

FLASH FIRE PROTECTION

NFPA 2112 COMPLIANT CLOTHING



A COMMITMENT TO SAFETY.

Chicago Protective Apparel, established in 1913, has made a commitment to the continual improvement of product offerings through innovative research and development in the petro-chemical industries. The importance of PPE cannot be overemphasized in each of these industries and wherever workers are exposed to combustible dust or the threat of flash fire. Flame resistant clothing offering secondary protection is intended to minimize burn injury and provide workers a few seconds of escape time. Often, these few seconds are the difference between safety and injury, and in some cases, life and death. Non-flame resistant clothing can ignite instantly in a flash fire- with exposure providing an additional fuel source- dramatically increasing size and severity of burn injury. For this reason, the line you are about to explore utilizes top-of-the-line, flame-resistant fabrics to provide workers with protection, and a sense of security and safety.

NFPA® 2112 STANDARD ON FLAME-RESISTANT GARMENTS FOR PROTECTION OF INDUSTRIAL PERSONNEL AGAINST FLASH FIRE.

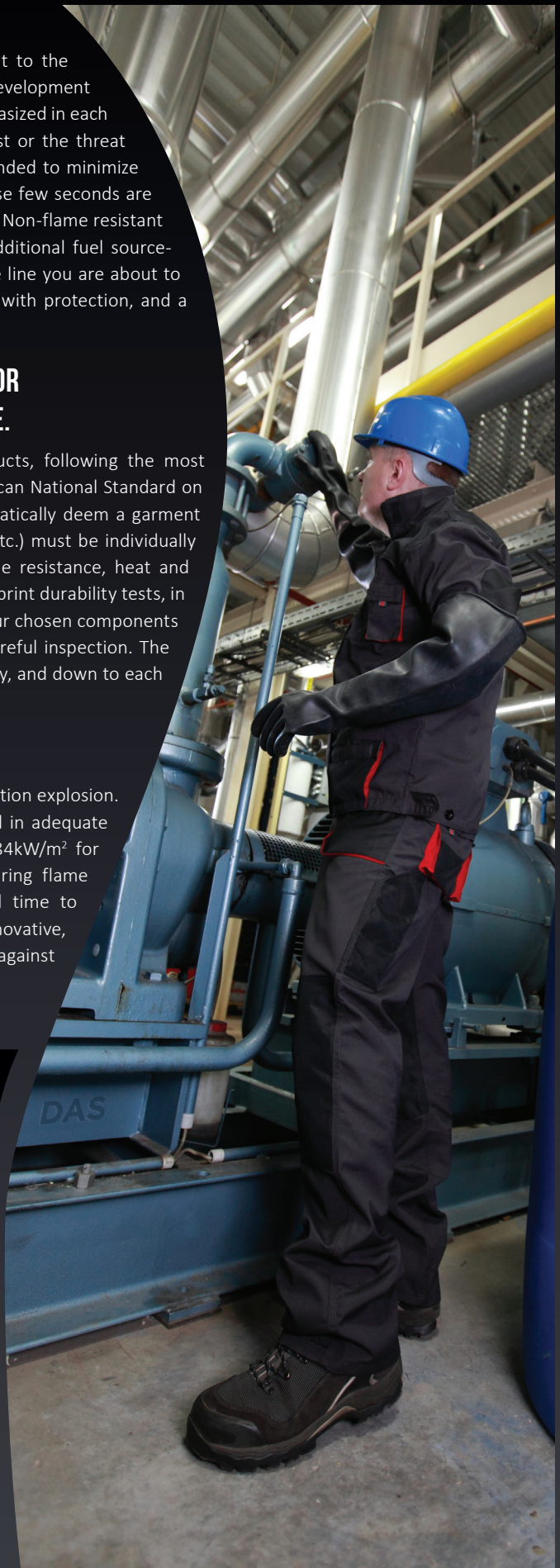
Extensive research went into the development of 2112-compliant products, following the most up-to-date edition of NFPA® 2112 (the 2012 Edition, approved as an American National Standard on August 31, 2011). It is notable that 2112-compliant fabric does not automatically deem a garment 2112-compliant. In fact, each component (snaps, zippers, cuffs, buttons, etc.) must be individually tested for some or all of the following: heat transfer performance, flame resistance, heat and thermal shrinkage resistance, mannequin, thread heat resistance, and label print durability tests, in order to be fully 2112-compliant. After carefully selecting and submitting our chosen components for testing, we then submitted the garments in their entirety, to UL for careful inspection. The garments on the following pages are NFPA® 2112-compliant, in their entirety, and down to each individual, hand-picked component.

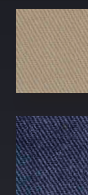
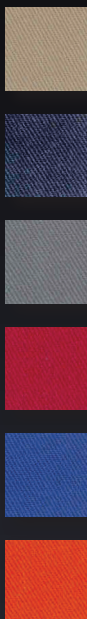
ABOUT FLASH FIRE.

Flash fire is defined as a rapidly moving flame front, which can be a combustion explosion. Flash fire may occur in an environment where fuel and air become mixed in adequate concentrations to combust. Flash fire has a heat flux of approximately 84kW/m² for relatively short periods of time, typically less than three seconds. Wearing flame resistant clothing that self-extinguishes can give workers much-needed time to escape a flash fire and dramatically reduce burn injuries. Our line of innovative, 2112-compliant fabrics has been developed to provide reliable protection against flash fire hazards.

NFPA® 2112 FAST FACTS

- NFPA® 2112 specifies the minimum design, performance, certification requirements, and test methods for flame-resistant garments for use in areas at risk from flash fires
- NFPA® 2112 Chapter 3 - Definitions "3.3.13* Flash Fire. A fire that spreads by means of a flame front rapidly a diffuse fuel, such as a dust, gas or the vapors of an ignitable liquid, without the production of damaging pressure."
- NFPA® defines a flash fire as "typically three seconds or less"; therefore, NFPA® 2112 test exposure is set at three seconds
- Secondary protective clothing is designed to provide the worker "a few seconds escape time"
- NFPA® 2112 sets failure at 50% total body burn; specific ASTM F1930 body burn results for individual fabrics are available upon request





ULTRA SOFT® AC COVERALL

- Premium Lightweight Ultra Soft AC® Coverall
- NFPA 2112, NFPA 70E
- 88% Long-Staple Pima Cotton/ 12% High Tenacity Nylon
- Guaranteed flame resistance for the life of the garment
- Pima cotton delivers softness and comfort
- Improved appearance after laundering
- Available in 7 oz Khaki (K), Navy (N), Grey (G), Red (R), Royal (RB), Orange (O)
- **Part #605-USA-(color)-(size)**

Features:

- Concealed brass zipper, snap at top of zipper and at neck
- Two outside chest pockets (one with flap closure and pencil slot), two front hip pockets, two rear patch pockets
- Side access from pockets
- Elasticized waistband and Action back
- Right hip tool pocket
- Adjustable snap at wrist cuff
- Reinforced bar tack at high stress areas
- See p.5 for reflective striping options

7 oz Ultra Soft AC® has an ATPV of 8.3 cal/cm², which satisfies PPE 2

ULTRA SOFT® COVERALL

- Ultra Soft® 88% Cotton, 12% Nylon
- NFPA 2112, NFPA 70E
- Guaranteed flame resistance
- The addition of 12% nylon enhances the protective performance in some cases, such as electric arc and flash fire
- New softer feel
- Extended Garment Wear Life
- Excellent Value Equation
- Available in 7 oz Khaki (K), 9 oz Navy (N) Ultra Soft®
- **Part #605-USK-(size), 605-USN-(size)**

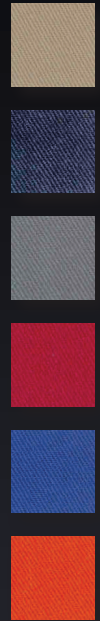
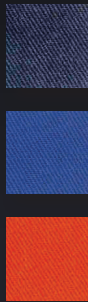
Features:

- Two outside front chest pockets, two front hip pockets, two rear patch pockets
- Side access from pockets
- Concealed brass zipper, snap at top of zipper and at neck
- Snap-free wrist
- See p.5 for reflective striping options

7 oz Khaki Ultra Soft® style 301 has an ATPV of 8.7 cal/cm², which satisfies PPE 2

9 oz Navy Ultra Soft® style 451 has an ATPV of 12 cal/cm², which satisfies PPE 2

COVERALLS



NOMEX® III A COVERALL



- Innovative Nomex® provides inherent thermal protection which cannot be washed out
- NFPA 2112, NFPA 70E
- Durable and resistant to tears, abrasion and many chemicals
- Multi-purpose protection from petroleum, petrochemical, chemical and utility industries, as well as firefighters
- Available in 4.5 oz Navy (N), Orange (O), and 6 oz Navy (N), Royal (RB)
- **Part #605-NMX-4.5-N-(size), 605-NMX-4.5-O-(size), 605-NMX-6-N-(size), 605-NMX-6-RB-(size)**

Features:

- Concealed brass zipper, snap at top of zipper and at neck
- Two outside chest pockets (one with flap closure and pencil slot), two front hip pockets, two rear patch pockets
- Side access from pockets and right hip tool pocket
- Elasticized waistband
- Action back
- Adjustable snap at wrist cuff
- Reinforced bar tack at high stress areas
- See p.5 for reflective striping options

4.5 oz Nomex® III A has an ATPV of 4.5cal/cm², which satisfies PPE 1

6 oz Nomex® III A has an ATPV of 5.6cal/cm², which satisfies PPE 1

INDURA® COVERALL



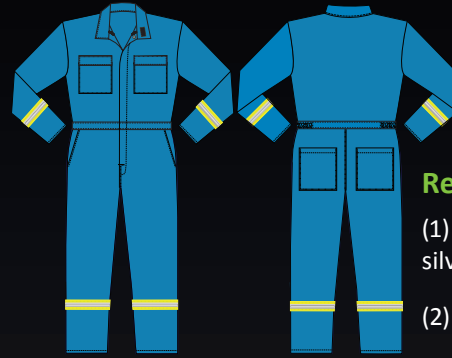
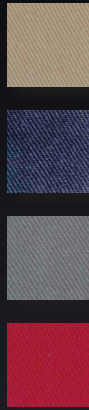
- Indura® 100% Cotton
- NFPA 2112, NFPA 70E
- Guaranteed flame resistance for the life of the garment
- Multi-purpose protection from electric arc, flash fire, molten ferrous metal and welding exposure
- Protection, value and the comfort of cotton
- Available in 9 oz Khaki (K), Navy (N), Grey (G), Red (R), Royal (RB), Orange (O)
- **Part #605-IND-(color)-(size)**

Features:

- Concealed brass zipper, snap at top of zipper and at neck
- Two outside chest pockets (one with flap closure and pencil slot), two front hip pockets, two rear patch pockets
- Side access from pockets
- Elasticized waistband
- Right hip tool pocket
- Action back
- Adjustable snap at wrist cuff
- Reinforced bar tack at high stress areas
- See p.5 for reflective striping options

9 oz Navy Indura® Sateen has an ATPV of 10 cal/cm², which satisfies PPE 2

REFLECTIVE STRIPING OPTIONS FOR COVERALLS



Reflective Option RA (1)

(1) 2" FR Triple Trim, yellow, silver, yellow

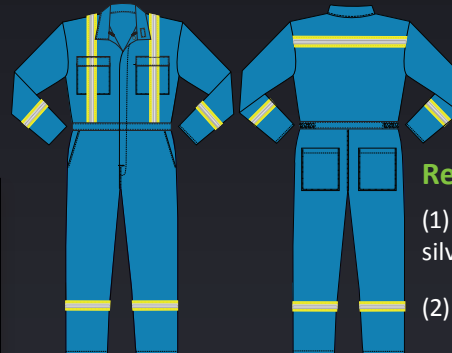
(2) 2" FR silver



Reflective Option RC (1)

(1) 2" FR Triple Trim, yellow, silver, yellow

(2) 2" FR silver



Reflective Option RF (1)

(1) 2" FR Triple Trim, yellow, silver, yellow

(2) 2" FR silver



Reflective Option RH (1)

(1) 2" FR Triple Trim, yellow, silver, yellow

(2) 2" FR silver

FR COTTON COVERALL

- 100% Cotton
- NFPA 2112, NFPA 70E
- Guaranteed flame resistance for the life of the garment
- Multi-purpose protection from electric arc, flash fire, molten ferrous metal and welding exposure
- Quality protection at an affordable price
- Available in 9 oz Khaki (K), Navy (N), Grey (G), Red (R)
- **Part #605-FRC-(color)-(size)**

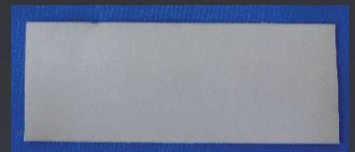
Features:

- Two-way heavy duty brass zipper on meta aramid tape
- Protective stand-up collar with hook & loop closure
- Storm guard over zipper with snap closures
- Action back for mobility
- Side elasticized waist
- Gusset crotch for added mobility and strength
- Separate arm cuffs with 2 position snap closures
- Pencil pocket left chest
- See p.5 for reflective striping options

9 oz FR Cotton satisfies PPE 2



Reflective Striping #1



Reflective Striping #2

PPE 2 DAILY WEAR



ULTRA SOFT® MEDIUM BLUE WORK SHIRT

7 oz Ultra Soft®
Part #625-USB-(size)
8.7 ATPV, PPE 2
NFPA 2112, NFPA 70E

Features: 2 chest pockets with flaps,
button closure
(Also available in Khaki)
Part #625-USK-(size)



LONG SLEEVE FR T-SHIRT

FR Knit
Part #610-FRC-LS-(color)-(size)
NFPA 2112, NFPA 70E
PPE 2
Available in Navy, Orange, Grey

Features: Crew neck, 1 left chest pocket,
rib knit cuffs and collar



LONG SLEEVE FR HENLEY

FR Knit
Part #610-FRC-HEN-(color)-(size)
NFPA 2112, NFPA 70E
PPE 2
Available in Navy, Orange, Grey

Features: 3 button placket design,
rib knit cuffs and collar



ULTRA SOFT® NAVY WORK PANT

9 oz Ultra Soft®
Part #606-USN-(waist x inseam)
12.4 ATPV, PPE 2
NFPA 2112, NFPA 70E

Features: Standard zipper fly, snap waist,
2 front side pockets, 2 rear patch pockets
Optional: Hip ruler pocket, reflective
striping, flaps over rear pockets, 2 set-in
back pockets instead of patch



INDURA® NAVY WORK PANT

9 oz Indura®
Part #606-IND-(waist x inseam)
10 ATPV, PPE 2
NFPA 2112, NFPA 70E

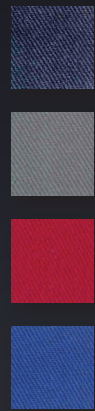
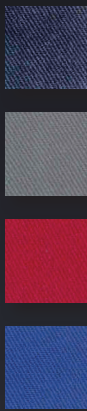
Features: Standard zipper fly, snap waist,
2 front side pockets, 2 rear patch pockets
Optional: Hip ruler pocket, reflective
striping, flaps over rear pockets, 2 set-in
back pockets instead of patch



INDURA® DENIM RUGGED TWILL WORK PANT

14 oz Indura® 100% Cotton Denim
Part #606-IND-DNM-(waist x inseam)
18.3 ATPV, PPE 2
NFPA 2112, NFPA 70E

Features: Standard zipper fly,
2 rear patch pockets, 2 front side pockets,
1 front coin pocket



ULTRA SOFT® INSULATED PARKA

- 9 oz Ultra Soft® outer shell
- Available in Red, Royal Blue, Navy, Grey
- **Part #600-CC-US(color)-(size)**
- PPE 4
- NFPA 2112, NFPA 70E



Features:

- YKK zipper closure
- Adjustable draw cord waist
- 4 front pockets with flaps
- Knit cuffs
- Quilted Lining
- Velcro closure on collar
- Fleece-lined side pocket
- Snaps for hood
- Action back

ULTRA SOFT® INSULATED BIB OVERALL

- 9 oz Ultra Soft® outer shell
- Available in Red, Royal Blue, Navy, Grey
- **Part #618-CC-US(color)-(size)**
- PPE 4
- NFPA 2112, NFPA 70E



Features:

- Adjustable straps
- Elastic cinching at waist
- YKK zipper closure at front
- Quilted Lining
- 2 patch pockets at chest, 2 patch pockets at rear
- Leg zipper with flaps
- Double knee with kneepad opening
- Tool pocket

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