

3M™ Cold Shrink QT-III Silicone Rubber Indoor Tubular Termination Kits

With High Ampacity Ground Connection and High-K Stress Relief

For Tape Shield, Wire-Over-Tape Shield and Longitudinally Corrugated (LC) Shield Cable

7642-T-HSG-110, 7642-T-HSG-110(L), 7643-T-HSG-110, 7644-T-HSG-110, 7645-T-HSG-110, 7645-T-HSG-110(L), 7646-T-HSG-110

Instructions

IEEE Std. No. 48

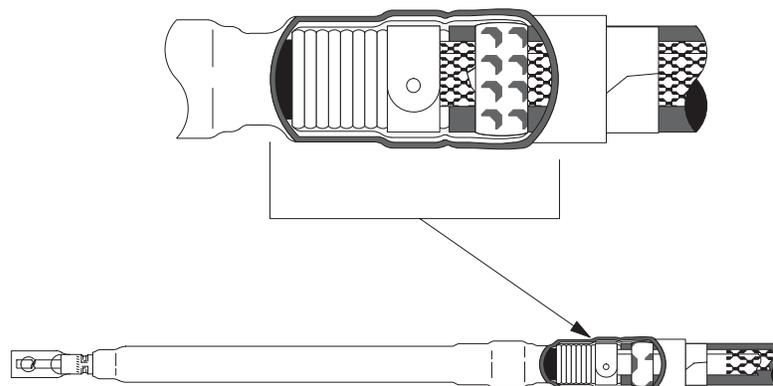
Class 1 Termination

15 kV Class

110 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.



1.0 Kit Contents

- 1 High-K, Tracking Resistant, Silicone Rubber Termination
- 1 High-Ampacity Ground Braid
- 1 Constant Force Spring
- 2 Strips Scotch® Mastic Strip 2230 (black with white release liners, bagged)
- 1 3M EMI Copper Foil Shielding Tape 1181 Strip, 1/2" x 10"
- 1 Instruction Sheet

NOTE: Do not use knives to open plastic bags.

Kit Selection Tables

NOTE: Final Determination Factor is cable insulation diameter.

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
7642-T-HSG-110	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 – 2/0 (35 – 70 mm ²)
7643-T-HSG-110	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 mm ²)
7644-T-HSG-110	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 mm ²)
7645-T-HSG-110	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 mm ²)
7646-T-HSG-110	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 mm ²)

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	3M™ Mechanical Shearbolt Lugs QL2 Series: Two Hole Part Number
7642-T-HSG-110(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 mm ²)	QL2-A-2-250
7643-T-HSG-110	0.72" – 1.29" (18,3 – 32,8 mm)	1.04" – 1.60" (26,4 – 40,6 mm)	2/0 – 250 (70 – 150 mm ²)	QL2-A-2-250
7644-T-HSG-110	0.83" – 1.53" (21,1 – 38,9 mm)	1.12" – 1.87" (28,4 – 47,5 mm)	4/0 – 350 (120 – 150 mm ²)	QL2-A-1/0-350
7645-T-HSG-110	1.05" – 1.80" (26,7 – 45,7 mm)	1.39" – 2.40" (35,2 – 61,0 mm)	500 (240 mm ²)	QL2-A-4/0-600
7645-T-HSG-110	1.05" – 1.80" (26,7 – 45,7 mm)	1.39" – 2.40" (35,2 – 61,0 mm)	500 – 750 (240 – 325 mm ²)	QL2-A-350-750
7645-T-HSG-110(L)	1.15" – 1.98" (29,2 – 50,3 mm)	1.39" – 2.40" (35,2 – 61,0 mm)	750 – 1000 (400 – 500 mm ²)	QL2-A-500-1000
7646-T-HSG-110	1.53" – 2.32" (38,9 – 58,9 mm)	1.84" – 2.80" (46,7 – 71,1 mm)	1250 (625 mm ²)	QL2-A-1000-1250

Table 2

2.0 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.**
 - a) **For Tape Shield Cable:** If necessary to prevent tape shield from unrolling, hold down edge with a single wrap of 3M EMI Copper Foil Shielding Tape 1181.
 - b) **For Tape-Over Wire Shield Cable:** Refer to Step 2.3 for shield wire preparation.
 - c) If using 3M Shearbolt Lugs QL2 Series: Two Hole, or 3M Mechanical Shearbolt Connector QCI Series, proceed to Step 2.4.
 - d) 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 4 can be 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:

Growth Allowance			
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

- 2.3 If preparing Wire-Over-Tape shield cable, prepare the shield wires as follows;
 - a) For 14 Gauge Conductor Size or Smaller:
 - Cut the shield wires to the same length as the metallic shield shown in Figure 1: 1 1/2" (38 mm).
 - After cutting shield wires, and completing the cable preparation, proceed to Step 4.0.
 - b) For 12 Gauge Conductor Size or Larger:
 - DO NOT cut the shield wires. Proceed to Step 3.0 for shield wire procedure and then continue instructions from there.

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.

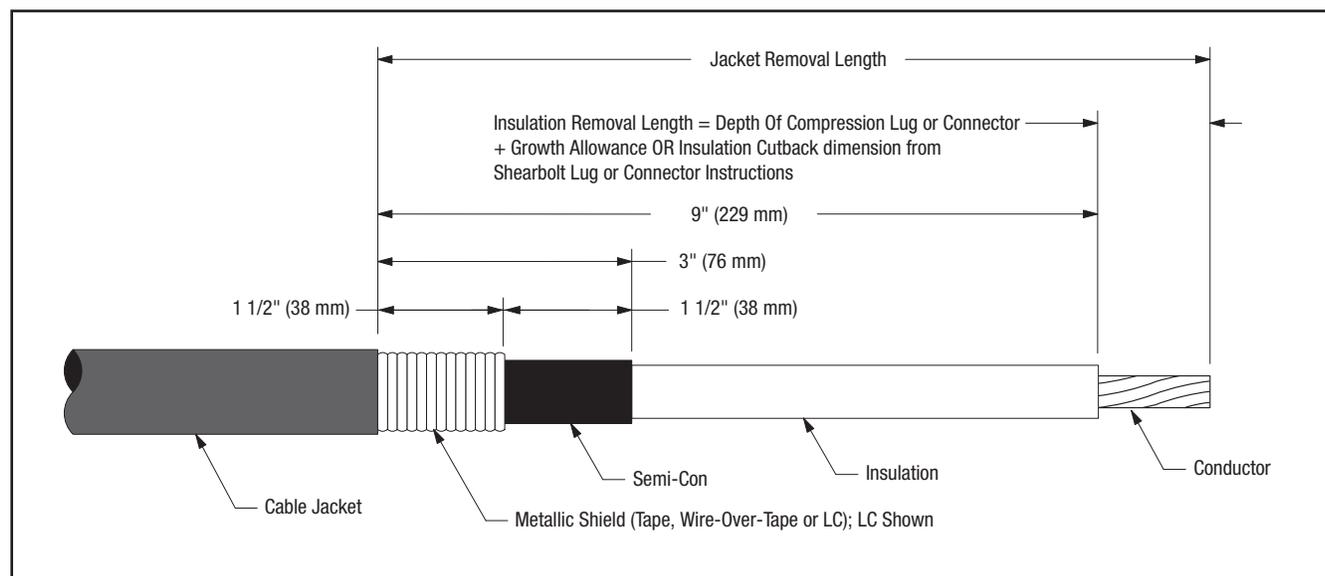


Figure 1

Jacket Removal Calculation Table - Tape, Wire-Over-Tape and Longitudinally Corrugated (LC) Shielded Cables - Crimp Type (Compression) Lugs / Connectors - 7642-T-HSG-110, 7642-T-HSG-110(L), 7643-T-HSG-110, 7644-T-HSG-110, 7645-T-HSG-110, 7645-T-HSG-110(L), 7646-T-HSG-110			
CABLE PREPARATION ITEM	Inches -Add this column-	mm -Add this column-	NOTES
Insulation Length	9.0"	229 mm	Value from Figure 1
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 4

2.4 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 5 can be 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, Wire-Over-Tape and Longitudinally Corrugated (LC) Shielded Cables - 3M™ Mechanical Shearbolt QL2 Series Lugs / 3M™ Mechanical Shearbolt Connectors QCI Series - 7642-T-HSG-110(L), 7643-T-HSG-110, 7644-T-HSG-110, 7645-T-HSG-110, 7645-T-HSG-110(L), 7646-T-HSG-110			
CABLE PREPARATION ITEM	Inches -Add this column-	mm -Add this column-	NOTES
Insulation Length	9.0"	229 mm	Value from Figure 1
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 5

3.0 Wire-Over-Tape, 12 Gauge and Larger, Shield Wire Preparation

- 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 3). Cut off excess.

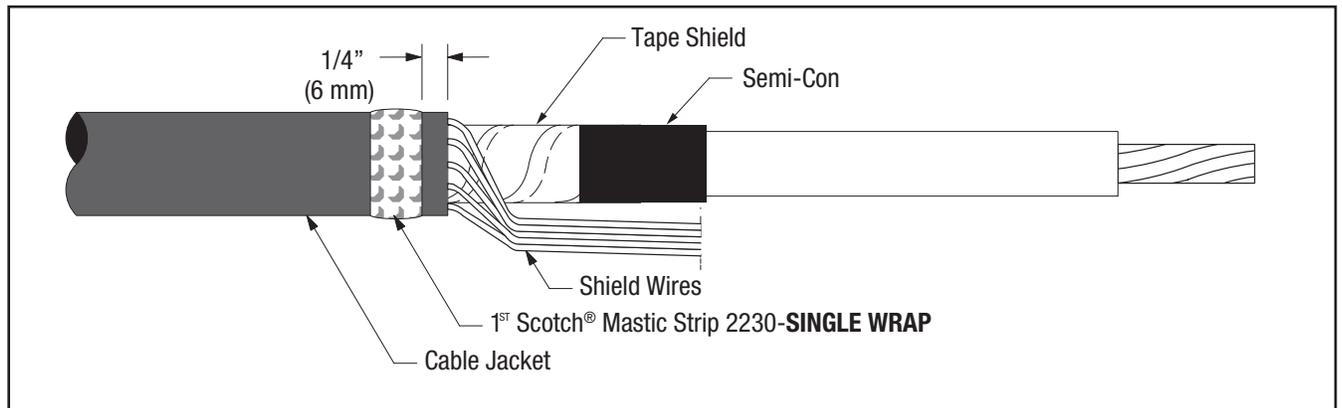


Figure 2

- 3.2 Bend shield wires back over applied sealing mastic and secure 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.

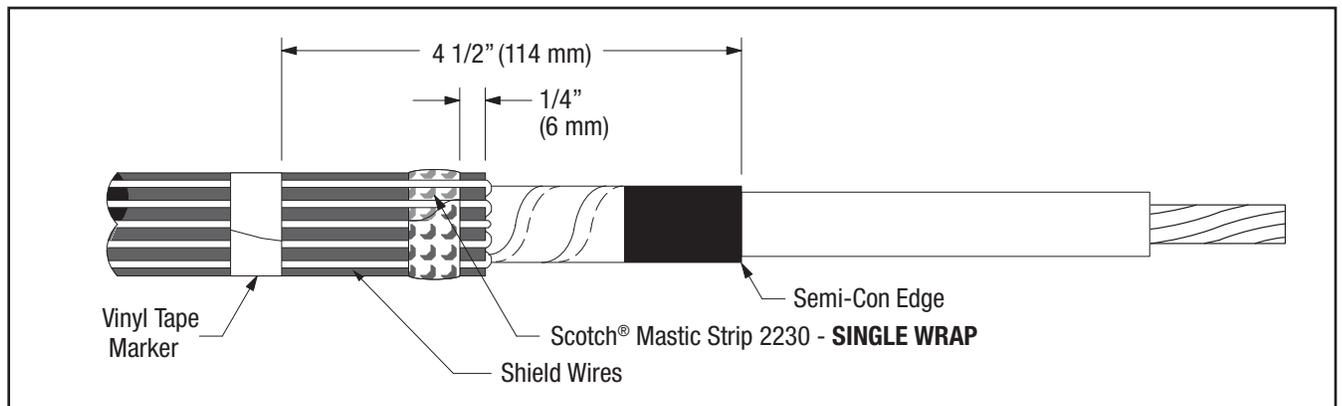


Figure 3

- 3.3 Proceed to Step 4.0

4.0 Install High-Ampacity Ground Braid

- 4.1 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 4). If a Scotch® Mastic Strip 2230 was previously applied under 12 gauge, or larger, shield wires on Wire-Over-Tape shield cable, then apply this SINGLE WRAP of Scotch® Mastic Strip 2230 directly over the first mastic wrap and over the shield wires. Cut off excess.

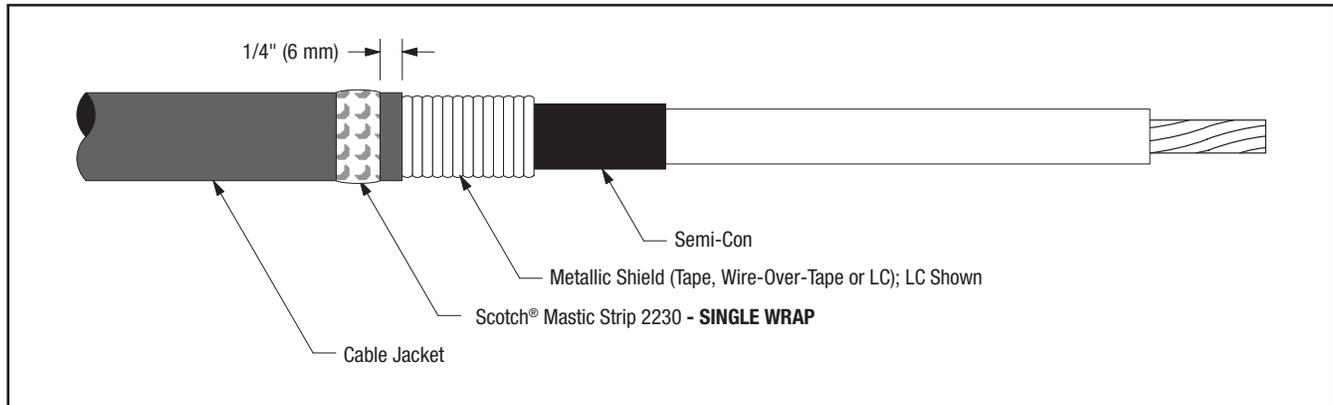


Figure 4

- 4.2 Position pre-formed high-amp ground braid with the “U” section over the metallic shield directly adjacent to cable jacket cut edge. PLEASE NOTE: The ground braid needs to make full contact with the metallic shield. Position one tail of ground braid, extending over cable jacket with solder block over mastic strip applied in Step 4.1 (Figure 5). Secure high-amp ground braid to cable jacket **4.5" (114 mm) from cable semi-con edge using vinyl tape**. Apply tape directly over previously applied marker tape if it was applied for Tape-Over-Wire cable shield wires (See Note and Figure 5).

NOTE: Position vinyl tape with care, it also serves as a marker for positioning the termination. If a tape marker was previously placed on the cable jacket in Step 3.2 (for Tape-Over-Wire shield cable with 12 gauge and larger shield wires) place this marker directly on top of the previously applied marker tape.

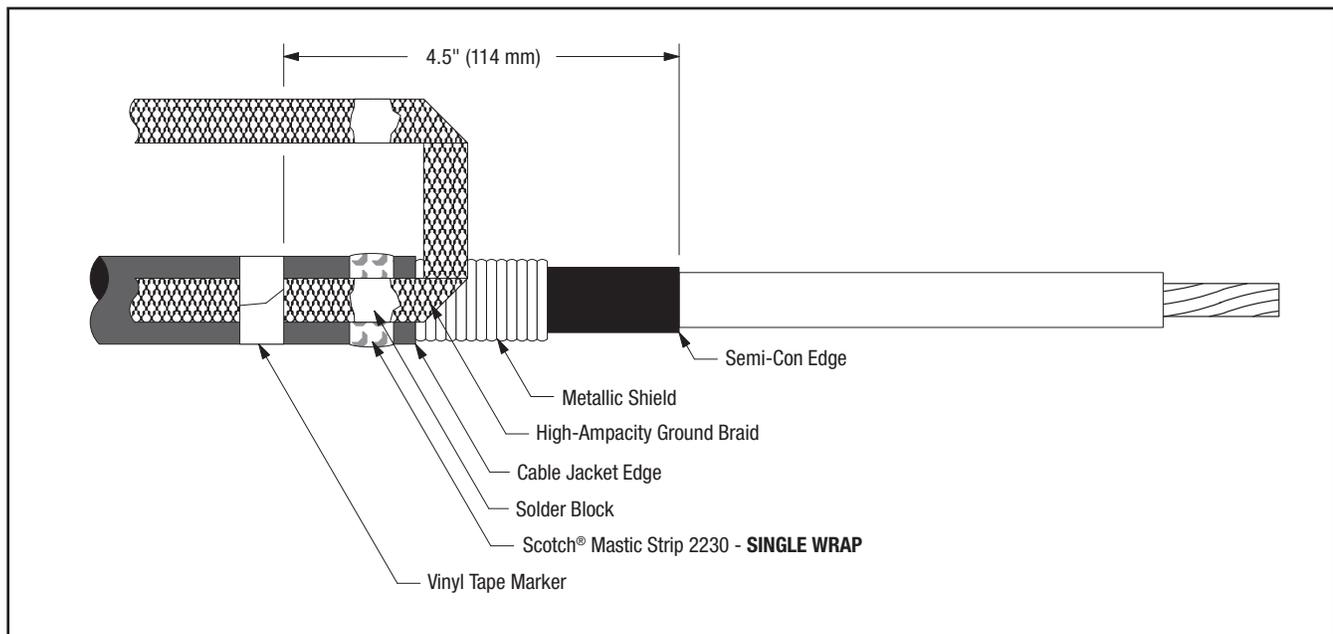


Figure 5

3M™ Cold Shrink QT-III Silicone Rubber Indoor Tubular Termination Kits with High Ampacity Ground Connection and High-K Stress Relief

- 4.3 Wrap the high-amp ground braid around the metallic cable shield and secure in place with constant force spring. Cinch (tighten) the spring after wrapping the final turn. Position the high-amp ground braid tail (with solder block over mastic strip) over the cable jacket and parallel to the first ground braid tail (Figure 6).
- 4.4 Select Scotch® Mastic Strip 2230 from kit and remove white release liners. Apply a **SINGLE WRAP** of mastic over solder block on high-amp ground braid and previously applied mastic. If high-amp ground braids overlap on cable jacket be sure to apply mastic between the solder blocks of the high-amp ground braids. Secure ground braid to cable jacket **4.5" (114 mm) from cable semi-con edge using vinyl tape**. Apply tape directly over previously applied marker tape (Figure 6).

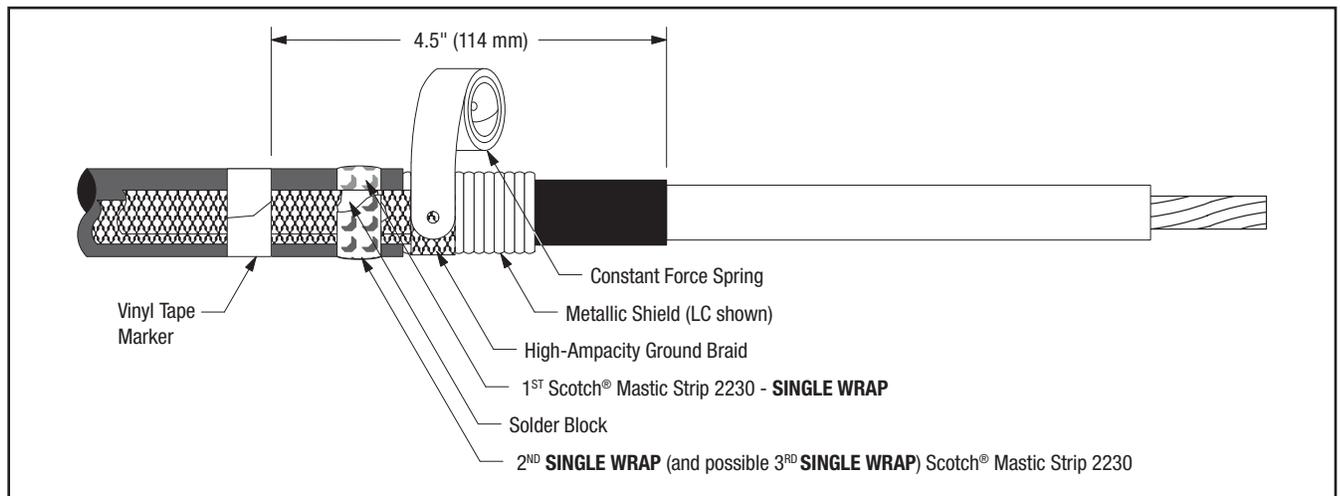


Figure 6

- 4.5 Wrap two highly stretched half-lapped layers of electrical grade vinyl tape around mastic seal strips, constant force spring and exposed metallic shield (Figure 7). **Be sure to cover all exposed mastic.**

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 and, if applicable, Wire-Over-Tape shield wires, with electrical grade vinyl tape when applying over the Scotch® Mastic Strip 2230 per Step 4.5. LEAVE AT LEAST 1" (25 MM) OF EXPOSED GROUND BRAID AND, IF APPLICABLE, WIRE-OVER-TAPE SHIELD WIRES, between the Vinyl Tape Marker applied in step 4.2 and the start of the two half-lapped layers of electrical grade vinyl tape covering the Scotch® Mastic Strip 2230 applied in Step 4.5.

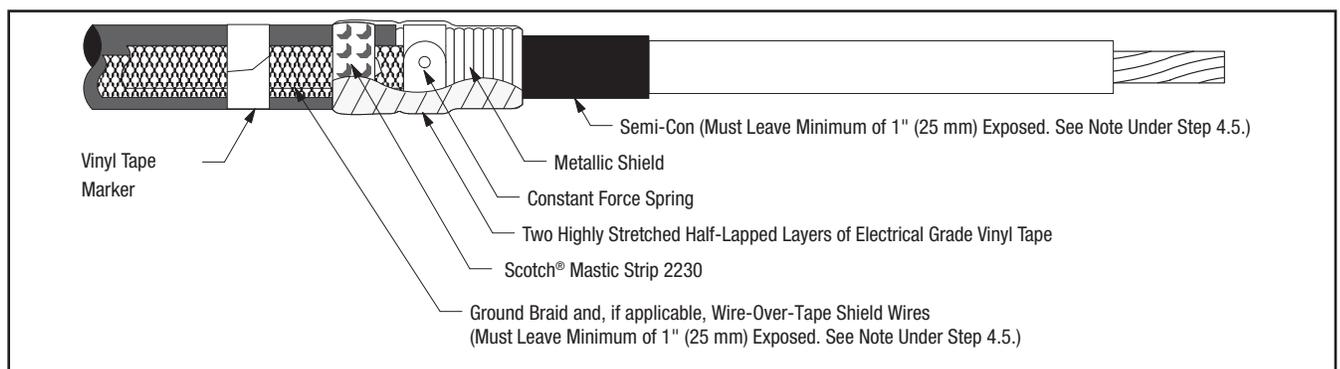


Figure 7

- 4.6 See Figure 8 for a Cross Section View of Completed Mastic, Grounding and Vinyl Tape Layers.

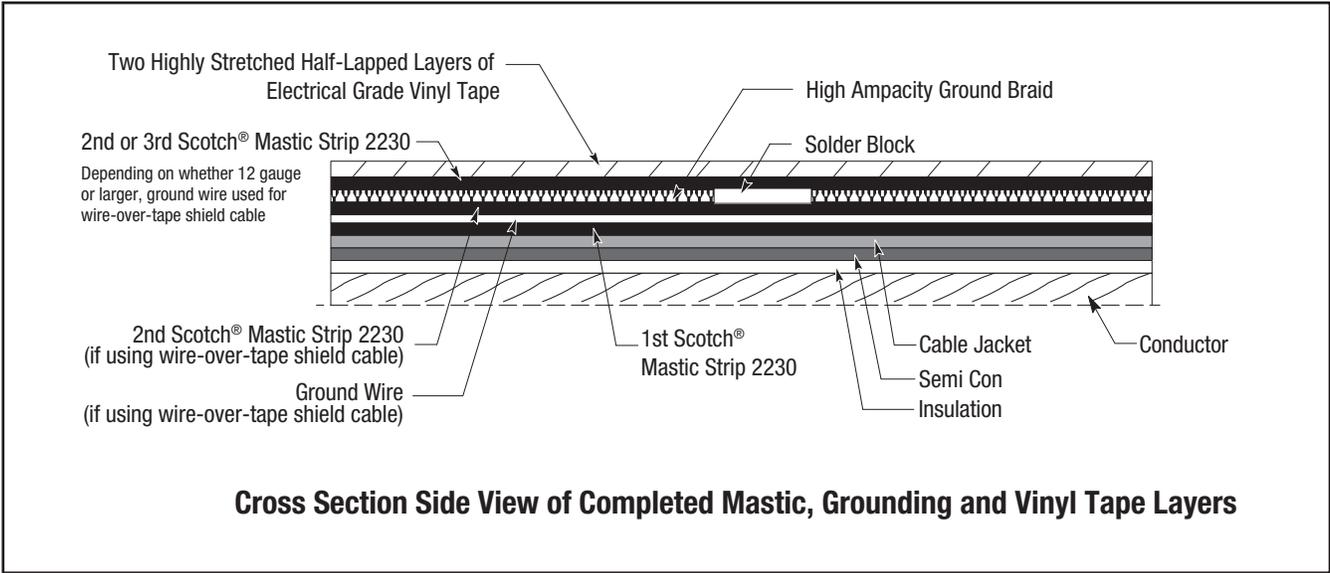


Figure 8

5.0 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.

- 5.1 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 9) will not fit through the termination core, clean the insulation (per Step 6.0) and slide termination on cable before installing lug or connector. **DO NOT REMOVE CORE AT THIS TIME.**

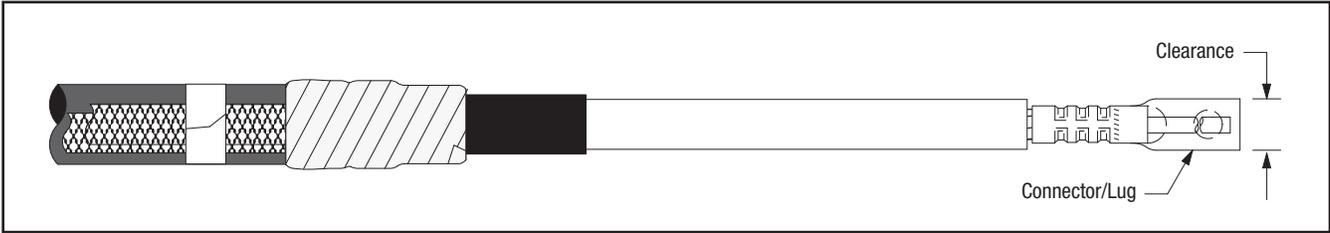


Figure 9

- 5.2** For 3M Compression Lugs and 3M Stem Connectors:
- a. Refer to pages 10 - 12 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.
- 5.3** 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.

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

- 6.1 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.
- 6.2 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!**

7.0 Install Termination

- 7.1 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 Steps 4.2 and 4.4 (Figure 10). Pull the core while unwinding, counter-clockwise, starting with the loose end (Figure 10). 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.

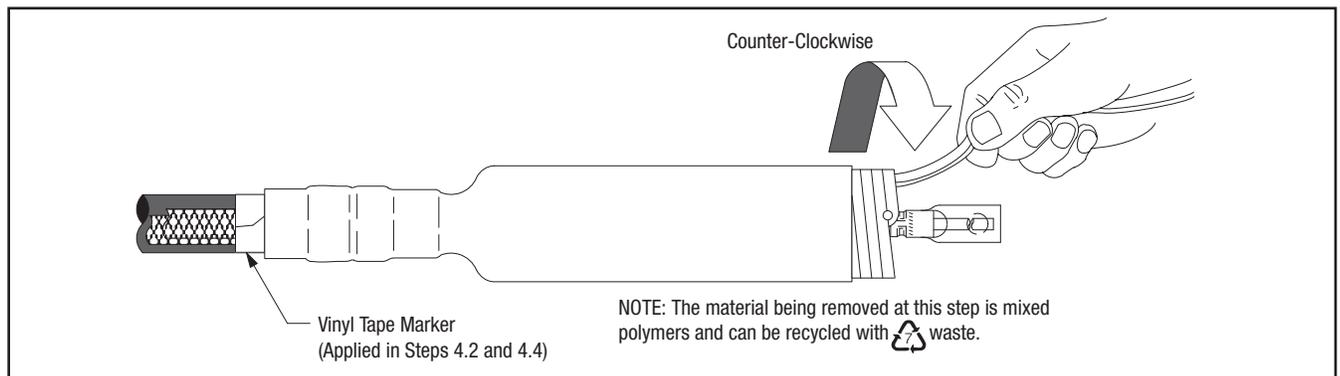
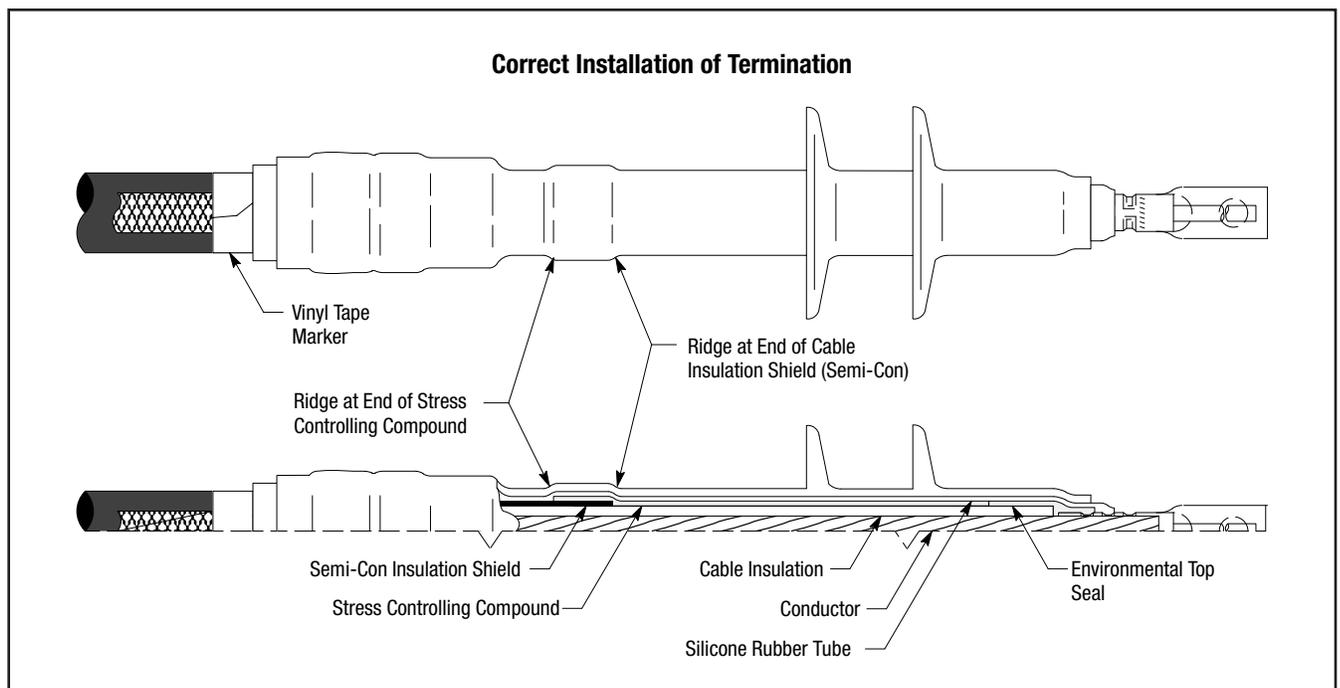
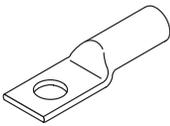
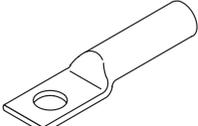


Figure 10

- 7.2 Connect ground braid to system ground according to standard practice.



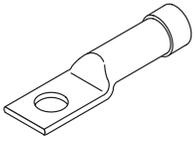
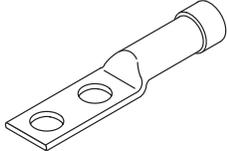
Tooling Index

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			
Crimping Tool-Die Sets (Minimum Number Of Crimps)										
Cable Size AWG/ kcmil	Stud Size (in.)	3M™ Scotchlok™ Copper Lug Number	Burdny 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)												
			Burdny 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 0
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

Conductor Size AWG & kcmil		3M™ Connector Number	Crimping Table For 3M™ Stem Type Connector				
Stranded	Solid		Recommended Crimping Tools				
			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.

3M, Scotch and Scotchllok are trademarks of 3M Company.

Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture at the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any direct, indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



Electrical Markets Division

6801 River Place Blvd.
Austin, TX 78726-9000
800.245.3573
Fax 800.245.0329
www.3M.com/electrical

Please Recycle. Printed in USA.
© 3M 2015. All Rights Reserved.
78-8113-5102-8 Rev E