	.5625	2.0000	8.0000	8	C26217
19/32	.5938	2.0000	8.0000	8	C26284
5/8	.6250	2.2500	9.0000	8	C26351
21/32	.6562	2.2500	9.0000	8	C26418
11/16	.6875	2.2500	9.0000	8	C26485
23/32	.7188	2.2500	9.0000	8	C26550
3/4	.7500	2.5000	9.5000	8	C26615
25/32	.7812	2.5000	9.5000	8	C26680
13/16	.8125	2.5000	9.5000	8	C26746
27/32	.8438	2.5000	9.5000	8	C26811

Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Number of Flutes	Order Number
7/8	.8750	2.6250	10.0000	8	C26876
29/32	.9062	2.6250	10.0000	8	C26941
15/16	.9375	2.6250	10.0000	8	C27006
31/32	.9688	2.6250	10.0000	8	C27072
1IN	1.0000	2.7500	10.5000	8	C27137
1-1/16	1.0625	2.7500	10.5000	10	C27144
1-1/8	1.1250	2.8750	11.0000	10	C27152
1-3/16	1.1875	2.8750	11.0000	10	C27159
1-1/4	1.2500	3.0000	11.5000	10	C27166
1-3/8	1.3750	3.2500	12.0000	10	C27180
1-1/2	1.5000	3.5000	12.5000	12	C27195
Wire					
60	.0400	.5000	2.5000	4	C25003
59	.0410	.5000	2.5000	4	C25005
58	.0420	.5000	2.5000	4	C25008
57	.0430	.5000	2.5000	4	C25010
56	.0465	.5000	2.5000	4	C25019
55	.0520	.5000	2.5000	4	C25034
54	.0550	.5000	2.5000	4	C25041
53	.0595	.5000	2.5000	4	C25053
52	.0635	.5000	2.5000	4	C25063
51	.0670	.7500	3.0000	4	C25072
50	.0700	.7500	3.0000	4	C25079
49	.0730	.7500	3.0000	4	C25087
48	.0760	.7500	3.0000	4	C25094
47	.0785	.7500	3.0000	4	C25101
46	.0810	.7500	3.0000	4	C25108
45	.0820	.7500	3.0000	4	C25110
44	.0860	.7500	3.0000	4	C25120
43	.0890	.7500	3.0000	4	C25128
42	.0935	.7500	3.0000	4	C25139
41	.0960	.8750	3.5000	4	C25146
40	.0980	.8750	3.5000	4	C25151
39	.0995	.8750	3.5000	4	C25155
38	.1015	.8750	3.5000	4	C25159
37	.1040	.8750	3.5000	4	C25165
36	.1065	.8750	3.5000	4	C25171
35	.1100	.8750	3.5000	4	C25180
34	.1110	.8750	3.5000	4	C25183
33	.1130	.8750	3.5000	4	C25187
32	.1160	.8750	3.5000	4	C25194

continued on next page

4001 SERIES continued



Wire					
Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Number of Flutes	Order Number
31	.1200	.8750	3.5000	6	C25203
30	.1285	.8750	3.5000	6	C25226
29	.1360	1.0000	4.0000	6	C25243
28	.1405	1.0000	4.0000	6	C25253
27	.1440	1.0000	4.0000	6	C25262
26	.1470	1.0000	4.0000	6	C25269
25	.1495	1.0000	4.0000	6	C25275
24	.1520	1.0000	4.0000	6	C25281
23	.1540	1.0000	4.0000	6	C25285
22	.1570	1.0000	4.0000	6	C25292
21	.1590	1.1250	4.5000	6	C25297
20	.1610	1.1250	4.5000	6	C25301
19	.1660	1.1250	4.5000	6	C25313
18	.1695	1.1250	4.5000	6	C25322
17	.1730	1.1250	4.5000	6	C25330
16	.1770	1.1250	4.5000	6	C25339
15	.1800	1.1250	4.5000	6	C25346
14	.1820	1.1250	4.5000	6	C25351
13	.1850	1.1250	4.5000	6	C25357
12	.1890	1.1250	4.5000	6	C25369
11	.1910	1.2500	5.0000	6	C25374
10	.1935	1.2500	5.0000	6	C25380
9	.1960	1.2500	5.0000	6	C25385
8	.1990	1.2500	5.0000	6	C25392
7	.2010	1.2500	5.0000	6	C25397
6	.2040	1.2500	5.0000	6	C25404
5	.2055	1.2500	5.0000	6	C25408
4	.2090	1.2500	5.0000	6	C25417
3	.2130	1.2500	5.0000	6	C25426
2	.2210	1.5000	6.0000	6	C25443
1	.2280	1.5000	6.0000	6	C25459
Letter					
A	.2340	1.5000	6.0000	6	C25473
B	.2380	1.5000	6.0000	6	C25483
C	.2420	1.5000	6.0000	6	C25492
D	.2460	1.5000	6.0000	6	C25501
E	.2500	1.5000	6.0000	6	C25513
F	.2570	1.5000	6.0000	6	C25530
G	.2610	1.5000	6.0000	6	C25539
H	.2660	1.5000	6.0000	6	C25552
I	.2720	1.5000	6.0000	6	C25566
J	.2770	1.5000	6.0000	6	C25577
K	.2810	1.5000	6.0000	6	C25585
L	.2900	1.5000	6.0000	6	C25605
M	.2950	1.5000	6.0000	6	C25617
N	.3020	1.5000	6.0000	6	C25634
O	.3160	1.5000	6.0000	6	C25669
P	.3230	1.5000	6.0000	6	C25685
Q	.3320	1.5000	6.0000	6	C25707
R	.3390	1.5000	6.0000	6	C25723
S	.3480	1.7500	7.0000	6	C25742
T	.3580	1.7500	7.0000	6	C25764
U	.3680	1.7500	7.0000	6	C25789
V	.3770	1.7500	7.0000	6	C25811
W	.3860	1.7500	7.0000	6	C25833
X	.3970	1.7500	7.0000	6	C25858
Y	.4040	1.7500	7.0000	6	C25873
Z	.4130	1.7500	7.0000	6	C25892

Wire					
Size	Decimal Equiv.	Flute Length (mm)	Overall Length (mm)	Number of Flutes	Order Number
1.5	.0591	12.70	63.50	4	C25059
2.0	.0787	19.05	76.20	4	C25095
3.0	.1181	22.23	88.90	4	C25185
4.0	.1575	25.40	101.60	6	C25291
5.0	.1969	31.75	127.00	6	C25314
6.0	.2362	38.10	152.40	6	C25475
7.0	.2756	38.10	152.40	6	C25567
8.0	.3150	38.10	152.40	6	C25668
9.0	.3543	44.45	177.80	6	C25743
10.0	.3937	44.45	177.80	6	C25845
11.0	.4331	44.45	177.80	6	C25912
12.0	.4724	44.45	177.80	6	C26015
13.0	.5118	50.80	203.20	8	C26086
14.0	.5512	50.80	203.20	8	C26151
15.0	.5906	50.80	203.20	8	C26218
16.0	.6299	57.15	228.60	8	C26352
Dowel Pin					
Size	Decimal Equiv.	Flute Length (Inch)	Overall Length (Inch)	Number of Flutes	Order Number
.1230*	.1230	.875	3.500	4	*C25210
.1240	.1240	.875	3.500	4	C25212
.1247*	.1247	.875	3.500	4	*C25215
.1260	.1260	.875	3.500	4	C25220
.1855*	.1855	1.125	4.500	6	*C25360
.1865	.1865	1.125	4.500	6	C25362
.1870*	.1870	1.125	4.500	6	*C25365
.1885	.1885	1.125	4.500	6	C25368
.2480*	.2480	1.500	6.000	6	*C25508
.2490	.2490	1.500	6.000	6	C25510
.2495*	.2495	1.500	6.000	6	*C25512
.2510	.2510	1.500	6.000	6	C25516
.3105*	.3105	1.500	6.000	6	*C25655
.3115	.3115	1.500	6.000	6	C25658
.3120*	.3120	1.500	6.000	6	*C25660
.3135	.3135	1.500	6.000	6	C25663
.3730*	.3730	1.750	7.000	6	*C25801
.3740	.3740	1.750	7.000	6	C25804
.3745*	.3745	1.750	7.000	6	*C25806
.3760	.3760	1.750	7.000	6	C25809
.4355*	.4355	1.750	7.000	6	*C25942
.4365	.4365	1.750	7.000	6	C25944
.4370*	.4370	1.750	7.000	6	*C25946
.4385	.4385	1.750	7.000	6	C25949
.4990*	.4990	2.000	8.000	6	*C26080
.5010*	.5010	2.000	8.000	8	*C26085

*Dowel pin reamer tolerance +.0000/-0.0002



Corresponding Set		
Number of Tools	Size Range	Order Number
29	1/16" through 1/2" x 1/64"	C00964

MACHINING - CHUCKING

4005 SERIES

HIGH SPEED STEEL

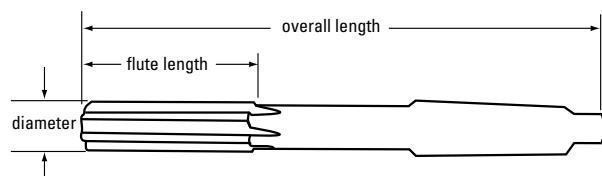
Straight Flute / Bright

- ▷ General-purpose for a wide range of operating conditions and materials
- ▷ Straight flute reamers for through holes

Best Material Application



Reamer Specifications



Fractional									
Reamer Diameter			Flute Length		Overall Length		Morse Taper	Number of Flutes	Order Number
Fraction	Decimal	mm	Inch	mm	Inch	mm			
1/4	.2500	6.35	1.5000	38.10	6.0000	152.40	1	6	C33842
5/16	.3125	7.94	1.5000	38.10	6.0000	152.40	1	6	C33986
3/8	.3750	9.53	1.7500	44.45	7.0000	177.80	1	6	C34129
7/16	.4375	11.11	1.7500	44.45	7.0000	177.80	1	6	C34266
1/2	.5000	12.70	2.0000	50.80	8.0000	203.20	1	6	C34400
17/32	.5312	13.49	2.0000	50.80	8.0000	203.20	1	6	C34467
9/16	.5625	14.29	2.0000	50.80	8.0000	203.20	1	8	C34534
19/32	.5938	15.08	2.0000	50.80	8.0000	203.20	1	8	C34601
5/8	.6250	15.88	2.2500	57.15	9.0000	228.60	2	8	C34668
21/32	.6562	16.67	2.2500	57.15	9.0000	228.60	2	8	C34735
11/16	.6875	17.46	2.2500	57.15	9.0000	228.60	2	8	C34802
23/32	.7188	18.26	2.2500	57.15	9.0000	228.60	2	8	C34867
3/4	.7500	19.05	2.5000	63.50	9.5000	241.30	2	8	C34932
25/32	.7812	19.84	2.5000	63.50	9.5000	241.30	2	8	C34997
13/16	.8125	20.64	2.5000	63.50	9.5000	241.30	2	8	C35063
27/32	.8438	21.43	2.5000	63.50	9.5000	241.30	2	8	C35128
7/8	.8750	22.23	2.6250	66.68	10.0000	254.00	2	8	C35193
29/32	.9062	23.02	2.6250	66.68	10.0000	254.00	2	8	C35258
15/16	.9375	23.81	2.6250	66.68	10.0000	254.00	3	8	C35323
31/32	.9688	24.61	2.6250	66.68	10.0000	254.00	3	8	C35389
1	1.0000	25.40	2.7500	69.85	10.5000	266.70	3	8	C35454
1-1/16	1.0625	26.99	2.7500	69.85	10.5000	266.70	3	10	C35461
1-1/8	1.1250	28.58	2.8750	73.03	11.0000	279.40	3	10	C35469
1-3/16	1.1875	30.16	2.8750	73.03	11.0000	279.40	3	10	C35476
1-1/4	1.2500	31.75	3.0000	76.20	11.5000	292.10	4	10	C35483
1-5/16	1.3125	33.34	3.0000	76.20	11.5000	292.10	4	10	C35490
1-3/8	1.3750	34.93	3.2500	82.55	12.0000	304.80	4	10	C35497
1-7/16	1.4375	36.51	3.2500	82.55	12.0000	304.80	4	10	C35505
1-1/2	1.5000	38.10	3.5000	88.90	12.5000	317.50	4	12	C35512

MACHINING - CHUCKING

1730 SERIES

SOLID CARBIDE

Straight Flute / Bright

▷ High red hardness for extended wear life in high heat conditions

Best Material Application

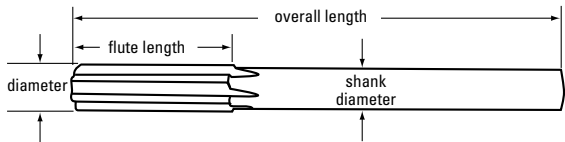


Reamer Specifications



ROUND SHANK

REAMERS



Fractional										
Drill Diameter			Shank Diameter		Flute Length		Overall Length		Number of Flutes	Order Number
Fraction	Decimal	mm	Inch	mm	Inch	mm	Inch	mm		
1/16	.0625	1.59	.058	1.47	.3750	9.53	1.5000	38.10	4	C50103
3/32	.0938	2.38	.088	2.24	.5000	12.70	2.0000	50.80	4	C50121
1/8	.1250	3.18	.120	3.05	.6250	15.88	2.2500	57.15	4	C50133
5/32	.1562	3.97	.151	3.84	.7500	19.05	2.5000	63.50	4	C50145
3/16	.1875	4.76	.182	4.62	.8750	22.23	2.7500	69.85	4	C50157
7/32	.2188	5.56	.213	5.41	1.0000	25.40	3.0000	76.20	6	C50168
1/4	.2500	6.35	.244	6.20	1.0000	25.40	3.0000	76.20	6	C50180
9/32	.2812	7.14	.270	6.86	1.1250	28.58	3.2500	82.55	6	C50194
5/16	.3125	7.94	.301	7.65	1.1250	28.58	3.2500	82.55	6	C50203
11/32	.3438	8.73	.332	8.43	1.2500	31.75	3.5000	88.90	6	C50214
3/8	.3750	9.53	.363	9.22	1.2500	31.75	3.5000	88.90	6	C50226

MACHINING - CHUCKING

4030 SERIES

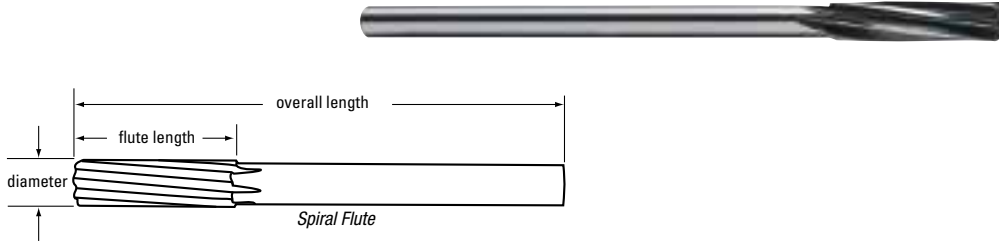
HIGH SPEED STEEL

Spiral Flute / Bright

Best Material Application



Reamer Specifications



Fractional								
Drill Diameter			Flute Length		Overall Length		Number of Flutes	Order Number
Fraction	Decimal	mm	Inch	mm	Inch	mm		
1/16	.0625	1.59	.5000	12.70	2.5000	63.50	4	C29273
5/64	.0781	1.98	.7500	19.05	3.0000	76.20	4	C29311
3/32	.0938	2.38	.7500	19.05	3.0000	76.20	4	C29350
7/64	.1094	2.78	.8750	22.23	3.5000	88.90	4	C29386
1/8	.1250	3.18	.8750	22.23	3.5000	88.90	6	C29421
9/64	.1406	3.57	1.0000	25.40	4.0000	101.60	6	C29457
5/32	.1562	3.97	1.0000	25.40	4.0000	101.60	4	C29493
3/16	.1875	4.76	1.1250	28.58	4.5000	114.30	6	C29565
13/64	.2031	5.16	1.2500	31.75	5.0000	127.00	6	C29601
7/32	.2188	5.56	1.2500	31.75	5.0000	127.00	6	C29637
1/4	.2500	6.35	1.5000	38.10	6.0000	152.40	6	C29709
17/64	.2656	6.75	1.5000	38.10	6.0000	152.40	6	C29745
9/32	.2812	7.14	1.5000	38.10	6.0000	152.40	6	C29803
5/16	.3125	7.94	1.5000	38.10	6.0000	152.40	6	C29853
21/64	.3281	8.33	1.5000	38.10	6.0000	152.40	6	C29890
11/32	.3438	8.73	1.5000	38.10	6.0000	152.40	6	C29925
23/64	.3594	9.13	1.7500	44.45	7.0000	177.80	6	C29960
3/8	.3750	9.53	1.7500	44.45	7.0000	177.80	6	C29997
25/64	.3906	9.92	1.7500	44.45	7.0000	177.80	6	C30033
13/32	.4062	10.32	1.7500	44.45	7.0000	177.80	6	C30067
7/16	.4375	11.11	1.7500	44.45	7.0000	177.80	6	C30134
29/64	.4531	11.51	1.7500	44.45	7.0000	177.80	6	C30168
15/32	.4688	11.91	1.7500	44.45	7.0000	177.80	6	C30201
31/64	.4844	12.30	2.0000	50.80	8.0000	203.20	6	C30235
1/2	.5000	12.70	2.0000	50.80	8.0000	203.20	6	C30268
17/32	.5312	13.49	2.0000	50.80	8.0000	203.20	8	C30335
9/16	.5625	14.29	2.0000	50.80	8.0000	203.20	8	C30402
19/32	.5938	15.08	2.0000	50.80	8.0000	203.20	8	C30469
5/8	.6250	15.88	2.2500	57.15	9.0000	228.60	8	C30536
21/32	.6562	16.67	2.2500	57.15	9.0000	228.60	8	C30603
11/16	.6875	17.46	2.2500	57.15	9.0000	228.60	8	C30670
23/32	.7188	18.26	2.2500	57.15	9.0000	228.60	8	C30735
3/4	.7500	19.05	2.5000	63.50	9.5000	241.30	8	C30800
25/32	.7812	19.84	2.5000	63.50	9.5000	241.30	8	C30865
13/16	.8125	20.64	2.5000	63.50	9.5000	241.30	8	C30931
7/8	.8750	22.23	2.6250	66.68	10.0000	254.00	8	C31061
15/16	.9375	23.81	2.6250	66.68	10.0000	254.00	8	C31191
1IN	1.0000	25.40	2.7500	69.85	10.5000	266.70	8	C31322
1-1/8	1.1250	28.58	2.8750	73.03	11.0000	279.40	10	C31337
1-1/4	1.2500	31.75	3.0000	76.20	11.5000	292.10	10	C31351
1-3/8	1.3750	34.93	3.2500	82.55	12.0000	304.80	10	C31365
1-1/2	1.5000	38.10	3.5000	88.90	12.5000	317.50	12	C31380

MACHINING - TAPER PIN

10

REAMERS

CLEVELAND | WALTER

657 SERIES

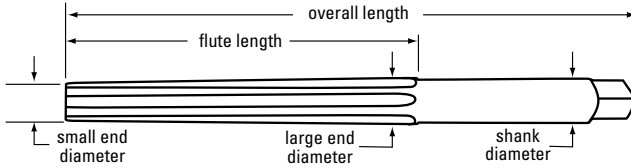
HIGH SPEED STEEL

Straight Flute / Bright

Best Material Application



Reamer Specifications



Size Number	Small End Diameter		Large End Diameter		Shank Diameter		Flute Length		Overall Length		Number of Flutes	Order Number
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
#6/0	.0611	1.55	.0806	2.05	.0938	2.38	.9375	23.81	1.9375	49.21	4	C24250
#5/0	.0719	1.83	.0966	2.45	.1094	2.78	1.1875	30.16	2.1875	55.56	4	C24251
#4/0	.0869	2.21	.1142	2.90	.1250	3.18	1.3125	33.34	2.3125	58.74	4	C24252
#3/0	.1029	2.61	.1302	3.31	.1406	3.57	1.3125	33.34	2.3125	58.74	4	C24253
#2/0	.1137	2.89	.1462	3.71	.1562	3.97	1.5625	39.69	2.5625	65.09	4	C24254
#0	.1287	3.27	.1638	4.16	.1719	4.37	1.6875	42.86	2.9375	74.61	4	C24255
#1	.1447	3.68	.1798	4.57	.1875	4.76	1.6875	42.86	2.9375	74.61	6	C24256
#2	.1605	4.08	.2008	5.10	.2031	5.16	1.9375	49.21	3.1875	80.96	6	C24257
#3	.1813	4.61	.2294	5.83	.2344	5.95	2.3125	58.74	3.6875	93.66	6	C24258
#4	.2071	5.26	.2604	6.61	.2656	6.75	2.5625	65.09	4.0625	103.19	6	C24259
#5	.2409	6.12	.2994	7.60	.3125	7.94	2.8125	71.44	4.3125	109.54	6	C24260
#6	.2773	7.04	.3540	8.99	.3594	9.13	3.6875	93.66	5.4375	138.11	6	C24261
#7	.3297	8.37	.4220	10.72	.4062	10.32	4.4375	112.71	6.3125	160.34	6	C24262
#8	.3971	10.09	.5050	12.83	.4375	11.11	5.1875	131.76	7.1875	182.56	6	C24263
#9	.4805	12.20	.6066	15.41	.5625	14.29	6.0625	153.99	8.3125	211.14	8	C24264
#10	.5799	14.73	.7216	18.33	.6250	15.88	6.8125	173.04	9.3125	236.54	8	C24265

MACHINING - TAPER PIN

659 SERIES

HIGH SPEED STEEL

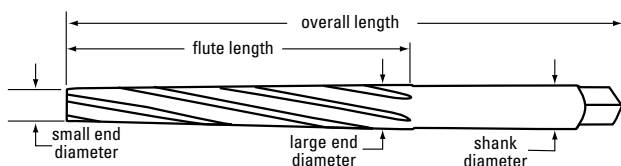
Spiral Flute / Bright

- ▷ Designed to turn a straight hole into a tapered hole for standard taper pins.
- ▷ Straight flute design is recommended for most materials and applications.
- ▷ Left-hand spiral, right-hand cut helical flute design is recommended for applications where the reamer tends to wedge itself.
- ▷ Dimensions match taper pin specifications.
- ▷ Square on shank for use with tap wrench in hand reaming applications.

Best Material Application



Reamer Specifications



Size Number	Small End Diameter		Large End Diameter		Shank Diameter		Flute Length		Overall Length		Number of Flutes	Order Number
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
#6/0	.0611	1.55	.0806	2.05	.0938	2.38	.9375	23.81	1.9375	49.21	4	C24271
#5/0	.0719	1.83	.0966	2.45	.1094	2.78	1.1875	30.16	2.1875	55.56	4	C24272
#4/0	.0869	2.21	.1142	2.90	.1250	3.18	1.3125	33.34	2.3125	58.74	4	C24273
#3/0	.1029	2.61	.1302	3.31	.1406	3.57	1.3125	33.34	2.3125	58.74	4	C24274
#2/0	.1137	2.89	.1462	3.71	.1562	3.97	1.5625	39.69	2.5625	65.09	4	C24275
#0	.1287	3.27	.1638	4.16	.1719	4.37	1.6875	42.86	2.9375	74.61	4	C24276
#1	.1447	3.68	.1798	4.57	.1875	4.76	1.6875	42.86	2.9375	74.61	6	C24277
#2	.1605	4.08	.2008	5.10	.2031	5.16	1.9375	49.21	3.1875	80.96	6	C24278
#3	.1813	4.61	.2294	5.83	.2344	5.95	2.3125	58.74	3.6875	93.66	6	C24279
#4	.2071	5.26	.2604	6.61	.2656	6.75	2.5625	65.09	4.0625	103.19	6	C24280
#5	.2409	6.12	.2994	7.60	.3125	7.94	2.8125	71.44	4.3125	109.54	6	C24281
#6	.2773	7.04	.3540	8.99	.3594	9.13	3.6875	93.66	5.4375	138.11	6	C24282
#7	.3297	8.37	.4220	10.72	.4062	10.32	4.4375	112.71	6.3125	160.34	6	C24283
#8	.3971	10.09	.5050	12.83	.4375	11.11	5.1875	131.76	7.1875	182.56	6	C24284
#9	.4805	12.20	.6066	15.41	.5625	14.29	6.0625	153.99	8.3125	211.14	8	C24285
#10	.5799	14.73	.7216	18.33	.6250	15.88	6.8125	173.04	9.3125	236.54	8	C24286

MACHINING - TAPER PIN

10

REAMERS

650 SERIES

HIGH SPEED STEEL

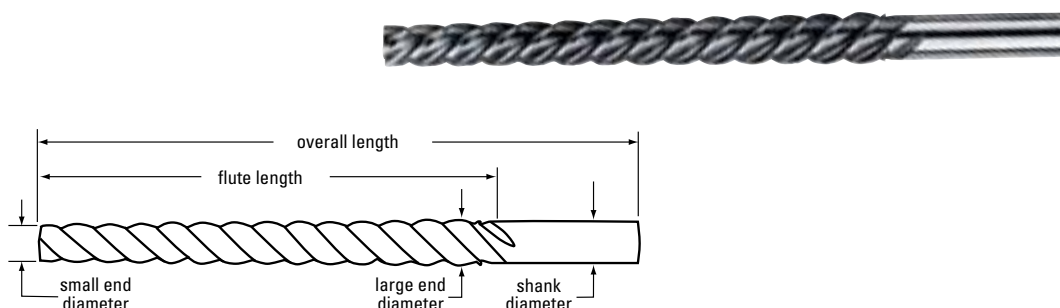
High Spiral / Bright

- ▷ Designed to ream a hole for standard taper pins by machine
- ▷ Free cutting action at high speeds produces a good finish and minimizes chip packing in flutes
- ▷ Left-hand spiral, right-hand cut helical flute design for difficult applications
- ▷ Manufactured from premium high-speed steel
- ▷ 1/4" taper per foot
- ▷ Dimensions match taper pin specifications

Best Material Application



Reamer Specifications



Fractional												
Size Number	Small End Diameter		Large End Diameter		Shank Diameter		Flute Length		Overall Length		Number of Flutes	Order Number
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
#7/0	.0497	1.26	.0666	1.69	.0781	1.98	.8125	20.64	1.8125	46.04	2	C24229
#6/0	.0611	1.55	.0806	2.05	.0938	2.38	.9375	23.81	1.9375	49.21	3	C24230
#5/0	.0719	1.83	.0966	2.45	.1094	2.78	1.1875	30.16	2.1875	55.56	2	C24231
#4/0	.0869	2.21	.1142	2.90	.1250	3.18	1.3125	33.34	2.3125	58.74	3	C24232
#3/0	.1029	2.61	.1302	3.31	.1406	3.57	1.3125	33.34	2.3125	58.74	2	C24233
#2/0	.1137	2.89	.1462	3.71	.1562	3.97	1.5625	39.69	2.5625	65.09	3	C24234
#0	.1287	3.27	.1638	4.16	.1719	4.37	1.6875	42.86	2.9375	74.61	3	C24235
#1	.1447	3.68	.1798	4.57	.1875	4.76	1.6875	42.86	2.9375	74.61	3	C24236
#2	.1605	4.08	.2008	5.10	.2031	5.16	1.9375	49.21	3.1875	80.96	3	C24237
#3	.1813	4.61	.2294	5.83	.2344	5.95	2.3125	58.74	3.6875	93.66	3	C24238
#4	.2071	5.26	.2604	6.61	.2656	6.75	2.5625	65.09	4.0625	103.19	3	C24239
#5	.2409	6.12	.2994	7.60	.3125	7.94	2.8125	71.44	4.3125	109.54	3	C24240
#6	.2773	7.04	.3540	8.99	.3594	9.13	3.6875	93.66	5.4375	138.11	3	C24241
#7	.3297	8.37	.4220	10.72	.4062	10.32	4.4375	112.71	6.3125	160.34	3	C24242
#8	.3971	10.09	.5050	12.83	.4375	11.11	5.1875	131.76	7.1875	182.56	3	C24243
#9	.4805	12.20	.6066	15.41	.5625	14.29	6.0625	153.99	8.3125	211.14	3	C24244
#10	.5799	14.73	.7216	15.41	.6250	15.88	6.8125	173.04	9.3125	236.54	4	C24245

CLEVELAND | WALTER

MACHINING - PIPE

642 SERIES

HIGH SPEED STEEL

Spiral Flute / Bright

- ▷ Designed to ream holes to be tapped with American National Standard taper pipe taps
- ▷ 3/4-inch taper per foot
- ▷ Left-hand spiral flutes impart smoother, easier cutting action and longer wear life
- ▷ Right-hand cut pushes chip forward
- ▷ Square on shank for use with tap wrench in hand reaming applications

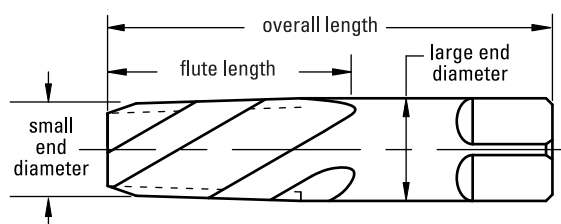
Best Material Application



Reamer Specifications



SQUARE SHANK



Fractional												
Nominal Pipe Diameter			Small End Diameter		Large End Diameter		Flute Length		Overall Length		Number of Flutes	Order Number
Fraction	Decimal	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
1/8	.1250	3.18	.3160	8.03	.3620	9.19	.7500	19.05	2.1250	53.98	6	C24982
1/4	.2500	6.35	.4060	10.31	.4720	11.99	1.0625	26.99	2.4375	61.91	6	C24983
3/8	.3750	9.53	.5400	13.72	.6060	15.39	1.0625	26.99	2.5625	65.09	6	C24984
1/2	.5000	12.70	.6650	16.89	.7510	19.08	1.3750	34.93	3.1250	79.38	6	C24985
3/4	.7500	19.50	.8760	22.25	.9620	24.43	1.3750	34.93	3.7500	95.25	8	C24986
1	1.0000	25.40	1.1030	28.02	1.2120	30.78	1.7500	44.45	3.7500	95.25	8	C24987
1-1/4	1.2500	31.75	1.4440	36.68	1.5530	39.45	1.7500	44.45	4.0000	101.60	10	C24988
1-1/2	1.5000	38.10	1.6840	42.77	1.7930	45.54	1.7500	44.45	4.2500	107.95	10	C24989



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COUNTERSINKS

QUICK PAGES REFERENCES

COUNTERSINKS

Chicago-Latrobe |  **WALTER**

GENERAL PURPOSE

HIGH SPEED STEEL		
Black Oxide Finish		
Type	Series	Page Number
Single flute	209SF	723
3-Flute	213	723



 **DRILLCO** |  **WALTER**

GENERAL PURPOSE

HIGH SPEED STEEL		
Bright Finish		
For low to medium tensile strength materials		
Type	Series	Page Number
Single flute	3600E	729
3-flute	3700E	729
4-flute	3800E	730
6-flute	3900E	730
Fluteless	4000E	731



HEAVY-DUTY

HIGH SPEED STEEL + ALUMINUM (M2AL)		
AlCrN Coated		
For hard steel		
Type	Series	Page Number
4-flute	01U	732

 **CLEVELAND** |  **WALTER**

GENERAL PURPOSE

CARBIDE		
Black Oxide Finish		
Type	Series	Page Number
Single flute	110C1	724
3-flute	110C3	724
6-Flute	110C6	724



HEAVY-DUTY

COBALT		
Bright		
Type	Series	Page Number
Fluteless	3001	725



GENERAL PURPOSE

HIGH SPEED STEEL		
Bright		
Type	Series	Page Number
Single flute	10001	726
3-flute	10003	726
4-Flute	610	727



 **WALTER**



SINGLE FLUTE COUNTERSINK

209SF

HIGH SPEED STEEL

Black Oxide

- ▷ Use single flute countersinks in holes too small for multi-flute countersinks
- ▷ Single-flute available with 82° and 90° point angles



Best Material Application



Countersink Specifications



Diameter			Shank Diameter		Overall Length		Order No.	
Fraction	Decimal	mm	Inch	mm	Inch	mm	82° Angle	90° Angle
1/4	.2500	6.35	.1875	4.76	1.5000	38.10	56736	56756
3/8	.3750	9.53	.2500	6.35	1.7500	44.45	56738	56758
1/2	.5000	12.70	.2500	6.35	2.0000	50.80	56740	56760
3/4	.7500	19.05	.5000	12.70	2.6250	66.68	56744	56774
1	1.0000	25.40	.5000	12.70	2.7500	69.85	56748	56778

3 FLUTE COUNTERSINK

213

HIGH SPEED STEEL

Black Oxide

- ▷ Use multi-flute countersinks in much larger size holes.
- ▷ Three-flute available with 82°, 90° and 100° point angles



Best Material Application



Countersink Specifications



Diameter			Shank Diameter		Overall Length		Shank Length		Order No.		
Fraction	Decimal	mm	Inch	mm	Inch	mm	Inch	mm	82° Angle	90° Angle	100° Angle
1/4	.2500	6.35	.1875	4.76	1.5000	38.10	.7500	19.05	56836	56856	56876
3/8	.3750	9.53	.2500	6.35	1.7500	44.45	.8750	22.23	56838	56858	56878
1/2	.5000	12.70	.2500	6.35	2.0000	50.80	1.0000	25.40	56839	56859	56879
1/2	.5000	12.70	.3750	9.53	2.0000	50.80	1.0000	25.40	56840	56860	56880
5/8	.6250	15.88	.3750	9.53	2.2500	57.15	1.0000	25.40	56842	56862	56882
3/4	.7500	19.05	.5000	12.70	2.6250	66.68	1.2500	31.75	56844	56864	56884

SET			
Number of Tools	Size Range	Case Style	82° Angle Order No.
5	1/4 - 3/4 X 1/8	plastic pouch	64216



SINGLE FLUTE CARBIDE COUNTERSINK

110C1

CARBIDE
Bright


Best Material Application



Countersink Specifications



Tool Diameter		Shank Dia.	Overall Length	Order No.		
Fraction	Decimal	Inch	Inch	60° Angle	82° Angle	90° Angle
1/8	.1250	1/8	1-1/2	C46320	C46328	C46336
3/16	.1875	3/16	2	C46321	C46329	C46337
1/4	.2500	1/4	2	C46322	C46330	C46338
3/8	.3750	1/4	2-5/8	C46323	C46331	C46339
1/2	.5000	1/4	2-7/8	C46324	C46332	C46340
5/8	.6250	3/8	3	C46325	C46333	C46341
3/4	.7500	1/2	3	C46326	C46334	C46342
1	1.000	1/2	2-3/4	C46327	C46335	C46343

3 FLUTE CARBIDE COUNTERSINK

110C3

CARBIDE
Bright


Best Material Application



Countersink Specifications



Tool Diameter		Shank Dia.	Overall Length	Order No.		
Fraction	Decimal	Inch	Inch	60° Angle	82° Angle	90° Angle
1/8	.1250	1/8	1-1/2	C46344	C46352	C46360
3/16	.1875	3/16	2	C46345	C46353	C46361
1/4	.2500	1/4	2	C46346	C46354	C46362
3/8	.3750	1/4	2-5/8	C46347	C46355	C46363
1/2	.5000	1/4	2-7/8	C46348	C46356	C46364
5/8	.6250	3/8	3	C46349	C46357	C46365
3/4	.7500	1/2	3	C46350	C46358	C46366
1	1.000	1/2	2-3/4	C46351	C46359	C46367

6 FLUTE CARBIDE COUNTERSINK

110C6

CARBIDE
Bright


Best Material Application



Countersink Specifications



Tool Diameter		Shank Dia.	Overall Length	Order No.		
Fraction	Decimal	Inch	Inch	60° Angle	82° Angle	90° Angle
1/8	.1250	1/8	1-1/2	C46368	C46376	C46384
3/16	.1875	3/16	2	C46369	C46377	C46385
1/4	.2500	1/4	2	C46370	C46378	C46386
3/8	.3750	1/4	2-5/8	C46371	C46379	C46387
1/2	.5000	1/4	2-7/8	C46372	C46380	C46388
5/8	.6250	3/8	3	C46373	C46381	C46389
3/4	.7500	1/2	3	C46374	C46382	C46390
1	1.000	1/2	2-3/4	C46375	C46383	C46391

COUNTERSINK & DEBURRING

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COUNTERSINKS

CLEVELAND | WALTER

3001

COBALT

Bright / Straight Shank

Countersink and deburring tools are simple, all-purpose tools made of Cobalt that provide flawless countersinking and deburring. The chatter-free cutting action requires minimal power. The micro-smooth CNC precision ground construction produces clean, smooth cutting without smearing on a variety of materials. The tool especially excels in countersinking or deburring holes in aluminum, plastics and other nonmetallic.

Best Material Application



Countersink Specifications



Head Diameter	Diameter of Cut		Overall Length	Shank Dia.	60° Order No.
	Min	Max			
5/16	7/64	9/32	1-7/8	1/4	C94560
3/8	5/32	11/32	1-7/8	1/4	C94561
1/2	11/64	29/64	2	5/16	C94562
5/8	3/16	37/64	2-1/2	3/8	C94563
3/4	1/4	45/64	2-3/4	3/8	C94564
1	19/64	27/32	3	3/8	C94565
1-1/4	27/64	1-1/32	3-1/2	1/2	C94566



Head Diameter	Diameter of Cut		Overall Length	Shank Dia.	82° Order No.	90° Order No.	100° Order No.
	Min	Max					
5/16	3/32	9/32	1-5/8	1/4	C94567	C94574	C94581
3/8	9/64	11/32	1-3/4	1/4	C94568	C94575	C94582
1/2	5/32	29/64	1-3/4	5/16	C94569	C94576	C94583
5/8	11/64	37/64	2-1/8	3/8	C94570	C94577	C94584
3/4	13/64	45/64	2-3/8	3/8	C94571	C94578	C94585
1	19/64	59/64	2-5/8	3/8	C94572	C94579	C94586
1-1/4	23/64	1-1/32	3-1/8	1/2	C94573	C94580	C94587

SETS 4 PIECES		
Angle	Sizes	Order No.
60°	5/16, 3/8, 1/2, 5/8	C94588
	C94560, C94561, C94562, C94563	
82°	5/16, 3/8, 1/2, 5/8	C94589
	C94567, C94568, C94569, C94570	
90°	5/16, 3/8, 1/2, 5/8	C94590
	C94574, C94575, C94576, C94577	
100°	5/16, 3/8, 1/2, 5/8	C94591
	C94581, C94582, C94583, C94584	

SETS - 5 PIECES		
Angle	Sizes	Order No.
60°	5/16, 3/8, 1/2, 3/4, 1	C94592
	C94560, C94561, C94562, C94564, C94565	
82°	5/16, 3/8, 1/2, 3/4, 1	C94593
	C94567, C94568, C94569, C94571, C94572	
90°	5/16, 3/8, 1/2, 3/4, 1	C94594
	C94574, C94575, C94576, C94578, C94579	
100°	5/16, 3/8, 1/2, 3/4, 1	C94595
	C94581, C94582, C94583, C94585, C94586	

3 FLUTE COUNTERSINK

10003

HIGH SPEED STEEL

Black Oxide



Best Material Application



Countersink Specifications



Tool Diameter		Shank Dia.	Overall Length	Order No.				
Fraction	Decimal	Inch	Inch	60° Angle	82° Angle	90° Angle	100° Angle	120° Angle
1/4	.2500	.188	1.500	C46150	C46151	C46152	C46153	C46155
3/8	.3750	.250	1.750	C46156	C46157	C46158	C46159	C46161
1/2	.5000	.250	2.000	C46162	C46163	C46164	C46165	C46167
5/8	.6250	.375	2.250	C46168	C46169	C46170	C46171	C46173
3/4	.7500	.500	2.625	C46174	C46175	C46176	C46177	C46179
1	1.0000	.500	2.750	C46180	C46181	C46182	C46183	C46185
1-1/4	1.2500	.500	2.750	C46186	C46187	C46188	—	—
1-1/2	1.5000	.750	2.875	C46189	C46190	C46191	—	—
2	2.0000	.750	3.250	—	—	C46192	—	—

SINGLE FLUTE COUNTERSINK

10001

HIGH SPEED STEEL

Black Oxide



Best Material Application



Countersink Specifications



Tool Diameter		Shank Dia.	Overall Length	Order No.				
Fraction	Decimal	Inch	Inch	60° Angle	82° Angle	90° Angle	100° Angle	120° Angle
1/4	.2500	.188	1.500	C46101	C46102	C46103	C46104	C46106
3/8	.3750	.250	1.750	C46107	C46108	C46109	C46110	C46112
1/2	.5000	.250	2.000	C46113	C46114	C46115	C46116	C46118
5/8	.6250	.375	2.250	C46119	C46120	C46121	C46122	C46123
3/4	.7500	.500	2.625	C46124	C46125	C46126	C46127	C46129
1	1.0000	.500	2.750	C46130	C46131	C46132	C46133	C46135
1-1/4	1.2500	.500	2.750	C46136	C46137	C46138	—	—
1-1/2	1.5000	.750	2.875	C46141	C46139	C46140	—	—
2	2.0000	.750	3.250	C46142	—	C46143	—	—

SETS

Number of Pieces	Angle	Size Range	Order No. 10001	Order No. 10003
5	60°	1/4" through 3/4" x 1/8"	C00970	C00972
5	82°	1/4" through 3/4" x 1/8"	C00971	C00973



4 FLUTE CENTER REAMER / COUNTERSINK

610

Black Oxide



Best Material Application



Countersink Specifications



11
COUNTERSINKS

Tool Diameter		Shank Dia.	Overall Length	Order No.			
Fraction	Decimal	Inch	Inch	60° Angle	82° Angle	90° Angle	100° Angle
1/4	.2500	.188	1.500	C46198	C46199	C46200	C46201
3/8	.3750	.250	1.750	C46204	C46205	C46206	C46207
1/2	.5000	.375	2.000	C46210	C46211	C46212	C46213
5/8	.6250	.375	2.250	C46216	C46217	C46218	C46219
3/4	.7500	.500	2.625	C46222	C46223	C46224	C46225

SET			
Number of Pieces	angle	Size Range	Order No.
5	82°	1/4"-3/4" x 1/8"	C00969



CLEVELAND | WALTER



SINGLE FLUTE COUNTERSINKS

3600E SERIES

Countersink Fractional / Bright

Single-flute countersinks should be used when multi-flute countersinks chatter or the hole is too small for a multi-flute countersink to enter.

- ▷ 60° Countersinks are used for centering
- ▷ 82° Countersinks are used for countersinking flathead screws
- ▷ 90° Countersinks are used for chamfering and deburring
- ▷ 100° Countersinks are used to make screw and rivet holes
- ▷ All sizes are individually packaged



Best Material Application



STEEL



CAST IRON

Countersink Specifications



REDUCED SHANK

Size	Shank Dia.	Overall Length	No. of Flutes	60° Order No.	82° Order No.	90° Order No.	100° Order No.
3/16"	3/16"	1-1/2"	1	36E112A	36E112B	36E112C	36E112D
1/4"	1/4"	2"	1	36E116A	36E116B	36E116C	36E116D
5/16"	1/4"	2"	1	36E120A	36E120B	36E120C	36E120D
3/8"	1/4"	2"	1	36E124A	36E124B	36E124C	36E124D
1/2"	1/4"	2"	1	36E132A	36E132B	36E132C	36E132D
5/8"	1/2"	2-3/4"	1	36E140A	36E140B	36E140C	36E140D
3/4"	1/2"	2-3/4"	1	36E148A	36E148B	36E148C	36E148D
7/8"	1/2"	2-3/4"	1	36E156A	36E156B	36E156C	36E156D
1"	1/2"	2-3/4"	1	36E164A	36E164B	36E164C	36E164D
1-1/4"	3/4"	3-3/8"	1	36E216A	36E216B	36E216C	36E216D
1-1/2"	3/4"	3-3/8"	1	36E232A	36E232B	36E232C	36E232D
2"	3/4"	3-3/8"	1	36E264A	36E264B	36E264C	36E264D

3 FLUTE COUNTERSINKS

3700E SERIES

Center Reamer Fractional / Bright

Center reamers are designed for countersinking holes for flathead screws and rivets in portable drilling applications.

- ▷ All sizes are individually packaged



Best Material Application



STEEL



CAST IRON

Countersink Specifications



REDUCED SHANK

Size	Shank Dia.	Shank Length	Overall Length	No. of Flutes	60° Order No.	82° Order No.	90° Order No.	100° Order No.
1/4"	3/16"	3/4"	1-1/2"	3	37E116A	37E116B	37E116C	37E116D
3/8"	1/4"	7/8"	1-3/4"	3	37E124A	37E124B	37E124C	37E124D
1/2"	3/8"	1"	2"	3	37E132A	37E132B	37E132C	37E132D
5/8"	3/8"	1"	2-1/4"	3	37E140A	37E140B	37E140C	37E140D
3/4"	1/2"	1-1/4"	2-5/8"	3	37E148A	37E148B	37E148C	37E148D
1"	1/2"	1-1/4"	3-1/2"	3	37E164A	37E164B	37E164C	37E164D
1-1/4"	3/4"	1-1/2"	3-1/2"	3	37E216A	37E216B	37E216C	37E216D
1-1/2"	3/4"	1-1/2"	3-1/2"	3	37E232A	37E232B	37E232C	37E232D
2"	3/4"	1-1/2"	3-3/4"	3	37E264A	37E264B	37E264C	37E264D

4 FLUTE COUNTERSINKS

3800E SERIES

Machine Countersink
Fractional / Bright

Four flute machine countersinks have a longer shank to use in turret lathes and for screw machine work.

▷ All sizes are individually packaged



Best Material Application



Countersink Specifications



Size	Shank Dia.	Shank Length	Overall Length	No. of Flutes	60° Order No.	82° Order No.	90° Order No.
1/2"	1/2"	2-1/4"	3-7/8"	4	38E132A	38E132B	38E132C
5/8"	1/2"	2-1/4"	4"	4	38E140A	38E140B	38E140C
3/4"	1/2"	2-1/4"	4-1/8"	4	38E148A	38E148B	38E148C
7/8"	1/2"	2-1/4"	4-1/4"	4	38E156A	38E156B	38E156C
1"	1/2"	2-1/4"	4-3/8"	4	38E164A	38E164B	38E164C
1-1/4"	1/2"	2-1/4"	5"	4	38E216A	38E216B	38E216C
1-1/2"	1/2"	2-1/4"	5-3/8"	4	38E232A	38E232B	38E232C

6 FLUTE COUNTERSINKS

3900E SERIES

Chatterless Countersink
Fractional / Bright

Six flute chatterless countersinks are designed for fast shearing cuts.

▷ All sizes are individually packaged



Best Material Application



Countersink Specifications



Size	Shank Dia.	Shank Length	Overall Length	No. of Flutes	60° Order No.	82° Order No.	90° Order No.
3/16"	3/16"	1"	1-1/2"	6	39E112A	39E112B	39E112C
1/4"	1/4"	1"	2"	6	39E116A	39E116B	39E116C
5/16"	1/4"	1"	2"	6	39E120A	39E120B	39E120C
3/8"	1/4"	1"	2"	6	39E124A	39E124B	39E124C
1/2"	1/4"	1"	2"	6	39E132A	39E132B	39E132C
5/8"	1/2"	1-1/8"	2-3/4"	6	39E140A	39E140B	39E140C
3/4"	1/2"	1-5/16"	2-3/4"	6	39E148A	39E148B	39E148C
7/8"	1/2"	1-5/16"	2-3/4"	6	39E156A	39E156B	39E156C
1"	1/2"	1-5/16"	2-3/4"	6	39E164A	39E164B	39E164C
1-1/4"	3/4"	1-5/8"	3-3/8"	6	39E216A	39E216B	39E216C
1-1/2"	3/4"	1-5/8"	3-1/2"	6	39E232A	39E232B	39E232C
1-3/4"	1"	2-1/8"	4-1/4"	6	39E248A	39E248B	39E248C
2"	1"	2-1/8"	4-3/8"	6	39E264A	39E264B	39E264C

FLUTELESS COUNTERSINKS

4000E SERIES

Deburring Tools
Fractional / Bright

Fluteless deburring tools have an angled hole that passes through the center of the tool to reduce vibration and chatter. This creates smooth cuts and prevents chips from clogging the tool.



Best Material Application



STEEL



CAST IRON

Countersink Specifications



REDUCED SHANK

Size	Inch Dia.	Shank Dia.	60° Order No.	82° Order No.
0	1/16" - 15/64"	1/4"	—	40E000B
1	5/32" - 13/32"	1/4"	—	40E001B
2	3/16" - 17/32"	1/4"	—	40E002B
3	5/16" - 25/32"	1/2"	—	40E003B
4	9/16" - 1-1/16"	1/2"	—	40E004B
5	5/8" - 1-15/32"	1/2"	—	40E005B
6	3/4" - 1-3/4"	5/8"	—	40E006B
7	1" - 2"	5/8"	—	40E007B
8	1.1/4" - 2-1/2"	3/4"	—	40E008B
#0 - #4SET	—	—	40ESETA	40ESETB

HEAVY-DUTY COUNTERSINKS

4-FLUTE

Now with the exclusive ICECUT™ coating

Made of M2Al to minimize vibration and maximize product life. Also features an exclusive AlCrN coating to provide greater heat resistance to further extend product life. The 82° point angle is ideal for countersinking but they can also be used for deburring and chamfering in steel, stainless steel and non-ferrous metals.

- ▷ Thicker teeth for added stability
- ▷ Special coating reducing frictional heat and optimizing tool life
- ▷ Special tip geometry for a uniform chamfer
- ▷ Packaged in reusable plastic packaging

Best Material Application



Countersink Specifications



Dia.	Angle	Overall Length	Shank Dia.	Order No.	Std. Pkg.	Std. Ctn.
1/4"	82°	2"	3/16"	01U004	1	10
5/16"	82°	2"	1/4"	01U005	1	10
3/8"	82°	2"	5/16"	01U006	1	10
1/2"	82°	2"	5/16"	01U008	1	10
5/8"	82°	2-1/4"	3/8"	01U010	1	10
3/4"	82°	2-3/4"	3/8"	01U012	1	10
1"	82°	2-3/4"	3/8"	01U100	1	10
1"	82°	1-3/4"	3/4"	01U400	1	10
1-1/2"	82°	2"	3/4"	01U408	1	10
2"	82°	2-1/4"	3/4"	01U500	1	10

* 3/4 Weldon shank

Tech tip!

For increased cutting efficiency and tool life, use COOLCUT™ solid stick lubricant
Order No.: 53B013

Recommended cutting speed for M2Al HSS Countersinks (82°)						
Cutter Dia.		Aluminium	Copper	Mild	Stainless Steel	Non-metallic Steel
Inch	mm					
1/4"	6.4	1505	1404	752	602	1755
5/16"	7.9	1203	1123	602	481	1404
3/8"	9.5	1004	937	502	401	1171
7/16"	11.1	861	803	430	344	1004
1/2"	12.7	752	702	376	301	878
9/16"	14.3	669	624	335	268	781
5/8"	15.9	602	562	301	241	702
11/16"	17.5	547	511	274	219	638
3/4"	19.1	502	468	251	201	585
13/16"	20.6	463	432	231	185	540
7/8"	22.2	430	401	215	172	502
15/16"	23.8	401	375	201	161	468
1"	25.4	376	351	188	150	439
1-1/16"	27	354	331	177	142	413
1-1/8"	28.6	334	312	167	134	390
1-3/16"	30.2	317	296	158	127	370
1-1/4"	31.8	251	234	125	100	293
1-9/16"	39.7	241	225	120	96	281
1-5/8"	41.3	231	216	116	93	270
1-11/16"	42.9	223	208	111	89	260
1-3/4"	44.5	215	201	107	86	251
1-13/16"	46	208	194	104	83	242
1 7/8"	47.6	201	187	100	80	234
1-15/16"	49.2	194	181	97	78	227
2"	50.8	188	176	94	75	219

Contains the five most popular countersinks (Sizes 1/4", 3/8", 1/2", 3/4", 1") and cutting lubricant. Packaged in a reclosable, resistant plastic case.

Countersink Set	
Each kit contains	Item Number
01U004, 01U006, 01U008, 01U012, 01U100	01U950



01U950

12

COUNTERBORES



3 FLUTE CONTINUOUS PILOT

183

HIGH SPEED STEEL

Straight Shank / Bright



Number	Cutter Diameter	Pilot Diameter	Shank Diameter	Overall Length	Cap Screw Size	Order No.
183-CSS-6	.230	.135	.219	3.000	No. 6	C91695
183-CSS-7	.242	.150	.219	3.000	No. 6	C91696
183-CSS-8	.274	.161	.250	3.000	No. 8	C91697
183-CSS-9	.286	.178	.250	3.000	No. 8	C91698
183-CSS-10	.316	.187	.313	3.500	No. 10	C91699
183-CSS-11	.328	.204	.313	3.500	No. 10	C91700
183-CSS-12	.348	.213	.344	3.500	No. 12	C91701
183-CSS-16	.375	.250	.375	3.500	No. 12	C91703
183-CSS-17	.391	.266	.375	5.750	1/4	C92704
183-CSS-18	.406	.281	.375	5.750	1/4	C92705
183-CSM-6	.433	.268	.438	6.000	6mm	C91830
183-CSS-20	.438	.313	.438	6.000	5/16	C92706
183-CSS-21	.453	.328	.438	6.000	5/16	C92708
183-CSS-20-60	.469	.313	.438	6.000	5/16	C92707
183-CSS-22	.469	.344	.438	6.000	5/16	C91710
183-CSS-21-60	.484	.328	.438	6.000	5/16	C91709
183-CSS-22-60	.500	.344	.438	6.000	5/16	C91711
183-CSS-24	.563	.375	.500	6.500	3/8	C91712
183-CSS-25	.578	.391	.500	6.500	3/8	C91713
183-CSS-26	.594	.406	.500	6.500	3/8	C91714
183-CSS-28	.625	.438	.500	7.000	7/16	C91715
183-CSS-29	.641	.453	.500	7.000	7/16	C91717
183-CSS-30	.656	.469	.500	7.000	7/16	C91719
183-CSS-30-60	.688	.469	.500	7.000	7/16	C91720
183-CSM-10	.709	.433	.500	7.000	10mm	C91832
183-CSS-32	.750	.500	.500	7.250	1/2	C91721
183-CSS-33	.766	.516	.500	7.250	1/2	C91722
183-CSS-34	.781	.531	.500	7.250	1/2	C91723
183-CSM-12	.787	.531	.500	7.000	12mm	C91833
183-CSS-36	.813	.563	.750	7.500	9/16	C91724
183-CSS-40	.875	.625	.750	8.250	5/8	C91726
183-CSS-42	.906	.656	.750	8.250	5/8	C91728
183-CSS-42-60	.969	.656	.750	8.250	5/8	C91729
183-CSM-16	1.024	.689	.750	8.250	16mm	C91834
183-CSS-50	1.031	.781	1.000	8.813	3/4	C91734
183-CSS-50-60	1.156	.781	1.000	8.813	3/4	C91735
183-CSS-52-60	1.188	.813	1.000	8.813	3/4	C91737
183-CSM-20	1.299	.866	1.000	8.813	20mm	C91835
183-CSS-68-60	1.563	1.063	1.000	8.813	1	C91749
183-CSM-24	1.575	1.024	1.000	8.813	24mm	C92836

Set			
Number	Pieces	Size Range	Order No.
183-CSS-1	9	CSS-6, -8, -10, -12, -16, -20, -24, -28, -32	C91750
183-CSS-3	8	CSS-18, -20-60, -21-60, -22-60, -22, -26, -30, -34	C91770



#C91770

#C91750

CLEARANCE OR TAPER ROUTER

655

HIGH SPEED STEEL
Straight Shank / Bright


Use for cutting, trimming, routing, and elongating existing holes.

Number	Shank Diameter	Small End Diameter	Large End Diameter	Flute Length	Overall Length	Order No.
#1	.098	.081	.0980	.813	2.000	C24292
#2	.128	.110	.1280	.875	2.250	C24293
#3	.188	.165	.1875	1.063	2.500	C24294
#4	.250	.224	.2500	1.250	2.750	C24295

SHORT AIRCRAFT-TYPE

884

HIGH SPEED STEEL
Straight Shank / Bright
**Pilots - See Interchangeable Pilot
Style: 879P**


Designed for aircraft fabricating use with portable pneumatic and electric drills.

Smaller pilot holes than standard counterbores.

Corner radius of 1/32" is standard.

Counterbore Diameter		Pilot Shank Sizes		Shank Length	Overall Length	Shank Diameter	Pilot Size Range	No. of Flutes	Order No.
Fraction	In	Fraction	In	In	In	In			
1/4	.2500	3/32	.0938	1.125	2.375	.250	1/8 - 3/16	4	C46886
5/16	.3125	3/32	.0938	.875	2.375	.250	1/8 - 1/4	4	C46888
3/8	.3750	3/32	.0938	.875	2.375	.250	3/16 - 5/16	4	C46890
13/32	.4062	1/8	.1250	.875	2.813	.250	3/16 - 11/32	4	C46891
7/16	.4375	1/8	.1250	.875	2.813	.250	3/16 - 3/8	4	C46892
15/32	.4688	1/8	.1250	.875	2.813	.250	1/4 - 13/32	4	C46893
1/2	.5000	1/8	.1250	.875	2.813	.250	1/4 - 7/16	4	C46894
9/16	.5625	1/8	.1250	.875	2.813	.250	1/4 - 1/2	4	C46896
5/8	.6250	1/8	.1250	.875	2.813	.250	1/4 - 9/16	4	C46898
11/16	.6875	3/16	.1875	.875	2.813	.250	1/4 - 5/8	4	C46900
3/4	.7500	3/16	.1875	.875	2.813	.250	5/16 - 11/16	4	C46902
13/16	.8125	3/16	.1875	.875	2.813	.250	5/16 - 3/4	4	C46904
7/8	.8750	3/16	.1875	.875	2.813	.250	5/16 - 13/16	4	C46906
15/16	.9375	3/16	.1875	.875	2.813	.250	5/16 - 7/8	4	C46908
1	1.0000	3/16	.1875	.875	2.813	.250	3/8 - 15/16	4	C46910

STRAIGHT SHANK, C'BORE & SPOT FACER

879

HIGH SPEED STEEL

Right hand spiral flute / Bright

Pilots - See Interchangeable Pilot
Style: 879P

Counterbore Diameter		Pilot Shank Sizes		Shank Length	Overall Length	Shank Diameter	Pilot Size Range	No. of Flutes	Order No.
Fraction	In	Fraction	In	In	In	In			
3/16	.1875	3/32	.0938	2.125	3.000	.234	1/8 - 3/16	3	C46421
7/32	.2188	3/32	.0938	2.125	3.000	.234	1/8 - 7/32	3	C46422
1/4	.2500	3/32	.0938	3.063	3.813	.234	1/8 - 3/16	3	C46423
9/32	.2812	3/32	.0938	3.063	3.813	.266	1/8 - 7/32	3	C46424
5/16	.3125	3/32	.0938	3.063	3.813	.297	1/8 - 1/4	3	C46425
11/32	.3438	3/32	.0938	3.063	3.813	.313	1/8 - 9/32	3	C46426
3/8	.3750	5/32	.1562	3.063	4.063	.313	3/16 - 5/16	3	C46427
13/32	.4062	5/32	.1562	3.063	4.063	.375	3/16 - 11/32	3	C46428
7/16	.4375	5/32	.1562	3.063	4.063	.375	3/16 - 3/8	3	C46429
15/32	.4688	3/16	.1875	3.063	4.313	.438	1/4 - 13/32	3	C46430
1/2	.5000	3/16	.1875	3.063	4.313	.438	1/4 - 7/16	3	C46431
17/32	.5312	3/16	.1875	3.063	4.313	.500	1/4 - 15/32	3	C46432
9/16	.5625	3/16	.1875	3.063	4.313	.500	1/4 - 1/2	3	C46433
19/32	.5938	3/16	.1875	3.875	5.125	.500	1/4 - 17/32	3	C46434
5/8	.6250	3/16	.1875	3.875	5.125	.500	1/4 - 9/16	3	C46435
21/32	.6562	3/16	.1875	3.875	5.125	.500	1/4 - 19/32	3	C46436
11/16	.6875	3/16	.1875	3.875	5.125	.500	1/4 - 5/8	3	C46437
23/32	.7188	1/4	.2500	3.875	5.375	.500	5/16 - 21/32	3	C46438
3/4	.7500	1/4	.2500	3.875	5.375	.500	5/16 - 11/16	3	C46439
25/32	.7812	1/4	.2500	3.875	5.375	.625	5/16 - 23/32	3	C46440
13/16	.8125	1/4	.2500	3.875	5.375	.625	5/16 - 3/4	3	C46441
7/8	.8750	1/4	.2500	3.875	5.375	.750	5/16 - 13/16	3	C46443
15/16	.9375	1/4	.2500	4.625	6.125	.750	5/16 - 7/8	3	C46445
1	1.0000	5/16	.3125	4.625	6.375	.750	3/8 - 15/16	3	C46447
1-1/16	1.0625	5/16	.3125	4.625	6.375	.750	3/8 - 1	3	C46448
1-1/8	1.1250	5/16	.3125	4.625	6.375	1.000	3/8 - 1-1/16	3	C46449

INTERCHANGEABLE PILOT

879P

HIGH SPEED STEEL

Bright

For pilot diameter, match pilot shank size, from style #884 or #879, to pilot shank size.



Pilot Diameter	Decimal Equivalent	Order No.							
		3/32"	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"	7/16"
3/32	.0938	C46520	—	—	—	—	—	—	—
.127	.1250	C46525	—	—	—	—	—	—	—
1/8	.1250	C46523	C46522	—	—	—	—	—	—
5/32	.1562	C46528	C46527	C46529	—	—	—	—	—
.157	.1570	C46531	—	—	—	—	—	—	—
.159	.1590	C46533	—	—	—	—	—	—	—
3/16	.1875	C46538	C46537	C46539	C46540	—	—	—	—
.191	.1910	C46545	C46544	—	C46546	—	—	—	—
13/64	.2031	—	C46547	—	—	—	—	—	—
7/32	.2188	C46549	C46548	C46550	C46551	—	—	—	—
1/4	.2500	C46554	C46553	C46555	C46556	C46557	—	—	—
.255	.2550	—	C46558	—	C46560	—	—	—	—
9/32	.2812	—	—	C46565	C46566	—	—	—	—
5/16	.3125	C46570	C46569	C46571	C46572	C46573	—	—	—
11/32	.3438	—	C46576	C46578	C46579	C46580	—	—	—
3/8	.3750	C46314	C46583	C46584	C46585	C46586	C46587	—	—
13/32	.4062	—	—	—	C46592	C46593	C46594	—	—
7/16	.4375	—	—	C46597	C46598	C46599	C46600	—	—
15/32	.4688	—	—	—	C46605	—	—	—	—
1/2	.5000	—	—	—	C46612	C46613	C46614	—	—
17/32	.5312	—	—	—	C46620	C46621	C46622	—	—
9/16	.5625	—	—	—	—	C46629	C46630	—	—
19/32	.5938	—	—	—	—	—	—	C46639	—
5/8	.6250	—	—	—	—	C46645	—	C46647	—
11/16	.6875	—	—	—	—	C46657	C46658	C46659	—
3/4	.7500	—	—	—	C46316	—	—	C46669	—
25/32	.7812	—	—	—	—	—	C46673	C46674	—
13/16	.8125	—	—	—	—	—	C46678	C46679	—
7/8	.8750	—	—	—	—	C46687	—	—	—
1-1/16	1.0625	—	—	—	—	—	—	—	C46716
1-1/8	1.1250	—	—	—	—	—	—	C46723	—



DONE RIGHT

KORY NIEMI

SENIOR WELDER



//
You're only as good
as your last job.
So I need consistent,
efficient tools
to outdo myself.

//

For as long as he can remember, Kory Niemi has loved working, getting physical, and taking pride in his craft. When at the crossroads between attending university or enrolling in trade school, he chose the latter, embarking on what's now become his career and passion: welding massive industrial structures.

"Since my first school project," he says, "I've always wanted to feel great about my work and to know it's the absolute best it can be."

Now a senior welder with 15 years of experience under his belt, Kory's projects are intimidating in size and complexity. His employer manufactures large industrial tanks, stacks, pressure vessels, and custom equipment, some pieces weighing up to 244 tons.

"Everything needs to run smoothly, everything needs to flow, and I need tools I can rely on." He describes the long days he spends working at heights and inside tight, uncomfortable spaces, as well as the rigorous inspections his pieces go through. "My work needs to be flawless because it goes through X-rays and tons of testing. If something fails, it delays the whole process and time gets wasted."

Kory attributes his meticulousness and commitment to precision to his family, who taught him at a young age to always do things right. "I want every weld to be perfect and I want every piece to shine," he says, adding that his desire to keep evolving and getting better often keeps him up at night. "Working isn't just something I like doing, it's something I need to do," he emphasizes.

The last and most satisfying part of each job, he says, is watching the piece leave the shop on its way to its final destination. "We have to take the doors off the warehouse to get it out, the police come to guide traffic and hydro teams lift the power lines so it can pass underneath." Once the structure disappears over the horizon, Kory heads back inside, flips down his helmet, and gets to work on his next piece.

His teacher once told him, "You're only as good as your last job" – a philosophy that continues to guide him today. "I want each job to always exceed the last one that I did. That's my drive."

 **WALTER**
Achieve Greatness™

13

SAWS



HOLE SAWS M-3 / M-42

1887

COBALT / HIGH SPEED STEEL

Bi-Metal

Creates holes in pipe, tubing, door lock installations, electrical conduits, and antennas. Ideal for plumbing, construction, aircraft, electrical, maintenance and automotive applications. Use in steel, aluminum, brass, cast iron, plastic or wood.

- ▷ 4/6 variable tooth configuration
- ▷ Traditional narrow openings on the side wall
- ▷ High speed cutting edge
- ▷ Thin kerf design 0.050" thickness for faster cutting
- ▷ Prolongs battery life when used on cordless tools
- ▷ 1-7/8" (48mm) cutting depth. *1-1/2" (32mm) cutting depth
- ▷ 3/16" (5mm) thick heavy-duty backing plate eliminates need for drive plate
- ▷ Shock resistant teeth, resists tooth stripping, less vibration, cuts 30% faster than conventional saws



diameter inch (mm)	Order No.	
	M3	M42
9/16" (14mm)	C25058	C25000
5/8" (16mm)	C26149	C26121
11/16" (17mm)	C26102	C25002
3/4" (19mm)	C25061	C26113
20mm	C25062	C25004
13/16" (21mm)	C26106	C26105
7/8" (22mm)	C25064	C25006
*7/8" (22mm)	C24998	C24999
15/16" (24mm)	C25065	C25007
1" (25mm)	C25066	C26101
1-1/16" (27mm)	C25067	C25009
1-1/8" (29mm)	C25068	C26103
1-3/16" (30mm)	C25069	C25011
1-1/4" (32mm)	C25070	C25012
1-5/16" (33mm)	C25071	C25013
1-3/8" (35mm)	C26108	C25014
1-7/16" (37mm)	C25073	C25015
1-1/2" (38mm)	C25074	C25016
1-9/16" (40mm)	C25075	C25017
1-5/8" (41mm)	C25076	C25018
1-11/16" (43mm)	C25077	C26104
1-3/4" (44mm)	C25078	C26107
45mm	C26120	C25021
1-13/16" (46mm)	C25080	C25022
1-7/8" (48mm)	C25081	C25023
50mm	C25082	C25024
2" (51mm)	C25083	C25025
2-1/16" (52mm)	C25084	C25026
2-1/8" (54mm)	C25085	C25027
55mm	C25086	C25028

diameter inch (mm)	Order No.	
	M3	M42
2-1/4" (57mm)	C26109	C25029
2-5/16" (59mm)	C25088	C25030
2-3/8" (60mm)	C25089	C25031
2-1/2" (64mm)	C25090	C25032
2-9/16" (65mm)	C25091	C25033
2-5/8" (67mm)	C25092	C26111
68mm	C25093	C25035
2-3/4" (70mm)	C26110	C25036
2-7/8" (73mm)	C26112	C25037
75mm	C25096	C25038
3" (76mm)	C25097	C25039
3-1/8" (79mm)	C25098	C25040
3-1/4" (83mm)	C25099	C26115
3-3/8" (86mm)	C26116	C25042
3-1/2" (89mm)	C25001	C25043
3-5/8" (92mm)	C25102	C25044
3-3/4" (95mm)	C25103	C25045
3-7/8" (98mm)	C25104	C25046
100mm	C25105	C25047
4" (102mm)	C25106	C25048
4-1/8" (105mm)	C25107	C25049
4-1/4" (108mm)	C26118	C25050
4-3/8" (111mm)	C25109	C25051
4-1/2" (114mm)	C26117	C25052
4-3/4" (121mm)	C25111	C26119
5" (127mm)	C25112	C25054
5-1/2" (140mm)	C25113	C25055
5-3/4" (146mm)	C25114	C25056
6" (152mm)	C25115	C25057

HOLE SAWS CLAW FLEAM GROUND

13

1886

COBALT

Bi-Metal



SAWS

CLAW hole saws feature fleam-ground cutting edges made from M42 cobalt steel, delivering exceptional durability, shock resistance, and reduced tooth strippage in demanding applications. The 4/6 positive tooth design provides smoother cutting with less vibration, while the reinforced "Turtle Back" tooth geometry increases strength under heavy load. Deep gullets improve chip evacuation for faster, cleaner cutting, and the 1-7/8" cutting depth accommodates a wide range of materials. Engineered for productivity, CLAW hole saws cut up to 40% faster than traditional bi-metal hole saws and offer significantly longer working life. The triple-slot system ensures quick, easy plug removal, minimizing downtime and increasing efficiency.



- ▷ *CLAW has a cutting edge made from M42 cobalt steel*
- ▷ *Shock resistant teeth*
- ▷ *Reduces tooth strippage*
- ▷ *4/6 positive tooth*
- ▷ *Less vibration*
- ▷ *1-7/8" Depth of Cut*
- ▷ *Easy Plug Removal triple slot design makes plug removal easier*
- ▷ *Size Range 9/16" to 6"*
- ▷ *Turtle Back Tooth reinforced tooth back*
- ▷ *Heavy Duty Cutting up to 40% faster than traditional bi-metal hole saws and a longer working life*
- ▷ *Gullets designed deeper for faster chip removal*



diameter inch (mm)	Order No.
9/16" (14mm)	C43100
5/8" (16mm)	C43101
11/16" (17mm)	C43102
3/4" (19mm)	C43103
20mm	C43104
13/16" (21mm)	C43105
7/8" (22mm)	C43106
15/16" (24mm)	C43107
1" (25mm)	C43108
1-1/16" (27mm)	C43109
1-1/8" (29mm)	C43110
1-3/16" (30mm)	C43111
1-1/4" (32mm)	C43112
1-5/16" (33mm)	C43113
1-3/8" (35mm)	C43114
1-7/16" (37mm)	C43115
1-1/2" (38mm)	C43116
1-9/16" (40mm)	C43117
1-5/8" (41mm)	C43118
1-11/16" (43mm)	C43119
1-3/4" (44mm)	C43120
45mm	C43121
1-13/16" (46mm)	C43122
1-7/8" (48mm)	C43123
50mm	C43124
2" (51mm)	C43125
2-1/16" (52mm)	C43126
2-1/8" (54mm)	C43127
55mm	C43128

diameter inch (mm)	Order No.
2-1/4" (57mm)	C43129
2-5/16" (59mm)	C43130
2-3/8" (60mm)	C43131
2-1/2" (64mm)	C43132
2-9/16" (65mm)	C43133
2-5/8" (67mm)	C43134
68mm	C43135
2-3/4" (70mm)	C43136
2-7/8" (73mm)	C43137
75mm	C43138
3" (76mm)	C43139
3-1/8" (79mm)	C43140
3-1/4" (83mm)	C43141
3-3/8" (86mm)	C43142
3-1/2" (89mm)	C43143
3-5/8" (92mm)	C43144
3-3/4" (95mm)	C43145
3-7/8" (98mm)	C43146
100mm	C43147
4" (102mm)	C43148
4-1/8" (105mm)	C43149
4-1/4" (108mm)	C43150
4-3/8" (111mm)	C43151
4-1/2" (114mm)	C43152
4-3/4" (121mm)	C43153
5" (127mm)	C43154
5-1/2" (140mm)	C43155
5-3/4" (146mm)	C43156
6" (152mm)	C43157

CLE-LINE | **WALTER**

HOLE SAW KITS

1886, 1887

COBALT

Bi-Metal

- ▷ Hole Saw Kits available for cutting almost any material
- ▷ The M-42 and CLAW kits contain Bi-Metal 8% Cobalt hole saws of 4/6, Carbide contain
- ▷ Assortment of hole saws and accessories specifically designed for the application environment
- ▷ Provided in a heavy duty, plastic case



M-42 Bi-Metal
9 piece
Electrician's Kit
#CHK04



CLAW® Fleam Ground
9 piece
Electrician's Kit
#C43161

Kit type	3/4" 19mm	7/8" 22mm	1" 25mm	1-1/8" 29mm	1-1/4" 32mm	1-3/8" 35mm	1-1/2" 38mm	1-3/4" 44mm	2" 51mm	2-1/8" 54mm	2-1/4" 57mm	2-1/2" 64mm	3" 76mm	3-1/4" 83mm	3-5/8" 92mm	3-3/4" 95mm	4-1/8" 105mm	4-1/2" 114mm	order number
1887 - M-42 Bi-Metal																			
Handyman's Kit - 7 piece (includes 1 mandrel and 1 adaptor)																			
Sizes		X	X	X	X		X												CHK01
Locksmith's Kit - 9 piece (includes 2 mandrels and 1 adaptor)																			
Sizes		X	X		X		X	X		X									CHK02
Plumber's Kit - 9 piece (includes 2 mandrels and 1 adaptor)																			
Sizes	X	X		X			X	X			X								CHK03
Electrician's Kit - 9 piece (includes 2 mandrels and 1 adaptor)																			
Sizes		X		X		X		X	X			X							CHK04
Electrician's Kit - Metric - 9 piece (includes 2 mandrels and 1 adaptor)																			
Sizes	16mm(5/8"), 20mm, 25mm(1"), 32mm(1-1/4"), 40mm(1-9/16"), 51mm(2")																		CHK05
Journeyman's Kit - 13 piece (includes 2 mandrels, 1 pilot hole drill, and 1 adaptor)																			
Sizes	X	X		X		X	X	X	X		X	X							CHK06
1886 - CLAW Fleam Ground																			
Handyman's Kit - 7 piece (includes 1 mandrel / arbors, 1 adaptor)																			
Sizes		X	X	X	X		X												C43158
Locksmith's Kit - 9 piece (includes 2 mandrels / arbors, 1 adaptor)																			
Sizes		X	X		X		X	X		X									C43159
Plumber's Kit - 9 piece (includes 2 mandrels / arbor, and 1 adaptor)																			
Sizes	X	X		X			X	X			X								C43160
Electrician's Kit - 9 piece (includes 2 mandrels / arbor, and 1 adaptor)																			
Sizes		X		X		X		X	X			X							C43161
Electrician's Kit - Metric - 9 piece (includes 2 mandrels / arbor, and 1 adaptor)																			
Sizes	16mm(5/8"), 20mm, 25mm(1"), 32mm(1-1/4"), 40mm(1-9/16"), 51mm(2")																		C43162
Journeyman's Kit - 13 piece (includes 2 mandrels / arbor, 1 pilot hole drill, and 1 adaptor)																			
Sizes	X	X		X		X	X	X	X		X	X							C43163

Round Shank

fits the following chuck size	hole saw size	Order No.
1/4" (6mm)	9/16" - 1-3/16" (14 to 30mm)	*C25116

*Included in kit #: C43158, C43159, C43160, C43161, C43162, C43163.



Hex Shank

fits the following chuck size	hole saw size	Order No.
3/8" (9mm)	9/16" - 1-3/16" (14 to 30mm)	C25118
7/16" (11mm)	9/16" - 1-3/16" (14 to 30mm)	C25119



Hex Shank Pinned

fits the following chuck size	hole saw size	Order No.
3/8" Pinned (9mm)	1-1/4" - 6" (32 to 152mm)	C26198
7/16" Pinned (11mm)	1-1/4" - 6" (32 to 152mm)	*C25121

*Included in kit #: C43159, C43160, C43161, C43162, C43163.



Hex Shank

fits the following chuck size	hole saw size	Order No.
3/8" (9mm)	1-1/4" - 6" (32 to 152mm)	C26195



Short Pilot Drill with Flat on Shank

description	Order No. (2 per pkg.)
3-1/4" overall length x 1/4" dia. (80mm)	C25123



Long Pilot Drill with Whistle Notch on Shank

description	Order No. (2 per pkg.)
4" overall length x 1/4" dia. (102mm)	C25124



Arbor Extension

description	Order No. (1 per pkg.)
3/8" x 12" (9mm dia. x 302mm)	C26199



Adaptor

fits hole saw size	Order No.
1-1/4" - 6" (32 to 152mm)	C26196



RECIPROCATING BLADE

RSB-D

COBALT
Bi-Metal
Demolition - Wood / Nail

- ▷ Wider (7/8") and thicker (.062) blades engineered for heavy-duty, tough cutting, demolition applications
- ▷ Available in 6", 9", and 12" lengths with 1/2" universal shanks



Inch (teeth per inch)	Order No.		
	5 pc.	10 pc.	20 pc.
6" x 7/8" x 0.062" (6)	C30101	C30135	C30156
9" x 7/8" x 0.062" (6)	C30102	C30136	C30157
12" x 7/8" x 0.062" (6)	C30103	C30137	C30158



RSB-D

COBALT
Bi-Metal
Demolition - Metal / Rescue

- ▷ Wider (1.0") and thicker (.042) blades engineered for heavy-duty, tough cutting, demolition applications
- ▷ Available in 6", 9", and 12" lengths with 1/2" universal shanks



Inch (teeth per inch)	Order No.		
	5 pc.	10 pc.	20 pc.
6" x 1" x 0.042" (14)	C30104	C30138	C30159
9" x 1" x 0.042" (14)	C30105	C30139	C30160
12" x 1" x 0.042" (14)	C30106	C30140	C30161



RSB-P

COBALT
Bi-Metal
Pallet

- ▷ Wider (3/4") and thicker (.035) blades engineered for the dismantling of pallets
- ▷ M42 cutting edge with 8% cobalt for longer life
- ▷ Special heat treat for increased tooth life
- ▷ Special blade backer for greater flexibility when cutting block pallets
- ▷ Unique tooth design for fast cutting
- ▷ Rounded nose for easy cutting and safe operation
- ▷ Available in 8" lengths with 1/2" universal shanks



Inch (teeth per inch)	Order No.	
	10 pc.	200 pc.
8" x 3/4" x 0.035" (10)	C25217	C25217BP



RECIPROCATING BLADE

13

SAWS



RSB-BM

COBALT

Bi-Metal

- ▷ General roughing-in work for wood and nail embedded woods
- ▷ Designed for efficient cutting in a wide variety of wood
- ▷ 1/2" universal shank fits all standard 1/2" shank reciprocating saws
- ▷ Tapered end allows for plunge cutting
- ▷ 8% Cobalt



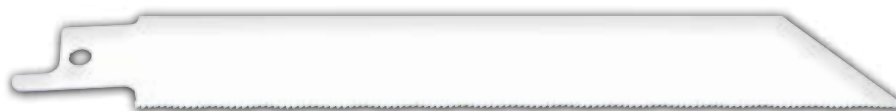
Inch (teeth per inch)	Order No.		
	5 pc.	10 pc.	50 pc.
6" x 3/4" x 0.050" (5/7)	C30107	C30141	C30170
6" x 3/4" x 0.050" (6)	C30108	C30142	C30171
6" x 3/4" x 0.050" (10)	C30109	C30143	C30172
9" x 3/4" x 0.050" (6)	C30110	C30144	C30173
12" x 3/4" x 0.050" (6)	C30111	C30145	C30174

RSB-BM

COBALT

Bi-Metal

- ▷ Designed for efficient cutting in a wide variety of materials including metal, rod, pipe, and conduit
- ▷ 1/2" universal shank fits all standard 1/2" shank reciprocating saws
- ▷ Quick and accurate cutting
- ▷ 8% Cobalt



Inch (teeth per inch)	Order No.		
	5 pc.	10 pc.	50 pc.
6" x 3/4" x 0.035" (14)	C30112	C30146	C30175
6" x 3/4" x 0.035" (18)	C30113	C30147	C30176
6" x 3/4" x 0.035" (24)	C30114	C30148	C30177
8" x 3/4" x 0.035" (18)	C30115	C30149	C30178
9" x 3/4" x 0.035" (14)	C30116	C30150	C30179
12" x 3/4" x 0.035" (18)	C30117	C30151	C30180

14 teeth per inch: For metals heavier than 1/8", bar stock, angles, rubber, masonite, fiberglass, etc.

18 teeth per inch: For heavy gauge sheet metal, conduit, pipe, tubing, thin fiberglass.

24 teeth per inch: For metals lighter than 18-gauge, thin wall tubing, formed sheet, trim, etc.

CLE-LINE

WALTER

RECIPROCATING BLADE

RSB-BM

COBALT
Bi-Metal

All-Purpose Cutting

- ▷ Heavy gauge metals, composites, masonite, wood, etc.
- ▷ Designed for efficient cutting in a wide variety of materials including wood, metal, and plastic
- ▷ 1/2" universal shank fits all standard 1/2" shank reciprocating saws
- ▷ Quick and accurate cutting
- ▷ 8% Cobalt



Inch (teeth per inch)	Order No.		
	5 pc.	10 pc.	50 pc.
8" x 3/4" x 0.035" (10/14)	C30118	C30152	C30181
12" x 3/4" x 0.050" (10/14)	C30119	C30153	C30182
12" x 3/4" x 0.050" taper (10/14)	C30120	C30154	C30183

RSB-BM

COBALT
Bi-Metal

- ▷ High performance, and fast cutting for plaster
- ▷ Designed for efficient cutting in plaster or drywall by minimizing tear out



Inch (teeth per inch)	Order No.		
	5 pc.	10 pc.	50 pc.
6" x 3/4" x 0.050" straight (6)	C30121	C30155	C30184

RSB-CT

CARBIDE TIPPED
Bi-Metal

- ▷ Cuts faster / lasts longer than a traditional bi-metal blade
- ▷ Carbide teeth stay sharp
- ▷ Faster cutting without binding
- ▷ Less vibration
- ▷ Straighter cuts



Inch (teeth per inch)	Length		Width		Thickness		Order No.
							1 pc.
8	6"	152mm	1"	25mm	0.050"	1.30mm	C30185
8	9"	229mm	1"	25mm	0.050"	1.30mm	C30186
8	12"	305mm	1"	25mm	0.050"	1.30mm	C30187

Recommended for: Metal Alloys; Cast Iron; Stainless Steel; Steel Plate; Threaded Rod; EMT Conduit; Ferrous Metal; Steel Studs; Rubber; Black Iron Pipe; Rebar and Angle Iron



RECIPROCATING BLADE AIR SAW

RSB-BM

COBALT

Bi-Metal

Specifically designed blades for use in pneumatic saws. Air Saw blades have fine teeth for cutting metal.



Inch (teeth per inch)	Order No.
	20 pc.
3" x 1/2" x 0.025" (18)	C30162
3" x 1/2" x 0.025" (24)	C30163
3" x 1/2" x 0.025" (32)	C30164
4" x 1/2" x 0.025" (18)	C30165
4" x 1/2" x 0.025" (32)	C30166
5" x 1/2" x 0.025" (18)	C30167

18 teeth per inch:
For scroll cutting metals lighter than 14 gauge.

24 teeth per inch:
For scroll cutting metals lighter than 18 gauge, thin tubing, formed sheets, trim, etc.

32 teeth per inch:
For scroll cutting metals, very thin gauge metals, sheet, tubing, trim, etc.

HACKSAW BLADES

HB-BM

COBALT

Bi-Metal

- ▷ Cut medium metals (1/16" to 1/4") such as sheet metal, angle iron, bolts, channels, drill rod, threaded rod, pipes, and tubing
- ▷ Flexible steel spring back
- ▷ High speed steel cutting edge
- ▷ Blade is heat, shock, and shatter resistant
- ▷ For heavy-duty cutting



Inch (teeth per inch)	Order No.	
	10 pc.	100 pc.
10" x 1/2" x 0.025" (18)	C25239-10	C25239
10" x 1/2" x 0.025" (24)	C25240-10	C25240
10" x 1/2" x 0.025" (32)	C25241-10	C25241
12" x 1/2" x 0.025" (14)	C25242-10	C25242
12" x 1/2" x 0.025" (18)	C26125-10	C26125
12" x 1/2" x 0.025" (24)	C25244-10	C25244
12" x 1/2" x 0.025" (32)	C25245-10	C25245
12" x 1/2" x 0.025" (10/14)	C25246-10	C25246
12" x 1/2" x 0.025" (18/24)	C25248-10	C25248

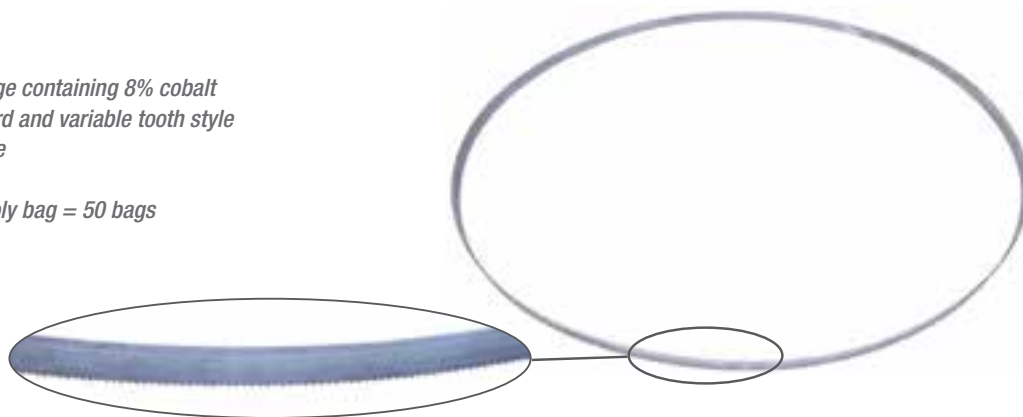
PORTABLE BAND SAW MATRIX II

P1000

COBALT

Bi-Metal

- ▷ Matrix II cutting edge containing 8% cobalt
- ▷ Available in standard and variable tooth style
- ▷ Less tooth chippage
- ▷ 3 packs - 3 per box
- ▷ 150 pack - 3 per poly bag = 50 bags



Inch (teeth per inch)	Order No.	
	3 bands	150 bands
44-7/8" x 1/2" x 0.020" (10/14)	C25126	C25126-150
44-7/8" x 1/2" x 0.020" (14/18)	C25127	C25127-150
44-7/8" x 1/2" x 0.020" (10) Raker	C25129	C25129-150
44-7/8" x 1/2" x 0.020" (14) Raker	C25130	C25130-150
44-7/8" x 1/2" x 0.020" (18) Raker	C25131	C25131-150
44-7/8" x 1/2" x 0.020" (24) Raker	C25132	C25132-150



>> Order Weld-to-Length <<

Order No.	Add	*Add Length Required (specify in inches)
C25149	WTL	144"
New Part Number		
C26149WTL144"		
<i>Available with all styles T1000 - T7000</i>		

* Minimum Length = 60"



T1000

HIGH SPEED STEEL

Bi-Metal

Straight Tooth

All-purpose band for moderate to difficult to cut material.

- ▷ *Tooth hardness Rc 67-69*
- ▷ *Straight tooth 0° rake for smoother cutting and general applications*
- ▷ *Minimum Length = 60"*

Inch (teeth per inch)	C / V	R / W	Order No.
3/4" x 0.035" (6/10)	V	R	C25149
3/4" x 0.035" (8/12)	V	R	C25150
3/4" x 0.035" (10/14)	V	R	C26136
3/4" x 0.035" (10)	C	R	C25152
3/4" x 0.035" (14)	C	W	C25153
1" x 0.035" (3/4)	V	R	C25154
1" x 0.035" (4/6)	V	R	C26134
1" x 0.035" (5/8)	V	R	C25156
1" x 0.035" (6/10)	V	R	C25157

Abbreviations below: C = Constant, V = Variable / R = Raker, W = Wavy

Inch (teeth per inch)	C / V	R / W	Order No.
1" x 0.035" (8/12)	V	R	C25158
1" x 0.035" (10/14)	V	R	C26133
1" x 0.035" (14T)	C	W	C25160
1-1/4" x 0.042" (3/4)	V	R	C25161
1-1/4" x 0.042" (4/6)	V	R	C25162
1-1/4" x 0.042" (5/8)	V	R	C25163
1-1/4" x 0.042" (6/10)	V	R	C25164
1-1/2" x 0.050" (4/6)	V	R	*C26135



T2000

HIGH SPEED STEEL

Bi-Metal

5° Positive Rake Tooth

For both production or non-production cutting of solids and thick wall tubing of medium alloy.
For work hardened materials such as stainless steel.

- ▷ *Tooth hardness Rc 67-69*
- ▷ *5° Positive rake tooth for easier penetration and reduced vibration*
- ▷ *Minimum Length = 60"*

Inch (teeth per inch)	C / V	R / W	Order No.
3/4" x 0.035" (4/6)	V	R	C25166
3/4" x 0.035" (5/7)	V	R	C25167
1" x 0.035" (2/3)	V	R	C25168
1" x 0.035" (3/4)	V	R	C25169
1" x 0.035" (4/6)	V	R	C25170
1" x 0.035" (5/7)	V	R	C26137
1" x 0.035" (2) Hook	C	R	C25172
1" x 0.035" (6)	C	R	C25173
1" x 0.035" (8)	C	R	C25174

Abbreviations below: C = Constant, V = Variable / R = Raker, W = Wavy

Inch (teeth per inch)	C / V	R / W	Order No.
1-1/4" x 0.042" (2/3)	V	R	C25175
1-1/4" x 0.042" (3/4)	V	R	C25176
1-1/4" x 0.042" (4/6)	V	R	C25177
1-1/4" x 0.042" (5/7)	V	R	C26139
1-1/4" x 0.042" (6)	C	R	C25179
1-1/2" x 0.050" (2/3)	V	R	*C26138
1-1/2" x 0.050" (3/4)	V	R	*C25181
1-1/2" x 0.050" (4/6)	V	R	*C25182



CLELINE

WALTER

* 150 foot coils, all others 250 feet

BAND SAWS

T3000

HIGH SPEED STEEL

Bi-Metal

10° High Positive Rake

Production sawing of exotic materials such as Inconels, Monels, Hastalloys, Hi-Temp Alloys, Titanium, Stainless and more.

- ▷ Tooth hardness Rc 67-69
- ▷ Duplex tooth design
- ▷ Specially engineered relief angle
- ▷ More aggressive acting for easier chip formation
- ▷ Minimum Length = 60"

Inch (teeth per inch)	C / V	R / W	Order No.
3/4" x 0.035" (4/6)	V	R	C26143
1" x 0.035" (2/3)	V	R	C25184
1" x 0.035" (3/4)	V	R	C26140
1" x 0.035" (4/6)	V	R	C25186
1-1/4" x 0.042" (2/3)	V	R	C26141
1-1/4" x 0.042" (3/4)	V	R	C25188
1-1/4" x 0.042" (4/6)	V	R	C25189

Abbreviations below: C = Constant, V = Variable / R = Raker, W = Wavy



Inch (teeth per inch)	C / V	R / W	Order No.
1-1/2" x 0.050" (2/3)	V	R	*C25190
1-1/2" x 0.050" (3/4)	V	R	*C25191
1-1/2" x 0.050" (4/6)	V	R	*C25192
2" x 0.063" (2/3)	V	R	*C25193
2" x 0.063" (3/4)	V	R	*C26142
2" x 0.063" (4/6)	V	R	*C25195

T4000

HIGH SPEED STEEL

Bi-Metal

Protective Tooth

To prevent tooth breakage by eliminating excessive tooth stripping due to the domino effect. To withstand the shock of interrupted cuts, allowing for heavier penetration under fast cutting rate.

- ▷ Tubes, structures, small sizes bundles
- ▷ Tooth hardness Rc 67-69
- ▷ Minimum Length = 60"

Inch (teeth per inch)	C / V	R / W	Order No.
1" x 0.035" (4/6)	V	R	C25196
1-1/4" x 0.042" (4/6)	V	R	C25197
1-1/2" x 0.042" (4/6)	V	R	*C25198

Abbreviations below: C = Constant, V = Variable / R = Raker, W = Wavy



T5000

HIGH SPEED STEEL

Bi-Metal

Heavy Set

For large bundle cutting of structural steel. Ideal for applications where a larger kerf is needed to prevent blade pinching and stalling from material stresses and movement.

- ▷ Tooth hardness Rc 67-69
- ▷ Similar to the Raker Set but are set wider preventing the blade from being pinched or becoming bound during cutting
- ▷ Minimum Length = 60"

Inch (teeth per inch)	C / V	R / W	Order No.
1" x 0.035" (4/6)	V	R	C25200
1" x 0.035" (2/3)	V	R	C25199
1" x 0.035" (5/7)	V	R	C25201
1-1/4" x 0.042" (3/4)	V	R	C25202
1-1/4" x 0.042" (4/6)	V	R	C26144
1-1/4" x 0.042" (5/7)	V	R	C25204

Abbreviations below: C = Constant, V = Variable / R = Raker, W = Wavy

Inch (teeth per inch)	C / V	R / W	Order No.
1-1/2" x 0.050" (3/4)	V	R	*C25205
1-1/2" x 0.050" (4/6)	V	R	*C25206
1-1/2" x 0.050" (5/7)	V	R	*C25207
2" x 0.063" (2/3)	V	R	*C25208
2" x 0.063" (3/4)	V	R	*C25209
2" x 0.063" (4/6)	V	R	*C26145



* 150 foot coils, all others 250 feet

T6000

HIGH SPEED STEEL

Bi-Metal

Turtle Back

Turtle Back Set is a tooth configuration that has a reinforced shoulder or "Turtle Back Hump" on the back of the cutting edge to prevent stripping out and interrupting cuts.

- ▷ *Tooth hardness Rc 67-69*
- ▷ *Minimum Length = 60"*
- ▷ *Profiles for thick wall tubing, alloy steel, single layer and bundle cutting steel girders*

Inch (teeth per inch)	C / V	R / W	Order No.
1" x 0.035" (3/4)	V	R	C26146
1-1/4" x 0.042" (3/4)	C	R	C26147
1-1/2" x 0.050" (3/4)	V	R	*C26148

Abbreviations below: C = Constant, V = Variable / R = Raker, W = Wavy



T7000

HIGH SPEED STEEL

Bi-Metal

Narrow Width Bands (M42)

- ▷ *Solid and thick wall tubing of medium to difficult material, such as stainless steel*
- ▷ *Tooth hardness Rc 67-69*
- ▷ *Narrow width (1/2") for contour and miter cutting*
- ▷ *Narrow width and gauge can be welded by customer for die building and internal cutting re-use*
- ▷ *HSS edge contains 8% cobalt*
- ▷ *Minimum Length = 60"*

Inch (teeth per inch)	C / V	R / W	Order No.
1/2" x 0.025" (6/10)	V	R	C26127
1/2" x 0.025" (8/12)	V	R	C26128
1/2" x 0.025" (10/14)	V	R	C25141
1/2" x 0.025" (14) Raker	C	R	C25142
1/2" x 0.025" (18) Wavy	C	W	C25143
1/2" x 0.035" (8/12)	V	R	C25144
1/2" x 0.035" (10/14)	V	R	C25145
1/2" x 0.035" (6) Positive	C	R	C25147
1/2" x 0.035" (14) Raker	C	R	C25148
1/2" x 0.035" (4) Hook	C	R	C26129

Abbreviations below: C = Constant, V = Variable / R = Raker, W = Wavy



C-LE-LINE



WALTER

* 150 foot coils, all others 250 feet

BAND SAW BLADES PRE-WELDED

T1000, T2000, T3000, T7000

- ▷ T1000 = 0° Straight
- ▷ T2000 = 5° Positive Rake
- ▷ T3000 = 10° High Positive Rake
- ▷ T7000 = Narrow Width Bands (M42)
- ▷ Other lengths, thicknesses, and tooth configurations available



teeth per inch (TPI)	Length x Width x Thickness	order number (1 piece)
T1000		
4/6	115.5" x 1 x .035	C254414WTL
4/6	119.5" x 1 x .035	C254415WTL
4/6	130.5" x 1 x .035	C254416WTL
4/6	138" x 1 x .035	C254417WTL
4/6	144" x 1 x .035	C254418WTL
4/6	162" x 1 x .035	C254419WTL
4/6	174" x 1 x .035	C254420WTL
3/4	138" x 1-1/4 x .042	C254421WTL
3/4	144" x 1-1/4 x .042	C254422WTL
3/4	150" x 1-1/4 x .042	C254423WTL
3/4	162" x 1-1/4 x .042	C254424WTL
3/4	174" x 1-1/4 x .042	C254425WTL
3/4	180" x 1-1/4 x .042	C254426WTL
3/4	186" x 1-1/4 x .042	C254427WTL
10/14	80" x 3/4 x .035	C254428WTL
10/14	93" x 3/4 x .035	C254429WTL
10/14	120" x 3/4 x .035	C254430WTL
10/14	125" x 3/4 x .035	C254431WTL
10/14	130.5" x 3/4 x .035	C254432WTL
10/14	138" x 3/4 x .035	C254433WTL
10/14	174" x 3/4 x .035	C254434WTL
10/14	115.5" x 1 x .035	C254435WTL
10/14	119.5" x 1 x .035	C254436WTL
10/14	130.5" x 1 x .035	C254437WTL
10/14	138" x 1 x .035	C254438WTL
10/14	144" x 1 x .035	C254439WTL
10/14	162" x 1 x .035	C254440WTL
10/14	174" x 1 x .035	C254441WTL
4/6	138" x 1-1/4 x .042	C254442WTL
4/6	144" x 1-1/4 x .042	C254443WTL
4/6	150" x 1-1/4 x .042	C254444WTL
4/6	162" x 1-1/4 x .042	C254445WTL
4/6	174" x 1-1/4 x .042	C254446WTL
4/6	180" x 1-1/4 x .042	C254447WTL
4/6	186" x 1-1/4 x .042	C254448WTL
5/8	138" x 1-1/4 x .042	C254456WTL
5/8	144" x 1-1/4 x .042	C254457WTL
5/8	150" x 1-1/4 x .042	C254458WTL
5/8	162" x 1-1/4 x .042	C254459WTL
5/8	174" x 1-1/4 x .042	C254460WTL
5/8	180" x 1-1/4 x .042	C254461WTL
5/8	186" x 1-1/4 x .042	C254462WTL

teeth per inch (TPI)	Length x Width x Thickness	order number (1 piece)
T2000		
5/7	80" x 3/4 x .035	C254407WTL
5/7	93" x 3/4 x .035	C254408WTL
5/7	120" x 3/4 x .035	C254409WTL
5/7	125" x 3/4 x .035	C254410WTL
5/7	130.5" x 3/4 x .035	C254411WTL
5/7	138" x 3/4 x .035	C254412WTL
5/7	174" x 3/4 x .035	C254413WTL
4/6	115.5" x 1 x .035	C254449WTL
4/6	119.5" x 1 x .035	C254450WTL
4/6	130.5" x 1 x .035	C254451WTL
4/6	138" x 1 x .035	C254452WTL
4/6	144" x 1 x .035	C254453WTL
4/6	162" x 1 x .035	C254454WTL
4/6	174" x 1 x .035	C254455WTL
3/4	138" x 1-1/4 x .042	C254470WTL
3/4	144" x 1-1/4 x .042	C254471WTL
3/4	150" x 1-1/4 x .042	C254472WTL
3/4	162" x 1-1/4 x .042	C254473WTL
3/4	174" x 1-1/4 x .042	C254474WTL
3/4	180" x 1-1/4 x .042	C254475WTL
3/4	186" x 1-1/4 x .042	C254476WTL
4/6	138" x 1-1/4 x .042	C254477WTL
4/6	144" x 1-1/4 x .042	C254478WTL
4/6	150" x 1-1/4 x .042	C254479WTL
4/6	162" x 1-1/4 x .042	C254480WTL
4/6	174" x 1-1/4 x .042	C254481WTL
4/6	180" x 1-1/4 x .042	C254482WTL
4/6	186" x 1-1/4 x .042	C254483WTL
5/7	138" x 1-1/4 x .042	C254484WTL
5/7	144" x 1-1/4 x .042	C254485WTL
5/7	150" x 1-1/4 x .042	C254486WTL
5/7	162" x 1-1/4 x .042	C254487WTL
5/7	174" x 1-1/4 x .042	C254488WTL
5/7	180" x 1-1/4 x .042	C254489WTL
5/7	186" x 1-1/4 x .042	C254490WTL

teeth per inch (TPI)	Length x Width x Thickness	order number (1 piece)
T3000		
4/6	115.5" x 1 x .035	C254463WTL
4/6	119.5" x 1 x .035	C254464WTL
4/6	130.5" x 1 x .035	C254465WTL
4/6	138" x 1 x .035	C254466WTL
4/6	144" x 1 x .035	C254467WTL
4/6	162" x 1 x .035	C254468WTL
4/6	174" x 1 x .035	C254469WTL
3/4	138" x 1-1/4 x .042	C254491WTL
3/4	144" x 1-1/4 x .042	C254492WTL
3/4	150" x 1-1/4 x .042	C254493WTL
3/4	162" x 1-1/4 x .042	C254494WTL
3/4	174" x 1-1/4 x .042	C254495WTL
3/4	180" x 1-1/4 x .042	C254497WTL
3/4	186" x 1-1/4 x .042	C254498WTL
4/6	138" x 1-1/4 x .042	C254499WTL
4/6	144" x 1-1/4 x .042	C254500WTL
4/6	150" x 1-1/4 x .042	C254501WTL
4/6	162" x 1-1/4 x .042	C254502WTL
4/6	174" x 1-1/4 x .042	C254503WTL
4/6	180" x 1-1/4 x .042	C254504WTL
4/6	186" x 1-1/4 x .042	C254505WTL
T7000		
10/14	64.5" x 1/2 x .025	C254400WTL
10/14	89" x 1/2 x .025	C254401WTL
10/14	93" x 1/2 x .025	C254402WTL
10/14	93.5" x 1/2 x .025	C254403WTL
10/14	101" x 1/2 x .025	C254404WTL
10/14	120" x 1/2 x .025	C254405WTL
10/14	150" x 1/2 x .025	C254406WTL

BAND SAW BLADES



13

SAWS

1882

CARBIDE TIPPED

The new, Cle-Line carbide tipped band saw blades deliver on performance, productivity and cost savings to a variety of applications including general manufacturing, steel service centers and forging operations.

Features and Benefits

Designed and manufactured to be extremely wear resistant in the toughest conditions.

Triple Tooth Geometry .

Produces a smooth finish which means less secondary work and cost savings.

General Purpose Series

Our multi-chip tooth geometry is designed for cutting solid steels and non-ferrous alloys. It allows for faster cutting rates, a vibration free operation and an optimum band saw blade life.

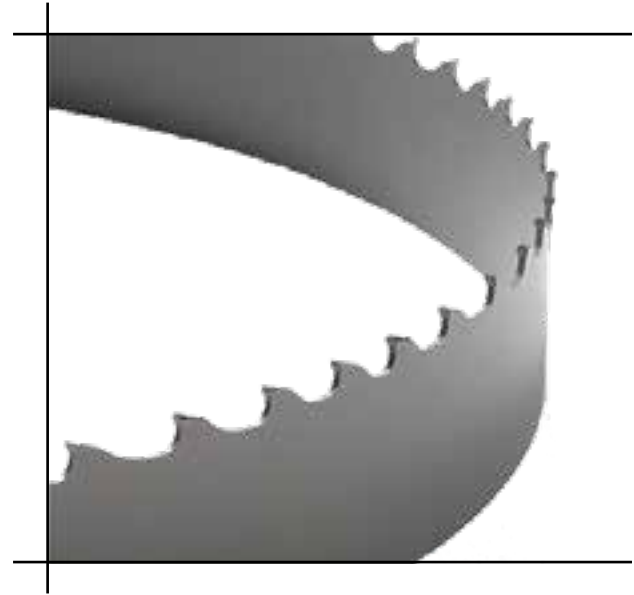
Recommended for:

Aluminum Silicon Alloys; Cold Steels; Copper-Nickel Alloys; Hardened Steel (up to 1900 N/mm²); Heat-Resistant Steels; Exotic Alloys; Stainless Steels; Titanium and Titanium Alloys; Applications and Materials Alloy Steels; Hardieboard Building Materials; Mold Steels; Nickel-Based Alloys; Plastic(s); Stainless Steels; Titanium Alloys; Tool Steels

Superior Quality

Custom, weld to length bands are welded in our modern weld center centrally located in the Chicago-land area.

Made in Germany to the highest manufacturing standards and a multi-step Quality Assurance process.



Description	Thickness		Order No.
	Inch	mm	
1" Band Saw Blade Carbide Tipped 2/3T	0.035	27	C43058
1" Band Saw Blade Carbide Tipped 3/4T	0.035	27	C43059
1-1/4" Band Saw Blade Carbide Tipped 1.4/2T	0.042	34	C43060
1-1/4" Band Saw Blade Carbide Tipped 2/3T	0.042	34	C43061
1-1/4" Band Saw Blade Carbide Tipped 3/4T	0.042	34	C43062
1-1/2" Band Saw Blade Carbide Tipped 1.4/2T	0.050	41	C43063
1-1/2" Band Saw Blade Carbide Tipped 2/3T	0.050	41	C43064
1-1/2" Band Saw Blade Carbide Tipped 3/4T	0.050	41	C43065
2" Band Saw Blade Carbide Tipped 1.4/2T	0.063	54	C43066
2" Band Saw Blade Carbide Tipped 2/3T	0.063	54	C43067

CLE-LINE
WALTER

TECHNICAL INFORMATION HOLE SAWS

Operating Speeds

Recommended Operating Speeds for Hole Saws

Guidelines on generally recommended operating speeds.

Always follow the recommendations of the hole saw manufacturer concerning use and operating speeds.

Bi-Metal Hole Saw Operating Speeds (RPM Table)								
inches	mm	length	mild steel	tool steel & stainless	cast iron	brass	alu.	wood
9/16	14	0.147	580	300	400	790	900	3000
5/8	16	0.164	550	275	365	730	825	3000
11/16	17	0.180	500	250	330	665	750	3000
3/4	19	0.196	460	230	300	600	690	3000
–	20	0.213	440	220	290	580	660	3000
7/8	22	0.229	390	195	260	520	585	3000
1	25	0.262	350	175	235	470	525	2700
1-1/16	27	0.278	325	160	215	435	480	2700
1-1/8	29	0.295	300	150	200	400	450	2700
1-3/16	30	0.311	285	145	190	380	425	2400
1-1/4	32	0.327	275	140	180	360	410	2400
1-5/16	33	0.344	260	135	175	345	390	2400
1-3/8	35	0.360	250	125	165	330	375	2400
1-7/16	37	0.376	240	120	160	315	360	2400
1-1/2	38	0.393	230	115	150	300	345	2400
1-9/16	40	0.409	220	110	145	290	330	2100
1-5/8	41	0.425	210	105	140	280	315	2100
1-11/16	43	0.442	205	100	135	270	305	2100
1-3/4	44	0.458	195	95	130	260	295	2100
1-13/16	46	0.475	190	95	125	250	285	2100
1-7/8	48	0.491	180	90	120	240	270	2100
2	51	0.524	170	85	115	230	255	2000
2-1/16	52	0.540	165	80	110	220	245	2000
2-1/8	54	0.556	160	80	105	210	240	2000
2 1/4	57	0.589	150	75	100	200	225	2000
2-5/16	59	0.605	145	75	95	195	225	2000
2-3/8	60	0.622	140	70	90	190	220	2000
2-1/2	64	0.655	135	65	85	180	205	1850
2-9/16	65	0.671	130	65	85	175	200	1850
2 5/8	67	0.687	130	65	85	170	195	1800
–	68	0.704	130	65	80	170	190	1800
2-3/4	70	0.720	125	60	80	160	185	1800
2-7/8	73	0.753	120	60	75	160	180	1800
3	76	0.785	115	55	70	150	170	1800
3-1/8	79	0.818	110	55	70	140	165	1500
3-1/4	83	0.851	105	50	65	140	155	1500
3-3/8	86	0.884	100	50	65	130	150	1500
3-1/2	89	0.916	95	45	60	130	145	1200
3 5/8	92	0.949	90	45	60	120	140	1200
3-3/4	95	0.982	90	45	60	120	135	1200
3-7/8	98	1.014	90	45	60	120	135	1200
4	102	1.047	85	40	55	110	130	1000
4-1/8	104	1.080	80	40	55	110	120	1000
4-1/4	108	1.113	80	40	55	110	120	900
4-3/8	111	1.145	80	40	50	100	120	900
4-1/2	114	1.178	75	35	50	100	105	900
4-3/4	121	1.244	75	35	50	92	95	900
5	127	1.309	65	30	45	90	90	800
5-1/2	140	1.440	60	25	40	85	85	800
5-3/4	146	1.505	55	25	35	75	75	800
6	152	1.571	55	25	35	75	75	800

Hole Saw Operating Speeds (RPM Table)					
inches	mm	brick ceramic	slate	reinforced plastics	fiberglass
5/8	16	620	1540	2140	920
3/4	19	510	1280	1790	770
–	20	470	1180	1660	715
7/8	22	430	1090	1530	660
1	25	380	960	1340	580
1-1/8	29	340	850	1190	510
1-1/4	32	310	770	1070	460
1 3/8	35	280	700	980	420
1-1/2	38	260	640	890	390
1-3/4	44	220	550	770	330
1-7/8	48	200	510	720	310
2	51	190	480	670	290
2-1/8	54	180	450	630	280
2-1/4	57	170	430	600	270
2-3/8	60	160	400	570	250
2-1/2	64	150	380	540	230
2-3/4	70	140	350	500	210
3	76	130	320	450	190
3-1/4	83	120	295	415	180
3-3/8	86	115	285	400	175
3-3/4	95	102	255	350	160
4	102	95	240	330	150
4-1/2	114	82	215	290	125

Reference Chart

diameter		pipe tap dia.		pipe entrance dia		Order No. 1887	
inch	mm	inch	mm	inch	mm	M3	M42
9/16	14	—	—	—	—	C25058	C25000
5/8	16	—	—	—	—	C26149	C26121
11/16	17	—	—	—	—	C26102	C25002
3/4	19	1/2	13	3/8	10	C25061	C26113
—	20	—	—	—	—	C25062	C25004
13/16	21	—	—	—	—	C26106	C26105
7/8	22	3/4	19	1/2	13	C25064	C25006
*7/8	22	3/4	19	1/2	13	C24998	C24999
15/16	24	—	—	—	—	C25065	C25007
1	25	—	—	—	—	C25066	C26101
1-1/16	27	—	—	—	—	C25067	C25009
1-1/8	29	1	25	3/4	19	C25068	C26103
1-3/16	30	—	—	—	—	C25069	C25011
1-1/4	32	—	—	—	—	C25070	C25012
1-5/16	33	—	—	—	—	C25071	C25013
1-3/8	35	—	—	1	25	C26108	C25014
1-7/16	37	—	—	—	—	C25073	C25015
1-1/2	38	1-1/4	32	—	—	C25074	C25016
1-9/16	40	—	—	—	—	C25075	C25017
1-5/8	41	—	—	—	—	C25076	C25018
1-11/16	43	—	—	—	—	C25077	C26104
1-3/4	44	1-1/2	38	1-1/2	38	C25078	C26107
—	45	—	—	—	—	C26120	C25021
1-13/16	46	—	—	—	—	C25080	C25022
1-7/8	48	—	—	—	—	C25081	C25023
—	50	—	—	—	—	C25082	C25024
2	51	—	—	1-1/2	38	C25083	C25025
2-1/16	52	—	—	—	—	C25084	C25026
2-1/8	54	—	—	—	—	C25085	C25027
—	55	—	—	—	—	C25086	C25028
2-1/4	57	2	51	—	—	C26109	C25029
2-5/16	59	—	—	—	—	C25088	C25030
2-3/8	60	—	—	—	—	C25089	C25031
2-1/2	64	—	—	2	51	C25090	C25032
2-9/16	65	—	—	—	—	C25091	C25033
2-5/8	67	2-1/2	64	—	—	C25092	C26111
—	68	—	—	—	—	C25093	C25035
2-3/4	70	—	—	—	—	C26110	C25036
2-7/8	73	—	—	—	—	C26112	C25037
—	75	—	—	—	—	C25096	C25038
3	76	—	—	2-1/2	64	C25097	C25039
3-1/8	79	—	—	—	—	C25098	C25040
3-1/4	83	3	76	—	—	C25099	C26115
3-3/8	86	—	—	—	—	C26116	C25042
3-1/2	89	—	—	—	—	C25001	C25043
3-5/8	92	—	—	3	76	C25102	C25044
3-3/4	95	3-1/2	89	—	—	C25103	C25045
3-7/8	98	—	—	—	—	C25104	C25046
—	100	—	—	—	—	C25105	C25047
4	102	—	—	—	—	C25106	C25048
4-1/8	105	—	—	3-1/2	89	C25107	C25049
4-1/4	108	4	102	—	—	C26118	C25050
4-3/8	111	—	—	—	—	C25109	C25051
4-1/2	114	—	—	—	—	C26117	C25052
4-3/4	121	4-1/2	114	4	102	C25111	C26119
5	127	—	—	—	—	C25112	C25054
5-1/2	140	—	—	5	127	C25113	C25055
5-3/4	146	—	—	—	—	C25114	C25056
6	152	—	—	—	—	C25115	C25057

*1-1/2" (32mm) cutting depth

Tech tip!

Always wear eye protection.

Always be sure that the pilot drill extends beyond the cutting edge of the saw by at least 1/8".

Be sure to secure the material to be cut to keep it from spinning or slipping.

Start the cutting process with the saw square to the material being cut, this will ensure that all teeth begin to cut at the same time and will help prevent premature wear and damage to the saw.

Follow the recommended operating speed for the saw size and the material being cut.

Operator should feed the saw in and out to allow the material shavings to clear out of the hole being cut.

Cutting oils or lubricants should be used to extend the life of the saw, except when cutting wood or cast iron.

Occasionally check the mandrel's drive pins to be sure they are still fully engaged in the saw and that they have not vibrated out of the drive holes in the saw.

When sawing in wood, finish the hole from the opposite side to prevent splintering. Once the pilot drill has broken through the other side, you can use this hole to guarantee you are in line with where you have already started cutting.

When sawing resistant and difficult to cut materials, drill a couple of small holes on the circumference to allow chip to clear.

Keep an oil soaked sponge inside the hole saw if you:

- Cannot lubricate in the normal way
- Operate in stainless steel
- Operate in a vertical position from above.

Pipe and Tap Entrance

Pipe taps are used for threading holes created by a hole saw to receive a threaded pipe. Reference the product charts for proper selection. To cut a hole for a 1" pipe tap, select a 1-1/8" hole saw.

Pipe entrance is the diameter for the hole through which a pipe of a given diameter will pass during installation or repair.

Pipe size is defined by the inside diameter. To cut a hole through which a 3/4" pipe may be passed, a 1-1/8" hole saw is used.

Tubing size is defined by the outside diameter. To cut an entrance hole of a given tubing diameter, the same diameter hole saw should be used.

TECHNICAL INFORMATION

BI-METAL BAND SAW BLADES

Speed and Feeds

		Under 1"		1" to 3"		3" to 6"		6" - Over	
Type of Material		Blade Speed (SFM)	Removal Rate (in2/min.)	Blade Speed (SFM)	Removal Rate (in2/min.)	Blade Speed (SFM)	Removal Rate (in2/min.)	Blade Speed (SFM)	Removal Rate (in2/min.)
Special Purpose Steel	L2, L6	210	3-5	210	4 - 7	190	5 - 8	175	4 - 7
	L7	200	3 - 5	190	4 - 6	180	4 - 7	130	3 - 6
Water Hardening Steel	W1	265	3 - 6	240	5 - 7	220	5 - 7	180	3 - 5
High Speed Steel	M1, M2, M7	165	2 - 4	150	2 - 5	145	3 - 6	100	3 - 5
	M3, M4, M10	125	2 - 4	100	2 - 5	100	3 - 5	80	3 - 4
	M30, M33	100	1 - 3	90	2 - 3	75	2 - 3	70	1 - 3
	M41, M42, M43	100	1 - 3	90	1 - 3	75	1 - 4	70	1 - 3
	T1, T2	150	2 - 4	135	2 - 4	120	2 - 5	100	2 - 4
	T4, T5, T6	125	1 - 3	110	1 - 4	100	2 - 4	85	1 - 3
	T15, M15	90	1 - 3	70	1 - 3	60	1 - 3	50	1 - 2
Austenitic Stainless Steel	201, 202, 301 - 304	135	3 - 4	120	2 - 5	120	3 - 6	85	2 - 4
	303, 303F, 303Se	160	3 - 6	140	3 - 6	135	4 - 6	90	3 - 5
	305, 308 - 314	100	1 - 2	85	1 - 2	75	1 - 3	65	1 - 2
	316, 317, 329	100	1 - 2	90	1 - 2	80	1 - 3	60	1 - 2
	321, 347, 348	140	2 - 4	125	2 - 5	120	3 - 6	90	2 - 4
	330	85	1 - 2	65	1 - 3	55	1 - 4	45	1 - 2
Ferritic Stainless Steel	429, 430	120	2 - 4	100	3 - 4	90	3 - 6	75	2 - 4
	430F, 430FSe	130	3 - 5	115	5 - 6	100	5 - 7	90	4 - 6
	434, 436	100	2 - 4	80	3 - 4	75	3 - 5	55	3 - 4
	442	110	2 - 4	85	3 - 5	75	3 - 6	60	3 - 5
	446	90	2 - 4	70	3 - 4	60	2 - 5	50	1 - 3
Martensitic Stainless	403, 410, 420	170	2 - 5	155	3 - 6	145	3 - 7	100	2 - 4
	414, 416Se	235	5 - 9	210	6 - 9	195	7 - 11	170	5 - 9
	420F, 416	220	3 - 8	200	5 - 9	190	6 - 10	150	4 - 8
	440A, B, C	130	2 - 4	120	2 - 6	110	3 - 7	70	1 - 4
	501, 502	135	1 - 2	120	2 - 4	100	3 - 4	80	2 - 3
Nickel Based Alloys	Monel	100	1 - 4	90	1 - 4	85	2 - 4	65	1 - 3
	K-Monel	115	1 - 4	90	1 - 4	70	2 - 4	50	1 - 2
	R-Monel	130	2 - 4	100	2 - 5	90	3 - 5	60	1 - 4
	K-R Monel	115	1 - 4	100	1 - 4	100	2 - 5	65	1 - 3
	Inconel	105	2- 4	90	2 - 4	75	2 - 3	50	1 - 2
	Inconel 625-x-750	95	1 - 2	80	1 - 2	70	1 - 2	40	1
	Inconel 718	95	1 - 2	80	1 - 2	70	1 - 2	40	1
	Incoloy 800 - 802	95	1 - 2	75	1 - 2	60	1 - 2	35	1
	Incoloy 804 - 825	60	1	40	1 - 2	40	1 - 2	30	1
	Waspalloy	100	1	90	1 - 2	70	1 - 2	50	1
	Hastelloy A	130	2 - 3	110	3 - 4	100	4 - 6	70	1-3
	Hastelloy B	110	1 - 2	80	1 - 3	75	1 - 4	60	1-2
	Hastelloy C	100	1 - 2	90	1 - 2	80	1 - 2	65	1
	Rene 41	90	1	80	1 - 2	60	1 - 2	50	1
	Udimet 500	95	1	80	1 - 2	70	1 - 2	60	1
Titanium	6AL 4V	65	.5-1	50	1 - 2	50	1 - 2	40	.5 - 1
Maraging Steel	Most	190	3 - 4	145	4 - 6	110	6 - 7	90	4 - 6
Bronze	Most	230	6 - 9	205	10 - 12	180	10 - 12	140	7 - 9
	Aluminum Bronze	100	2 - 4	95	3 - 4	85	3 - 5	70	3 - 4
Aluminum	Most	800		700		600		500	
Cast Iron	Class 20	210	9 - 12	200	11 - 15	180	11 - 15	160	10 - 14
	Class 40	170	7 - 9	160	7 - 10	140	8 - 12	120	7 - 11
	Ductile - 60-40-18, 150 HB	240	6 - 8	230	8 - 10	230	8 - 10	220	6 - 7
	Ductile - 80-55-06, 225 HB	140	3 - 4	130	4 - 5	120	5 - 7	110	3 - 5

TECHNICAL INFORMATION

CARBIDE TIPPED BAND SAW BLADES

Speed and Feeds

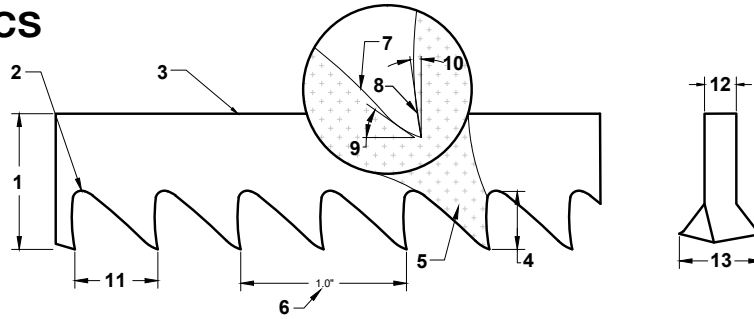
Type of Material	Dim (FPM)	Speed (FPM)	Feed (IPM)	Cutting Time (h:min:sec)	Cutting Rate (sq/min)
INCONEL 718	4	79	0.33	0:12:01	1.03
	6	79	0.33	0:18:15	1.55
	8	79	0.33	0:24:10	2.07
17-4PH	4	82	0.38	0:10:23	1.21
	6	82	0.38	0:15:34	1.82
	8	82	0.38	0:20:46	2.42
WASPALLOY	4	79	0.33	0:12:10	1.03
	6	79	0.33	0:18:15	1.55
	8	79	0.33	0:24:20	2.07
P021	4	135	0.84	0:04:45	2.65
	6	135	0.84	0:07:07	3.97
	8	135	0.84	0:09:30	5.29
TITANIUM (T40)	4	148	0.77	0:05:11	2.42
	6	148	0.77	0:07:47	3.63
	8	148	0.77	0:10:23	4.84

Important Note:

Suggest reducing speed & feed around 10% every time when reducing widths
(1-½" bands around 90% of 2" bands, 1-¼" bands around 90% of the 1-½" bands, etc.).

TECHNICAL INFORMATION BAND SAWS

Blade Basics



Terminology

1 Width The nominal dimension of a saw blade, as measured from the tip of the tooth to the back of the blade. 2 Gullet The curved area at the base of the tooth. 3 Blade Back The blade body, not including the tooth portion. 4 Gullet Depth The distance from the tooth tip to the bottom of the gullet.	5 Tooth The cutting portion of the saw blade. 6 TPI The number of teeth per inch. 7 Tooth Back or Relief Angle The surface of the tooth opposite the cutting edge, or tooth face. 8 Tooth Face or Rake Angle The cutting surface of the tooth. 9 Tooth Back Clearance Angle The angle of the tooth back measured in relation to the cutting direction of the saw.	10 Tooth Rake Angle The angle of the tooth face measured with respect to a line perpendicular to the cutting direction of the saw. 11 Tooth Pitch The distance from one tooth tip to the next tooth tip. 12 Thickness (Gauge) The thickness of the blade. 13 Tooth Set The bending of the teeth from right to left to allow clearance (kerf) of the blade back through the cut.

Tooth Form

Positive Rake

A positive rake is characterized by a 5° to 10° rake angle on the tooth face, resulting in better tooth penetration and easier chip formation. This tooth form is recommended for cutting difficult to machine materials, and solid cross-sections.

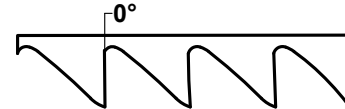
Positive Rake



Standard Straight

A standard straight tooth has a 0° cutting face, and is recommended for cutting easy-to-cut, low alloy materials. This is an efficient tooth form for cutting structural materials and interrupted cuts.

Standard Straight Rake



Tooth Type

Regular

This is a conventional tooth with a 0° cutting angle, ideal for a wide range of general purpose cutting applications.

Hook

This tooth type has a 10° positive rake angle for fast cutting with less feed pressure. The rounded, deeper gullets allow for fast chip removal, and is generally used for cutting nonmetallic and non-ferrous metals.

Skip

This tooth type has a 0° rake angle with shallow gullets and evenly spaced teeth for efficient chip removal. It is used for cutting large sections of soft, non-ferrous metal and nonmetal materials, such as wood, composite materials, cork, and plastic.

Turtle Back

This is a tooth configuration that has a reinforced shoulder or "Turtle Back Hump" on the back of the cutting edge to prevent stripping out and interrupted cuts.

Variable

A traditional tooth form that offers a 0° rake angle, varying gullet depths, and tooth sizes. Designed to reduce harmonic vibration, this blade efficiently removes chips, extending blade life in solids and structural.

Variable Positive

Variable positive tooth form offers varying gullet depths, tooth sizes, and a positive rake angle for maximum cutting speeds and better tooth penetration in harder to machine materials.

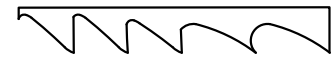
Duplex

Duplex blades offer deep, chip clearing gullets, large chip-resistant teeth, and a high positive rake angle. This results in faster sawing rates, and improved finishes. Duplex blades are recommended for production cutting of work hardened metals, tool steels, and exotic alloys.

Regular



Variable



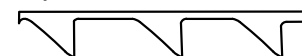
Hook



Variable Positive



Skip



Duplex



Turtle Back



Blade Basics

Tooth Selection

Tooth selection is based on the principle that there is a tooth pitch best suited for the cutting job. Blade selections should be based on the size, shape, accuracy, materials, and cutting rate expected. The chart below will help you select the correct pitch for cutting solids, tubes, and structurals. Keep in mind these numbers: 3, 6, 12, and 24. There should be a minimum of three teeth in the work at all times for bi-metal bands. Ideally, 6-12 teeth should be in contact with the work; 24 teeth in the work is too many.

Solids			Structural			Tubing	
Cross-section	Pitch		Cross-section	Pitch		Wall Thickness	Pitch
	1/4"		1/4" - 1/2"	10/14 TPI 10 TPI 8/12 TPI		1/4" - 1/2"	10 TPI 10/14 TPI 8/12 TPI
	3/8" - 3/4"						
	3/4" - 1-1/2"		1/2" - 3/4"	8 TPI 6/10 TPI 5/8 TPI		1/2" - 3/4"	8 TPI 6/10 TPI 5/8 TPI
	1-1/2" - 3"						
	3" - 6"		3/4" - 1"	4/6 TPI 5/8 TPI 6 TPI		3/4" - 1"	4/6 TPI 6/10 TPI 6 TPI
	6" - 10"						
	10" - 14"						
	.75 TPI .8/1.5 TPI						

Feed Pressure

Chips tell you what is happening with your feed pressure and your blade. Powdery or fine chips indicate not enough feed pressure is being applied. Loosely curled chips tell you everything is going well. Heavy or thick / blue burned chips mean you are pushing the blade too hard, creating too much heat and load for the teeth. If a change in feed or speed rates is required, change one at a time and observe the results after each change.

Correct

Loosely Curled Chip
Correct feed, speed



Incorrect

Thin or powdery chips
Increase feed, speed



Heavy, thick, blue chips
Reduce feed, speed



Tech tip!

Tips On Band Saw Cutting

Machine Checklist

- The blade tension on the tension meter.
- The performance of the chip brush.
- The wear and alignment of the blade guides.
- The band speed with a tachometer.
- The cutting fluid concentration with a refractometer.

Cutting Fluid

The cutting fluid keeps the blade teeth cool; it prevents the chips from welding to the teeth; it also lubricates the chips, allowing them to move through the cut.

- Use a high quality cutting fluid.
- Make sure the cutting fluid is distributed throughout the cut.

TECHNICAL INFORMATION BAND SAWS

Blade Basics

Tooth Set

Raker Set

These are individually set teeth — first right then left — followed by an unset tooth. The unset tooth (raker tooth) allows for fast chip removal and a straight cutting action. This tooth set is recommended for general purpose cutting applications.

Wavy Set

Wavy set teeth are set in groups, right and left, in varying degrees. Wavy set teeth are recommended for cutting light metal sections, such as sheet, tubing, and small solid shapes.

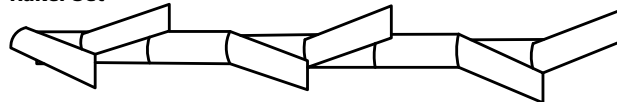
Alternate Set

In an alternate tooth set, every tooth is set — one left, one right — throughout the blade length. This tooth set is primarily used for cutting wood.

Variable Set

Variable set teeth are set in alternating groups with a single unset tooth (raker tooth). When these are combined with the varying set angles of the teeth, a faster, smoother, quieter cutting action is achieved. Variable tooth blades perform extremely well on most applications and provide fast cutting on solids, shapes, structural, and piping.

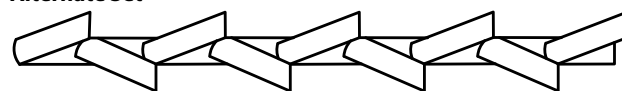
Raker Set



Wavy Set



Alternate Set



Variable Set



Successful Band Saw Operation and Geometries

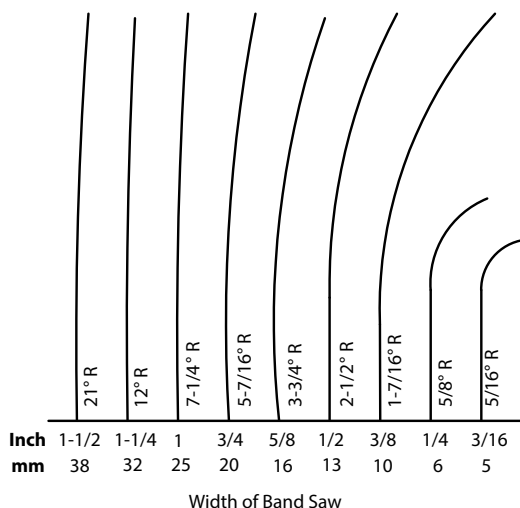
Blade Width Selection

The dimension from tooth tip to back edge of the blade is the blade width. The greater the width, the greater the resistance to deflection while cutting. For straight cutting applications, use the widest blade the machine can accept. For contour cutting use the widest blade that the contour radius will permit, see Minimum Radii Cutting Chart to the right.

Radii in this chart are based on manual feeding of one-inch thick mild steel. To cut close tolerance radii the following factors must be considered:

- Blade width
- Material thickness
- Machinability
- Feed force
- Location of pivot point

Minimum Radii Cut Chart



Teeth Per Inch

The pitch of the blade is defined by the number of TPI (Teeth Per Inch). Non-ferrous materials such as brass, bronze, and aluminum require a large chip area. A low TPI, or "course" pitch, prevents the chips from clogging and binding together in the gullets, which can diminish sawing and damage the blade.

On thin walled pipe, tubing, and sheet, many teeth per inch are required in order to avoid damaging or breaking the teeth. A low TPI blade is the best blade for cutting large cross-sections. The ability of each tooth to cut into the workpiece is increased because the saw's feed pressure is distributed over fewer teeth. A coarse pitch blade increases productivity and provides large chip clearing gullets.

Blade Break-In

Set Band Saw machine at the recommended speed for the material to be cut. When cutting easily machined metals, the cutting rate should be set at 1/3 to 1/2 of the recommended rate for the first 50 to 75 square inches.

When cutting difficult to machine metals, such as tool steels or workhardened alloys, set the cutting rate at 3/4 of the recommended rate for the first 25 square inches. Gradually increase the feed until you achieve the recommended cutting rate after 50 to 60 square inches.

TROUBLESHOOTING GUIDE BAND SAWS

Problem / Solution

13

SAWS

Problem	Reason	Solution
Premature and excessive tooth wear	Feed pressure too light	Increase feed pressure
	Band saw too slow	Adjust band speed
	Insufficient coolant, improper coolant mix, or wrong coolant	Apply proper coolant for type material being cut, check flow of coolant
	Improper tooth selection	Call Greenfield Industries for additional information
	Feed pressure too high	Call Greenfield Industries for additional information
Tooth Stripping	Guides hitting teeth alignment	Check blade
	Improper break-in with new band	Feed should be reduced for first few cuts
	Teeth too coarse for material thickness	Select finer pitch
	Material not securely vised	Adjust clamping pressure
	Insufficient or improper coolant	Apply proper coolant for type material begin cut, check flow of coolant
Finished Surface too Rough	Excessive feed pressure	Reduce feed pressure
	Band speed too slow	Increase band speed
	Chips loaded in gullet	Replace or adjust chip brush
	Improper blade selection	Select finer pitch
	Band speed too slow	Adjust band speed
Premature Blade Breakage	Feed rate too high	Slow down feed rate
	Improper coolant for type of material being cut	Apply proper coolant
	Thickness of blade too heavy for diameter of wheels	Select thinner blade
	Band tension too high	Adjust tension
	Improper speed	Call Greenfield Industries for additional information
Cutting Rate too Slow	Excessive feed pressure	Reduce feed pressure
	Brittle weld	Increase annealing period, decreasing heat gradually
	Saw out of alignment	Get machine properly re-aligned
	Improper coolant	Apply proper coolant for type of material being cut
	Band wheels worn	Replace wheels
Gullets Loading with Chips	Incorrect band speed	Adjust band speed
	Incorrect feed pressure	Adjust feed pressure
	Blade pitch too fine	Select coarser pitch blade
	Excessive cutting speed	Reduce cutting rate
	Blade pitch too fine	Select coarse pitch
Band Squeals	Chip brush not working	Replace or adjust chip brush
	Insufficient coolant, improper coolant mix, or improper coolant	Apply proper coolant for type of material being cut, check flow of coolant
	Feed rate too slow	Increase feed rate
	Insufficient coolant flow	Check coolant flow
	Blade tension	Check blade tension with tension meter
Belly Shaped Cuts	Guide arm is too far from work piece	Adjust guides closer to work piece
	Blade pitch too fine	Select coarser pitch blade
	Excessive feed force	Reduce feed force or feed rate
	Excessive feed force or feed rate	Reduce feed force or feed rate
	Possible hard inclusion	Use cutting oil to reduce leading
Blade Leading in Cut	Chip brush not working	Replace or adjust chip brush
	Blade tension too low	Check blade tension with tension meter
	Wrong width for radius being cut	Select a narrower blade
	Binding in cut	Adjust blade tension
	Saw guides too close to work piece	Adjust saw guides further from work
Band Develops Twist	Feed pressure too great	Reduce feed pressure
	Improper blade tension	Adjust blade tension
	Blade pitch too coarse for material being cut	Select finer pitch blade
	Improper blade tension	Adjust blade tension
	Excessive feed pressure	Reduce feed pressure
Band Stalls in Work	Blade pitch too fine	Select coarser pitch blade
	Improper guide adjustments	Adjust guides
	Band has side wear or grooving	Check saw guide inserts for wear and replace
	Improper alignment of saw guides	Adjust guides so they are square to front vise
	Worn guides	Replace guides
Burring or Mushrooming of Back Edge	Clicking noise against the saw guide backup bearing indicates there is a burr on the back edge of the band	Remove burr on the band
	Weld not in proper alignment	Reweld blade straight and true
	Saw guide backup bearing worn	Replace
	Improper blade tracking	Check band wheel alignment
	Band is riding on saw guide backup bearing too heavily	Adjust band alignment on top and bottom wheels
Band Develops Negative Camber	Check band wheel alignment	Check band wheel alignment
	Excessive feed force	Reduce feed force
	Poor tooth penetration	Select a coarser pitch blade for increased tooth penetration
	Saw guide is too far from work piece or no locked	Adjust saw guides closer to work piece
	Guides poorly adjusted	Check guide adjustments
Blade Vibration	Improper band speed	Increase or decrease band speed
	Low blade tension	Increase blade tension
	Feed rate too low	Increase feed rate
	Blade pitch too coarse for material being cut	Select variable pitch blade
	Work piece not properly secured	Adjust clamping pressure
Chip Welding	Excessive feed pressure	Reduce feed pressure
	Excessive cutting speed	Reduce blade speed
	Chip brush not working	Replace or adjust chip brush
	Insufficient or improper coolant	Apply proper coolant for the type of material being cut, check coolant flow

CLE-LINE

WALTER



14

TOOL BITS



MO-MAX® HSS SQUARE

850

HIGH SPEED STEEL

Square

Mo-Max tool bits are designed for general-purpose work in moderate materials.



tool bit size		overall length	Order No.
fractional	inch	inch	
1/8	.1250	2.500	C44505
3/16	.1875	2.500	C44509
1/4	.2500	2.500	C44513
5/16	.3125	2.500	C44514
3/8	.3750	3.000	C44516
7/16	.4375	3.500	C44518
1/2	.5000	4.000	C44520
5/8	.6250	4.500	C44522
3/4	.7500	5.000	C44525
7/8	.8750	6.000	C44527
1	1.0000	7.000	C44528
1-1/4	1.2500	9.000	C44530

MO-MAX® HSS RECTANGULAR

850

HIGH SPEED STEEL

Rectangular



tool bit size	width	height	overall length	Order No.
fractional	inch	inch	inch	
1/4 x 3/8	.250	.375	2.500	C44600
1/4 x 1/2	.250	.500	4.000	C44606
1/4 x 1/2	.250	.500	6.000	C44609
5/16 x 1/2	.313	.500	3.000	C44616
3/8 x 1/2	.375	.500	3.000	C44619
3/8 x 1/2	.375	.500	4.000	C44622
3/8 x 1/2	.375	.500	6.000	C44625
3/8 x 5/8	.375	.625	4.000	C44628
3/8 x 5/8	.375	.625	5.000	C44631
3/8 x 5/8	.375	.625	6.000	C44634
3/8 x 3/4	.375	.750	4.000	C44637
3/8 x 3/4	.375	.750	6.000	C44640
1/2 x 3/4	.500	.750	4.000	C44644
1/2 x 3/4	.500	.750	6.000	C44647
1/2 x 1	.500	1.000	8.000	C44650
5/8 x 3/4	.625	.750	5.000	C44653
5/8 x 7/8	.625	.875	6.000	C44656
3/4 x 1	.750	1.000	6.000	C44659

MO-MAX® COBALT SQUARE

855

COBALT
Square

Mo-Max Cobalt tool bits are ideal for general-purpose work in harder materials.



Tool Bit Size		Overall Length		Order No.
Fractional	Inch	Inch		
1/8	.1250	2.500		C44536
3/16	.1875	2.500		C44540
1/4	.2500	2.500		C44544
5/16	.3125	2.500		C44545
3/8	.3750	3.000		C44547
7/16	.4375	3.500		C44549
1/2	.5000	4.000		C44551
5/8	.6250	4.500		C44553
3/4	.7500	5.000		C44556
7/8	.8750	6.000		C44558
1	1.0000	7.000		C44559
1-1/4	1.2500	9.000		C44561

MO-MAX® COBALT RECTANGULAR

855

COBALT
Rectangular



Tool Bit Size	Width	Height	Overall Length	Order No.
Fractional	Inch	Inch	Inch	
1/4 x 3/8	.250	.375	2.500	C44601
1/4 x 1/2	.250	.500	4.000	C44607
1/4 x 1/2	.250	.500	6.000	C44610
5/16 x 1/2	.313	.500	3.000	C44617
3/8 x 1/2	.375	.500	3.000	C44620
3/8 x 1/2	.375	.500	4.000	C44623
3/8 x 1/2	.375	.500	6.000	C44626
3/8 x 5/8	.375	.625	4.000	C44629
3/8 x 5/8	.375	.625	5.000	C44632
3/8 x 5/8	.375	.625	6.000	C44635
3/8 x 3/4	.375	.750	4.000	C44638
3/8 x 3/4	.375	.750	6.000	C44641
1/2 x 3/4	.500	.750	4.000	C44645
1/2 x 3/4	.500	.750	6.000	C44648
1/2 x 1	.500	1.000	8.000	C44651
5/8 x 3/4	.625	.750	5.000	C44654
5/8 x 7/8	.625	.875	6.000	C44657
3/4 x 1	.750	1.000	6.000	C44660

SUPER MO-MAX® COBALT SQUARE

860

COBALT
Square

Super Mo -Max Cobalt tool bits are designed for heavy-duty work in high-temp alloys.



Tool Bit Size		Overall Length		Order No.
Fractional	Inch	Inch		
Saws	.1250	2.500		C44567
3/16	.1875	2.500		C44571
1/4	.2500	2.500		C44575
5/16	.3125	2.500		C44576
3/8	.3750	3.000		C44578
7/16	.4375	3.500		C44580
1/2	.5000	4.000		C44582
5/8	.6250	4.500		C44584
3/4	.7500	5.000		C44587
7/8	.8750	6.000		C44589
1	1.0000	7.000		C44590
1-1/4	1.2500	9.000		C44592

SUPER MO-MAX® COBALT RECTANGULAR

860

COBALT
Rectangular


Tool Bit Size	Width	Height	Overall Length	Order No.
Fractional	Inch	Inch	Inch	
1/4 x 3/8	.250	.375	2.500	C44602
1/4 x 1/2	.250	.500	4.000	C44608
1/4 x 1/2	.250	.500	6.000	C44611
5/16 x 1/2	.313	.500	3.000	C44618
3/8 x 1/2	.375	.500	3.000	C44621
3/8 x 1/2	.375	.500	4.000	C44624
3/8 x 1/2	.375	.500	6.000	C44627
3/8 x 5/8	.375	.625	4.000	C44630
3/8 x 5/8	.375	.625	5.000	C44633
3/8 x 5/8	.375	.625	6.000	C44636
3/8 x 3/4	.375	.750	4.000	-
3/8 x 3/4	.375	.750	6.000	C44642
1/2 x 3/4	.500	.750	4.000	C44646
1/2 x 3/4	.500	.750	6.000	C44649
1/2 x 1	.500	1.000	8.000	C44652
5/8 x 3/4	.625	.750	5.000	C44655
5/8 x 7/8	.625	.875	6.000	C44658
3/4 x 1	.750	1.000	6.000	C44661

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CUTTING FLUIDS AND LUBRICANTS

QUICK PAGES REFERENCES



CUTTING FLUIDS AND LUBRICANTS

HIGH PERFORMANCE CUTTING FLUIDS

Name	Series	Page Number
COOLCUT™	53B	770
STAINLESSCUT™	53B	771
ALUCUT™	53B	771
TAPCUT™	53A	772
ICECUT™	53C	772

CNC CUTTING AND GRINDING FLUIDS

WATER-MISCIBLE COOLANTS

Name	Series	Page Number
COOLCUT™ 150	58A	774
COOLCUT™ 250	58A	775
COOLCUT™ 200 BF	58A	775
COOLCUT™ 400 U	58A	776
COOLCUT™ S-30	53C	777
COOLCUT™ S-50	53C	777
COOLCUT™ SYN 400 BF	58A	778
COOLCUT™ SYN GRIND	58A	778

NEAT CUTTING OILS

Name	Series	Page Number
COOLCUT™	53B	779
COOLCUT™ NEO AP	58B	780
COOLCUT™ NEO 3724 N	58B	780
COOLCUT™ SYN NEO HP	58B	781

SLIDEWAY OIL

Name	Series	Page Number
COOLCUT™ PROTEC	58C	781

ACCESSORIES

Name	Series	Page Number
COOLCUT™ Cutting Fluids Proportioning System		782
SB 30 System Booster	53C	782
COOLCUT™ System Cleaner	58C	782

COOLCUT™ FLUIDS AT A GLANCE

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CUTTING FLUIDS AND LUBRICANTS

Processes										
Name	Turning	Milling	Gear hobbing	Drilling	Deep drilling	Threading tapping	Broaching	Surface and cylindrical grinding	Centerless grinding	Profile grinding
COOLCUT™ 150	•	•		•		•		•		
COOLCUT™ 250	•	•		•		•		•	•	
COOLCUT™ 200BF	•	•		•		•		•	•	•
COOLCUT™ 400U	•	•		•		•		•	•	•
COOLCUT™ S-30	•	•	•	•	•	•	•	•	•	•
COOLCUT™ S-50	•	•		•	•		•	•		•
COOLCUT™ SYN 400 BF	•	•		•	•	•	•	•	•	•
COOLCUT™ SYN GRIND								•		
COOLCUT™				•	•	•	•			
COOLCUT™ NEO AP	•	•	•	•	•	•	•			
COOLCUT™ NEO 3724 N	•	•		•	•	•	•			
COOLCUT™ SYN NEO HP	•	•							•	•

Materials								
Name	Steels	Cast iron	Stainless steel	Aluminum	Yellow metals	Titanium	Carbide	Glass ceramics
COOLCUT™ 150	•	•			•			
COOLCUT™ 250	•	•		•	•			
COOLCUT™ 200BF	•	•	•	•	•			
COOLCUT™ 400U	•	•	•	•	•			
COOLCUT™ S-30	•		•	•	•	•		
COOLCUT™ S-50	•		•	•		•	•	
COOLCUT™ SYN 400 BF	•		•	•	•	•		•
COOLCUT™ SYN GRIND	•	•	•	•	•	•		•
COOLCUT™	•		•	•	•			
COOLCUT™ NEO AP	•	•	•	•	•			
COOLCUT™ NEO 3724 N	•	•	•			•		
COOLCUT™ SYN NEO HP	•		•		•	•	•	



HIGH PERFORMANCE CUTTING FLUIDS



COOLCUT™

Metal cutting lubricant

COOLCUT™ is a ready-to-use, high-performance metal cutting lubricant that stands up to pressure and heat to reduce tool wear and prevent tool breakage.

Applications

- ▷ Machining operations
- ▷ Drilling



STEEL



STAINLESS



BRASS



ALU.

Description	Size		Order No.	(M) SDS	Std. Pkg.
	Metric	US Gal			
Aerosol	312 g	11 oz.	53B002	L-01	12
Solid stick	300 g	300 g	53B013	L-22	12
Liquid/Squeeze bottle	350 ml	11.8 fl.oz.	53B003	L-09	12
Sprayer	500 ml	16.9 oz.	53B004	L-09	12
Liquid	3.78 L	1 gal	53B005	L-09	1
Liquid	20 L	5.2 gal	53B007	L-09	1
Liquid	208 L	55 gal	53B008	L-09	1

Accessories	Order no.
Spout for 20 L square plastic pail	53L207
Spout for 208 L plastic drum 2" NPT	53L209
Spout for 208 L plastic drum 3/4" NPT	53L210



Benefits

- ▷ Reduces friction and heat
- ▷ Extends cutting tool life
- ▷ Improves finish
- ▷ Increases productivity

Features

- ▷ Contains extreme pressure additives (EP)
- ▷ Suitable for all ferrous and non-ferrous metals
- ▷ Non hazardous, biodegradable
- ▷ Free of solvents and chlorinated ingredients



STAINLESSCUT™

Stainless steel cutting lubricant

STAINLESSCUT™ is a heavy-duty cutting lubricant designed for tough metal cutting operations. Formulated for stainless steel, alloys, and ferrous alloys.

Applications

- ▷ *Machining operations*
- ▷ *Drilling*

Benefits

- ▷ *Washes off completely with water*
- ▷ *Easy clean-up*
- ▷ *Improves finish to prolong tool life*



Description	Size		Order No.	(M) SDS	Std. Pkg.
	Metric	US Gal			
Aerosol	312 g	11 oz.	53B202	L-53	12
Liquid/Squeeze bottle	350 ml	11.8 fl.oz.	53B203	L-114	12
Liquid	3.78 L	1 gal	53B205	L-114	1
Liquid	20 L	5.2 gal	53B207	L-114	1

Accessories			Order no.		
Spout for 20 L square plastic pail			53L207		



Features

- ▷ *Contains extreme pressure additives (EP)*
- ▷ *Solvent-free, sulfur-free, and chlorine-free*
- ▷ *High lubricity and cooling properties*
- ▷ *Non-hazardous*

ALUCUT™

Solid stick aluminum cutting lubricant

ALUCUT™ is a high-performance lubricant that extends cutting tool life. Specially formulated for use with aluminum and other non-ferrous metals.

Applications

- ▷ *Cutting with circular chop saws*
- ▷ *Drilling*

Benefits

- ▷ *Reduces scoring and chatter marks*
- ▷ *Improves finish*
- ▷ *Increases productivity*
- ▷ *Minimizes waste*



Description	Size		Order No.	(M) SDS	Std. Pkg.
	Metric	US Gal			
Solid stick	300 g	10.5 oz.	53B303	L-04	12



Features

- ▷ *Clean, precise, stain-free application*
- ▷ *Coats cutting edge or workpiece*
- ▷ *Ideal for inclined, vertical, and overhead surfaces*

HIGH PERFORMANCE CUTTING FLUIDS



TAPCUT™

Thread cutting lubricant

TAPCUT™ lubricant is specially formulated for thread cutting with taps and dies.

Applications

- ▷ Hand tapping
- ▷ Machine tapping

Benefits

- ▷ Taps and dies cut faster and last longer
- ▷ Cleans up easily with water



Description	Size		Order No.	(M) SDS	Std. Pkg.
	Metric	US Gal			
Liquid/Squeeze bottle	350 ml	11.8 fl.oz.	53A103	L-115	12
Liquid	3.78 L	1 gal	53A105	L-115	1
Liquid	20 L	5.2 gal	53A107	L-115	1

Accessories			Order no.		
Spout for 20 L square plastic pail			53L207		



Features

- ▷ Special antiwear additives for thread cutting
- ▷ Produces clean, accurate threads
- ▷ Non-hazardous

ICECUT™

Ready-to-use coolant/lubricant

ICECUT™ is a ready-to-use coolant/lubricant specially formulated for use with magnetic drilling units to reduce tool wear and improve production rates.

Applications

- ▷ Drilling with annular cutters, carbide core cutters, and drill bits



Description	Size		Order No.	(M) SDS	Std. Pkg.
	Metric	US Gal			
Liquid	3.78 L	1 gal	53C055	L-122	1
Liquid	20 L	5.2 gal	53C057	L-122	1
Liquid	208 L	45 gal	53C058	L-122	1

Accessories			Order no.		
Spout for 20 L square plastic pail			53L207		
Spout for 208 L plastic drum 2" NPT			53L209		
Spout for 208 L plastic drum 3/4" NPT			53L210		



Benefits

- ▷ Reduces friction and heat
- ▷ Extends cutting tool life
- ▷ Increases productivity
- ▷ Improves finish

Features

- ▷ Nitrate-free, amine-free, boron-free, phenol-free and active sulfur-free

CNC CUTTING AND GRINDING FLUIDS

BETTER PERFORMANCE AND PRODUCTIVITY

WALTER Surface Technologies COOLCUT™ cutting fluids can be used for almost any metalworking process. All our products, from machine tool lubricants to water-miscible coolants, special additives and corrosion protection solutions, are designed to work together, minimizing interface problems and achieving the highest process efficiency.

- ▷ *Water-miscible coolants and neat cutting oils for machining with defined and non-defined cutting edges*
- ▷ *Spray mist lubricants for minimum quantity applications*
- ▷ *Forming lubricants with a variety of different formulations for sheet metal, tube, and massive forming*

LIQUIDS

Available Sizes



3.78 L / 1 gal.



20 L / 5.2 gal.



200 L / 52.8 gal.



1000 L / 264 gal.



WATER-MISCIBLE COOLANTS



Water-miscible coolants for metalworking must meet a wide range of technical requirements to achieve best possible machining results and smooth operation. All WALTER COOLCUT™ lubricants meet or exceed requirements to ensure:

Features

- ▷ Cutting performance for long tool life and optimal workpiece finish
- ▷ Corrosion protection for machine parts and workpieces
- ▷ Compatibility with sensitive materials for components without staining
- ▷ Stability and flushing action for clean machines and parts
- ▷ Low foaming even with high cooling lubricant pressure

COOLCUT™ 150

Very finely dispersed semisynthetic lubricant for circular and flat grinding and light machining

COOLCUT™ 150 is a water-miscible coolant for light to medium duty machining without high lubricity demands. It is most suited for steels and cast iron.

Features

- ▷ Semisynthetic
- ▷ Free of secondary amines
- ▷ Formaldehyde-free

Benefits

- ▷ Applicable for a wide range of water hardness



Name	Product Number	(M)SDS	Size
COOLCUT™ 150	58A157	C-01	20 L
COOLCUT™ 150	58A158	C-01	200 L
COOLCUT™ 150	58A159	C-01	1000 L

Suitable for water hardness (PPM)					
0-30	40-100	110-180	190-360	370-720	730-1080
	•	•	•	•	•
				• Preferred	• Qualified

Processes

- ▷ Turning
- ▷ Milling
- ▷ Drilling
- ▷ Threading tapping
- ▷ Surface and cylindrical grinding

Materials

- ▷ Steels
- ▷ Cast iron
- ▷ Yellow metals



COOLCUT™ 250

Very finely dispersed semisynthetic for grinding and for light- to medium-duty machining

COOLCUT™ 250 is a water-miscible coolant for metal cutting processes on individual machine tools as well as centralized systems. Superior washing action ensures safe chip removal, perfect cooling, and clean working spaces. When it comes down to price, COOLCUT™ 250 offers exceptional value.

Features

- ▷ Formaldehyde-free
- ▷ Semisynthetic
- ▷ Free of secondary amines

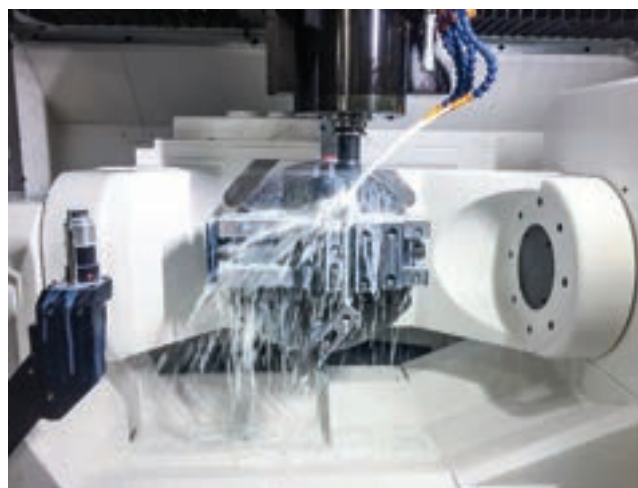
Benefits

- ▷ Good grinding performance
- ▷ Ideal price-to-performance ratio



Name	Product Number	(M)SDS	Size
COOLCUT™ 250	58A255	C-02	3.78 L
COOLCUT™ 250	58A257	C-02	20 L
COOLCUT™ 250	58A258	C-02	200 L
COOLCUT™ 250	58A259	C-02	1000 L

Suitable for water hardness (PPM)					
0-30	40-100	110-180	190-360	370-720	730-1080
		•	•	•	•
				• Preferred	• Qualified



BEST COOLANT FOR BANDSAW

Processes

- ▷ Turning
- ▷ Milling
- ▷ Drilling
- ▷ Threading tapping
- ▷ Surface and cylindrical grinding
- ▷ Centerless grinding

Materials

- ▷ Cast iron
- ▷ Steels
- ▷ Aluminum
- ▷ Yellow metals

COOLCUT™ 200 BF

Boron-free coolant for grinding and cutting operations

COOLCUT™ 200 BF is a very safe coolant that offers a great price-to-performance ratio. Its good washing action ensures a clean working area. This coolant is especially suitable for grinding processes as well as all medium-cutting operations like drilling and milling.

Features

- ▷ Semisynthetic
- ▷ Boron, Bactericide, and Monoethanolamine (MEA)-free

Benefits

- ▷ Very finely dispersed emulsion
- ▷ Excellent grinding performance
- ▷ Perfect price-to-performance ratio



Name	Product Number	(M)SDS	Size
COOLCUT™ 200 BF	58A295	C-09	3.78 L
COOLCUT™ 200 BF	58A297	C-09	20 L
COOLCUT™ 200 BF	58A298	C-09	200 L
COOLCUT™ 200 BF	58A299	C-09	1000 L

Suitable for water hardness (PPM)					
0-30	40-100	110-180	190-360	370-720	730-1080
		•	•	•	•
				• Preferred	• Qualified



Processes

- ▷ Turning
- ▷ Milling
- ▷ Drilling
- ▷ Threading tapping
- ▷ Surface and cylindrical grinding
- ▷ Centerless grinding
- ▷ Profile grinding

Materials

- ▷ Steels
- ▷ Cast iron
- ▷ Stainless steel
- ▷ Aluminum
- ▷ Yellow metals

WATER-MISCIBLE COOLANTS



COOLCUT™ 400 U

Universal semisynthetic cooling lubricant, used for medium-duty machining and grinding

COOLCUT™ 400 U is universally applicable for use in medium-severe cutting and grinding processes. It is suitable when processing mixed materials (cast iron, steels, yellow metals and aluminum). Its superior washing action ensures a clean working area.

Features

- ▷ Bactericide-free
- ▷ Semisynthetic

Benefits

- ▷ Very versatile



Name	Product Number	(M)SDS	Size
COOLCUT™ 400U	58A507	C-03E	20 L
COOLCUT™ 400U	58A508	C-03E	200 L
COOLCUT™ 400U	58A509	C-03E	1000 L

Suitable for water hardness (PPM)

0-30	40-100	110-180	190-360	370-720	730-1080
	•	•	•	•	•
			• Preferred	• Qualified	

BEST SOLUTION FOR ALUMINUM

Processes

- ▷ Turning
- ▷ Milling
- ▷ Drilling
- ▷ Threading tapping
- ▷ Surface and cylindrical grinding
- ▷ Centerless grinding
- ▷ Profile grinding

Materials

- ▷ Steels
- ▷ Cast iron
- ▷ Stainless steel
- ▷ Aluminum
- ▷ Yellow metals



NEW FORMULA Better lubricity, enhanced corrosion inhibitors, and improved pH stability.

COOLCUT™ S-30

Premium water-miscible cutting lubricant

COOLCUT™ S-30 is a ready-to-use, high-performance metal cutting lubricant specially designed for automatic and semi-automatic metal-removing operations. For general machining.

Features

- ▷ Contains non-chlorinated EP additives
- ▷ Bactericides-free
- ▷ High oil content

Benefits

- ▷ Extraordinary cutting performance for optimal tool life and surfaces



Name	Product Number	(M)SDS	Size
COOLCUT™ S-30	53C005	L-119	3.78 L
COOLCUT™ S-30	53C007	L-119	20 L
COOLCUT™ S-30	53C008	L-119	208 L
COOLCUT™ S-30	53C009	L-119	1000 L

Suitable for water hardness (PPM)					
0-30	40-100	110-180	190-360	370-720	730-1080
	•	•	•	•	•
		• Preferred	• Qualified		



Processes

- ▷ Turning
- ▷ Milling
- ▷ Drilling
- ▷ Deep drilling
- ▷ Threading tapping
- ▷ Broaching
- ▷ Surface and cylindrical grinding
- ▷ Centerless grinding
- ▷ Profile grinding
- ▷ Gear hobbing

Materials

- ▷ Steels
- ▷ Stainless steel
- ▷ Aluminum
- ▷ Yellow metals
- ▷ Titanium

COOLCUT™ S-50

Water-miscible cutting lubricant for high-pressure applications

COOLCUT™ S-50 is a high-performance metal cutting lubricant specially designed for automatic and semi-automatic metal-removing operations, even in severe machining processes and high-pressure conditions. Ideal for hard-to-machine materials.

Features

- ▷ Formulated with extended corrosion protection
- ▷ Free of bactericides
- ▷ Contains non-chlorinated EP additives

Benefits

- ▷ Extends cutting tool life
- ▷ Works with pressures up to 1,100 psi



Name	Product Number	(M)SDS	Size
COOLCUT™ S-50	53C025	L-109	3.78 L
COOLCUT™ S-50	53C027	L-109	20 L
COOLCUT™ S-50	53C028	L-109	200 L
COOLCUT™ S-50	53C029	L-109	1000 L

Suitable for water hardness (PPM)					
0-30	40-100	110-180	190-360	370-720	730-1080
•	•	•	•	•	•
		• Preferred	• Qualified		



Processes

- ▷ Turning
- ▷ Milling
- ▷ Drilling
- ▷ Deep drilling
- ▷ Broaching
- ▷ Surface and cylindrical grinding
- ▷ Profile grinding
- ▷ Gear hobbing

Materials

- ▷ Steels
- ▷ Stainless steel
- ▷ Aluminum
- ▷ Titanium
- ▷ Hard metals

WATER-MISCIBLE COOLANTS



COOLCUT™ SYN 400 BF

Water-soluble cooling lubricant for grinding and machining of steel and aluminum with high lubrication requirements

COOLCUT™ SYN 400 BF is the most technologically advanced coolant on the market. This coolant is designed for severe grinding and cutting operations with high lubricity demand. It is most suitable for aluminum alloys of all kinds including sensitive aerospace alloys. It is also suitable for steel, stainless steel, titanium, yellow metals and other materials suitable for work with ferrous materials and glass.

Features

- ▷ Mineral oil-free, fully synthetic
- ▷ Free of formaldehyde, boron and secondary amines

Benefits

- ▷ Slightly hazy, colorless solution
- ▷ High lubricity for severe operations
- ▷ 30% longer sump life vs most coolants



Name	Product Number	(M)SDS	Size
COOLCUT™ SYN 400 BF	58A407	C-05	20 L
COOLCUT™ SYN 400 BF	58A408	C-05	200 L

Suitable for water hardness (PPM)					
0-30	40-100	110-180	190-360	370-720	730-1080
•	•	•	•		
• Preferred • Qualified					



Processes

- ▷ Turning
- ▷ Milling
- ▷ Drilling
- ▷ Deep drilling
- ▷ Threading tapping
- ▷ Broaching
- ▷ Surface and cylindrical grinding
- ▷ Centerless grinding
- ▷ Profile grinding

Materials

- ▷ Steels
- ▷ Stainless steel
- ▷ Aluminum
- ▷ Yellow metals
- ▷ Titanium
- ▷ Glass ceramics

COOLCUT™ SYN GRIND

Water-soluble cooling lubricant for circular and flat grinding of ferrous metals

COOLCUT™ SYN GRIND is specially designed for grinding operations. It is most suitable for work with ferrous materials and glass.

Features

- ▷ Fully synthetic
- ▷ Free from secondary amines
- ▷ Long coolant life, even in poor conditions

Benefits

- ▷ Colorless solution
- ▷ Excellent grinding performance
- ▷ Ideal price-to-performance ratio



Name	Product Number	(M)SDS	Size
COOLCUT™ SYN GRIND	58A707	C-06	20 L
COOLCUT™ SYN GRIND	58A708	C-06	200 L

Suitable for water hardness (PPM)					
0-30	40-100	110-180	190-360	370-720	730-1080
	•	•	•	•	
• Preferred • Qualified					



Processes

- ▷ Surface and cylindrical grinding

Materials

- ▷ Steels
- ▷ Cast iron
- ▷ Stainless steel
- ▷ Aluminum
- ▷ Titanium
- ▷ Glass ceramics

When your application demands higher lubricating action than cooling capacity, non-water-miscible, neat cutting oils are effective alternatives to water-mixed lubricants. For any specific application, achieving optimal performance with these cutting oils depends on their viscosity as well as the content and effectiveness of their active additives.

The WALTER COOLCUT™ product range covers the entire bandwidth of viscosities, starting with low-viscosity finish oils at approximately 3 mm²/s (40 °C/104 °F) to higher viscosity oils up to approximately 100 mm²/s (40 °C/104 °F) for the most difficult broaching operations. Using high-quality base oils and modern additive technologies, WALTER's COOLCUT™ solutions are optimal for modern machining processes.

Features

- ▷ **High cutting action for long tool life and good surfaces**
- ▷ **Low evaporation base oils reduce the risk of oil mist and fire hazards**
- ▷ **Will not irritate skin**

COOLCUT™

Metal cutting lubricant

COOLCUT™ is a ready-to-use, high-performance metal cutting lubricant that stands up to pressure and heat to reduce tool wear and prevent tool breakage.

Features

- ▷ **Contains extreme pressure EP additives**
- ▷ **Suitable for all ferrous and non-ferrous metals**
- ▷ **Non hazardous, biodegradable**
- ▷ **Free of solvents and chlorinated ingredients**
- ▷ **Viscosity= 42 mm²/s (400 C)**

Benefits

- ▷ **Reduces friction and heat**
- ▷ **Extends cutting tool life**
- ▷ **Improves finish**
- ▷ **Increases productivity**



Name	Product Number	(M)SDS	Size
COOLCUT™	53B005	L-09	3.78 L
COOLCUT™	53B007	L-09	20 L
COOLCUT™	53B008	L-09	208 L

Processes

- ▷ **Machining operations**
- ▷ **Drilling**
- ▷ **MQL systems**

Materials

- ▷ **Steels**
- ▷ **Stainless steel**
- ▷ **Aluminum**
- ▷ **Yellow metals**

COOLCUT™ NEO AP

Cutting oil for machining with defined cutting edges

The COOLCUT™ NEO AP is a multifunction oil for medium-duty machining and cutting machine lubrication. COOLCUT™ NEO AP's chlorine-free, chemically active, extreme pressure additives prevent buildup along the cutting edge, even on the most difficult materials such as stainless steel, nickel, and titanium alloys. These oils are suitable for severe cutting processes. They perform best with steel, stainless steel and aluminum. They may also be used in machining of copper alloys if workpieces are cleaned.

Features

- ▷ Formulated with low-emission base oils plus effective extreme-pressure additives
- ▷ Adequate viscosity per process requirements
- ▷ Viscosity = 25 mm²/s (400 C)
- ▷ Zinc-free, chlorine-free

Benefits

- ▷ Optimal price-to-performance ratio
- ▷ Good cutting performance, long tool life
- ▷ Low fog and evaporation loss
- ▷ Low drag out
- ▷ Easy removal with aqueous or hydrocarbon cleaners

Name	Product Number	(M)SDS	Size
COOLCUT™ NEO AP	58B305	C-07	3.78 L
COOLCUT™ NEO AP	58B307	C-07	20 L
COOLCUT™ NEO AP	58B308	C-07	200 L



Processes

- ▷ Turning
- ▷ Milling
- ▷ Gear hobbing
- ▷ Drilling
- ▷ Deep drilling
- ▷ Threading tapping
- ▷ Broaching

Materials

- ▷ Steels
- ▷ Cast iron
- ▷ Stainless steel
- ▷ Aluminum
- ▷ Yellow metals



COOLCUT™ NEO 3724 N

High performance cutting oil with EP-additives for severe cutting operations

COOLCUT™ NEO 3724 N is a very high-performance cutting oil made from low-emission base oils and effective EP-additives for severe cutting operations. Universally applicable for turning, milling, broaching, deep drilling, threading and more, this fluid is designed for use specifically on high-tensile materials like high-alloyed steels, Nickel- and Titanium-alloyed steels and stainless steels.

Features

- ▷ Chlorine-free and Zinc-free
- ▷ Low emission base oils
- ▷ Built with EP-additives
- ▷ Kinematic viscosity= 16 mm²/s (400 C)

Benefits

- ▷ Highest performance for severe cutting applications
- ▷ Designed specially for stainless steel and high tensile alloys
- ▷ Low drag out, low fog, and low evaporation loss
- ▷ Easy to remove with aqueous or hydrocarbon cleaners

Name	Product Number	(M)SDS	Size
COOLCUT™ NEO 3724 N	58B377	C-14	20 L
COOLCUT™ NEO 3724 N	58B378	C-14	200 L
COOLCUT™ NEO 3724 N	58B379	C-14	1000 L



Processes

- ▷ Turning
- ▷ Milling
- ▷ Drilling
- ▷ Deep drilling
- ▷ Threading tapping
- ▷ Broaching, slotting

Materials

- ▷ Steels
- ▷ Cast iron
- ▷ Stainless steel
- ▷ Titanium



COOLCUT™ SYN NEO HP

Grinding and honing oil

The COOLCUT™ SYN NEO HP is a polyalphaolefin-based high-performance grinding oil. It is primarily for carbide tool grinding. These specially formulated grinding and honing oils allow maximum machining volumes without burning and perform precisely with exceptional grinding results.

Features

- ▷ Based on polyalphaolefins (PAO)
- ▷ Effective wetting agents
- ▷ Zinc-free, chlorine-free
- ▷ Kinematic viscosity= 6 mm²/s (400 C)

Benefits

- ▷ Optimal air separation for reliable cooling and maintaining the free wheel's porosity
- ▷ High grinding performance
- ▷ Minimal evaporation loss
- ▷ Extremely low drag out



Name	Product Number	(M)SDS	Size
COOLCUT™ SYN NEO HP	58B507	C-08	20 L
COOLCUT™ SYN NEO HP	58B508	C-08	200 L



Processes

- ▷ Turning
- ▷ Milling
- ▷ Centerless grinding
- ▷ Profile grinding

Materials

- ▷ Steels
- ▷ Stainless steel
- ▷ Yellow metals
- ▷ Titanium
- ▷ Carbide

SLIDEWAY OIL

COOLCUT™ PROTEC

High-performance slideway oil

COOLCUT™ PROTEC is a high-performance slideway oil with a special mineral oil base. Effective additives safely avoid stick-slip and ensure optimal prevention of oxidation, corrosion, and wear. This multipurpose oil can be used to lubricate slideways of all kinds under high loads (e.g., machine tools, forming presses) and it is also suitable for hydraulic and general machine lubrication.

Features

- ▷ Ash-free
- ▷ Reduced draining off vertical surfaces
- ▷ Minimal friction
- ▷ Compatible with all COOLCUT™ coolants
- ▷ Kinematic viscosity= 68 mm²/s (400 C)

Benefits

- ▷ Exact and safe positioning of tool and workpiece even under the highest loads, thanks to safe avoiding of stick-slip
- ▷ Minimization of friction saves energy and smooths movement
- ▷ Effective prevention of corrosion and wear
- ▷ Good compatibility with coolants



Name	Product Number	(M)SDS	Size
COOLCUT™ PROTEC	58C007	C-11	20 L
COOLCUT™ PROTEC	58C008	C-11	200 L



ACCESSORIES



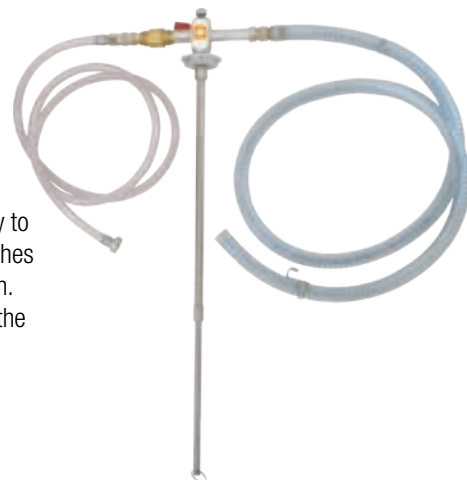
COOLCUT™ CUTTING FLUIDS PROPORTIONING SYSTEM

Mixing device for water-miscible coolants

Product Number: 53L165

The WALTER COOLCUT™ proportioning system for water-miscible coolants is an easy way to dilute concentrated coolant with water, to achieve the desired usage concentration. It attaches easily to WALTER drums, and its simple dial guides the flow of concentrate into the solution. By attaching the water hose to your water supply, combined with the Venturi effect, out of the dispensing hose comes the diluted emulsion.

NOTE: It is recommended to always confirm the final concentration with a refractometer.



SB 30 SYSTEM BOOSTER

Preventive treatment for reduced downtime

Keep your coolant systems in peak working order with this bactericide for metalworking fluids.

Name	Product Number	(M)SDS	Size
SB 30 SYSTEM BOOSTER	53C011	L-14	950 ml

Applications

- ▷ Maintaining biocide action
- ▷ Maintaining efficiency and cleanliness

Features and benefits

- ▷ Eliminates bacteria, fungus, and yeast
- ▷ Excellent corrosion protection
- ▷ Helps to maintain pH levels
- ▷ Reduces downtime and disposal costs

COOLCUT™ SYSTEM CLEANER

System cleaner and decontaminator for CNC machine tools

The COOLCUT™ System Cleaner is the ideal product to add to your CNC machine tank before completing fluid changeovers and flushes. Biocidal agents help kill bacteria and fungi that might be growing in the machine or fluid reservoirs. Helps ensure your machine is totally clean and decontaminated before adding fresh coolant. Active ingredients help kill odor-causing bacteria and ensure a clean machine before the next replenishment. Add COOLCUT™ System Cleaner to your machine's coolant tank 12-24 hours before draining, then operate normally.

Name	Product Number	(M)SDS	Size
COOLCUT™ SYSTEM CLEANER	58C101	C-12E	950 ml
COOLCUT™ SYSTEM CLEANER	58C105	C-12E	3.78 L
COOLCUT™ SYSTEM CLEANER	58C107	C-12E	20 L

Features

- ▷ Ideal for cleaning machine tools
- ▷ Use before fluid changeovers and machine tank flushes
- ▷ Use at 3% volume of entire fluid tank
- ▷ Mechanical cleaning is encouraged as well
- ▷ Compatible with all brands of coolant



Product No.	Page No.	Product No.	Page No.	Product No.	Page No.	Product No.	Page No.	Product No.	Page No.	Product No.	Page No.
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011003.....	73	011123.....	78	011410.....	63	011526.20.....	68	011906.....	70	012059.....	74
011003.20.....	73	011124.....	78	011410.20.....	63	011527.....	68	011907.....	70	012060.....	74
011004.....	73	011125.....	78	011411.....	63	011527.20.....	68	011908.....	70	012061.....	74
011004.20.....	73	011126.....	78	011411.20.....	63	011528.....	68	011909.....	70	012062.....	74
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011006.....	73	011129.....	78	011413.....	63	011529.20.....	68	011912.....	70	012065.....	74
011006.20.....	73	011130.....	78	011413.20.....	63	011530.....	68	011913.....	70	012066.....	74
011007.....	73	011131.....	78	011414.....	63	011530.20.....	68	011914.....	70	012067.....	74
011007.20.....	73	011132.....	78	011414.20.....	63	011531.....	68	011915.....	70	012068.....	74
011008.....	73	011199.....	78	011415.....	63	011531.20.....	68	011916.....	70	012069.....	74
011008.20.....	73	011201.....	71	011416.....	63	011532.....	68	011917.....	70	012070.....	74
011009.....	73	011202.....	71	011416.20.....	63	011532.20.....	68	011918.....	70	012071.....	74
011009.20.....	73	011203.....	71	011417.....	63	011701.....	70	011919.....	70	012072.....	74
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21PS070A	410	226N124F	449	23A140FP	377	240B507	75	25A348B	376	280A026	72
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21PS080B	410	226N128F	449	23A148CB	377	240B509	75	25A348T	376	280A028	72
21PS100A	410	226N132C	449	23A148CP	377	240B510	75	25A356B	376	280A029	72
21PS116C	410	226N132F	449	23A148CT	377	240B511	75	25A356P	376	280A030	72
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21PS120A	410	226N140F	449	23A148FP	377	240B513	75	25A364B	376	280A032	72
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21PS120C	410	226N148F	449	23A156CB	377	240B515	75	25A364T	376	280A034	72
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92CT316	657	92SE304	661	93SE336	662	95CT152	674	96CT432	674	B54995	643
92CT324	657	92SE308	661	93SE340	662	95CT156	674	96CT440	674	B55017	644
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92N132	659	92SE316	661	93SE348	662	95CT164	674	96CT464	674	B55019	644
92N136	659	92SE320	661	93SE352	662	95CT204	674	96CT532	674	B55020	644
92N140	659	92SE324	661	93SE356	662	95CT208	674	96CT6S	674	B55021	644
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92N152	659	92SE336	661	93SE404	662	95CT220	674	B54801	641	B55028	644
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92N160	659	92SE344	661	93SE412	662	95CT228	674	B54803	641	B55030	644
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92N220	659	92SE404	661	93SE464	662	95CT252	674	B54811	641	B55062	644
92N224	659	92SE408	661	94SE001	663	95CT256	674	B54812	641	B55145	645

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B55149	645	B55901	641	C00703	369	C00783	406	C01039	129	C01938	45
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