3M™ Cold Shrink QT-III Silicone Rubber Skirted Termination Kit

With High-K Stress Relief

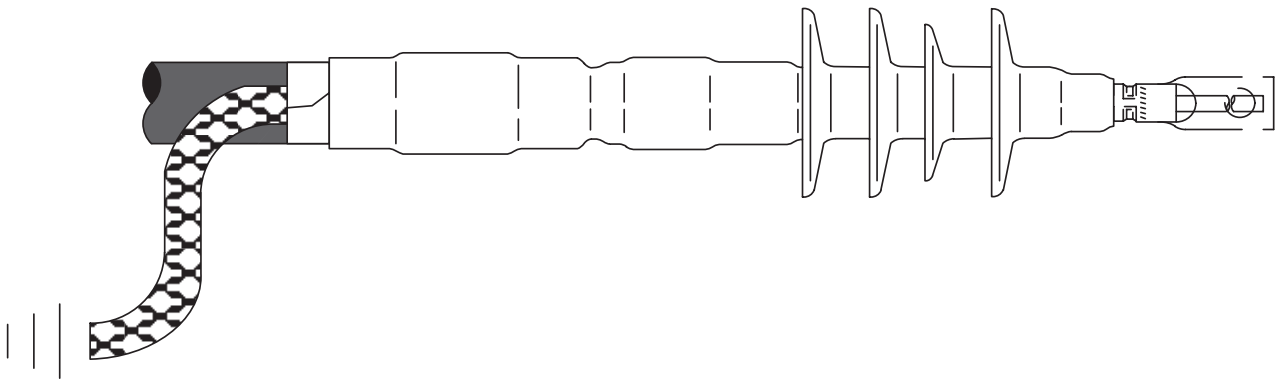
For Tape Shield and Wire Shield

7692-S-4, 7692-S-4(L), 7693-S-4, 7694-S-4, 7695-S-4, 7695-S-4(L), 7696-S-4

Instructions
IEEE Std. No. 48
Class 1 Termination
25/28 kV Class
150 kV BIL

⚠ CAUTION

Working around energized systems may cause serious injury or death. Installation should be performed by personnel familiar with good safety practice in handling electrical equipment. De-energize and ground all electrical systems before installing product.



September 2025
78-8117-0566-0 Rev H

1.0 Kit Contents

3 High-K, Tracking Resistant, Silicone Rubber Terminations
3 Pre-formed Ground Braids
3 Constant Force Springs
3 3M EMI Copper Foil Shielding Tape 1181 Strips, 1/2" x 10"
6 Strips Scotch® Mastic Strip 2230 (black with white release liners, bagged)
1 3M Cable Cleaning Preparation Kit CC-2
1 Instruction Sheet

Note: Do not use knives to open plastic bags.

Kit Selection Tables

Note: Final determination factors are cable insulation, connector and drop wire O.D. Range

For Use With Compression Lugs or Connectors						
Kit Number	Primary Insulation O.D. Range	Jacket O.D. Range	Conductor Size Range (AWG & kcmil)			
			5 kV	8 kV	15 kV	25/28 kV
7692-S-4	0.64" - 1.08" (16,3 - 27,4 mm)	0.97" - 1.48" (24,6 - 37,7 mm)	4/0 - 400 —	3/0 - 300 —	2 - 4/0 (35 - 120 mm²)	2 - 1/0 (35 - 50 mm²)
7693-S-4	0.72" - 1.29" (18,3 - 32,8 mm)	1.04" - 1.60" (26,4 - 40,6 mm)	300 - 500 —	250 - 500 —	2/0 - 300 (70 - 150 mm²)	2 - 4/0 (35 - 120 mm²)
7694-S-4	0.83" - 1.53" (21,1 - 38,9 mm)	1.12" - 1.87" (28,4 - 47,5 mm)	500 - 750 —	350 - 700 —	4/0 - 500 (120 - 240 mm²)	2/0 - 250 (70 - 150 mm²)
7695-S-4	1.05" - 1.80" (26,7 - 45,7 mm)	1.39" - 2.40" (35,2 - 61,0 mm)	700 - 1500 —	600 - 1250 —	500 - 1000 (240 - 500 mm²)	250 - 800 (150 - 400 mm²)
7696-S-4	1.53" - 2.32" (38,9 - 58,9 mm)	1.84" - 2.80" (46,7 - 71,1 mm)	1750 - 2000 —	1500 - 2000 —	1250 - 2000 (625 - 1000 mm²)	900 - 1500 (500 - 800 mm²)

Table 1

For Use With 3M™ Mechanical Shearbolt Lugs QL2 Series: Two Hole					
Kit Number	Primary Insulation O.D. Range	Jacket O.D. Range	Conductor Size Range (AWG & kcmil) 15 kV	25/28 kV	3M™ Mechanical Shearbolt Lugs QL2 Series: Two Hole Part Number
7692-S-4(L)	0.69" - 1.22" (17,5 - 31,0 mm)	0.97" - 1.48" (24,6 - 37,7 mm)	1/0 - 4/0 (60 - 120 mm²)	---	QL2-A-2-250
7693-S-4	0.72" - 1.29" (18,3 - 32,8 mm)	1.04" - 1.60" (26,4 - 40,6 mm)	2/0 - 250 (70 - 150 mm²)	2 - 4/0 (35 - 120 mm²)	QL2-A-2-250
7694-S-4	0.83" - 1.53" (21,1 - 38,9 mm)	1.12" - 1.87" (28,4 - 47,5 mm)	---	2/0 - 250 (70 - 150 mm²)	QL2-A-2-250
7694-S-4	0.83" - 1.53" (21,1 - 38,9 mm)	1.12" - 1.87" (28,4 - 47,5 mm)	4/0 - 350 (120 - 150 mm²)	2/0 - 250 (70 - 150 mm²)	QL2-A-1/0-350
7694-S-4	0.83" - 1.53" (21,1 - 38,9 mm)	1.12" - 1.87" (28,4 - 47,5 mm)	---	4/0 - 250 (120 - 150 mm²)	QL2-A-4/0-600
7695-S-4	1.05" - 1.80" (26,7 - 45,7 mm)	1.39" - 2.40" (35,3 - 61,0 mm)	500 (240 mm²)	250-500 (150-240 mm²)	QL2-A-4/0-600
7695-S-4	1.05" - 1.80" (26,7 - 45,7 mm)	1.39" - 2.40" (35,3 - 61,0 mm)	500 - 750 (240 - 325 mm²)	350 - 750 (240 - 325 mm²)	QL2-A-350-750
7695-S-4(L)	1.15" - 1.98" (29,2 - 50,3 mm)	1.39" - 2.40" (35,3 - 61,0 mm)	750 - 1000 (400 - 500 mm²)	500 - 750 (240 - 325 mm²)	QL2-A-500-1000
7696-S-4	1.53" - 2.32" (38,9 - 58,9 mm)	1.84" - 2.80" (46,8 - 71,1 mm)	1250 (625 mm²)	1000 -1250 (600 - 625 mm²)	QL2-A-1000-1250
7696-S-4	1.53" - 2.32" (38,9 - 58,9 mm)	1.84" - 2.80" (46,8 - 71,1 mm)	1500 - 2000 (725 - 1000 mm²)	1500 (725 mm²)	QL2-A-1500-2000

Table 2

2.0 Instructions for Tape Shielded Cable

Prepare Cable

2.1 Check to be sure cable size fits within kit range as shown in Table 1. (For Use With Compression Lugs or Connectors), or Table 2 (For Use With 3M Mechanical Shearbolt Lugs QL2 Series: Two Hole).

2.2 Prepare cable using dimensions shown in Figure 1. **BE SURE TO ALLOW FOR DEPTH OF TERMINAL LUG OR CONNECTOR.** If necessary to prevent tape shield from unrolling, hold down edge with a single wrap of 3M EMI Copper Foil Shielding Tape 1181. If using 3M Shearbolt Lugs QL2 Series: Two Hole, or 3M Mechanical Shearbolt Connector QCI Series, proceed to Step 2.3. If using a Crimp Type (Compression) lug, measure the depth of the barrel, or if using a Crimp Type (Compression) connector, measure to the barrel center stop/ midpoint, and see the NOTE below in order to calculate the Insulation Removal Length. Table 5 can used to assist in calculating the total Jacket Removal Length when using a compression lug or connector

Note: Provide additional exposed conductor distance to account for growth during crimping of ALUMINUM lugs or connectors as follows:

Aluminum Lug and Connector Growth Allowance	2 - 350 1/4” (6 mm)	400 - 650 1/2” (13 mm)	750-1000 3/4” (19 mm)	1250 - 2000 Field determined

Table 3

3M Kit Number	Lug or Connector Type	Dimension X (Figure 1)
7692-S-4, 7692-S-4(L), 7693-S-4, 7694-S-4, 7695-S-4, 7695-S-4(L), 7696-S-4	Standard	9.00" (229 mm)
7696-S-4	QL2-A-1500-2000	11.50" (292 mm)

Table 4

Note: It is imperative to remove all remnants of the semi-con layer, even if the semi-con layer comes off as one layer. There should not be any remaining black areas, or particles, on the cable insulation layer.

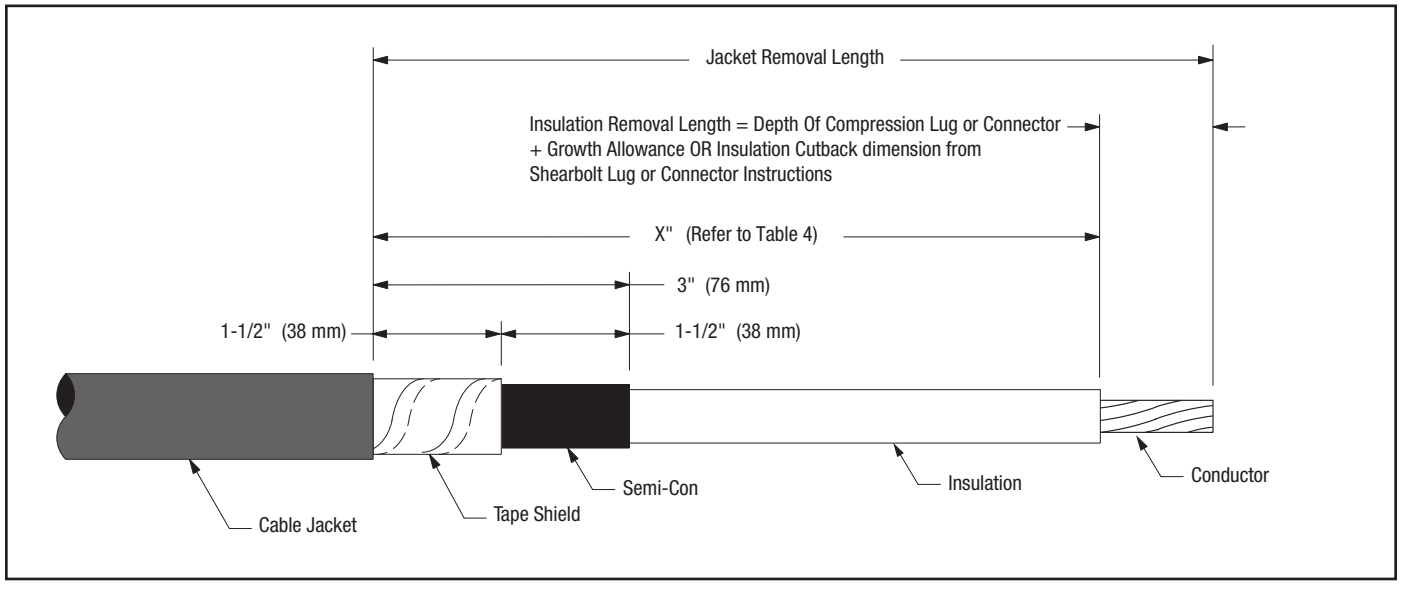


Figure 1

Jacket Removal Calculation Table - Tape Shield Cable - Crimp Type (Compression) Lugs / Connectors - 7692-S-4, 7692-S-4(L), 7693-S-4, 7694-S-4, 7695-S-4, 7695-S-4(L), 7696-S-4			
CABLE PREPARATION ITEM	Inches -Add this column-	mm -Add this column-	NOTES
Dimension X	9.0"	229 mm	Value from Figure 1 and Table 4
Insulation Removal Length = Depth of Crimp Type (Compression) Terminal Lug or Connector Barrel (See NOTES column.)	+	+	Measure full depth of bore for lugs and to the center stop for connectors.
Growth Allowance (Aluminum Only) for Crimp Type (Compression) Lug / Connector (See NOTES column.)	+	+	See Table 3 for correct growth allowance. **This measurement applies only to Aluminum lugs / connectors.**
TOTAL JACKET REMOVAL LENGTH	=	=	

Table 5

2.3 If using 3M Mechanical Shearbolt Lugs QL2 Series: Two Hole, or 3M Mechanical Shearbolt Connector QCI Series, refer to the Instructions that are packed with the Shearbolt product for the Insulation Cutback length for the specific Shearbolt Lug or Connector being used. Table 6 can used to assist in calculating the total Jacket Removal Length when using 3M Shearbolt Lugs QL2 Series: Two Hole, or 3M Shearbolt Connector QCI Series.

Jacket Removal Calculation Table - Tape Shield Cable - 3M™ Mechanical Shearbolt QL2 Series Lugs / 3M™ Mechanical Shearbolt Connectors QCI Series - 7692-S-4, 7692-S-4(L), 7693-S-4, 7694-S-4, 7695-S-4, 7695-S-4(L), 7696-S-4			
CABLE PREPARATION ITEM	Inches -Add this column-	mm -Add this column-	NOTES
Dimension X	9.0" or 11.5"	229 mm or 292 mm	Value from Figure 1 and Table 4
Insulation Removal Length = Depth of 3M™ Mechanical Shearbolt QL2 Series Lugs: Two Hole Barrel or 3M™ Mechanical Shearbolt Connectors QCI Series Barrel (See NOTES column.)	+	+	Obtain Insulation Removal Length: For Mechanical Shearbolt Lugs see 3M™ Mechanical Shearbolt Lugs QL2 Series: Two Hole Instructions. For Mechanical Shearbolt Connectors see 3M™ Mechanical Shearbolt Connectors QCI Series Instructions.
TOTAL JACKET REMOVAL LENGTH	=	=	

Table 6

3.0 Install Ground Braid

3.1 Select a Scotch® Mastic Strip 2230 from kit and remove white release liners. Using light tension, apply a **SINGLE WRAP** of mastic around the cable jacket 1/4" (6 mm) from cut edge (Figure 2). Cut off excess.

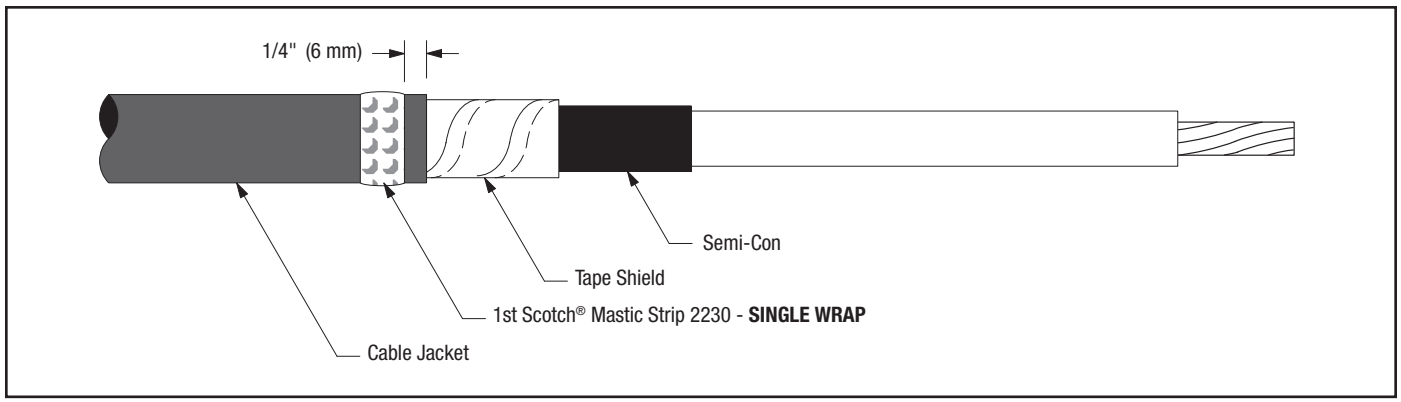


Figure 2

3.2 Position pre-formed ground braid with short tail over tape shield directly adjacent to cable jacket cut edge. PLEASE NOTE: The ground braid needs to make full contact with the metallic tape shield. Position long tail of ground braid, extending over cable jacket with solder block over mastic strip (Figure 3). Secure ground braid to cable jacket **4-1/2" (114 mm) from cable semi-con edge using vinyl tape (see NOTE and Figure 3)**.

Note: Position vinyl tape with care, it also serves as a marker for positioning the termination.

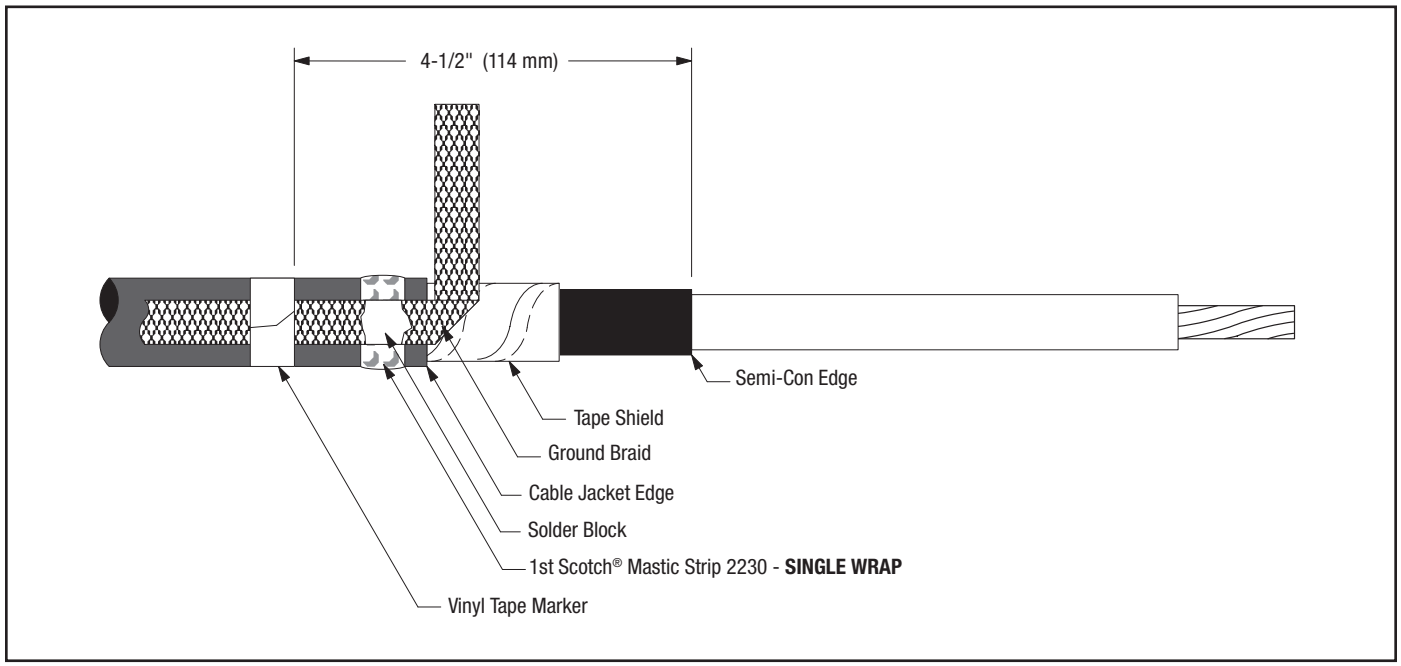


Figure 3

3.3 Wrap ground braid around cable tape shield one complete wrap, trim excess at approximately a 45 degree angle, and line up with the pre-bent 45 degree angle already on the ground braid, to prevent overlap. Secure in place with constant force spring. Wrap spring in same direction as ground braid (Figure 4). Cinch (tighten) the spring after wrapping the final winding.

3.4 Select second Scotch® Mastic Strip 2230 from kit and remove white release liners. Apply a second **SINGLE WRAP** of mastic over solder block on ground braid and previously applied mastic (Figure 4). Cut off excess.

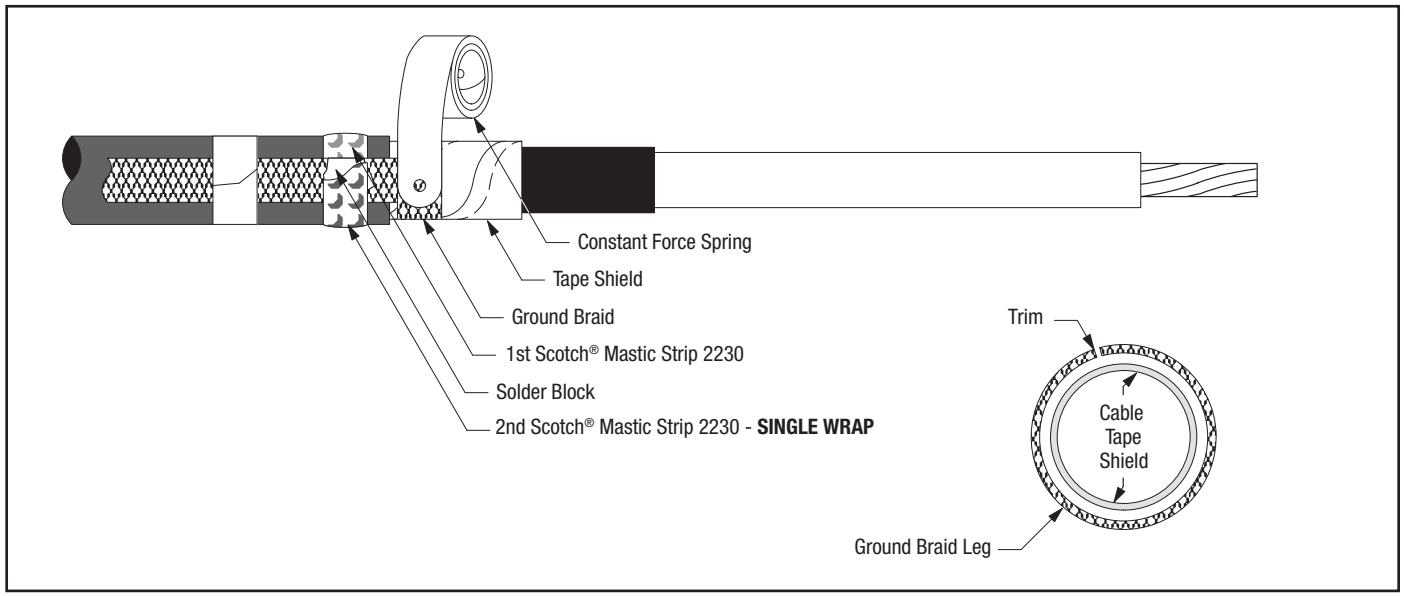


Figure 4

3.5 Wrap two highly stretched half-lapped layers of electrical grade vinyl tape around Scotch® Mastic Strip 2230, constant force spring and exposed tape shield (Figure 5).

Note: Take care not to cover exposed semi-con insulation shield. A minimum of 1" (25 mm) must be exposed.

Note: DO NOT completely cover the ground braid with electrical grade vinyl tape when applying over the Scotch® Mastic Strip 2230 per Step 3.5. LEAVE AT LEAST 1" (25 MM) OF EXPOSED GROUND BRAID between the Vinyl Tape Marker applied in step 3.2 and the start of the two half-lapped layers of electrical grade vinyl tape covering the Scotch® Mastic Strip 2230 applied in Step 3.5.

SPECIAL NOTE FOR CLOTH OR PAPER SEMI-CON INSULATION SHIELD:
In cables with cloth or paper semi-conductive shields, it is recommended the shield be over wrapped with one half-lapped layer of highly stretched semi-conductive rubber tape, such as Scotch® Electrical Semi-Conducting Tape 13.

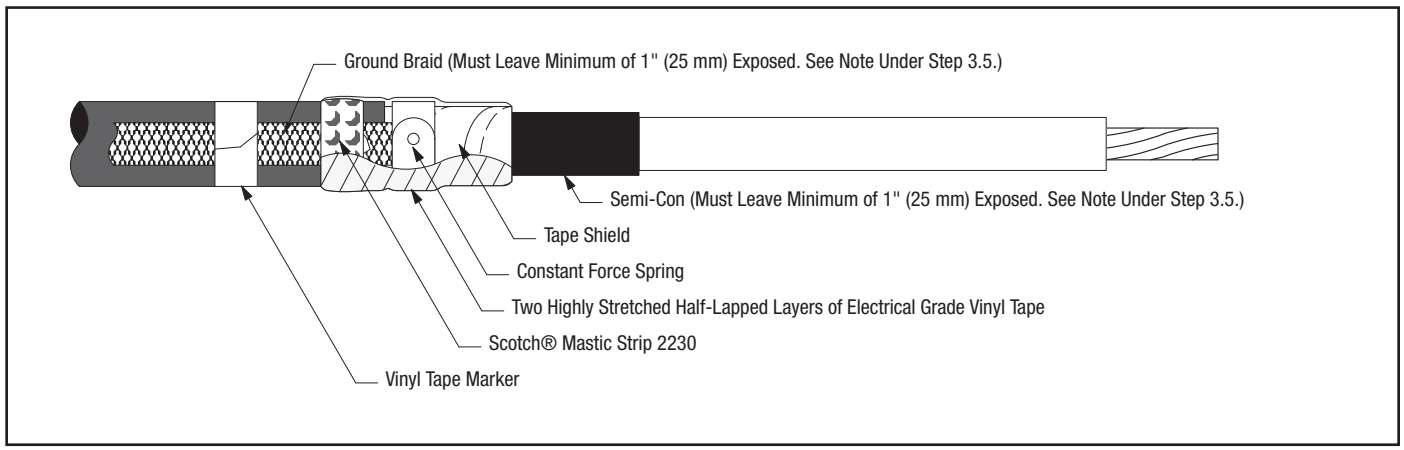


Figure 5

Note: If using the 3M QL2-A-1500-2000 Mechanical Shearbolt Lug, skip to Section 12.0.

4.0 Install Lug or Connector

Important Packaging Notice

In order to make sure that you receive an undamaged termination, this 3M Cold Shrink QT-III Silicone Rubber Termination is packed with a RED SHIPPING CORE inside of the white core. Please remove the red shipping core BEFORE you install the termination. This shipping core can be recycled with other polypropylene waste.

4.1 **Check to insure 3M Cold Shrink QT-III Silicone Rubber Termination assembly fits over the selected lug or connector BEFORE installing the lug or connector**. If lug or connector (Figure 6) will not fit through the termination core, clean the insulation (per Step 5.0) and slide termination on cable before installing lug or connector. **DO NOT REMOVE CORE AT THIS TIME.**

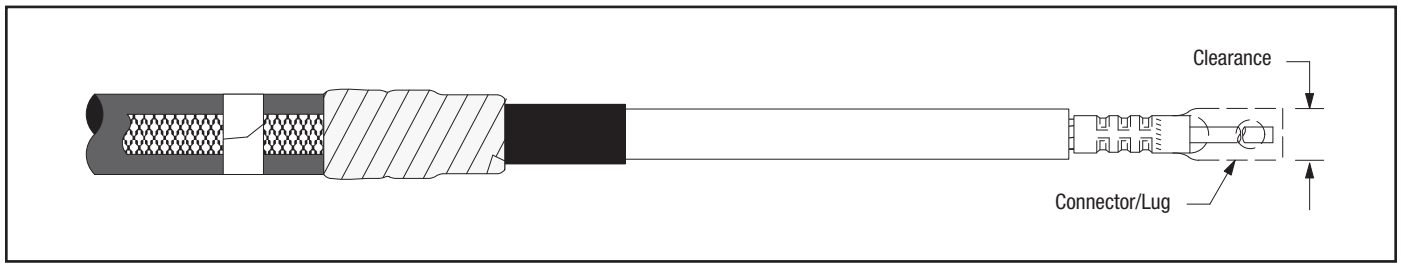


Figure 6

4.2 For 3M Compression Lugs and 3M Stem Connectors:
a. Refer to pages 19-21 for 3M Connector and Lug crimping information.
b. For Aluminum Conductors - Thoroughly wire brush conductor strands to remove aluminum oxide layer. Insert conductor into lug or connector and then remove conductor. This will transfer some of the antioxidant paste onto the conductor. Wire brush the antioxidant paste into the strands. Immediately insert conductor into lug or connector barrel as far as it will go.

Note: Die/crimper head rotation between consecutive crimps is RECOMMENDED.

c. Position connector or lug and crimp according to manufacturer's directions. Remove excess oxide inhibitor and sharp crimp flashings following crimping.

4.3 For 3M Mechanical Shearbolt Lugs QL2 Series: Two Hole or 3M Mechanical Shearbolt Connector QCI Series:
a. Refer to the Instructions that are packed with the Shearbolt product for the installation procedures.

5.0 Clean Cable Insulation and Lug or Connector Barrel Using Standard Practice

5.1 If abrasive must be used:
a. Use on insulation only. ***DO NOT USE ABRASIVE ON SEMI-CON INSULATION SHIELD!***
b. Use only aluminum oxide abrasive; grit 120 or finer, included in 3M Cable Cleaning Preparation Kit CC-2.
c. Be careful not to reduce the cable insulation diameter below that allowed by the kit.

5.2 Wipe the cable insulation with one of the solvent saturated pads from the 3M Cable Cleaning Preparation Kit CC-2 **AND ALLOW IT TO DRY BEFORE INSTALLING TERMINATION. DO NOT ALLOW SOLVENT TO TOUCH SEMI-CON INSULATION SHIELD!**

6.0 Install Termination

6.1 Slide the termination body onto the cable and remove core. Make sure the termination body (not the core) is butted up to the edge of the vinyl tape marker previously applied in Step 3.2 (Figure 7). Pull the core while unwinding, counter-clockwise, starting with the loose end (Figure 7). Be sure to alternate the pulling and unwinding actions (pull-unwind-pull-unwind-etc.) to help prevent the core material from binding up as the core is being removed.

Note: ***Once the termination body makes contact over the mastic seal area, there is no need to continue supporting the assembly. DO NOT PUSH OR PULL ON THE TERMINATION ASSEMBLY WHILE UNWINDING THE CORE.***

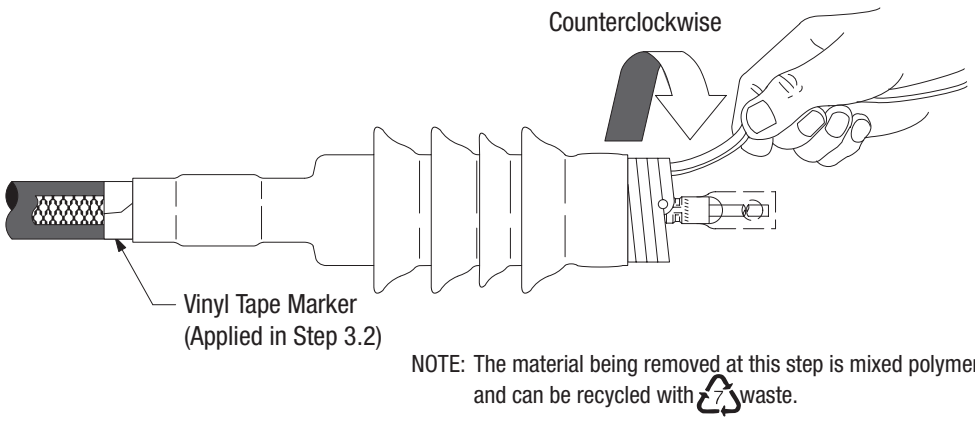
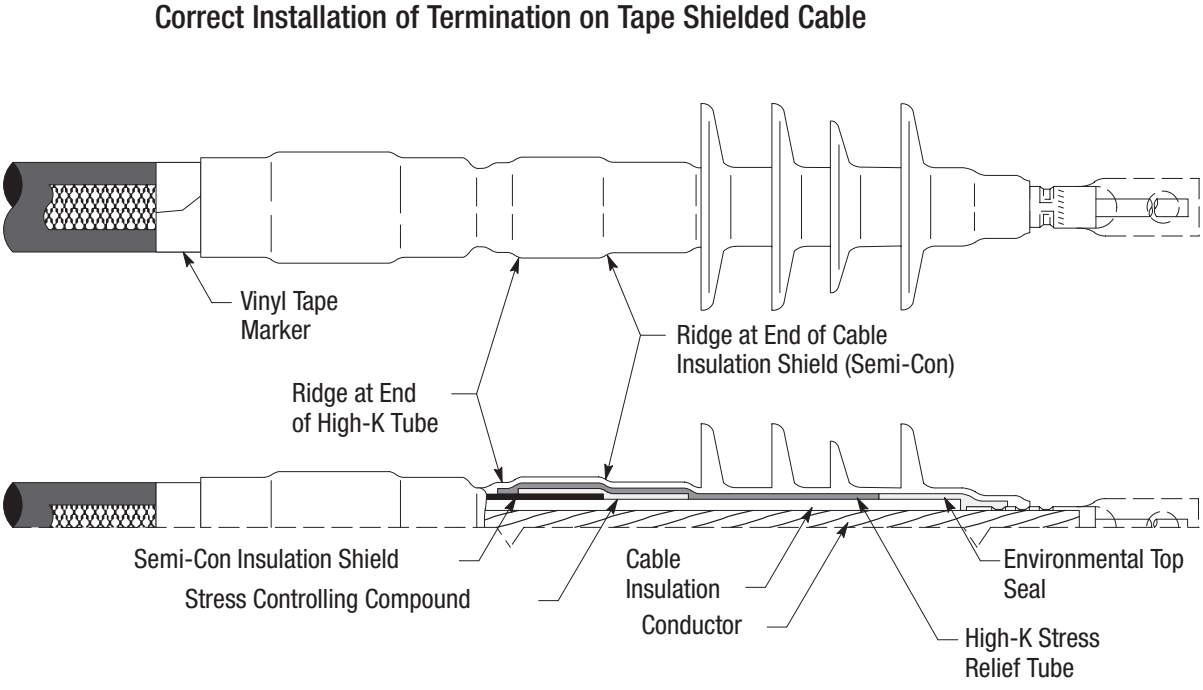


Figure 7

6.2 Connect ground braid to system ground according to standard practice.



7.0 Instructions for Wire Shielded Cable

Prepare Cable

7.1 Check to be sure cable size fits within kit range as shown in Table 1. (For Use With Compression Lugs or Connectors), or Table 2 (For Use With 3M Mechanical Shearbolt Lugs QL2 Series: Two Hole).

7.2 Prepare cable using dimensions shown in Figure 8 and Figure 9. **BE SURE TO ALLOW FOR DEPTH OF TERMINAL LUG OR CONNECTOR**

7.3 If using 3M Shearbolt Lugs QL2 Series: Two Hole, or 3M Mechanical Shearbolt Connector QCI Series, proceed to Step 7.4. If using a Crimp Type (Compression) lug, measure the depth of the barrel. If using a Crimp Type (Compression) connector, measure to the barrel center stop/midpoint, and see the NOTE below in order to calculate the Insulation Removal Length. Table 9 can used to assist in calculating the total Jacket Removal Length when using a compression lug or connector.

Note: Provide additional exposed conductor distance to account for growth during crimping of ALUMINUM lugs or connectors as follows:

Aluminum Lug and Connector Growth Allowance	2 - 350 1/4” (6 mm)	400 - 650 1/2” (13 mm)	750-1000 3/4” (19 mm)	1250 - 2000 Field determined

Table 7

3M Kit Number	Lug or Connector Type	Dimension X (Figure 8)
7692-S-4, 7692-S-4(L), 7693-S-4, 7694-S-4, 7695-S-4, 7695-S-4(L), 7696-S-4	Standard	9.00" (229 mm)
7696-S-4	QL2-A-1500-2000	11.50" (292 mm)

Table 8

Note: It is imperative to remove all remnants of the semi-con layer, even if the semi-con layer comes off as one layer. There should not be any remaining black areas, or particles, on the cable insulation layer.

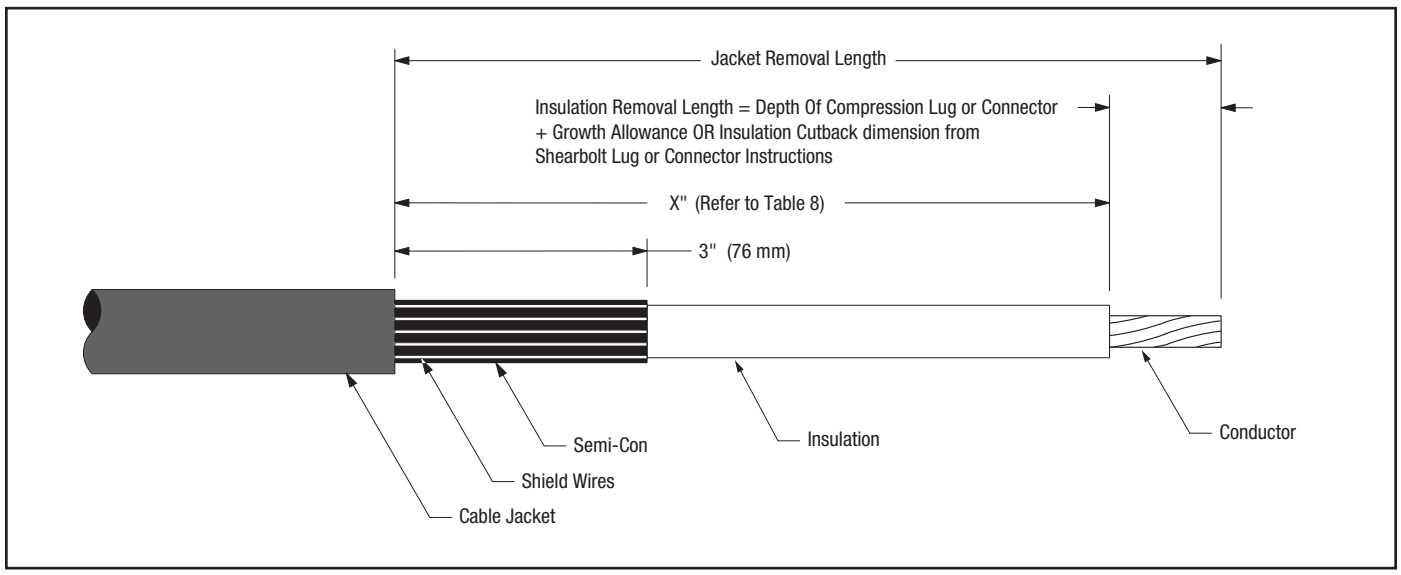


Figure 8

Jacket Removal Calculation Table - Wire Shield Cable - Crimp Type (Compression) Lugs / Connectors - 7692-S-4, 7692-S-4(L), 7693-S-4, 7694-S-4, 7695-S-4, 7695-S-4(L), 7696-S-4			
CABLE PREPARATION ITEM	Inches -Add this column-	mm -Add this column-	NOTES
Insulation Length	9.0"	229 mm	Value from Figure 8 and Table 8
Insulation Removal Length = Depth of Crimp Type (Compression) Terminal Lug or Connector Barrel (See NOTES column.)	+	+	Measure full depth of bore for lugs and to the center stop for connectors.
Growth Allowance (Aluminum Only) for Crimp Type (Compression) Lug / Connector (See NOTES column.)	+	+	See Table 6 for correct growth allowance. **This measurement applies only to Aluminum lugs / connectors.**
TOTAL JACKET REMOVAL LENGTH	=	=	

Table 9

7.4 If using 3M Mechanical Shearbolt Lugs QL2 Series: Two Hole, or 3M Mechanical Shearbolt Connector QCI Series, refer to the Instructions that are packed with the Shearbolt product for the Insulation Cutback length for the specific Shearbolt Lug or Connector being used. Table 10 can used to assist in calculating the total Jacket Removal Length when using 3M Shearbolt Lugs QL2 Series: Two Hole, or 3M Shearbolt Connector QCI Series.

Jacket Removal Calculation Table - Wire Shield Cable - 3M™ Mechanical Shearbolt QL2 Series Lugs / 3M™ Mechanical Shearbolt Connector QCI Series - 7692-S-4, 7692-S-4(L), 7693-S-4, 7694-S-4, 7695-S-4, 7695-S-4(L), 7696-S-4			
CABLE PREPARATION ITEM	Inches -Add this column-	mm -Add this column-	NOTES
Insulation Length	9.0" or 11.5"	229 mm or 292 mm	Value from Figure 8 and Table 8
Insulation Removal Length = Depth of 3M™ Mechanical Shearbolt QL2 Series Lugs: Two Hole Barrel or 3M™ Mechanical Shearbolt Connectors QCI Series Barrel (See NOTES column.)	+	+	Obtain Insulation Removal Length: For Mechanical Shearbolt Lugs see 3M™ Mechanical Shearbolt Lugs QL2 Series: Two Hole Instructions. For Mechanical Shearbolt Connectors see 3M™ Mechanical Shearbolt Connectors QCI Series Instructions.
TOTAL SEMI-CON JACKET REMOVAL LENGTH	=	=	

Table 10

7.5 Bend leading 1-1/2" (38 mm) of exposed shield wires back upon themselves to jacket edge (Figure 9).

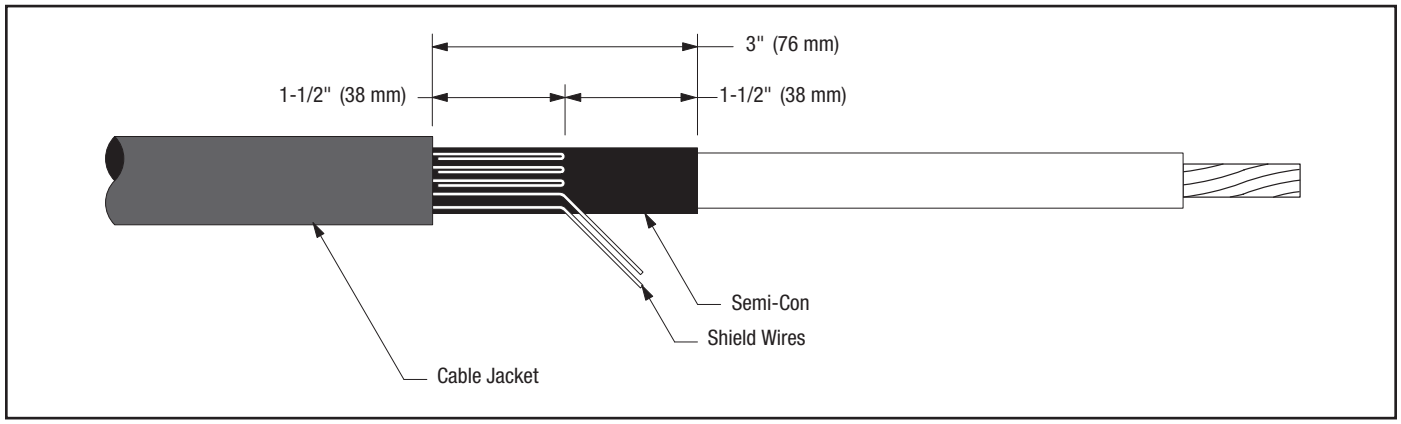


Figure 9

8.0 Install Ground Braid

8.1 Select a Scotch® Mastic Strip 2230 from kit and remove white release liners. Using light tension apply a **SINGLE WRAP** of mastic around the cable jacket 1/4" (6 mm) from cut edge (Figure 10). Cut off excess.

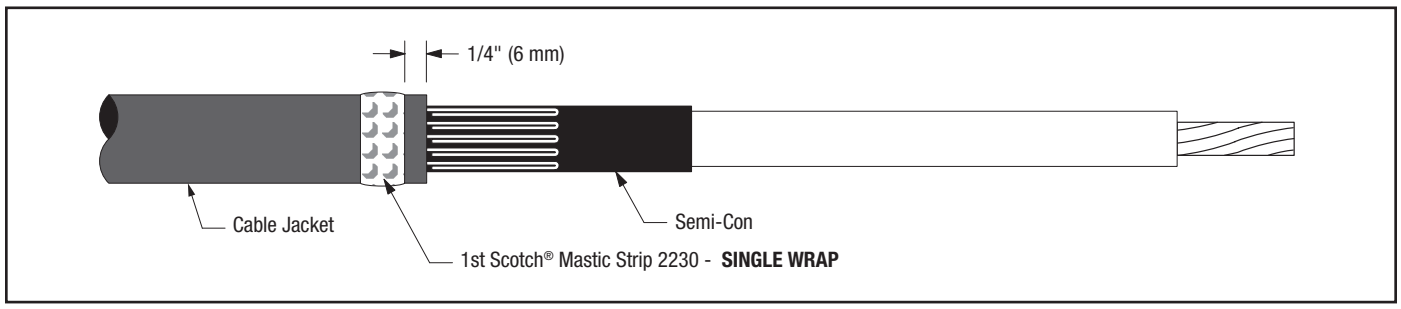


Figure 10

8.2 Position pre-formed ground braid with short tail over wire shield directly adjacent to cable jacket cut edge. PLEASE NOTE: The ground braid needs to make full contact with the shield wires. Position long tail of ground braid, extending over cable jacket with solder block over mastic strip (Figure 11). Secure ground braid to cable jacket **4-1/2" (114 mm) from cable semi-con edge using vinyl tape (see NOTE and Figure 11)**.

Note: Position vinyl tape with care, it also serves as a marker for positioning the termination.

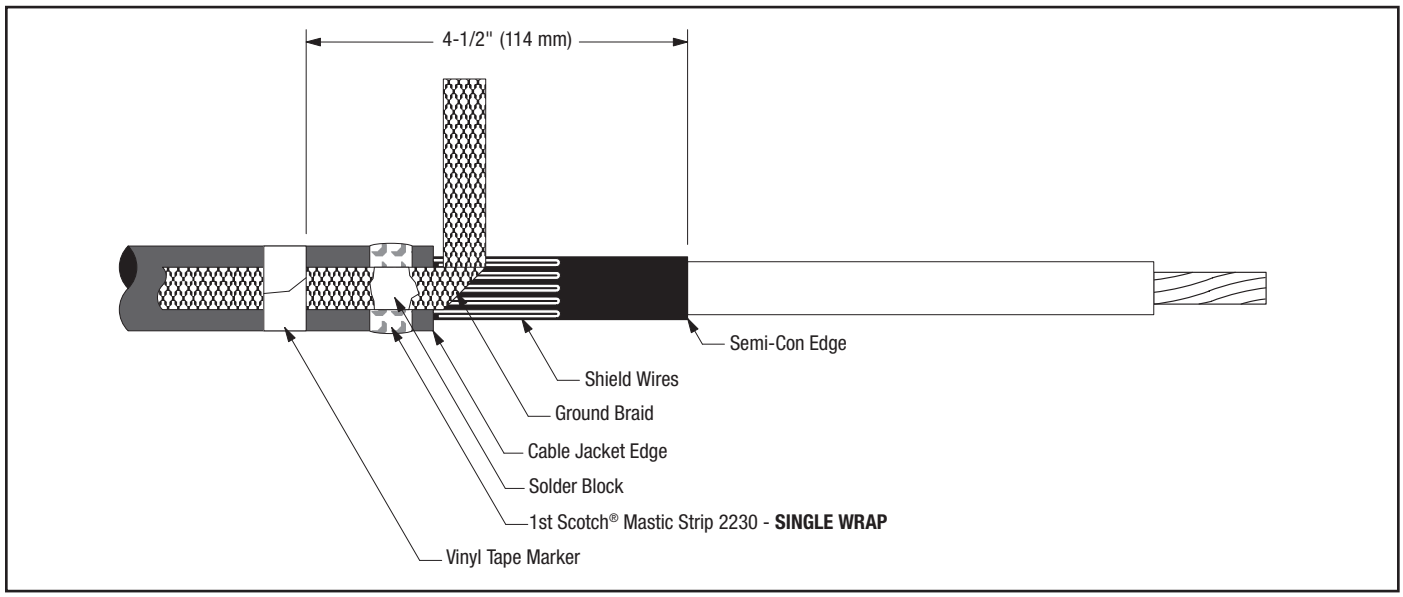


Figure 11

8.3 Wrap ground braid around cable shield wires one complete wrap, trim excess at approximately a 45 degree angle, and line up with the pre-bent 45 degree angle already on the ground braid, to prevent overlap. Secure in place with constant force spring. Wrap spring in same direction as ground braid (Figure 12). Cinch (tighten) the spring after wrapping the final winding.

8.4 Select second Scotch® Mastic Strip 2230 from kit and remove white release liners. Apply a second **SINGLE WRAP** of mastic over solder block on ground braid and previously applied mastic (Figure 12). Cut off excess.

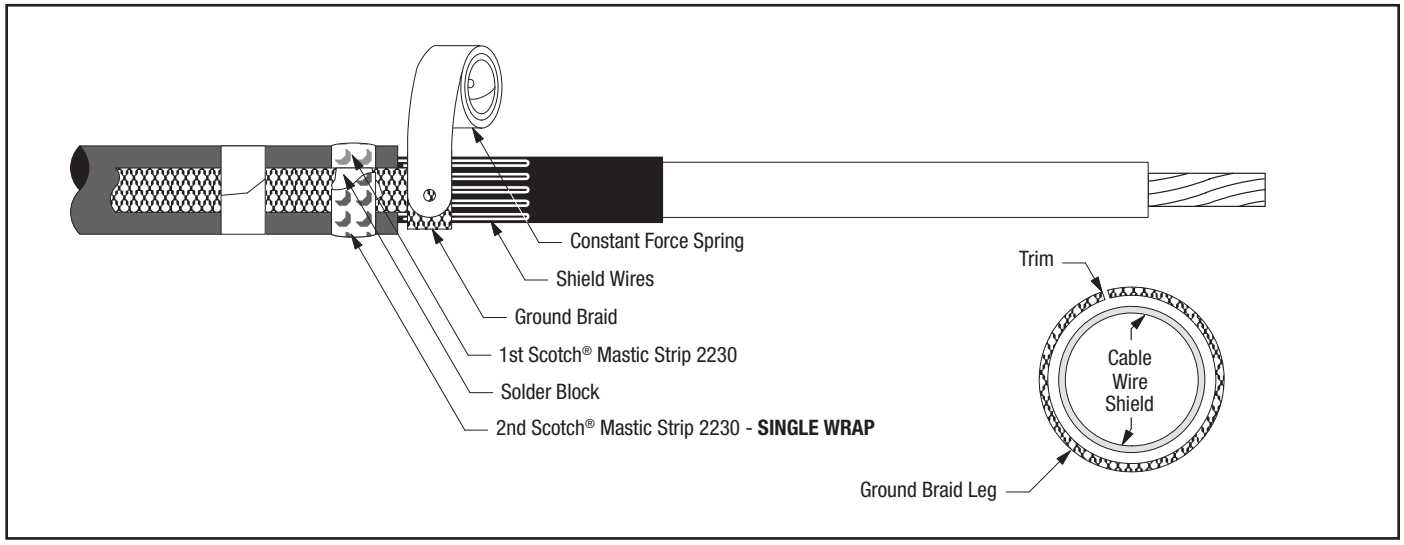


Figure 12

8.5 Wrap two highly stretched half-lapped layers of electrical grade vinyl tape around mastic seal, constant force spring and exposed shield wires (Figure 13).

Note: Take care not to cover exposed semi-con insulation shield. A minimum of 1" (25 mm) must be exposed.

Note: DO NOT completely cover the ground braid with electrical grade vinyl tape when applying over the Scotch® Mastic Strip 2230 per Step 8.5. LEAVE AT LEAST 1" (25 MM) OF EXPOSED GROUND BRAID between the Vinyl Tape Marker applied in step 8.2 and the start of the two half-lapped layers of electrical grade vinyl tape covering the Scotch® Mastic Strip 2230 applied in Step 8.5.

SPECIAL NOTE FOR CLOTH OR PAPER SEMI-CON INSULATION SHIELD: In cables with cloth or paper semi-conductive shields, it is recommended the shield be over-wrapped with one half-lapped layer of highly stretched semi-conductive rubber tape, such as Scotch® Electrical Semi-Conducting Tape 13.

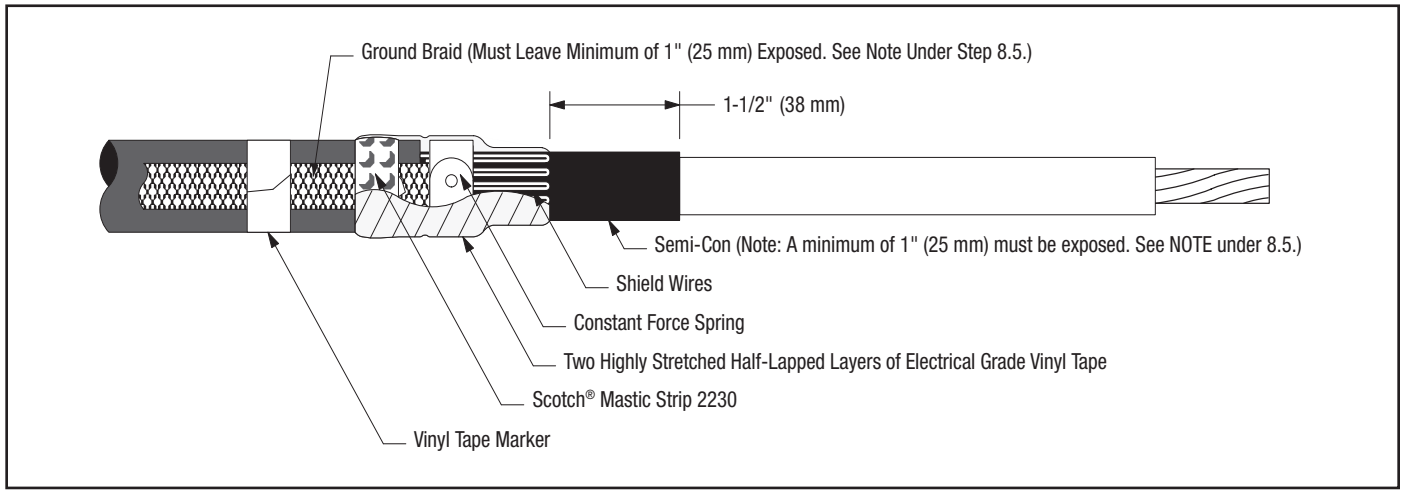


Figure 13

Note: If using the 3M QL2-A-1500-2000 Mechanical Shearbolt Lug, skip to Section 12.0

9.0 Install Lug or Connector

Important Packaging Notice

In order to make sure that you receive an undamaged termination, this 3M Cold Shrink QT-III Silicone Rubber Termination is packed with a RED SHIPPING CORE inside of the white core. Please remove the red shipping core BEFORE you install the termination. This shipping core can be recycled with other polypropylene waste.

9.1 **Check to insure 3M Cold Shrink QT-III Silicone Rubber Termination assembly fits over the selected lug or connector BEFORE installing the lug or connector.** If lug or connector (Figure 14) will not fit through the termination core, clean the insulation (per Step 10.0) and slide termination on cable before installing lug. **DO NOT REMOVE CORE AT THIS TIME.**

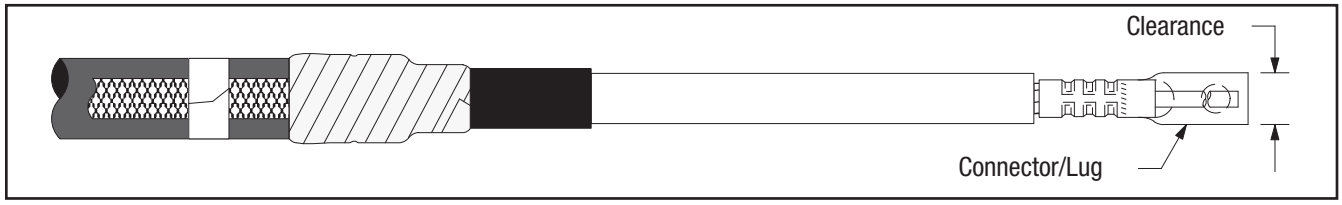


Figure 14

9.2 For 3M Compression Lugs and 3M Stem Connectors:
a. Refer to pages 19-21 for 3M Connector and Lug crimping information.
b. For Aluminum Conductors - Thoroughly wire brush conductor strands to remove aluminum oxide layer. Insert conductor into lug or connector and then remove conductor. This will transfer some of the antioxidant paste onto the conductor. Wire brush the antioxidant paste into the strands. Immediately insert conductor into lug or connector barrel as far as it will go.

NOTE: Die/crimper head rotation between consecutive crimps is RECOMMENDED.

c. Position connector or lug and crimp according to manufacturer's directions. Remove excess oxide inhibitor and sharp crimp flashings following crimping.

9.3 For 3M Mechanical Shearbolt Lugs QL2 Series: Two Hole or 3M Mechanical Shearbolt Connector QCI Series:
a. Refer to the Instructions that are packed with the Shearbolt product for the installation procedures.

10.0 Clean Cable Insulation and Lug or Connector Barrel Using Standard Practice

10.1 If abrasive must be used:
a. Use on insulation only. **DO NOT USE ABRASIVE ON SEMI-CON INSULATION SHIELD!**
b. Use only aluminum oxide abrasive; grit 120 or finer, included in the 3M Cable Cleaning Preparation Kit CC-2.
c. Be careful not to reduce the cable insulation diameter below that allowed by the kit.

10.2 Wipe the cable insulation with one of the solvent saturated pads from the 3M Cable Cleaning Preparation Kit CC-2 **AND ALLOW IT TO DRY BEFORE INSTALLING TERMINATION. DO NOT ALLOW SOLVENT TO TOUCH SEMI-CON INSULATION SHIELD!**

11.0 Install Termination

11.1 Slide the termination body onto the cable and remove core. Make sure the termination body (not the core) is butted up to the edge of the vinyl tape marker previously applied in Step 8.2 (Figure 15). Pull the core while unwinding, counter-clockwise, starting with the loose end (Figure 15). Be sure to alternate the pulling and unwinding actions (pull-unwind-pull-unwind-etc.) to help prevent the core material from binding up as the core is being removed.

NOTE: Once the termination body makes contact over the mastic seal area, there is no need to continue supporting the assembly. DO NOT PUSH OR PULL ON THE TERMINATION ASSEMBLY WHILE UNWINDING THE CORE.

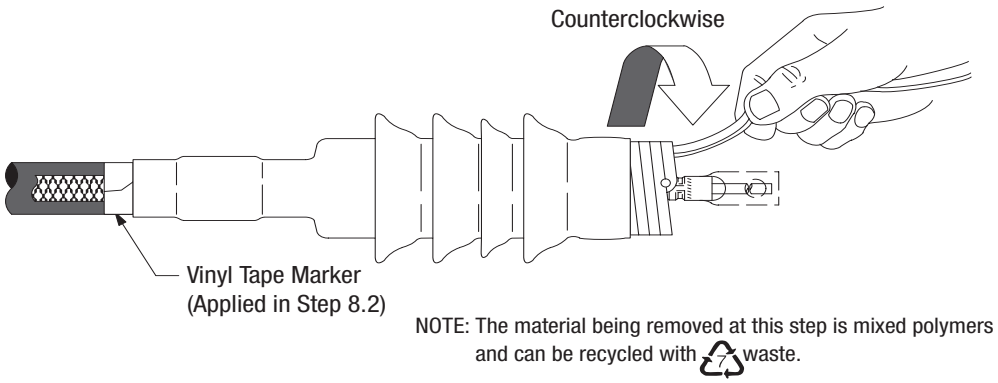
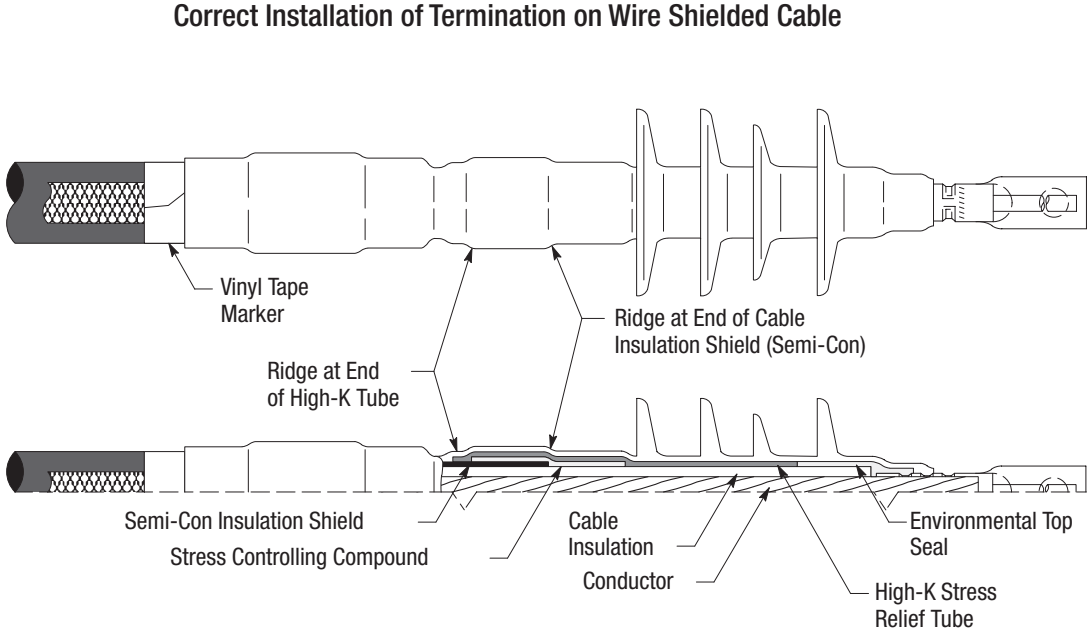


Figure 15

11.2 Connect ground braid to system ground according to standard practice.



12.0 QL2-A-1500-2000 - Clean Cable Insulation

12.1 If abrasive must be used:

a. Use on insulation only. **DO NOT USE ABRASIVE ON SEMI-CON INSULATION SHIELD.**!

b. Use only aluminum oxide abrasive; grit 120 or finer.

c. Be careful not to reduce the cable insulation diameter below that allowed by the kit.

12.2 Wipe the cable insulation with one of the solvent saturated pads from the 3M Cable Cleaning Preparation Kit CC-2 **AND ALLOW IT TO DRY BEFORE INSTALLING TERMINATION. DO NOT ALLOW SOLVENT TO TOUCH SEMI-CON INSULATION SHIELD**.

13.0 QL2-A-1500-2000 - Install Termination

Important Packaging Notice

In order to make sure that you receive an undamaged termination, this 3M Cold Shrink QT-III Silicone Rubber Termination is packed with a RED SHIPPING CORE inside of the white core. Please remove the red shipping core BEFORE you install the termination. This shipping core can be recycled with other polypropylene waste.

13.1 Slide the termination body onto the cable and remove core. Make sure the termination body (not the core) is butted up to the edge of the vinyl tape marker previously applied (Figure 16). Pull the core while unwinding, counter-clockwise, starting with the loose end (Figure 16). Be sure to alternate the pulling and unwinding actions (pull-unwind-pull-unwind-etc.) to help prevent te core material from binding up as the core is being removed.

NOTE: Once the termination body makes contact over the mastic seal area, there is no need to continue supporting the assembly. DO NOT PUSH OR PULL ON THE TERMINATION ASSEMBLY WHILE UNWINDING THE CORE.

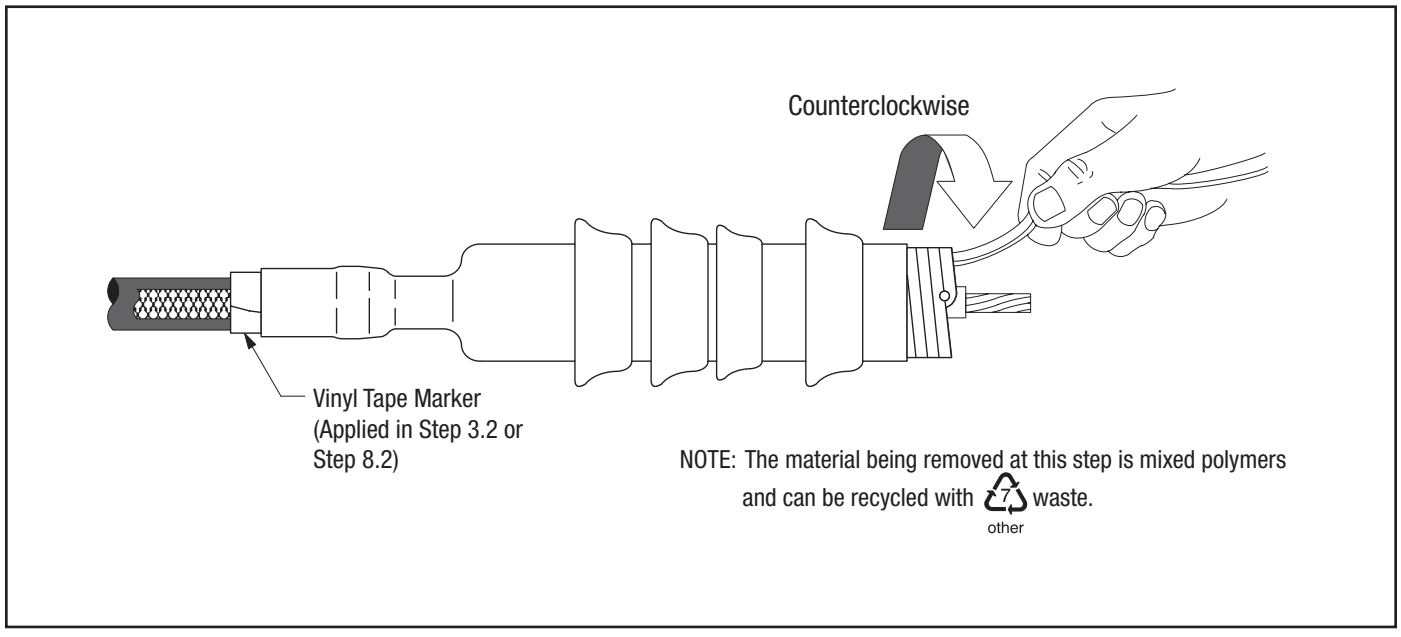


Figure 16

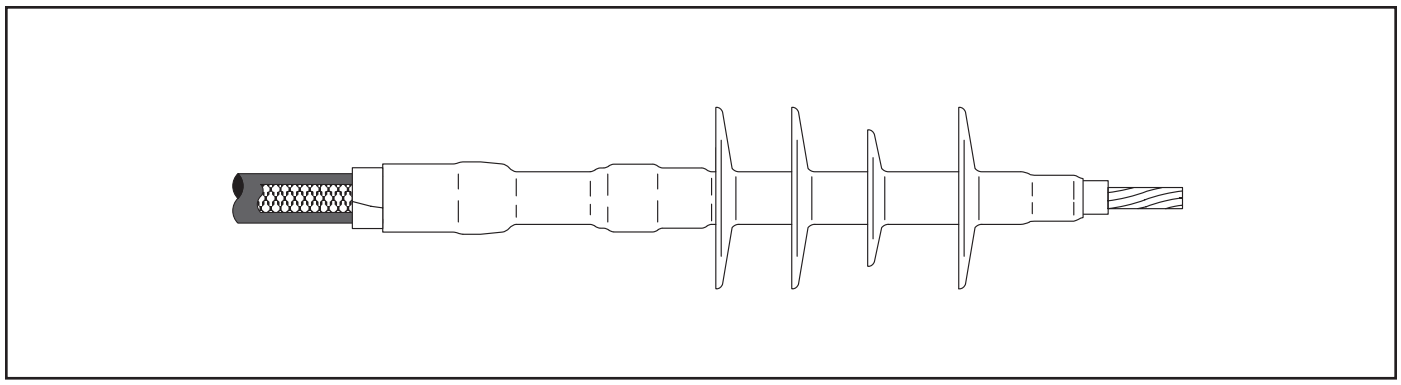


Figure 17

14.0 QL2-A-1500-2000 - Install Lug

14.1 Check that screws are not protruding into the lug bore. Unscrew the bolts, as needed, to clear the bore. Do not remove the bolts from the lug. Feed the stripped cable end into the lug until conductor contacts the lug end solid stop. Hand tighten all of the bolts to the conductor in the sequence shown (Figure 18).

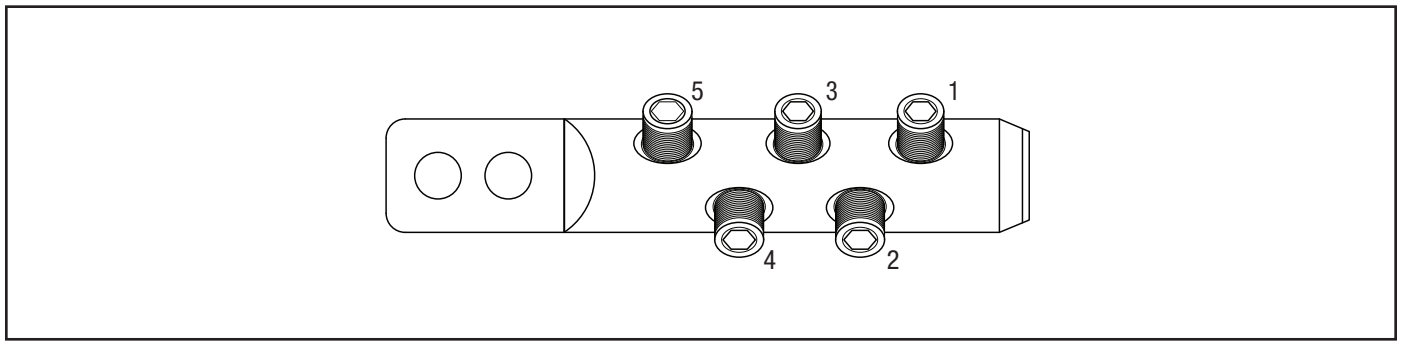


Figure 18

14.2 Shear the bolts by using the 8mm hex key/socket and following the sequence (Figure 18). The installer can use a ratchet with the correct hex key/socket and/or an electric impact wrench to tighten and shear the bolts. If using an electric impact wrench, the wrench must be 18 volts, or greater, and have a torque of 160 ft.-lbs. (217 N•m), or greater.

14.3 Clean the surface of the lug with an approved solvent (such as 3M Cleaning Solvent CC Series) to remove any debris or grease. Allow time for the cleaning solvent to dry, or dry with a clean cloth or paper towel, before proceeding to step 14.4.

14.4 Apply the included 3M™ Aluminum Foil Tape 1115B. Start by checking the foil tape width, before removing the liner. The tape must extend from lug taper to lug taper. The longer length will wrap around the lug. Remove the liner from the foil tape. Align the foil edge with the recessed bolt wells in a direction that covers the sheared bolts. Once foil tape is properly aligned, continue wrapping the foil tape around the lug until it covers the bolt wells with a second layer. Press down the ends of the tape at the final edge and near the lug tapers.

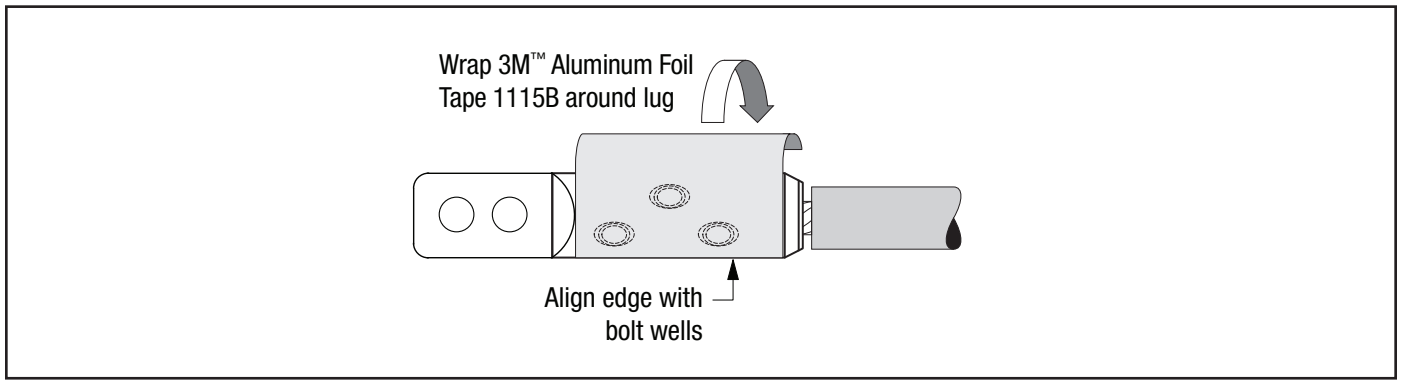


Figure 19

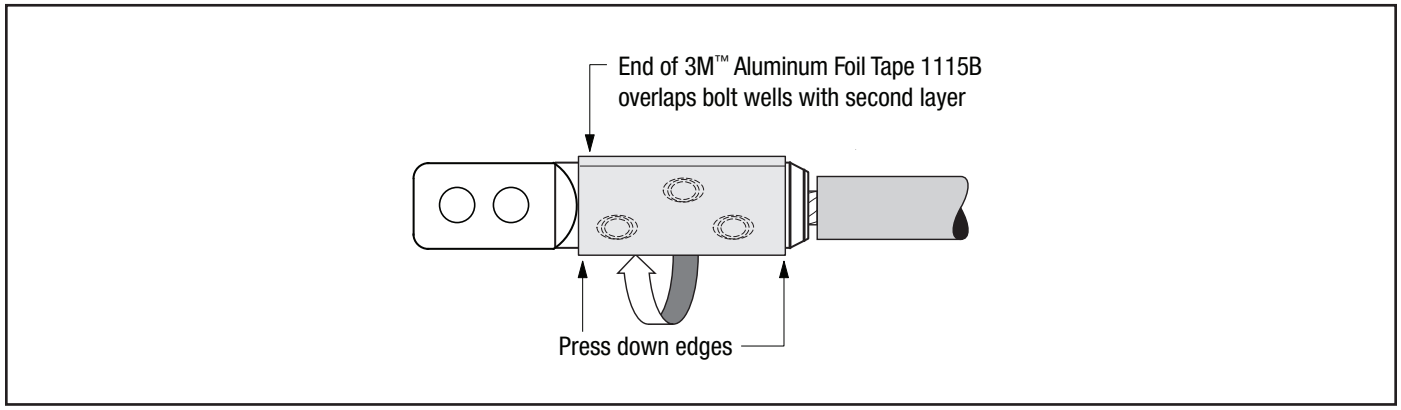


Figure 20

14.5 Install the 3M™ Cold Shrink Silicone Rubber Sealing Tube over the lug barrel by aligning the edge of the Sealing Tube, not the core, with the lug body edge closest to the connection holes. The loose core end will be facing towards the cable and termination assembly. (See Figure 21)

14.6 Slowly remove a couple of windings of the core ribbon, by pulling on the loose core end counterclockwise, until the sealing tube slightly contacts the lug body. Make slight adjustments needed by sliding / slightly twisting the sealing tube until it is in the proper position at the edge of the lug body.

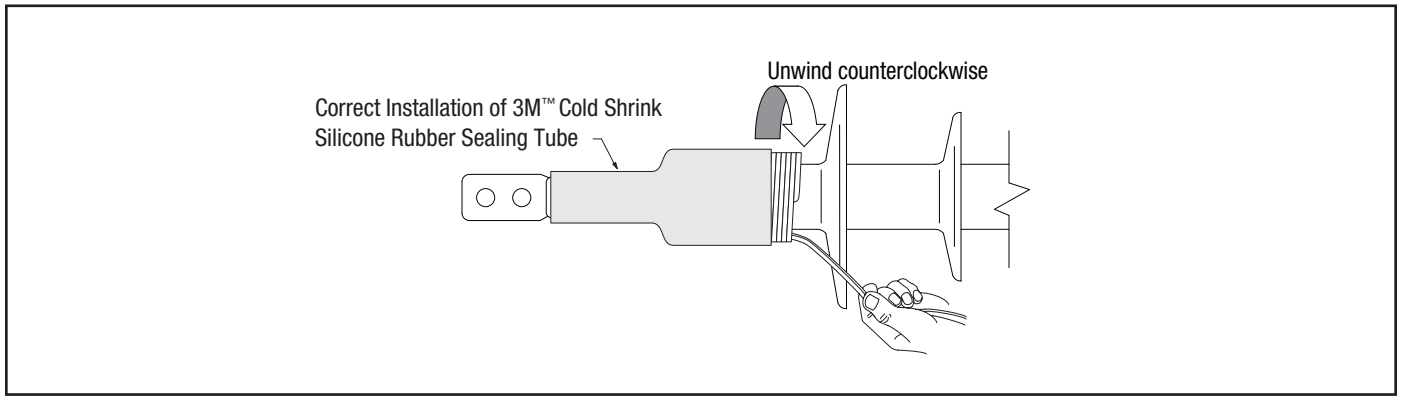


Figure 21

14.7 Complete the removal of the core by pulling the core ribbon while unwinding counterclockwise. Be sure to alternate pulling and unwinding actions (pull-unwind-pull-unwind-etc.) to help prevent the core material from binding up as the core is being removed.

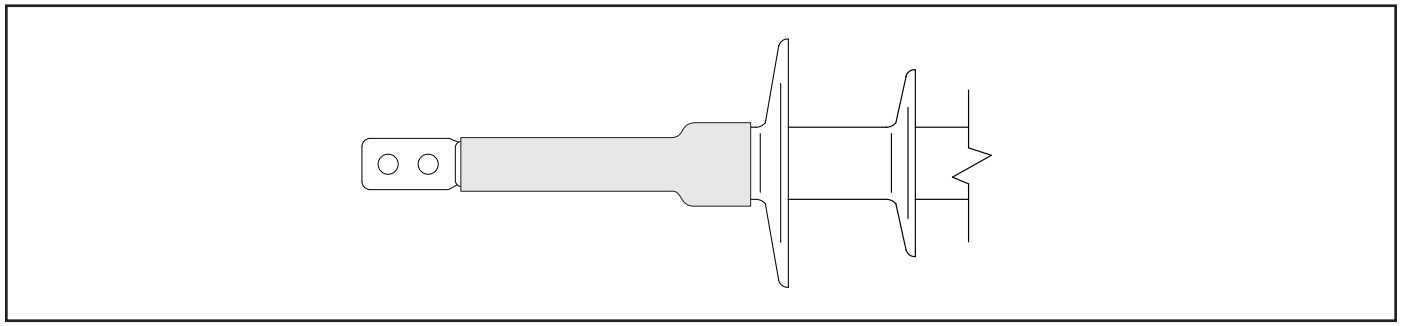


Figure 22

14.8 Connect ground braid to system ground according to standard practice.

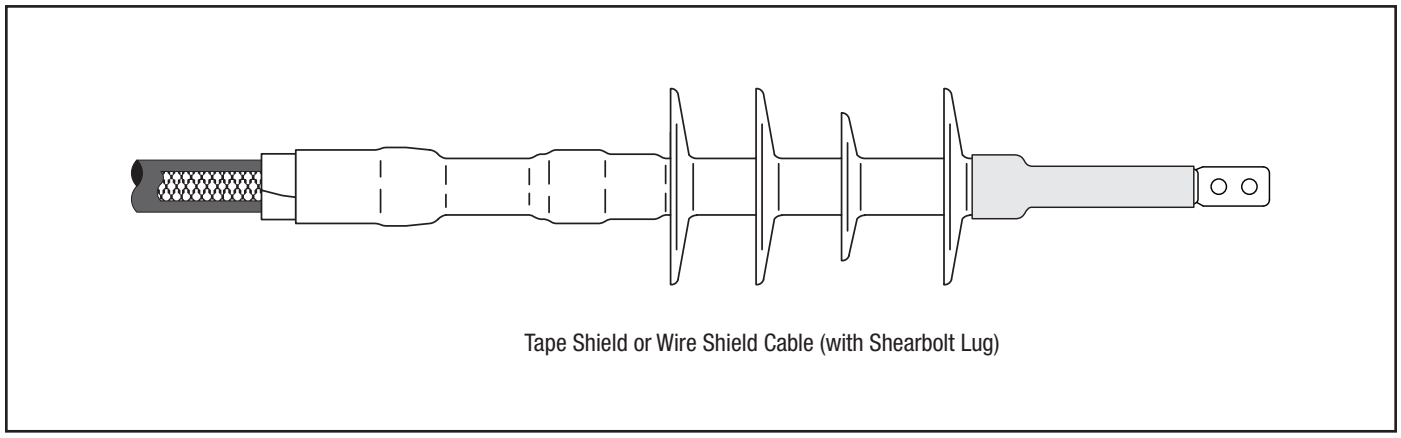
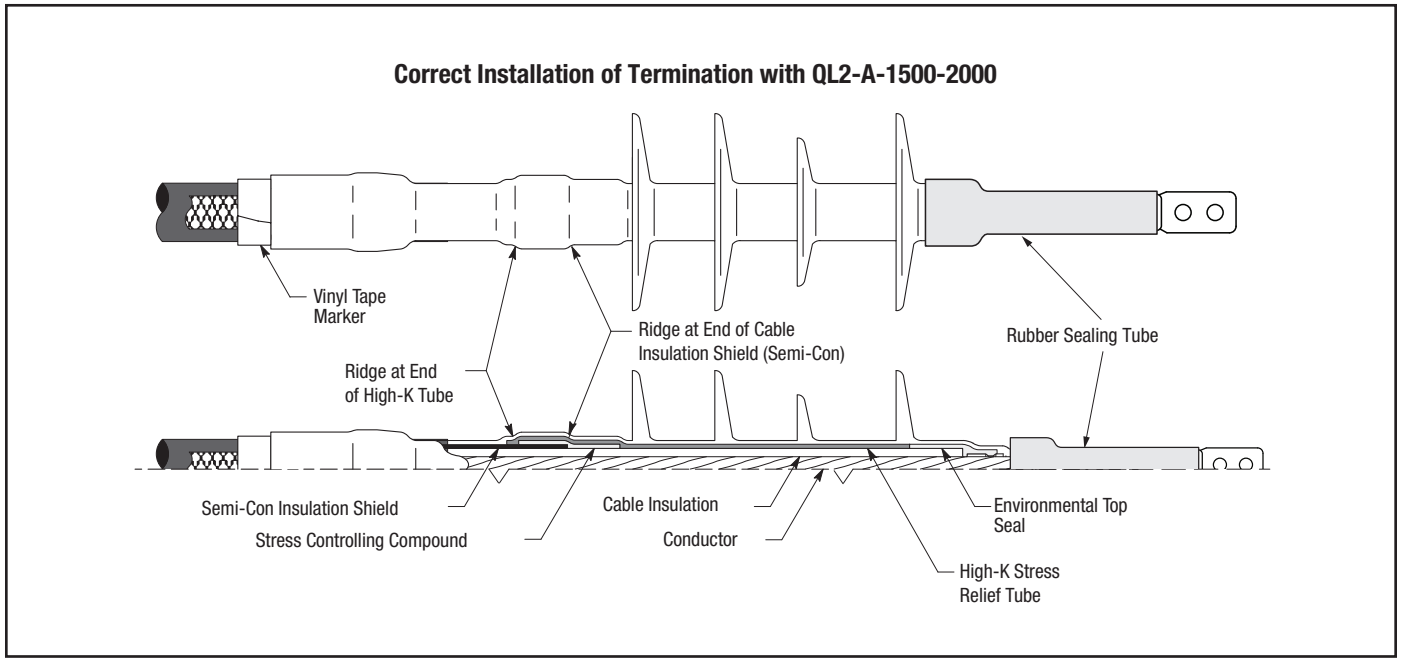
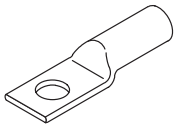
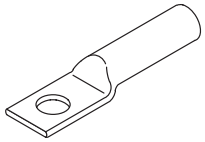
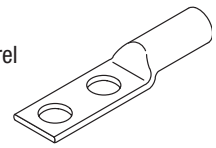


Figure 23



Tooling Index

Lug and Crimping Information for 3M™ Scotchlok™ Copper Lugs		
30014 thru 30045 One hole 	31036 thru 31068 One hole-long barrel 	31145 thru 31178 Two hole-long barrel 

Cable Size AWG/ kcmil	Stud Size (in.)	3M™ Scotchlok™ Copper Lug Number	Crimping Tool-Die Sets (Minimum Number Of Crimps)							
			Burndy Corporation				Thomas & Betts Corporation			Square D Co. Anderson Div.
			MD6	MY29	Y34A	Y35, Y39, Y45*, Y46*	TBM 5	TBM 8	TBM 15	VC6-3, VC6-FT**
6	10 1/4 5/16	30014 30015 30016	-	6AWG(1)	-	U5CRT(1)	Blue(1)	Blue(1)	-	(1)
4	10 1/4 3/8	30018 30019 30021	W161(1)	4AWG(1)	A4CR(1)	U4CRT(1)	Grey(1)	Grey(1)	-	(1)
2	1/4 5/16 3/8	30022 30023 30024	W162(2)	2AWG(1)	A2CR(1)	U2CRT(2)	Brown(1)	Brown(1)	33(1)	(2)
1	5/16 3/8	30027 30028	-	1AWG(1)	A1CR(1)	U1CRT(2)	Green(1)	Green(1)	37(1)	(2)
1/0	5/16 3/8	30031 30032	W163(2)	1/0(1)	A25R(1)	U25RT(1)	Pink(2)	Pink(2)	42H(2)	(1)
2/0	3/8 3/8	30036 31036	W241(2) W241(3)	2/0(1) 2/0(2)	A26R(1) A26R(2)	U26RT(2) U26RT(3)	Black(2) Black(3)	Black(2) Black(3)	45(1) 45(2)	(1) (2)
3/0	1/2 1/2	30041 31041	W243(2) W243(3)	3/0(1) 3/0(2)	A27R(1) A27R(2)	U27RT(2) U27RT(3)	Orange(2) Orange(3)	Orange(2) Orange(3)	50(1) 50(2)	(2) (3)
4/0	1/2 1/2 1/2	30045 31045 31145	BG(3) BG(4) BG(4)	4/0(1) 4/0(2) 4/0(2)	A28R(2)	U28RT(2) U28RT(3) U28RT(3)	Purple(2) Purple(3) Purple(3)	Purple(2) Purple(3) Purple(3)	54H(2) 54H(3) 54H(3)	(2) (3) (3)
250	1/2 1/2	31049 31149	W166(4)	250(2)	A29R(2)	U29RT(3)	Yellow(2)	Yellow(2)	62(2)	(2)
300	1/2 1/2	31053 31153	-	-	A30R(2)	U30RT(3)	-	White(3)	66(3)	(3)
350	1/2 1/2	31056 31156	-	-	A31R(2)	U31RT(3)	-	Red(4)	71H(4)	-
400	1/2 1/2	31060 31160	-	-	A32R(2)	U32RT(3)	-	Blue(4)	76H(4)	-
500	1/2 5/8 1/2	31066 31067 31166	-	-	A34R(2)	U34RT(3)	-	Brown(4)	87H(4)	-
600	1/2 1/2	31068 31168	-	-	-	U36RT(3)	-	Green(4)	94H(4)	-
750	1/2	31172	-	-	-	Y39, Y45, Y46 U39RT(5)	-	-	106H(4)	-
1000	1/2	31178	-	-	-	Y45: S44RT(6) Y46: P44RT(6)	-	-	125H(4)	-

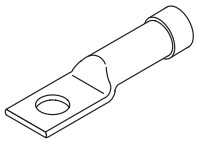
* Y45 and Y46 accept all Y35 dies ("U" series). For Y45 use PT6515 adapter. For Y46 use PUADP adapter.

** Anderson VC6-3 and VC6-FT require no die set.

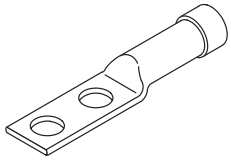
Tooling Index

Lug and Crimping Information for 3M™ Scotchlok™ Copper/Aluminum Lugs

40016 thru 40079
One hole



40132 thru 40178
Two hole



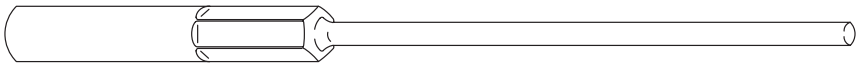
Cable Size AWG/ kcmil	Stud Size (in.)	3M™ Scotchlok™ Lug Number	Crimping Tool-Die Sets (Minimum Number Of Crimps)												
			Burndy Corporation					Thomas & Betts Corporation				Square D Co. Anderson Div.		ITT Blackburn Co.	Kearny Nat'l Div.
			MD6	MY29	Y34A	Y35, Y39, Y45*, Y46*	Y1000**	TBM 5	TBM 8	TBM 12	TBM 15	VC6-3** VC6-FT**	VC8C**	OD58	TYPE O
6	5/16	40016	W161(1)	6AWG(1)	A6CAB(1)	U6CABT(1)	(1)	Grey(1)	Grey(1)	-	29(1)	(1)	-	BY19(3)	J(3)
4	5/16	40020	W162(3)	4AWG(1)	A4CAB(1)	U4CABT(1)	(1)	Green(2)	Green(2)	-	37(1)	(1)	-	BY53(3)	P(3)
2	3/8	40024	W163(3)	2AWG(1)	A2CAB(1)	U2CABT(1)	(1)	Pink(2)	Pink(2)	-	42H(2)	(1)	-	BY23(3)	1/2(3)
	1/2	40025	W163(3)	2AWG(1)	A2CAB(1)	U2CABT(1)	(1)	Pink(2)	Pink(2)		42H(2)	(1)		BY23(3)	1/2(3)
1	3/8	40028	W163(3)	1AWG(1)	A1CAR(1)	U1CART(1)	(1)	Gold(2)	Gold(2)	-	45(1)	(1)	-	BY23(3)	1/2(3)
	1/2	40029	W163(3)	1AWG(1)	A1CAR(1)	U1CART(1)	(1)	Gold(2)	Gold(2)		45(1)	(1)		BY23(3)	1/2(3)
1/0	3/8	40032	W241(3)	1/0(1)	A25AR(1)	U25ART(1)	(1)	Tan(2)	Tan(2)	-	50(1)	(1)	-	BY25(3)	5/8-1(3)
	1/2	40033	W241(3)	1/0(1)	A25AR(1)	U25ART(1)	(1)	Tan(2)	Tan(2)		50(1)	(1)		BY25(3)	5/8-1(3)
	3/8	40132	W241(3)	1/0(1)	A25AR(1)	U25ART(1)	(1)	Tan(2)	Tan(2)		50(1)	(1)		BY25(3)	5/8-1(3)
2/0	1/2	40037	BG(4)	2/0(1)	A26AR(2)	U26ART(2)	(1)	Olive(2)	Olive(2)	-	54H(2)	(2)	-	BY31C(3)	5/8-1(3)
	1/2	40137	BG(4)	2/0(1)	A26AR(2)	U26ART(2)	(1)	Olive(2)	Olive(2)		54H(2)	(2)		BY31C(3)	5/8-1(3)
3/0	1/2	40041	W166(4)	3/0(1)	A27AR(2)	U27ART(2)	(1)	Ruby(2)	Ruby(2)	-	60(2)	(2)	-	-	737(3)
	1/2	40141	W166(4)	3/0(1)	A27AR(2)	U27ART(2)	(1)	Ruby(2)	Ruby(2)		60(2)	(2)			737(3)
4/0	1/2	40045	W660(4)	4/0 (2)	A28AR(2)	U28ART(2)	(1)		White(4)		66(4)	(2)		BY35C(4)	840(4)
	5/8	40046	W660(4)	4/0 (2)	A28AR(2)	U28ART(2)	(1)	-	White(4)	-	66(4)	(2)	-	BY35C(4)	840(4)
	1/2	40145	W660(4)	4/0 (2)	A28AR(2)	U28ART(2)	(1)		White(4)		66(4)	(2)		BY35C(4)	840(4)
250	1/2	40049	W249(3)		A29AR(2)	U29ART(2)	(1)			71H(4)	71H(2)	(3)			
	5/8	40050	W249(3)	-	A29AR(2)	U29ART(2)	(1)	-	-	71H(4)	71H(2)	(3)	-	-	-
	1/2	40149	W249(3)		A29AR(2)	U29ART(2)	(1)			71H(4)	71H(2)	(3)			
300	1/2	40053	-	-	A30AR(2)	U30ART(2)	(1)	-	-	76H(4)	76H(2)	(3)	-	-	-
	1/2	40153			A30AR(2)	U30ART(2)	(1)			76H(4)	76H(2)	(3)			
350	1/2	40056	-	-	-	U31ART(2)	(1)	-	-	87H(4)	87H(3)	(3)	-	-	-
	5/8	40057				U31ART(2)	(1)			87H(4)	87H(3)	(3)			
	1/2	40156				U31ART(2)	(1)			87H(4)	87H(3)	(3)			
400	1/2	40160	-	-	-	U32ART(4)	(1)	-	-	94H(4)	94H(4)	-	(2)	-	-
500	5/8	40067	-	-	-	U34ART(4)	(1)	-	-	106H(4)	106H(3)	-	(2)	-	-
	1/2	40166				U34ART(4)	(1)			106H(4)	106H(3)		(2)		
600	1/2	40170	-	-	-	U36ART(4)	(1)	-	-	-	115H(3)	-	(3)	-	-
750	5/8	40073	-	-	-	U39ART(4)	(1)	-	-	-	125H(4)	-	(3)	-	-
	1/2	40172				U39ART(4)	(1)				125H(4)		(3)		
1000	5/8	40079	-	-	-	S44ART(4)	(1)	-	-	-	140H(4)	-	(3)	-	-
	1/2	40178				S44ART(4)	(1)				140H(4)		(3)		

* Y45 and Y46 accept all Y35 dies ("U" series). For Y45 use PT6515 adapter. For Y46 use PUADP adapter.

** Anderson VC6-3, VC6-FT, VC8C and Burndy Y1000 require no die set.

Tooling Index

Crimping Information for
3M™ Stem Connectors
Copper/Aluminum



Conductor Size AWG & kcmil		3M™ Connector Number	Crimping Table For 3M™ Stem Type Connector				
			Recommended Crimping Tools				
Stranded	Solid		Manufacturer	Mech. Tool	Die (Minimum No. Crimps)	Hydraulic	Die (Minimum No. Crimps)
2, 1 4 1/0	1, 1/0 2 2/0	SC0001 SC0002 SC0010	Burndy	MD6	BG(4), W241(3)	Y35, Y39, Y45*, Y46*	U25ART(2), U243(2)
			Kearny	0-51, 0-52	5/8-1 (4)	WH-1, WH-2	5/8-1(4)
			T & B	TBM 5	Tan(2)	-	-
			T & B	TBM 8	Olive(2), Tan(2)	TBM 15	50(2)
			Anderson	-	-	VC6**	(2)
2/0 3/0 4/0	3/0 4/0 -	SC0020 SC0030 SC0040	Burndy	MD6	W249(3)	Y35, Y39, Y45*, Y46*	U28ART(2)
			Kearny	0-51, 0-52	840(5)	WH-1, WH-2	840(2)
			T & B	TBM 8	Red(4)	TBM 15	71H(3)
			Anderson	-	-	VC6**	(2)

* Y45 and Y46 accept all Y35 dies (“U” series). For Y45 use PT6515 adapter. For Y46 use PUADP adapter.

** Anderson VC6 is dieless and does not require a die set.

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