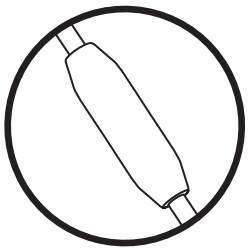


CSJA 1522, 2822

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

*UniShield is a trademark of General Cable Technologies Corp.

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 Connectivity (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")
2 Tubes 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 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 Conn. Dimensions O.D.	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 shear bolt 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 shear bolt 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 copper mechanical connector.					

Table 2a: Copper shear bolt connector: Dimensions in inches (millimeters)

CSJA-xxxxMX								
"MX"	Part# & Catalog#	Length	O.D.	Socket size	Conductor Range	Conductor O.D. range	Strip Length "C"	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 shear bolt connector: Dimensions in inches (millimeters)

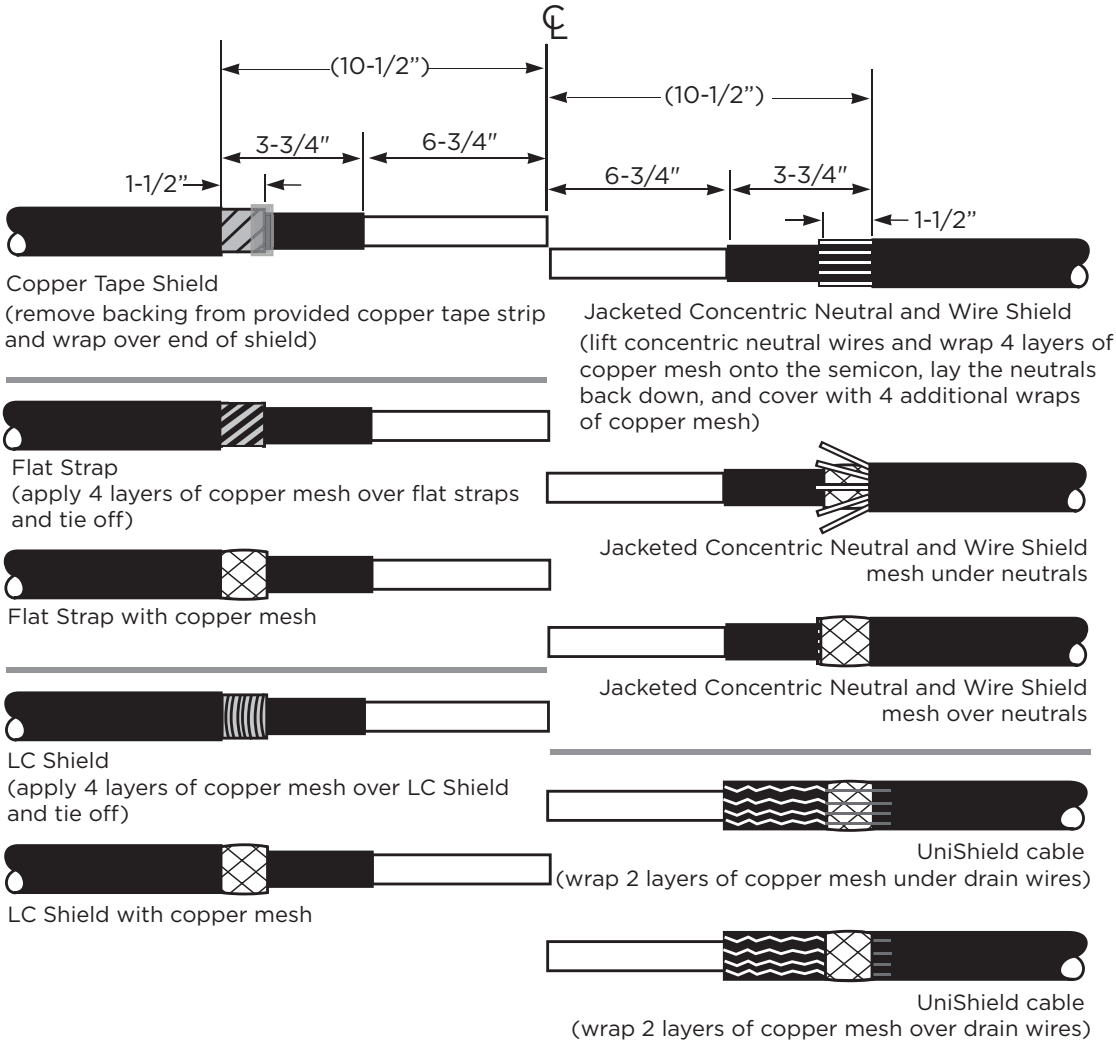
CSJA-xxxxMX								
"MX"	Part# & Catalog#	Length	O.D.	Socket size	Conductor Range	Conductor O.D. range	Strip Length "C"	Remove inserts for conductor sizes
M4	1574846-4 ASBS 2-3/0 (2-Bolt)	2.5 (65)	.095 (24)	1/2 (13)	2 AWG Compact Stranded to 3/0 AWG Standard Stranded	.268-.470 (6.8-11.9)	1-1/4 (32)	2 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.

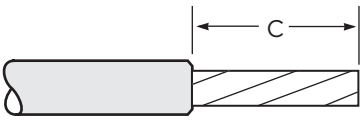
Using PVC tape, temporarily tape down the neutral ends to prevent damage to the splice core.



3. Remove insulation.

CHOICE 1: SHEAR BOLT 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.

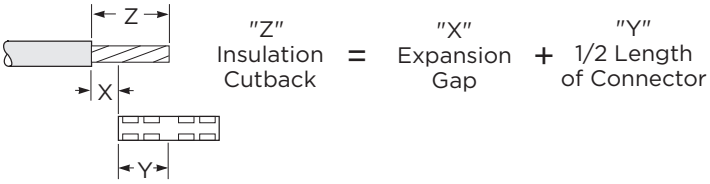


Remove the insulation as shown. Do not install the connector at this time.
Go to Step 4 on page 5.

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

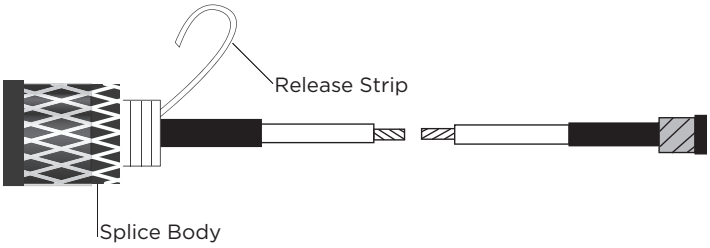


Go to step 4.

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.



5. Install shear bolt connector or compression connector

CHOICE 1: SHEAR BOLT CONNECTOR

NOTICE *If using a shear bolt connector other than the one supplied in the kit by TE, follow the instructions in* ***Choice 2, page 6*** *regarding the potential application of the black conductive patch.*

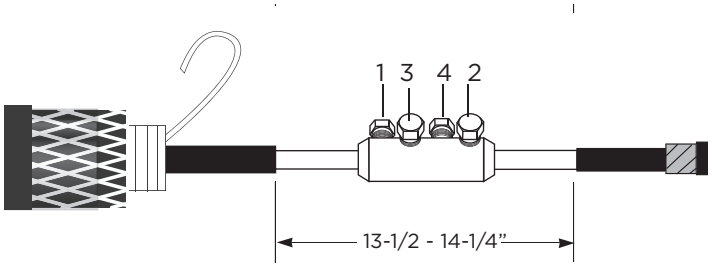
Before shearing bolts, confirm that the dimension between semi-con cutbacks is between 13-1/2″ and 14-1/4″ for proper placement of splice body.

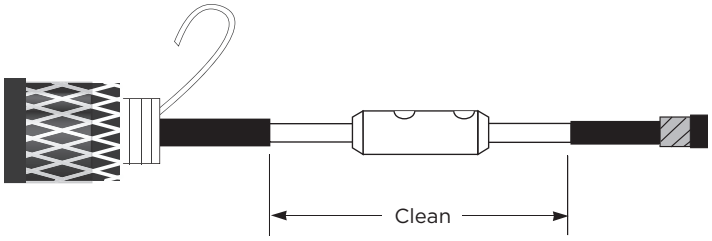
Insert cable conductor until it butts up with the end of the connector. Hand tighten the shear bolts so that the connector stays in place. Follow the tightening sequence as shown in the drawing. File smooth any remaining part of the shear bolt that remains higher than the connector.

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

Clean and degrease the connector area.

Go to Step 6.



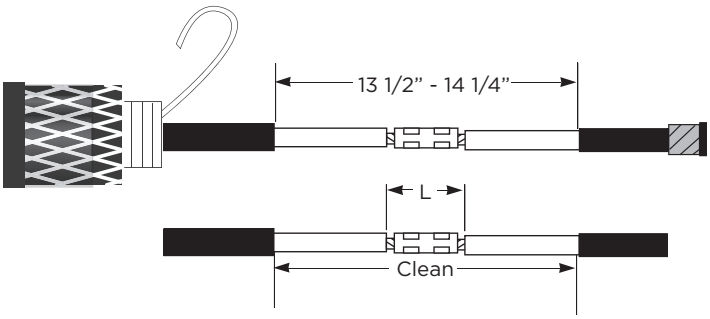


CHOICE 2: COMPRESSION CONNECTOR

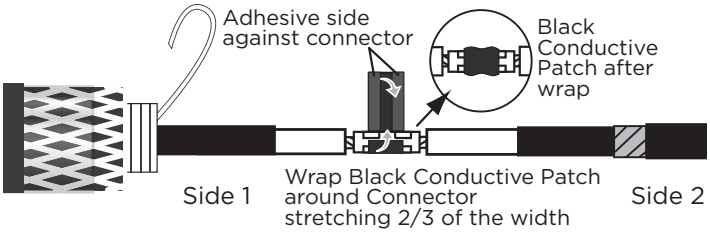
Before Crimping Connector: Confirm that the dimension between semi-con cutbacks is between 13-1/2″ and 14-1/4″ for proper placement of splice body.

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.



Conductive Patch Installation: 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. Install enough wraps of patch to build up the connector diameter equal to but not greater than the cable's insulation diameter, cutting away excess patch length as needed. 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.



NOTICE *Remove protective paper on both sides of patch before installing*

Go to Step 6.

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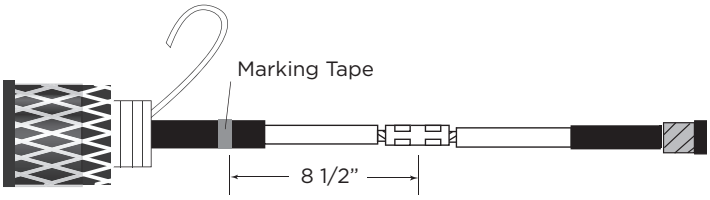
6. Install marking tape.

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.



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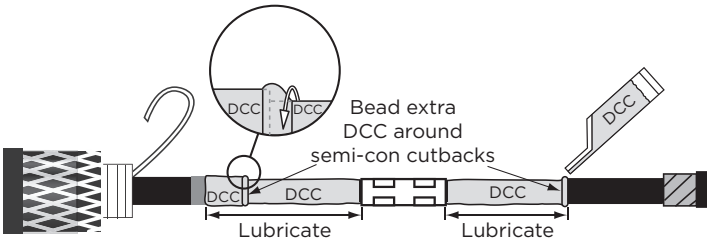
7. Apply blue DCC(Discharge Control Compound).

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

If a black conductive patch was added to the connector in step 5 choice 2, coat the conductive patch in DCC as well to allow the holdout pull cord to easily slide over the patch in a later step.



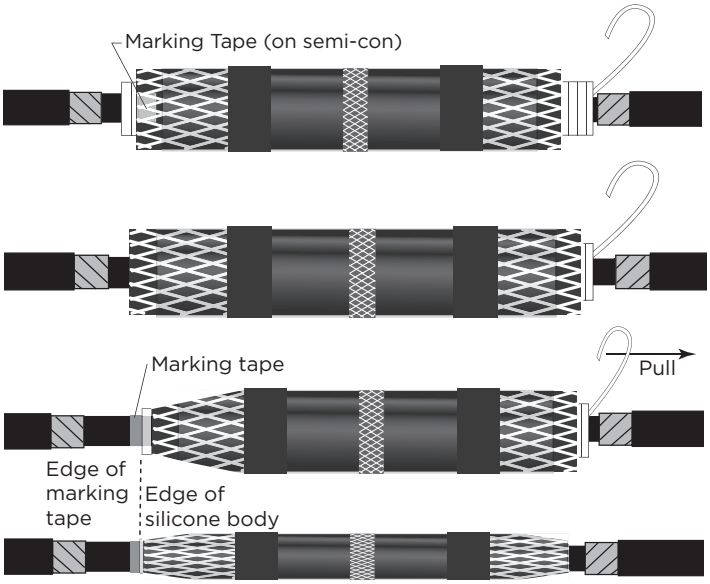
NOTICE *Use all the blue DCC supplied in the kit to help fill voids. Do NOT use standard silicone grease.*

8. Installation of the splice body.

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

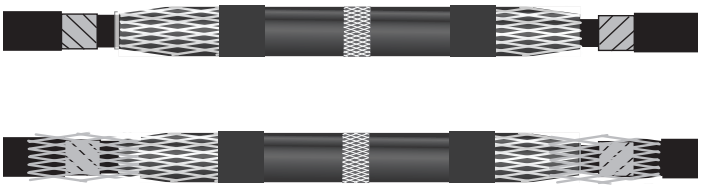
Release the spiral holdout by pulling counterclockwise while holding the splice body in place. The spiral holdout cannot be pulled out all at once. Slowly pull the spiral holdout on top of the cable and then pass it around and underneath the cable until the spiral has been completely removed.

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.

Remove the temporary tape that was applied in Step 2. Remove the plastic wrap 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 rejacketing material.



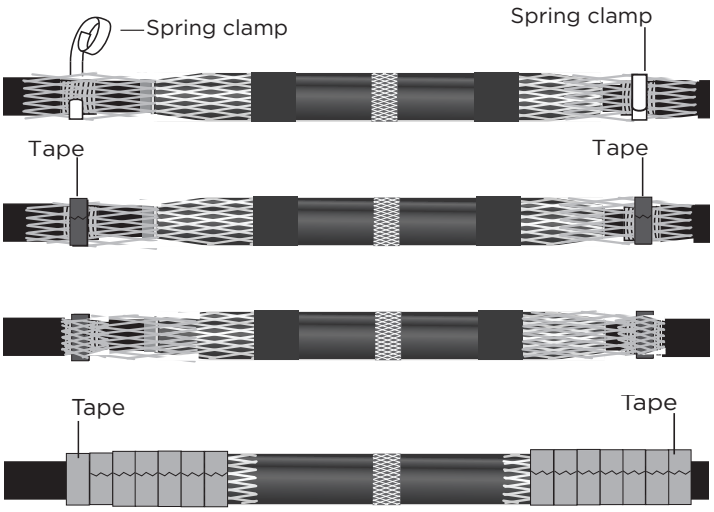
10. Apply spring clamps and tape.

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 the spring clamp over the mesh sock wires and cable metallic shield. Tighten the spring clamps by twisting it in the direction it is wrapped with high tension in direction of the spring clamps. Secure the clamp with plastic tape.

Fold the mesh sock wires over the spring clamp toward the center of the splice. Continue taping over the ends of the mesh sock wires to cover any sharp points.

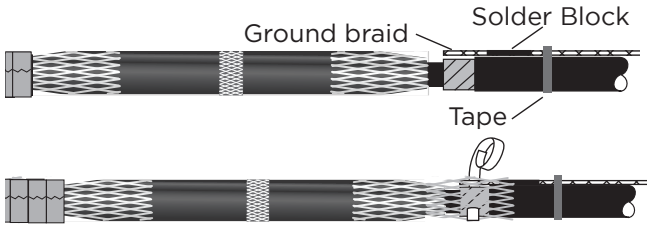
Repeat on the other side of the splice.



10. Apply spring clamps and tape. (continued)

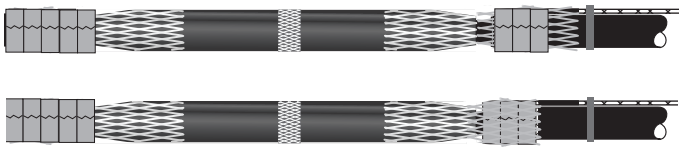
If an external ground is needed:

Lay the copper braid over the cable's metallic shield with the moisture block starting 1/2'' from the jacket cutback. Temporarily secure the ground braids with plastic tape. Fold neutral sock **OVER** braid, as shown. Install a spring clamp over the mesh sock, copper braid and the metallic shield of the cable. Do not interweave the mesh sock between spring clamp layers.



Tighten the spring clamp by turning them in the direction they were installed. Secure with plastic tape. Fold the mesh sock back towards the center of the splice and secure with plastic tape. Continue taping over ends of the mesh to cover any sharp points.

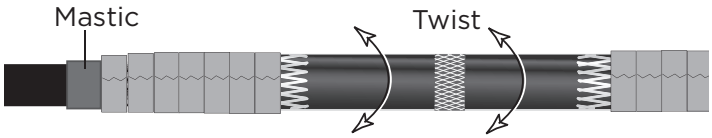
Make sure solder block is not covered with tape.



NOTICE *Spring clamps MUST be installed as shown and described in this step for proper ground connection.*

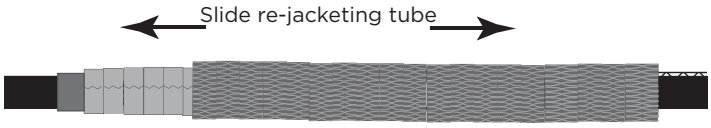
11. Expand re-jacketing sleeve.

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 rejacketing sleeve to allow for a positive grip on the rejacketing sleeve.

Twist the black rejacketing sleeve from side to side to release the grease. Slide the rejacketing 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.

12. Connect ground braid.

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

NOTICE *Joint jacket should not be clamped by tie wraps or binding wires. Joint should be supported at the cable jackets, not in the area of the joint jacket.*

Splice is complete.