

Cold-Shrinkable Splice for single core polymeric insulated (XLPE-EPR) cables up to 28kV for tape, wire, Unishield*, LC shield, JCN, and flat strap neutral cable

* UniShield is a trademark of General Cable Technologies Corporation

Product Installation Instructions

Safety Instructions

⚠ DANGER When installing electrical power system accessories, failure to follow applicable personal safety requirements and written installation instructions could result in fire or explosion and serious or fatal injuries.

⚠ DANGER As TE has no control over field conditions which influence product installation, it is understood that the user must take this into account and apply his own experience and expertise when installing product.

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

⚠ DANGER Power distribution and transmission products must be properly selected for the intended application. It must be installed and serviced by competent personnel who have been trained and understand proper safety procedures. These instructions are written for such personnel and are not a substitute for adequate training and experience in safety procedures.

⚠ CAUTION Read and understand the contents of these instructions before installation and follow all locally approved procedures and safety practices before installing or operating this equipment

⚠ CAUTION These instructions cannot cover all details or variations in the equipment, procedures, or processes described, nor provide directions for meeting every possible contingency during installation, operation, or maintenance. When additional information is desired to satisfy a problem not covered sufficiently for the user's purpose, please contact your TE sales representative. These instructions are not intended to supersede or replace existing safety and operating procedures.

NOTICE Upon receipt of a product, inspect it thoroughly for damage and loss of parts incurred during shipment. If damage or loss is discovered, file a claim with the carrier immediately or contact your TE representative.

Suggested Installation Equipment (not supplied with kit)

- Cable preparation tools
- TE P63 cable preparation kit or cable manufacturer approved solvent
- Clean, lint-free cloths
- Non-conducting abrasive cloth, 120 grit or finer
- Electrician's tape
- Connector(s) and installation tools.

Kit Contents

- 1 Splice body
- 1 Installation instruction
- 4 Spring clamps (2 small size "F", 2 large size "G")
- 1 Tube of DCC compound
- 3 Strips of gray mastic
- 1 Roll of copper mesh
- 1 Glove
- 1 Red tape strip
- 1 Black conductive patch (for kit without mechanical connectors)
- 2 Adhesive-backed copper tape strips

Customer Service

For 24 hour customer service, call 800-327-6996.

Scan the QR code below for CSJA Installation Video



Scanning on a smart phone or tablet will require a free barcode scanner application (app) from your preferred application (app) store.

1. Check kit selection with the cable diameter dimensions in Tables 1 and 2.

Table 1: Selection information: Dimensions in inches (millimeters)

CSJA joint without connector

Voltage Class	Catalog Number	Nominal Cable Range	Min/Max. Insulation O.D.	Max. Jacket O.D.	Max. Connector Dimensions OD	Length
15kV	CSJA-1522	4/0-750	0.87 - 1.40 (22.1 - 35.6)	1.80 (46.0)	1.50 (38.0)	5.50 (140)
25/28kV	CSJA-2822	#1-500	0.87 - 1.40 (22.1 - 35.6)	1.80 (46.0)	1.50 (38.0)	5.50 (140)

CSJA joint with copper ShearBolt connector

Voltage Class	Catalog Number	Nominal Cable Range	Min/Max. Insulation O.D.	Max. Jacket O.D.	Diameter over Conductor*
15kV	CSJA-1522M1	4/0-500	0.87 - 1.40 (22.1 - 35.6)	1.80 (46.0)	0.376 - 0.736 (9.50 - 18.7)
15kV	CSJA-1522M2	350-750	0.87 - 1.40 (22.1 - 35.6)	1.80 (46.0)	0.570 - 0.945 (14.5 - 24.0)
25/28kV	CSJA-2822M0	#2-4/0	0.87 - 1.40 (22.1 - 35.6)	1.80 (46.0)	0.268 - 0.575 (6.80 - 14.6)
25/28kV	CSJA-2822M1	2/0-500	0.87 - 1.40 (22.1 - 35.6)	1.80 (46.0)	0.376 - 0.736 (9.50 - 18.7)

* Min/max diameter over cable conductor accepted by the copper mechanical connector.

CSJA joint with aluminum ShearBolt connector

Voltage Class	Catalog Number	Nominal Cable Range	Min/Max. Insulation O.D.	Max. Jacket O.D.	Diameter over Conductor*
15kV	CSJA-1522M6	4/0-500	0.87 - 1.40 (22.1 - 35.6)	1.80 (46.0)	0.423 - 0.813 (10.7 - 20.6)
15kV	CSJA-1522M7	500-750	0.87 - 1.40 (22.1 - 35.6)	1.80 (46.0)	0.736 - 0.998 (18.7 - 25.3)
25/28kV	CSJA-2822M5	#1-350	0.87 - 1.40 (22.1 - 35.6)	1.80 (46.0)	0.268 - 0.681 (6.80 - 17.3)
25/28kV	CSJA-2822M6	4/0-500	0.87 - 1.40 (22.1 - 35.6)	1.80 (46.0)	0.423 - 0.813 (10.7 - 20.6)

* Min/max diameter over cable conductor accepted by the aluminum mechanical connector.

Table 2a: Copper ShearBolt Connector

CSJA-xxxxMX	Connector				Cable Conductor			
	Part No. & Catalog No	Length in.(mm)	OD in.(mm)	Socket Size in.(mm)	Conductor Range	Conductor OD range in.(mm)	Strip Length "C" in.(mm)	Remove Inserts for conductor sizes
M0	1974136-1 CSBS 2-250 (4-Bolt)	3.2 (81)	1.05 (26.7)	1/2 (13)	2 AWG Compact Stranded to 4/0 AWG Standard Stranded	.268-.575 (6.8-14.6)	1-1/2 (38)	4/0 AWG Compressed Stranded or larger
M1	1099861-1 CSBS 20C-500C-SOS (4-Bolt)	4 (101.6)	1.2 (30.5)	11/16 (17)	2/0 AWG Compact Stranded to 500 kcmil Compact Stranded	.376-.736 (9.5-18.7)	1-7/8 (47.6)	300 kcmil Compact Stranded or larger
M2	1099879-1 CSBS 300C-750C-SOS (4-Bolt)	5 (127)	1.45 (36.8)	3/4 (19)	300 kcmil Compact Stranded to 750 kcmil Compact Stranded	.570-.945 (14.4-24)	2-3/8 (60.3)	500 kcmil Compact Stranded or larger

Table 2b: Aluminum ShearBolt Connector

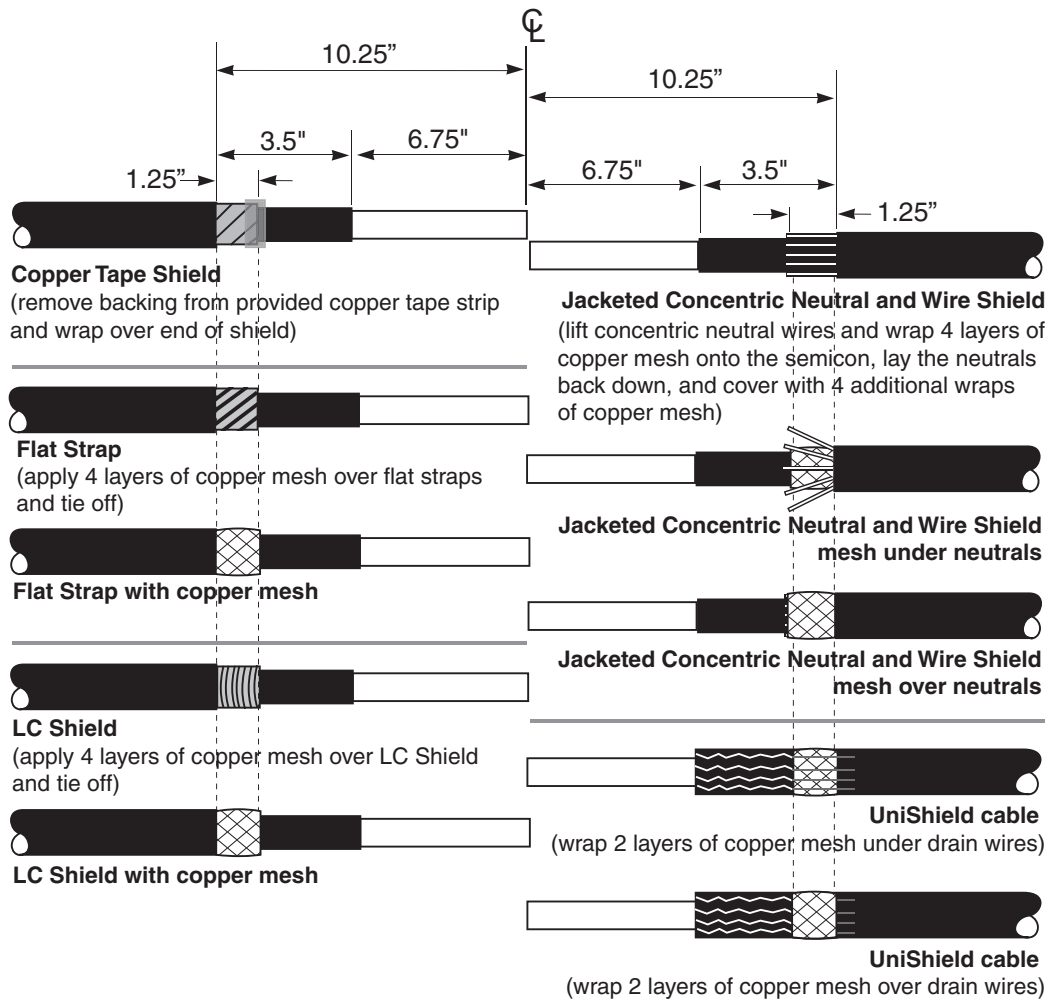
CSJA-xxxxMX	Connector				Cable Conductor			
	Part No. & Catalog No	Length in.(mm)	OD in.(mm)	Socket Size in.(mm)	Conductor Range	Conductor OD range in.(mm)	Strip Length "C" in.(mm)	Remove Inserts for conductor sizes greater than;
M4	1574846-4 ASBS 2-3/0 (2-Bolt)	2.5 (65)	0.95 (24)	1/2 (13)	2 AWG Compact Stranded to 3/0 AWG Standard Stranded	.268-.470 (6.8-11.9)	1-1/4 (32)	2 AWG Standard Stranded .292 (7.4) Diameter
M5	1099739-1 ASBS 2-350 (4-Bolt)	3.9 (100)	1.22 (31)	11/16 (17)	2 AWG Compact Stranded to 350 kcmil Standard Stranded	.268-.681 (6.8-17.3)	1-3/4 (45.0)	4/0 AWG Standard Stranded .528 (13.4) Diameter
M6	1701211-3 ASBS 3/0-500 (4-Bolt)	4.9 (125)	1.3 (34)	3/4 (19)	3/0 AWG Compact Stranded to 500 kcmil Standard Stranded	.423-.813 (10.7-20.6)	2-3/8 (60)	300 kcmil Compact Stranded .630 (16) Diameter
M7	1099735-1 ASBS 500-750 (6-Bolt)	6 (152)	1.52 (39)	3/4 (19)	500 kcmil Compact Stranded to 750 kcmil Standard Stranded	.736-.998 (18.7-25.3)	2-3/4 (70)	600 kcmil Compact Stranded .813 (20.6) Diameter
M8	1099383-1 ASBS 350-750 6-Bolt)	6.7 (170)	1.67 (42.5)	7/8 (22)	350 kcmil Compact Stranded to 750 kcmil Standard Stranded	.616-.998 (15.6-25.3)	3-1/8 (80)	600 kcmil Compact Stranded .813 (20.6) Diameter
M9	1099848-1 ASBS 600-1000 (6-Bolt)	8 (203)	1.75 (44.4)	7/8 (22)	600 kcmil Compact Stranded to 1000 kcmil Standard Stranded	.813-1.152 (20.6-29.2)	3-7/8 (98)	750 kcmil Standard Stranded .998 (25.3) Diameter

2. Prepare Cable

Prepare the cables as shown.

Abrade cable 6" back from jacket cutback. Using approved solvent, clean the cable jacket for 30" on side where splice body will be placed.

Using PVC tape, temporarily tape down the neutral ends to prevent damage to body splice core.



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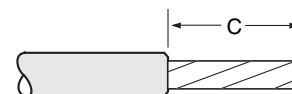
UniShield is a trademark of General Cable Technologies Corporation

3. Remove Insulation

Choice 1: ShearBolt Connector

Confirm that the conductor OD range is acceptable, and for the appropriate "C" dimension, as well as to determine if the insert half shells must be removed, depending on the conductor size.

Remove the insulation as shown. Do not install the connector at this time.



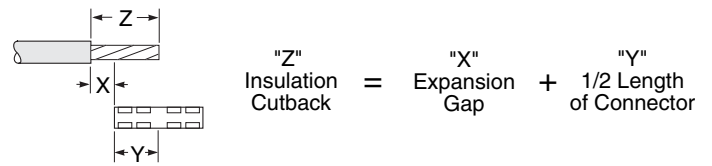
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Go to Step 4 on page 4.

Choice 2: Compression Connector

See Table 1 to determine the maximum connector length. Remove the cable insulation on both cables equal to half the connector length plus an extra expansion gap "X" as shown in the chart below. Do not install the connector at this time.

Conductor Size	Expansion Gap "X" for AL Connector	Expansion Gap "X" for CU Connector
2/0 AWG	1/8"	0
3/0 AWG	1/8"	0
4/0 AWG	1/8"	0
250 kcmil	1/4"	1/8"
350 kcmil	1/4"	1/8"
400 kcmil	1/4"	1/8"
500 kcmil	1/4"	1/8"
750 kcmil	1/4"	1/8"



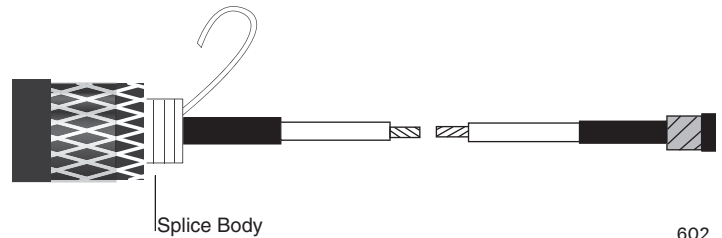
400

Go to Step 4.

4. Place Splice Body Over Cable

Place plastic bag supplied in the kit over cable for cleanliness. Protect splice from the conductor by taping the end of the conductor.

Slide the splice body over the cable end so that the release strip of the spiral holdout points toward the cable end.



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5. Install ShearBolt Connector or Compression Connector

Choice 1: ShearBolt Connector

Before shearing bolts, confirm that the dimension between semi-con cutbacks is between 13-1/2" and 14-1/4" for proper placement of splice body.

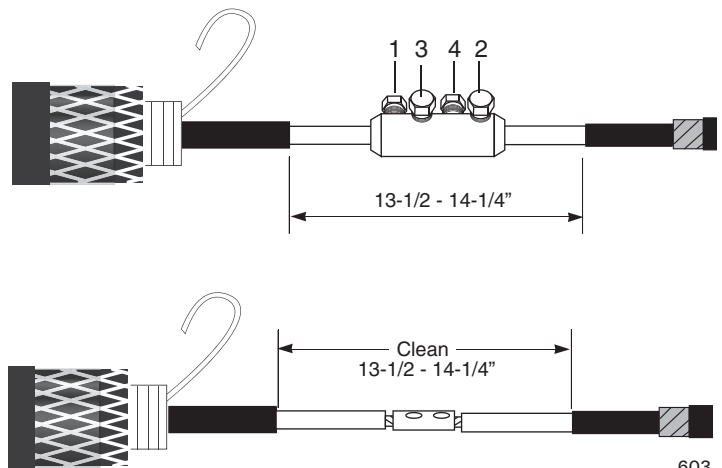
Insert cable conductor until it butts up with the end of the connector. Hand tighten the shear bolts so that the connector stays in place. Alternately tighten the bolt set by half turns with a socket wrench until the bolts shear off. Follow the tightening sequence as shown in the drawing. File smooth any remaining part of the shear bolt that remains higher than the connector.

Abrade insulation (if necessary) and then clean insulation using approved solvent.

Clean and degrease the connector area.

Go to Step 6 on page 5.

Drawing is not to scale



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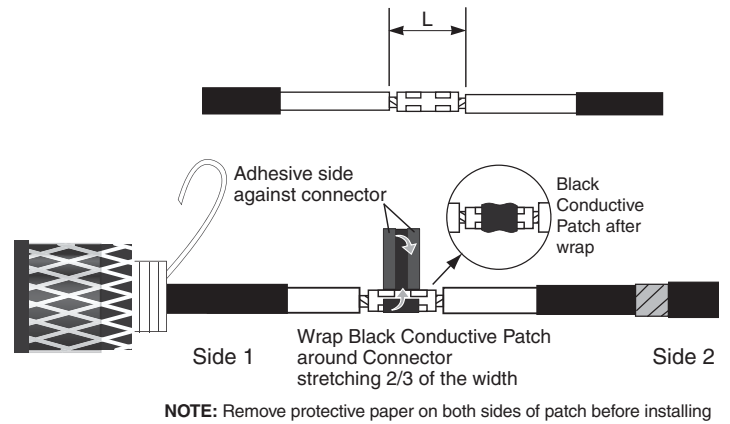
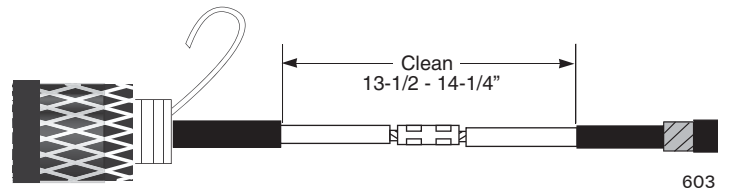
Choice 2: Compression Connector

Before Crimping Connector: Confirm that the dimension between semi-con cutbacks is between 13-1/2" and 14-1/4" for proper placement of splice body.

Confirm that the distance between the insulation cutback (L) with the connector crimped will not be more than 6" in any case.

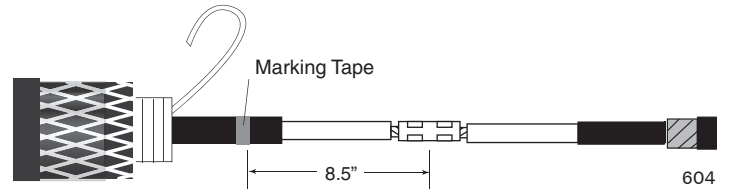
After installation, use abrasive strip to deburr connector if necessary. Abrade insulation (if necessary) and then clean insulation using approved solvent. Clean and degrease the compressed connector.

If the diameter of the connector is less than 0.87" (usually for 300 kcmil or less on CU connectors and 3/0 or less on AL connectors), stretching 2/3 of the width, center and wrap the conductive patch around the connector with the adhesive side down. Make sure to compress the patch by hand and cut off the end if necessary to ensure a neat installation. It is not necessary to fill all the voids around the connector. The diameter of the conductive patch should not be greater than the insulation diameter. Cut away any excess length. Go to Step 6.



6. Install Marking Tape

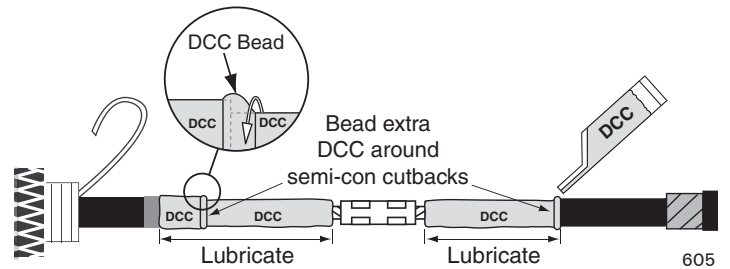
Install several turns of marking tape onto the cable semi-con 8-1/2" from the center of the connector as shown. This will be a guide for installing the splice body. The tape should be installed on the same side where the splice body is parked.



7. Lubrication

With a gloved hand, lubricate the cable insulation up to the semi-con cutback and tape mark with the supplied DCC (Discharge Control Compound). Be sure to use extra DCC to form a bead around the semi-con cutbacks as shown.

NOTICE Use all of the DCC (only supplied in the kit) to help fill voids. Do NOT use standard silicone grease.

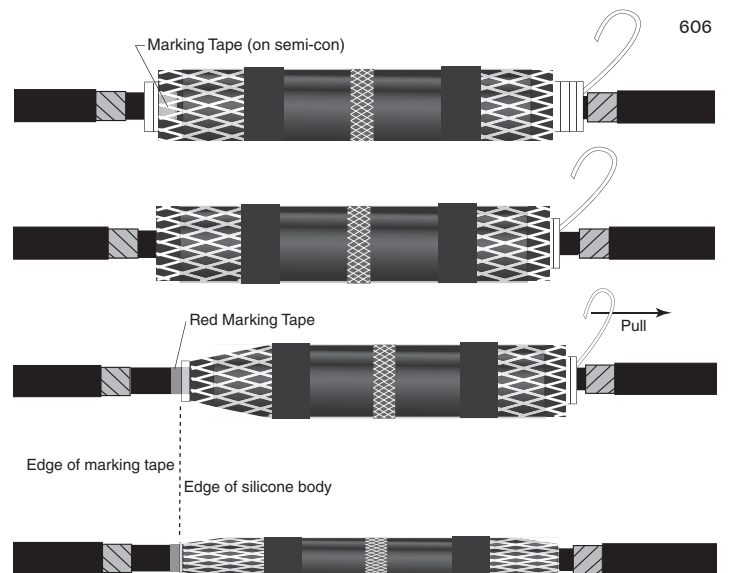


8. Installation of the Splice Body

Position the splice body so that the silicone body's edge is aligned with the marking tape.

Release the spiral holdout by pulling counterclockwise while holding the splice body in place. The spiral holdout cannot be pulled out all at once. Slowly pull the spiral holdout on top of the cable and then pass it around and underneath the cable until the spiral has been completely removed.

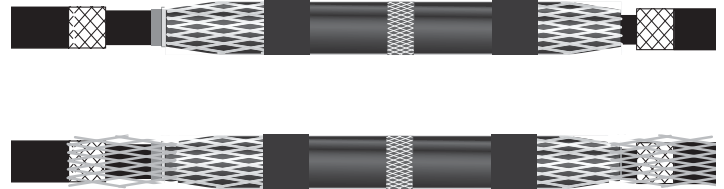
Important: The splice body must remain aligned with the marking tape while the spiral holdout is released. Once the splice is partially shrunk adjacent to the marking tape, there is no need to hold the splice. Use two hands at this point to remove the remaining spiral holdout.



9. Remove Tape and Straighten out Mesh Sock Wires

Remove the temporary tape that was applied in Step 2.

Remove the black tape holding the ends of the mesh sock wires on the expanded joint, and straighten the mesh sock wires out over the copper mesh. If using a knife, be careful not to damage the re-jacketing material.



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10. Apply Spring Clamps and Tape

Use the small spring clamp "F" for 15kV cable up to 500 MCM and 25/28kV cable up to 250 MCM. For greater sizes, use the large spring clamp "G".

Install two turns of the spring clamp over the mesh sock wires and cable metallic shield. Interweave the mesh sock wires with the spring clamp while installing the remaining turns of the spring clamp. Repeat on the other side of the splice, adding the external ground braid if needed.



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Secure spring clamp with three layers of tape wrapped in direction of the spring clamp. Continue taping over ends of the mesh to cover any sharp points.

If an external ground is needed:

Lay the copper braid over the cable's metallic shield with the moisture block aligned with the jacket cutback and fold neutral sock over braid, as shown. Install two turns of the spring clamp over the braid, the mesh, and the metallic shield of the cable. Fold the neutral sock back over the spring clamp. Continue with the installation process.



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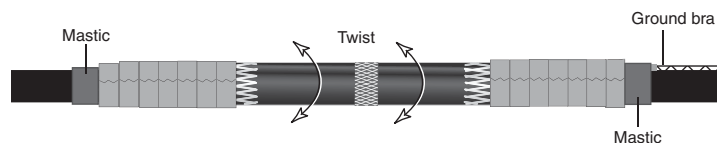
11. Expand Re-Jacketing Sleeve

Install a strip of gray sealing mastic at each jacket cutback. Be sure to put the mastic under and over the external ground to prevent moisture ingress.

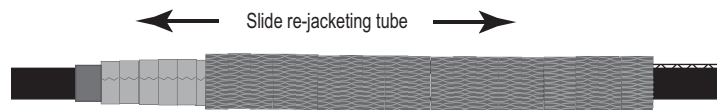
Wipe any grease material off of the black re-jacketing sleeve to allow for a positive grip on the re-jacketing sleeve.

Twist the black re-jacketing sleeve from side to side to release the grease. Slide the re-jacketing tube over the ground braid and onto the cable jacket. Repeat for each side of the tube.

Cut off red mesh sleeve, being careful not to damage the jacket or the splice body.



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12. Connect Ground Braid

Connect the ground braid to the system ground following your company's bonding and grounding standards.



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The Information contained in these installation instructions is for use only by installers trained to make electrical power installations and is intended to describe the correct method of installation for this product. However, TE has no control over the field conditions which influence product installation. It is the user's responsibility to determine the suitability of the installation method in the user's field conditions. TE's only obligations are those in TE's standard Conditions of Sale for this product and in no case will TE be liable for any other incidental, indirect or consequential damages arising from the use or misuse of the products.

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