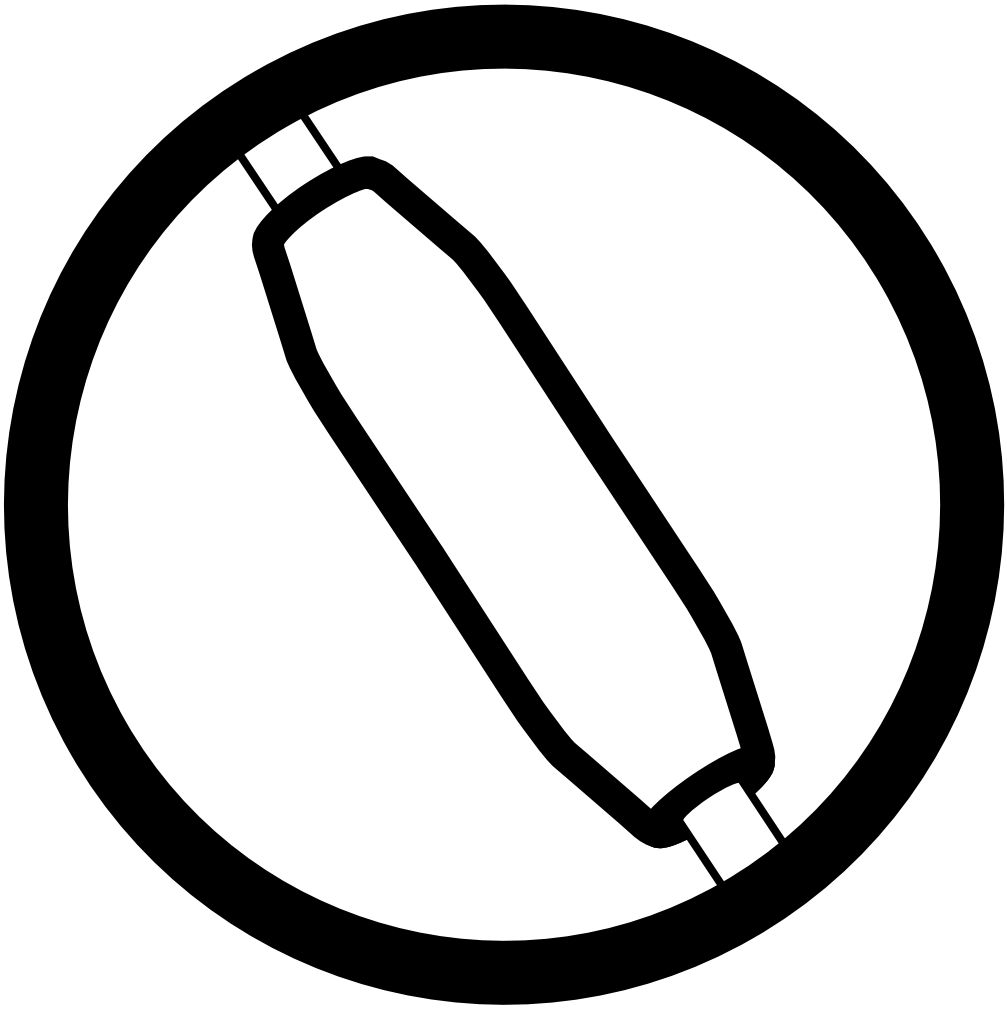
TECK-10 Series
1000V Class

Splice for 1/C Armored Teck Power Cables



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Tyco Electronics - Energy
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Fuquay-Varina, NC 27526

PII-54949 Rev AC
PCN 831485-000
Effective Date: November 20, 2000

The following items should be included in these kits:

TECK-10

1 Connector Sealing Sleeves, 6”*(150mm)* long, black
2 Protection Sleeve for Ground Connector, 4”*(100mm)* long, green
1 Inner Jacket Sealing Sleeve, 12”*(250mm)* long
1 Outer Jacket Wraparound Sealing Sleeve, *22”(560mm)*l long, closure channels and clip
1 Strip of Tinned Copper Braid, 1/2"*(15mm)* wide and 22"*(560mm)* long
2 Ground Clamp Springs
1 Strip of Abrasive Cloth
1 Rolls of Tinned Copper Mesh, 15 ft.*(4.57m)* long

TECK-11

1 Connector Sealing Sleeves, 7-1/2”*(190mm)* long, black
2 Protection Sleeve for Ground Connector, 4”*(100mm)* long, green
1 Inner Jacket Sealing Sleeve, 13-1/2”*(345mm)* long
1 Outer Jacket Wraparound Sealing Sleeve, *22”(560mm)*l long, closure channels and clip
1 Strip of Tinned Copper Braid, 1/2"*(15mm)* wide and 22"*(560mm)* long
2 Ground Clamp Springs
1 Strip of Abrasive Cloth
1 Rolls of Tinned Copper Mesh, 15 ft.*(4.57m)* long

TECK-12

1 Connector Sealing Sleeves, 9”*(230mm)* long, black
2 Protection Sleeve for Ground Connector, 4”*(100mm)* long, green
1 Inner Jacket Sealing Sleeve, 17.5”*(450mm)* long
1 Outer Jacket Wraparound Sealing Sleeve, 25”*(635mm)*l long, closure channels and clip
1 Strip of Tinned Copper Braid, 1/2"*(15mm)* wide and 28"*(710mm)* long
2 Ground Clamp Springs
1 Strip of Abrasive Cloth
1 Rolls of Tinned Copper Mesh, 15 ft.*(4.57m)* long

TECK-13

1 Connector Sealing Sleeves, 12”*(304mm)* long, black
2 Protection Sleeve for Ground Connector, 4”*(100mm)* long, green
1 Inner Jacket Sealing Sleeve, *22”(550mm)* long
1 Outer Jacket Wraparound Sealing Sleeve, *29”(750mm)*l long, closure channels and clip
1 Strip of Tinned Copper Braid, 1/2"*(15mm)* wide and 30"*(760mm)* long
2 Ground Clamp Springs
1 Strip of Abrasive Cloth
1 Rolls of Tinned Copper Mesh, 15 ft.*(4.57m)* long

TECK-14

1 Connector Sealing Sleeves, 14”*(355mm)* long, black
2 Protection Sleeve for Ground Connector, 4”*(100mm)* long, green
1 Inner Jacket Sealing Sleeve, 24”*(610mm)* long
1 Outer Jacket Wraparound Sealing Sleeve, 40”*(1000mm)*l long, closure channels and clip
1 Strip of Tinned Copper Braid, 1/2"*(15mm)* wide and 32"*(815mm)* long
2 Ground Clamp Springs
1 Strip of Abrasive Cloth
1 Rolls of Tinned Copper Mesh, 15 ft.*(4.57m)* long

Suggested Installation Equipment (not supplied with kit)

- Cable preparation tools
- Raychem P63 cable preparation kit or cable manufacturer approved solvent
- Clean, lint-free cloths
- Electrician's tape
- Connector(s) and installation tools
- Raychem recommended torch

Recommended Raychem Torches

Install heat-shrinkable cable accessories with a "clean burning" torch, i.e., a propane torch that does not deposit conductive contaminants on the product.

Clean burning torches include the Raychem FH-2629 (uses refillable propane cylinders) and FH-2616A1 (uses disposable cylinder).

Safety Instructions

Warning: 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.

To avoid risk of accidental fire or explosion when using gas torches, always check all connections for leaks before igniting the torch and follow the torch manufacturer's safety instructions.

To minimize any effect of fumes produced during installation, always provide good ventilation of confined work spaces.

As Raychem 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.

Adjusting the Torch

Adjust regulator and torch as required to provide an overall 12-inch bushy flame. The FH-2629 will be all blue, the other torches will have a 3- to 4-inch yellow tip. Use the yellow tip for shrinking.

Regulator Pressure

FH-2616A1	Full pressure
FH-2629	15 psig

Cleaning the Cable

Use an approved solvent, such as the one supplied in the P63 Cable Prep Kit, to clean the cable. Be sure to follow the manufacturer's instructions. Failure to follow these instructions could lead to product failure.

Some newer solvents do not evaporate quickly and need to be removed with a clean, lint-free cloth. Failure to do so could change the volume resistivity of the substrate or leave a residue on the surface.

Please follow the manufacturer's instructions carefully.

General Shrinking Instructions

- Apply outer 3- to 4-inch tip of the flame to heat-shrinkable material with a rapid brushing motion.
- Keep flame moving to avoid scorching.
- Unless otherwise instructed, start shrinking tube at center, working flame around all sides of the tube to apply uniform heat.

To determine if a tube has completely recovered, look for the following, especially on the back and underside of the tube:

1. Uniform wall thickness.
2. Conformance to substrate.
3. No flat spots or chill marks.
4. Visible sealant flow if the tube is coated.

Note: When installing multiple tubes, make sure that the surface of the last tube is still warm before positioning and shrinking the next tube. If installed tube has cooled, re-heat the entire surface.

1. Product selection.

Check kit selection with cable diameter dimensions in Table 1.

Table 1

Kit	Nominal Cable Range	Insulation Diameter Range	Inner Jacket Diameter Range	Outer Jacket Diameter Range	Maximum Connector Length	Splice Installed Length
TECK-10	#6-#1 AWG	0.30-0.50" *(10-15mm)*	0.40-0.80" *(10-20mm)*	0.70-1.10" *(20-30mm)*	2.0" *(50mm)*	22.0" *(560mm)*
TECK-11	1/0-3/0 AWG	0.45-0.70" *(10-20mm)*	0.65-0.90" *(15-25mm)*	1.00-1.15" *(25-30mm)*	3.5" *(90mm)*	22.0" *(560mm)*
TECK-12	4/0-350 MCM	0.60"-0.90" *(15-25mm)*	0.80-1.10" *(20-30mm)*	1.10-1.45" *(30-35mm)*	5.0" *(125mm)*	25.0" *(635mm)*
TECK-13	400-750 MCM	0.80"-1.20" *(20-30mm)*	1.10-1.50" *(30-40mm)*	1.40-1.80" *(35-45mm)*	7.5" *(190mm)*	29.0" *(735mm)*
TECK-14	1000-2000 MCM	1.20"-2.10" *(30-55mm)*	1.50-2.40" *(40-60mm)*	1.90-2.80" *(50-70mm)*	8.00" *(205mm)*	40.0" *(1015mm)*

2. Prepare cables.

To allow ground wires to be connected at a later stage of the splice, overlap the cables by 4.0" *(200mm)* and mark a center line in the middle of the overlap as shown in Figure 1.

Figure 1

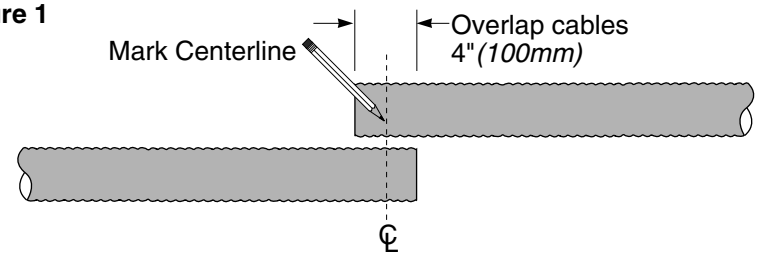

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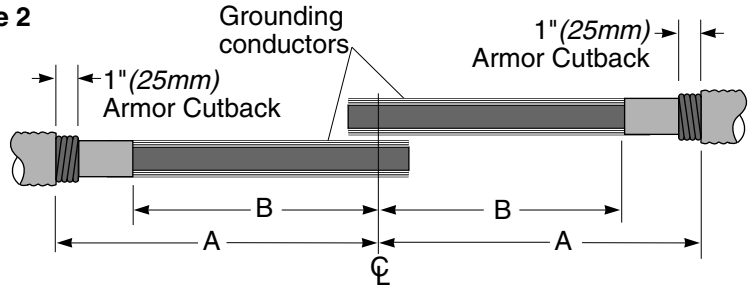
Table 2

Kit	Outer Jacket Cutback A	Inner Jacket Cutback B	Maximum Connector Length	Expansion Gap X
TECK-10	7" *(178mm)*	4" *(102mm)*	2.0" *(51mm)*	1/4" *(6mm)*
TECK-11	8" *(203mm)*	5" *(127mm)*	3.5" *(89mm)*	1/4" *(6mm)*
TECK-12	10" *(254mm)*	6" *(152mm)*	5.0" *(127mm)*	1/4" *(6mm)*
TECK-13	12" *(305mm)*	8" *(203mm*	7.5" *(190mm)*	1/2" *(13mm)*
TECK-14	13" *(330mm)*	9" *(229mm*	8.00" *(203mm)*	

3. Make cutbacks.

Remove the outer jacket, armour and inner jacket to the dimensions given in Table 2. (See Figure 2)

Figure 2



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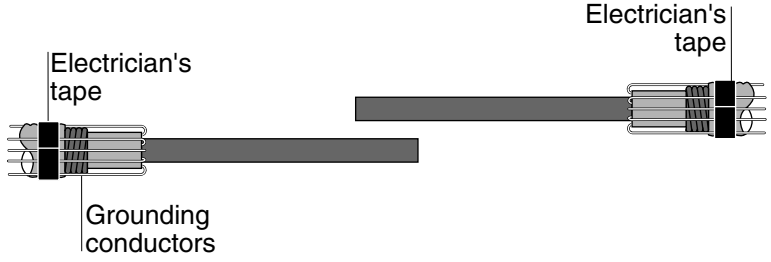
Lay the ground wires back over the cable jackets and temporarily tie down with electrician's tape.



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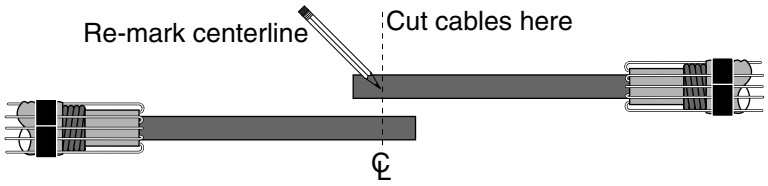
4. Remark cables and cut.

Remark the centerline on the cable conductors and cut both conductors at the mark.



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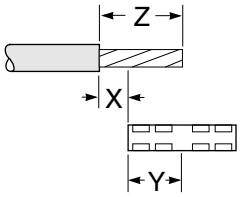
5. Remove insulation.

Refer to Table 2 and cut back the insulation as shown.



"Z" Insulation Cutback = "X" Expansion Gap + "Y" 1/2 Length of Connector

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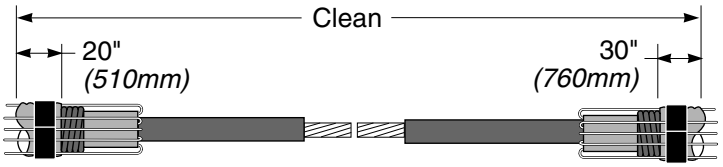
6. Clean cables.

Clean the cables as shown.



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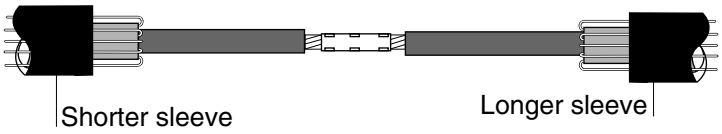
7. Position tubes: install connectors.

Slide the shorter sleeve over one cable end and the longer sleeve over the other.

Install the connector using the correct crimping tool and remove sharp edges. Clean the connector and the cable insulation.



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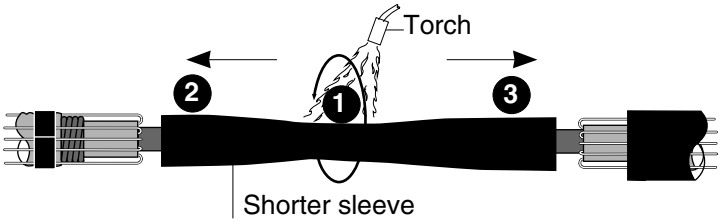
8. Position Connector Sealing Sleeve; shrink in place.

Center shorter sleeve over joint as shown. Begin shrinking at center of tube (1), working torch with a smooth brushing motion around the tube. After center portion shrinks, work torch as before toward one end (2), then to the opposite end (3).



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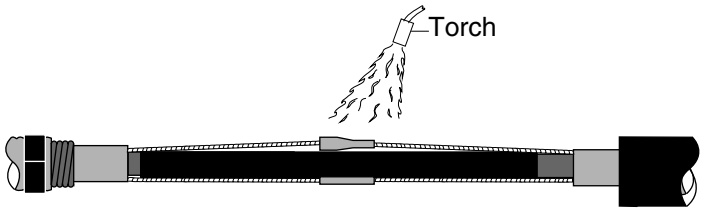
9. Install ground conductors and ground conductor tubes.

Divide the ground wires into two equal quantities and pigtail the wires to form two ground conductors per cable. Lay the four ground conductors back over the splice. Position one green tube over one side of both ground conductors. Cut off excess length of ground conductors and join the conductors using appropriate connectors, tool and dies. Center green tube over ground conductor connectors and shrink down.



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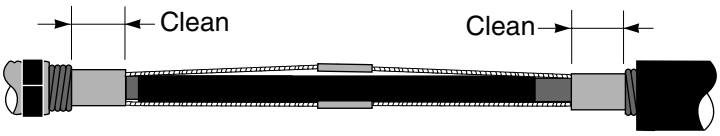
10. Clean inner jackets.

Clean the exposed inner jackets as shown.



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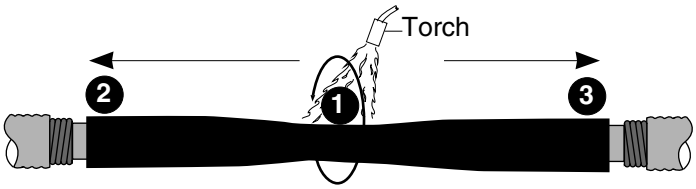
11. Position Inner Jacket Sealing Sleeve; shrink in place.

Position the Inner Jacket Sealing Sleeve as shown and shrink, using the same method as in Step 8, Page 4.



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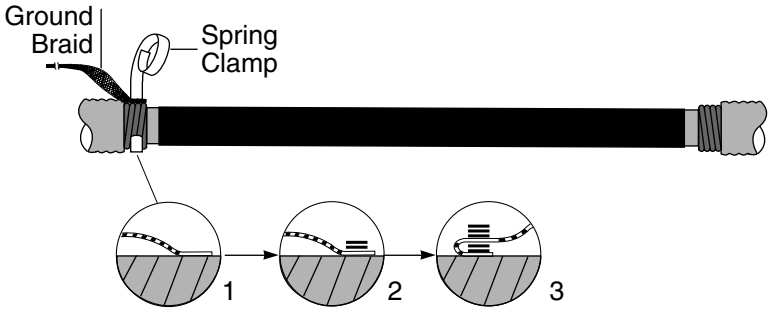
12. Install ground.

(1) Flare one end of the ground braid and place it onto the armor as shown at right. (2) Attach the braid to the armor by placing two wraps of the spring clamp over the braid. (3) Fold the braid back over the spring clamp wraps. Continue to wrap the remaining clamp over the braid. Tighten clamp by twisting it in the direction it is wrapped and secure with copper foil tape provided.



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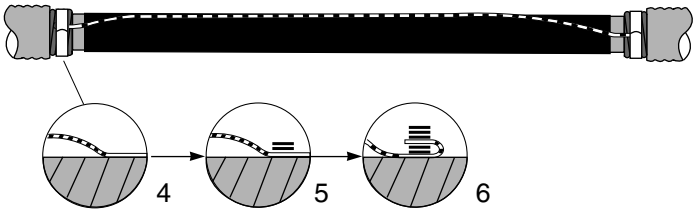
(4) Lay the braid across the inner jacket and onto the armor on the other side. (5) Make two wraps of the clamp over the braid. (6) fold the braid back toward the splice and finish wrapping the clamp. Tighten and secure. Cut off excess braid.



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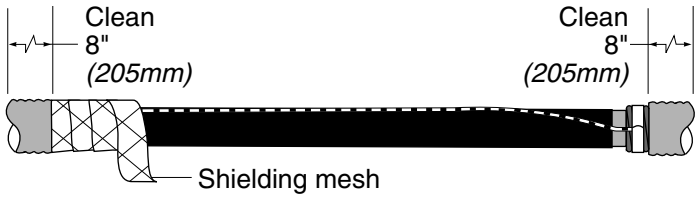
13. Install the shielding mesh.

Starting at the outer jacket cutback, wrap a half-lapped layer of the mesh across the entire splice and tie-off at the opposite outer jacket cutback.

Abrade and solvent clean cable jackets as shown to provide an oil-free surface.



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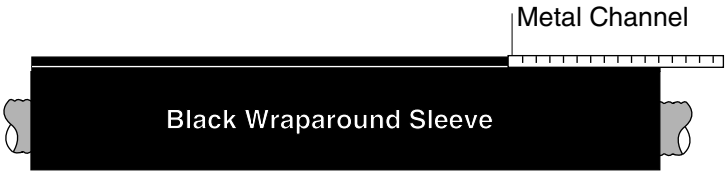
14. Position wraparound sleeve.

Remove or tape over all sharp points to prevent puncture of wraparound sleeve. Remove backing from the wraparound sealing sleeve and center sleeve over splice. Slide metal channels onto the butted rails.



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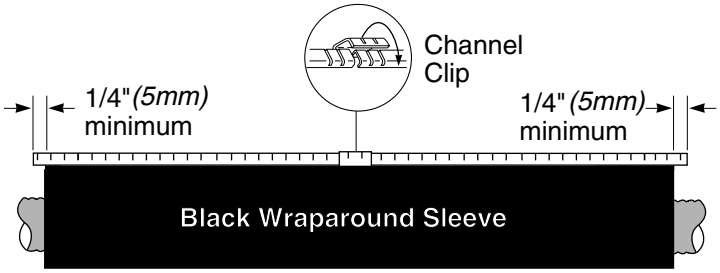
15. Install channel clip.

If two channels are used, connect the channels with the short channel retention clip. Use pliers to install clip.



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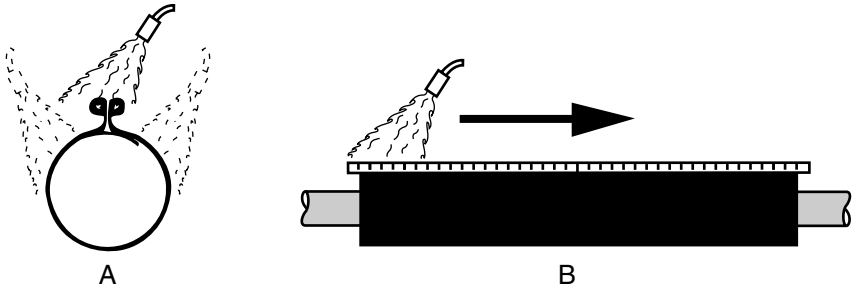
16. Shrink the wraparound sleeve.

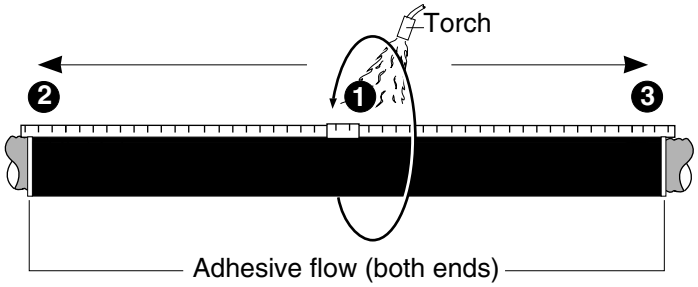
Preheat evenly along both sides of the rail/channel area until this area begins to shrink.



Begin at the center and work toward each end. Post-heat the entire sleeve (concentrating on metal channel area) for 30 seconds after completely shrunk.

Splice is complete.

Note: Allow to cool before moving or placing in service.



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