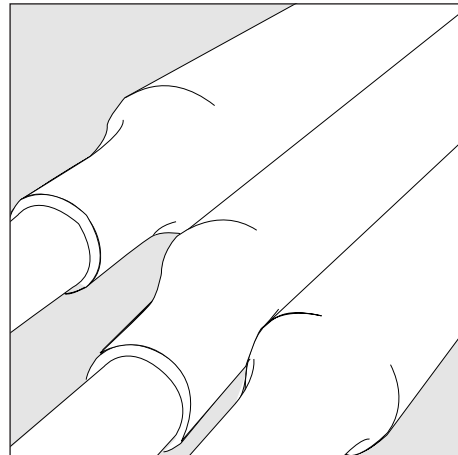




TE's Raychem Cable Accessories



Installation Instruction EPP-2930-5/17

Raychem Joint for Single Core Polymeric Insulated Cables with Copper Wire Screen up to 24 kV

Type: POLJ

This installation manual
contains video instructions.



Scan the QR Codes to get video
support.

In the case of any inconsistency, the
written installation instruction shall
prevail.

To view the TE Energy website:



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Before Starting

Check to ensure that the kit you are going to use fits the cable.

Refer to the kit label and the title of the installation instructions.

Components or working steps may have been modified since you last installed this product.

Carefully read and follow the steps in the installation instructions.

General Instructions

Check cable ends for ingress of moisture before starting with cable preparation.

Cables with double oversheath or outside ribs might require changes in the cable preparation.

Cables with screens made of aluminum wires require specially designed kits.

Clean and degrease all parts that will come into contact with adhesive.

If a solvent is used follow the manufacturer's handling instructions.

Check core preparation dimensions before installing the cable accessory components.

Video information:
Semicon Layer Removal



Removal of Semicon Layer

Use appropriate stripping tools for smooth and even insulation diameter.

Adjust the stripping tool to the thickness of the semi-conductive layer.

Avoid removing too much of the insulation.

The surface of the insulation must be even and free of all traces of conductive material

For easy strip screen layers always use a round file to cut radially through the core screen.

Instructions for Heat-Shrink Components

Use a propane (preferred) or butane gas torch.

Ensure the torch is always used in a well-ventilated environment.

Adjust the torch to obtain a soft blue flame with a yellow tip. Pencil-like blue flames should be avoided.

Keep the torch aimed in the shrink direction to preheat the material.

Keep the flame moving continuously to avoid scorching the material.

Clean and degrease all parts that will come into contact with adhesive.

If required, tubing should be cut smoothly with a sharp knife leaving no jagged edges.

Start shrinking the tubing at the position recommended in the instruction.

Ensure that the tubing is shrunk smoothly all around before continuing along the cable.

Tubing should be smooth and wrinkle free with inner components clearly defined.

Admissible Cable Dimensions for POLx kits

The kit is designed for cables with round stranded or solid conductors made of aluminum or copper.

Cables with insulation made of XLPE, PVC or EPR and

thickness: 12kv- 3,4mm; 17,5kV -4,5 mm; 24kV – 5,5 mm; 36kV- 8mm; 42kV-8-9mm

Oversheath made of PE, PVC or EPR and thickness between 2 mm and 4 mm

Cables manufactured according to cable standards IEC 60502 or Cenelec HD620 meet the required dimensions.

If cables are outside those standard dimensions, pls contact your local support for advise.

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 Connectivity 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 Connectivity's only obligations are those in TE Connectivity's standard Conditions of Sale for this product and in no case will TE Connectivity be liable for any other incidental, indirect or consequential damages arising from the use or misuse of the products.

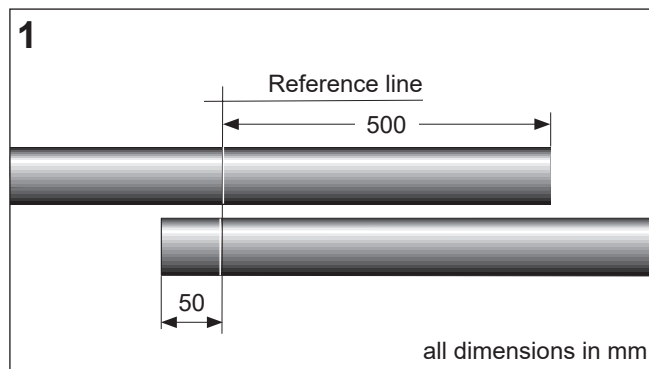
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Cable Overlap

Overlap the cables as shown in drawing.

Mark the reference line.



Cable Preparation

Remove the oversheath to dimension shown in Table 1.

Clean the remaining oversheath for about 1 m.

Table 1	12 kV	17.5/24 kV
Kit size	a mm	a mm
25 - 70, 70 - 150, 120 - 240	150	170
150 - 300	170	190
240 - 400, 500, 630	190	210

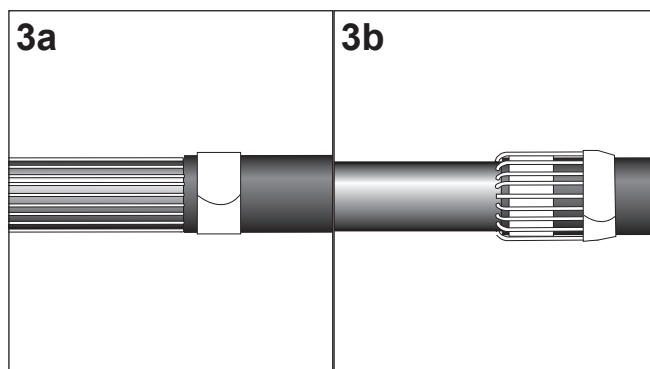
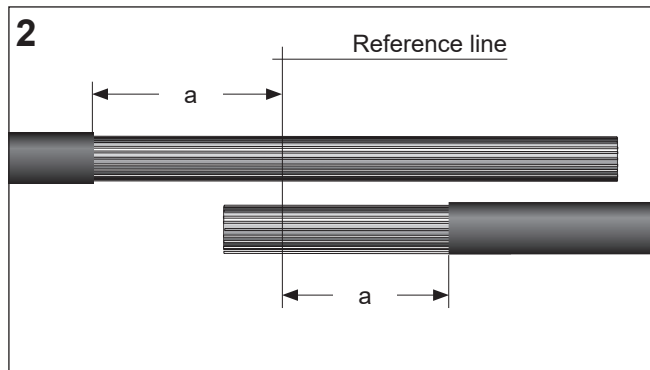
Short cable side:

3a. Wrap the smaller roll spring around the oversheath end.

3b. Bend back the screen wires onto the roll spring and oversheath. Fix it in place with adhesive tape approx. 50 mm from the oversheath cut. Trim the screen wires accordingly. Protect sharp wire ends with adhesive tape.

Long cable side:

Bend back the screen wires onto the oversheath. Fix it temporarily in place with adhesive tape.



Core Preparation

Cut the cores at the reference line using a hacksaw (see Table 1).

Thoroughly remove the core screen to within 40 mm from the oversheath cut so that the insulation surface is free from all traces of conductive material.

Clean and degrease the insulation.

Note: Do not nick the insulation!

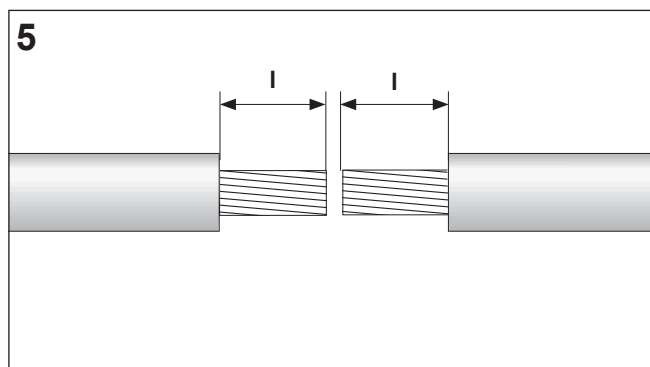
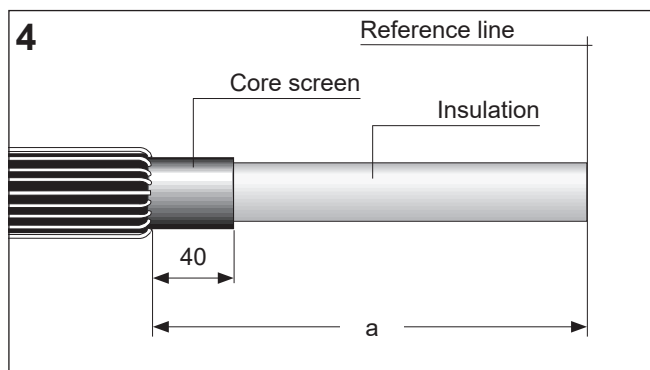
Video information:
Semicon Layer Removal



Remove the insulation on both cores to **dimensions l**.

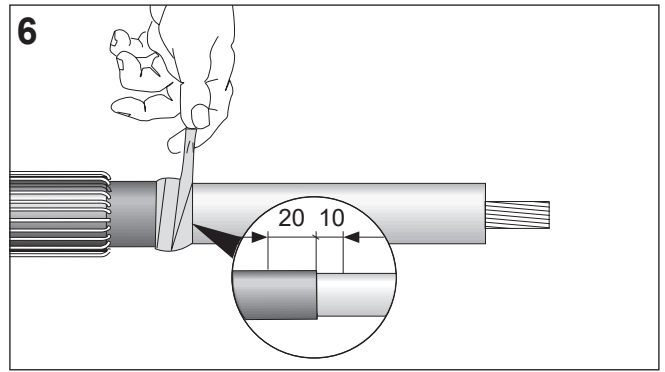
Table 2

Kit size	25 - 70	70 - 150	120 - 240	150 - 300	240 - 400	500, 630
Dimension l (mm)	30	40	45	65	80	70



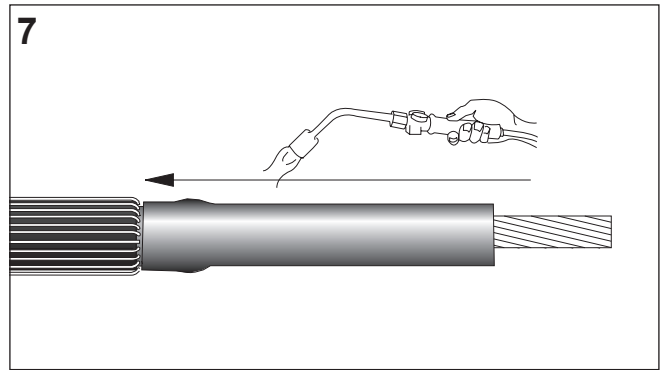
Take the yellow void filling strip S1189. Remove the short release papers from the strip with the pointed ends.

Wrap the void filler around the core screen starting 20 mm from the end of the screen and continue onto the insulation for 10 mm. Stretch the strip to half of its original width to achieve a fine thin edge.



Slide the stress control tubing (black) over the plastic cable core level with the end of the insulation cut back.

Shrink down starting from the core end and working towards the oversheath.

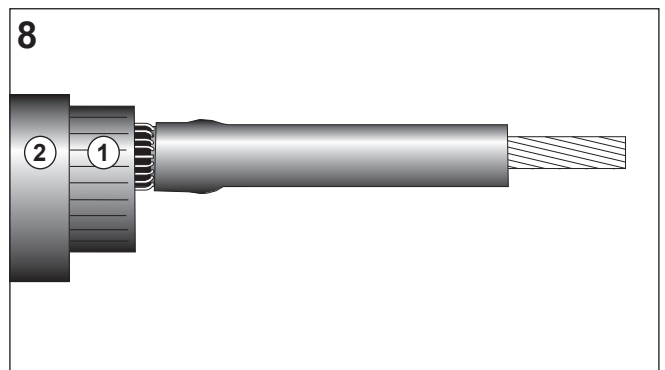


Completion of Joint

Slide a combined tubing set over one plastic cable core.

Use the plastic bag from the tubings as additional protection against dirt and scratches.

- 1 - Screened insulation sleeve (black and red)
- 2 - Outer sleeve (black)

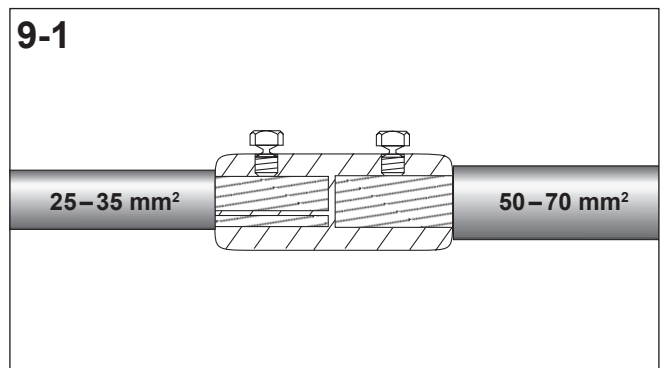


1. Only POLJ 25 - 70

The connector is supplied with insert half shells.

Check before installation if the conductors fit into the connector sides with the half shells inserted.

If conductor is not insertable, install conductor without the insert half shell.



2. Only POLJ 70 - 150

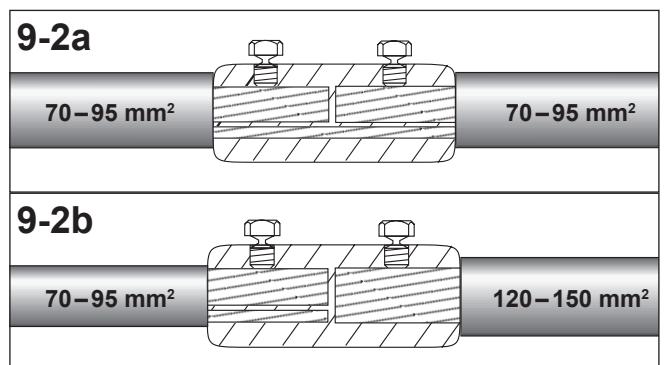
a. Only for cross sections 70 mm² and 95 mm²

Insert the metal plate into the connector. Make sure that the metal plate fits into the slot of the connector.

b. Only for cross section transitions

70 mm² or 95 mm² to 120 mm² or 150 mm²

Saw the insert plate in half. Insert one half only on the side with the smaller cross section.



3. Only POLJ 120 - 240

a. Only for cross sections 120 mm² and 150 mm²

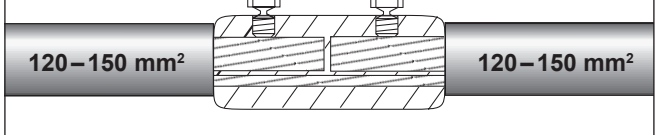
Insert the metal plate into the connector. Make sure that the metal plate fits into the slot of the connector.

b. Only for cross section transitions

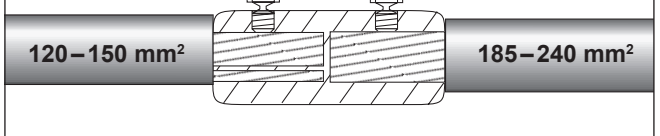
120 mm² or 150 mm² to 185 mm² or 240 mm²

Saw the insert plate in half. Insert one half only on the side with the smaller cross section.

9-3a



9-3b



4. Only POLJ 150 - 300, 240 - 400

The connector is supplied with insert half shells.

Check before installation if the conductors fit into the connector sides with the half shells inserted.

If conductor is not insertable, install conductor without the insert half shell.

Installation of the mechanical connector

Insert conductors so that the insulation butts up with the end of the connector. Hand tighten the shear bolts so that the connector stays in place.

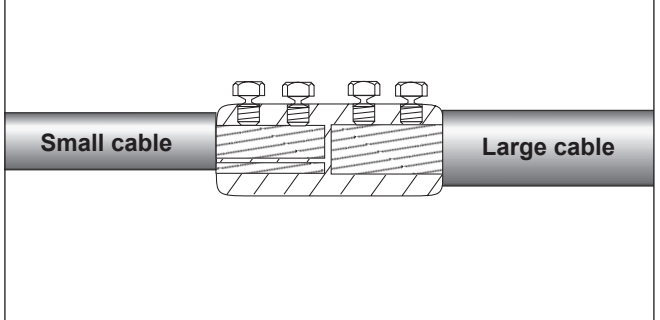
Tighten the bolts alternately and shear them off starting with the outer bolts (see sequence shown in the drawing).

By half turns, alternatively tighten the shear bolts with a socket wrench following the sequence given in the drawing, until shear off. Avoid core bending by using a holding tool available as IT-1000-019 or similar.

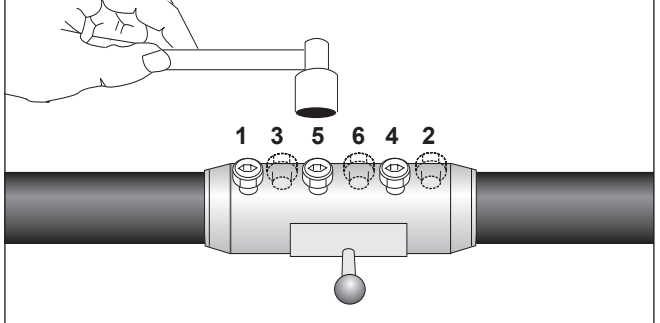
Video information:
Installation of Connector



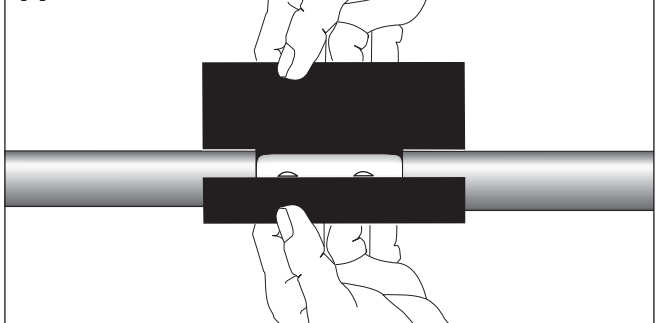
9-4



10



11



Clean and degrease the connector and the stress control tubings on cable cores.

Remove one release foil from the stress grading patch (black).

Position the patch centrally over the connector area.

Wrap the patch over the connector area starting at the connector bolts. Thoroughly press down the stress grading patch (black) on surface.

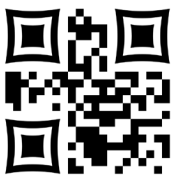
Remove the second release foil.

Note: Do not stretch the patch.

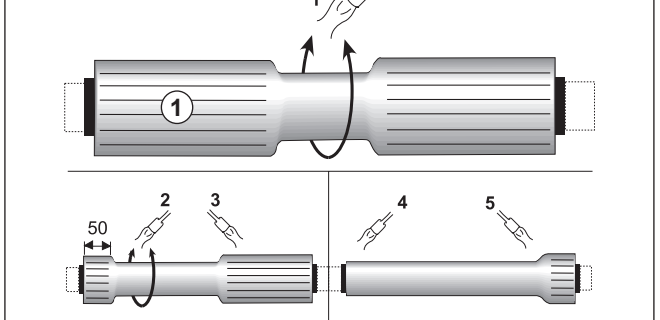
Position the screened insulating sleeve (black and red) centrally over the connector area.

- Start shrinking the sleeve in the centre (1).
- Continue shrinking by working towards one side (2), stopping 50 mm from the end. Shrink the other half in the same way (3).
- Shrink down the first end (4) and finally the second (5). The sleeve should be fully shrunk without leaving ridges.

Video information:
Shrinking

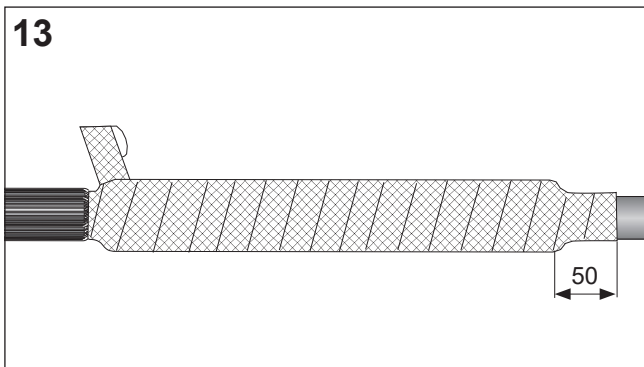


12



Remove the PVC tape from the long screen wires.

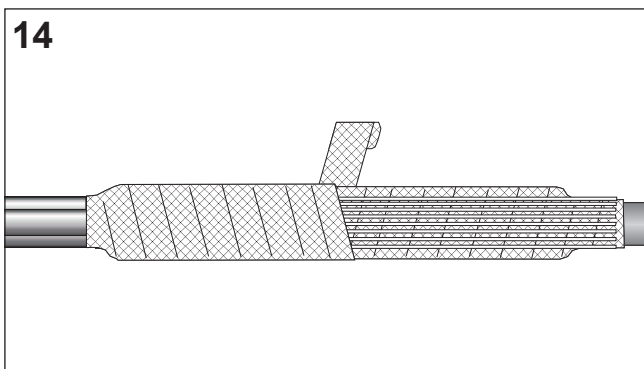
Wrap one layer of copper mesh round the joint with a 50% overlap, starting at the short screen wires. Continue across the joint.



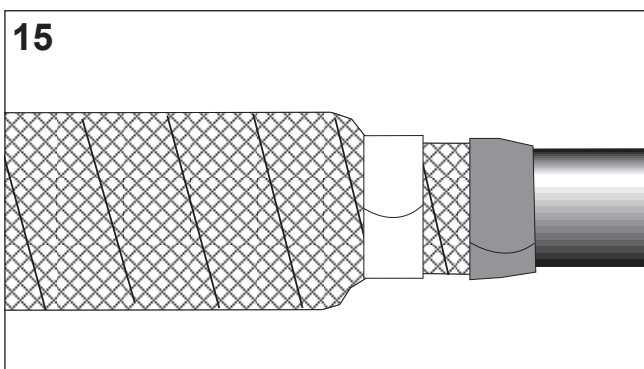
Bend the long screen wires back and distribute the screen wires evenly over the joint area.

Wrap another layer of copper mesh round the joint with a 50% overlap.

Trim the long screen wires level with the short ones.



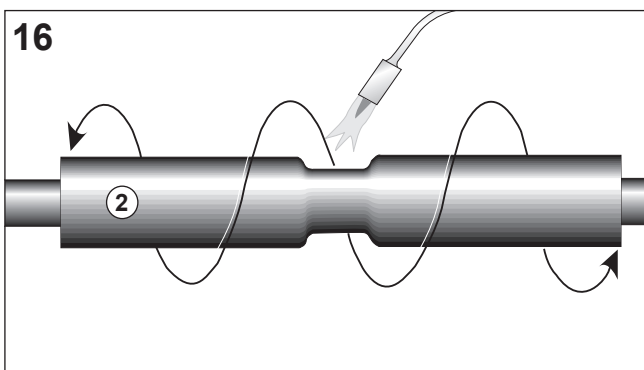
Fix the copper mesh and the screen wires in place with a roll spring close to the end of the joint area. Tighten the roll spring with a twisting action. Cover any sharp edges with adhesive tape.



Clean and degrease the ends of the oversheath for a length of about 150 mm.

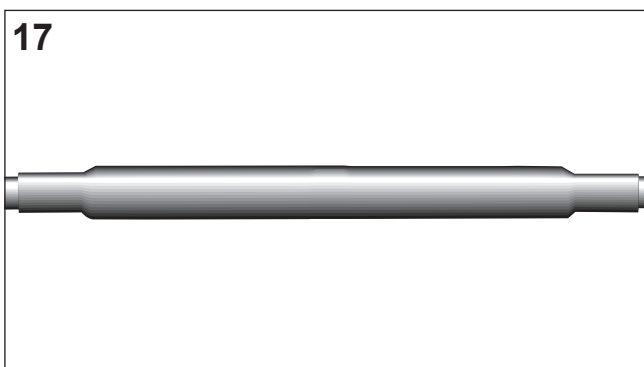
Centre the outer sleeve (black) over the joint area.

Start shrinking in the centre, working towards the ends.



Joint completed.

Allow the joint to cool before applying any mechanical strain.



Please dispose of all waste according to environmental regulations.

