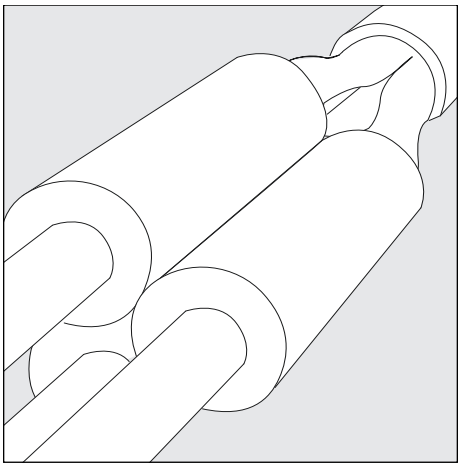
TE´s Raychem Cable Accessories



Installation Instruction ESD-5324-7/16

Joints for Screened 3-Core Plastic and Rubber Insulated Cable up to 12kV without Armour

Type: POLJ-12/3x500

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 instruction.

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

Carefully read and follow the steps in the installation instruction.

General Instructions

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

Tubing should be cut smoothly with a sharp knife leaving no jagged edges.

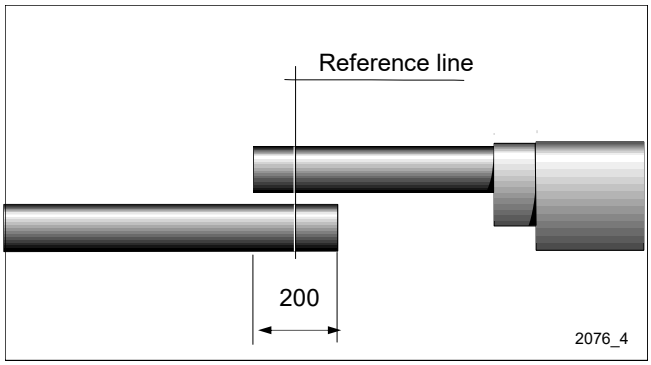
Start shrinking the tubing at the position recommended in the instruction.

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.

A. Cable preparation for cables with wire shield (cables with metal tape shield see next page)

Overlap the cables as shown in drawing**.**
Mark the reference line.
Clean the oversheath of one end for about 2 m.
Slide the two long outer sealing sleeves over the clean cable end and install them one over another.



Remove the oversheath to the dimensions **a** and **b** given in **Table 1**.
Clean and degrease the remaining oversheath for about 200 mm. Bend back the shielding wires onto the oversheath and fix them temporarily with plastic tape.
Shape and position the cores as shown in drawing below.
Cut the cores at the reference line.
Thoroughly remove the core screen according to the dimension **c** given in **Table 1**, so that the insulation surface is free from all traces of conductive material.
Note: Do not nick the insulation.

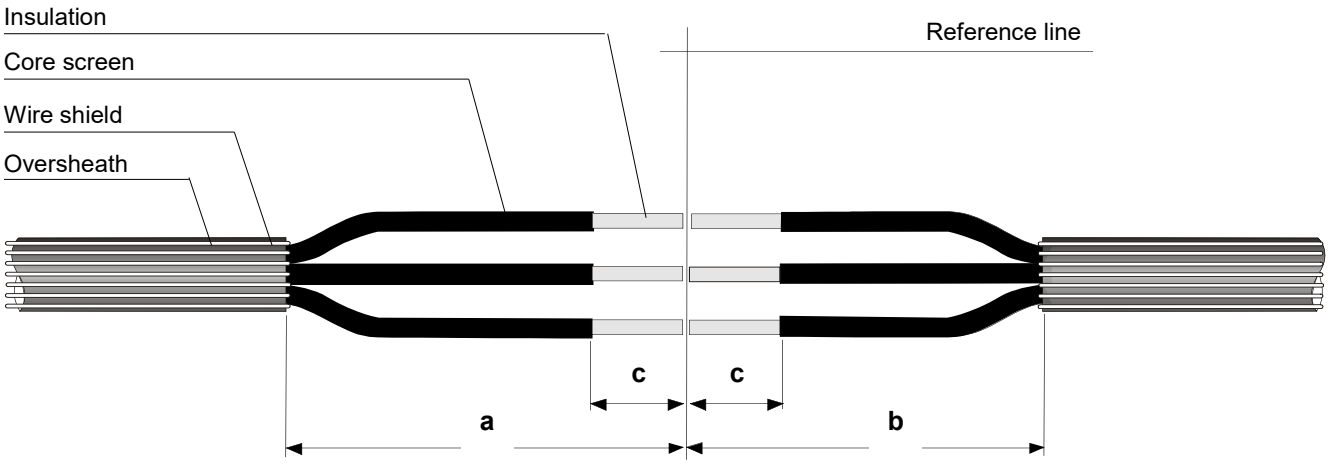
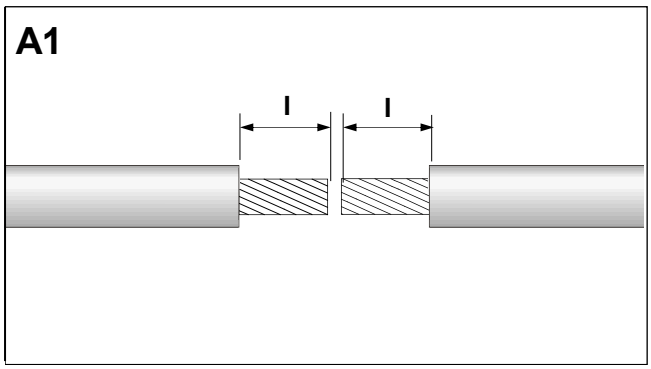


Table 1	**Cut back dimensions**		
Cross section (mm²)			
	a (mm)	**b (mm)**	**c (mm)**
Core connection			**12 kV**
Straight connection	**700**	**700**	**150**

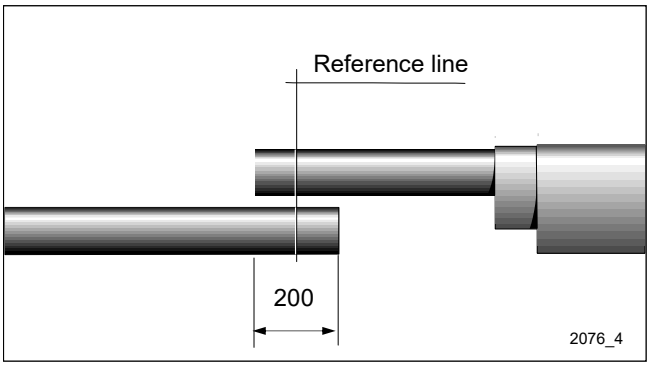
Remove the insulation of the cores to dimension **l** (Table 2).
Continue with step A2.

Table 2	
Cross section (mm²)	**500**
l (mm)	**70**



B. Cable preparation for cables with tape shield

Overlap the cables as shown in drawing**.**
Mark the reference line.
Clean the oversheath of one end for about 2 m.
Slide the two long outer sealing sleeves over the clean cable end and install them one over another.



Remove the oversheath to the dimension **a** and **b** given in **Table 3**.
Shape and position the cores as shown in drawing below. Cut the cores at the reference line.
Position a wire binder on the metal tape shield according to dimension **c +40 mm** as given in **Table 3.**
Unwind the metal tape shield up to this point and tear it off against the edge of the wire binder.
Thoroughly remove the core screen according to the dimension **c** given in **Table 3**, so that the insulation surface is free from all traces of conductive material.
Note: Do not nick the insulation.

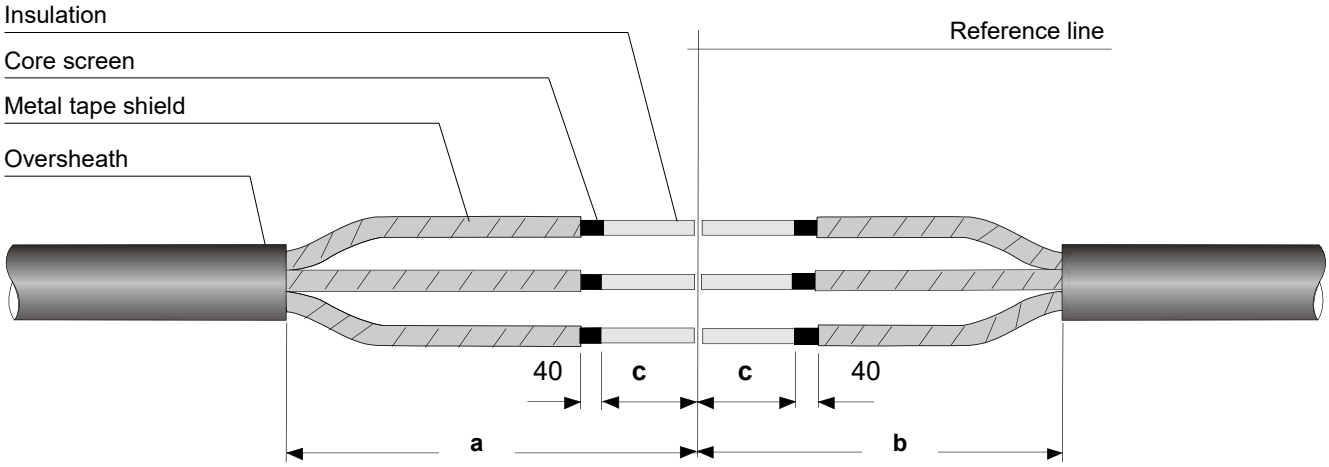


Table 3	**Cut back dimensions**		
Cross section (mm²)			
	a (mm)	**b (mm)**	**c (mm)**
Core connection			**12 kV**
Straight connection	**700**	**700**	**150**

Remove the insulation of the cores to dimension **l** (Table 4).
Continue with step B2.

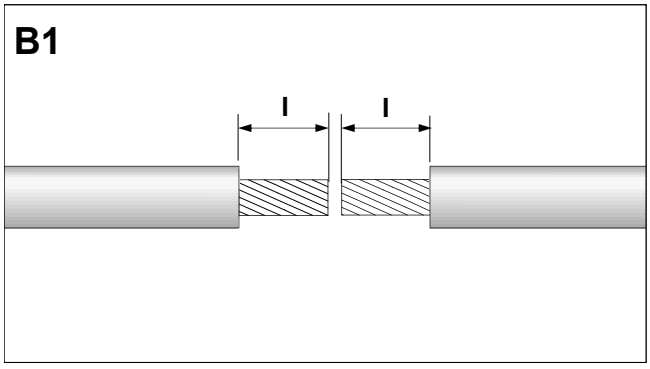
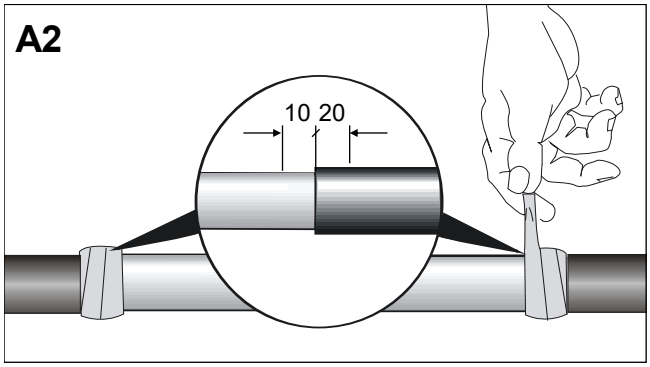


Table 4	
Cross section (mm²)	**500**
l (mm)	**70**

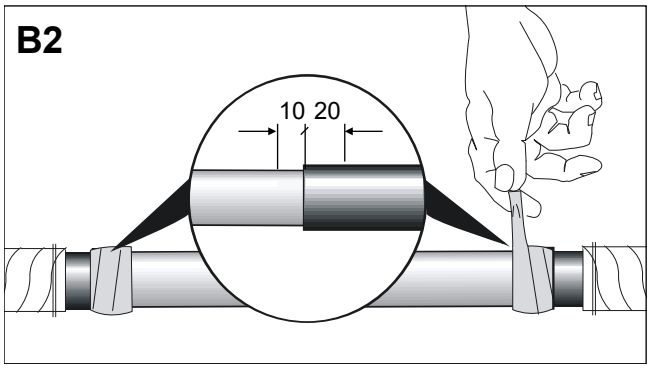
A. For cables with wire shield

Open the aluminium bag and take the short yellow void filling strips with the pointed ends.
Remove the release papers of each strip and wrap the void filler around the end of the core screen. Cover 20 mm of the core screen and continue onto the insulation for 10 mm.
Stretch the strip to half of its original width to achieve a fine thin edge around the insulation.
Continue with step 3.



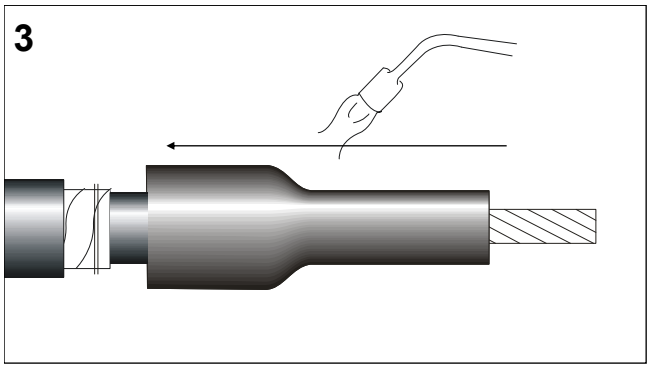
B. For cables with tape shield

Open the aluminium bag and take the short yellow void filling strips with the pointed ends.
Remove the release papers of each strip and wrap the void filler around the end of the core screen. Cover 20 mm of the core screen and continue onto the insulation for 10 mm.
Stretch the strip to half of its original width to achieve a fine thin edge around the insulation.
Continue with step 3.

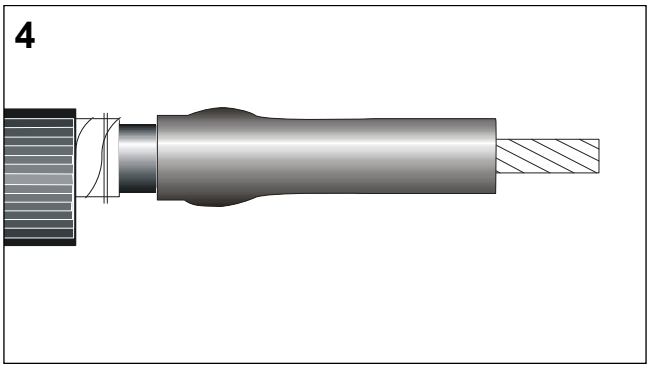


Completion of joint

Slide a stress control tubing (black) over each cores, level with the insulation end.
Shrink down starting at the core end and working towards the oversheath.

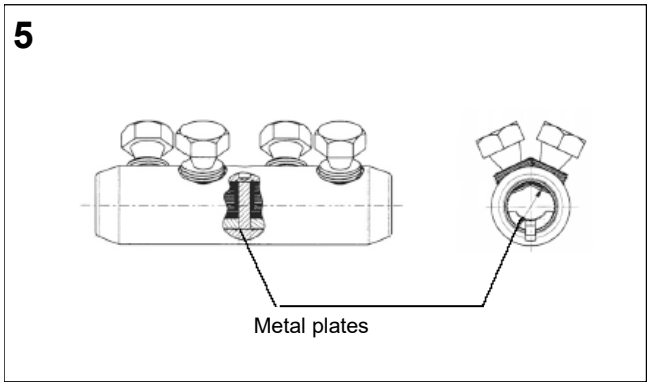


Slide the three screened insulating sleeves (black and red) over the cable cores.

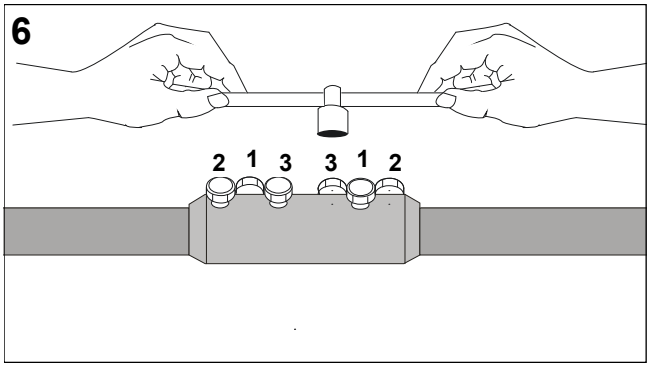


Installation of the connector

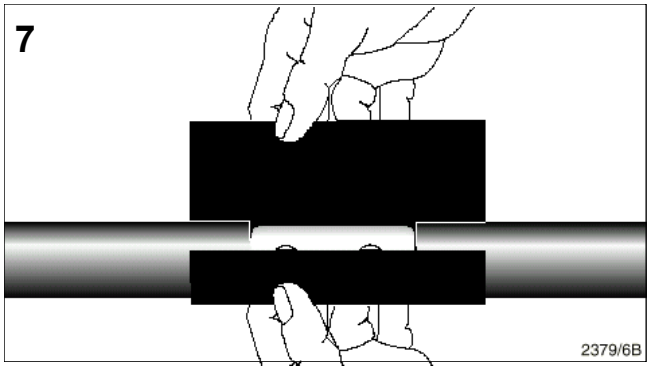
The connector has metal plates inside.
Make sure that the core fits into the connector with plate.
If not - take out the plate and install the connector without the plate.



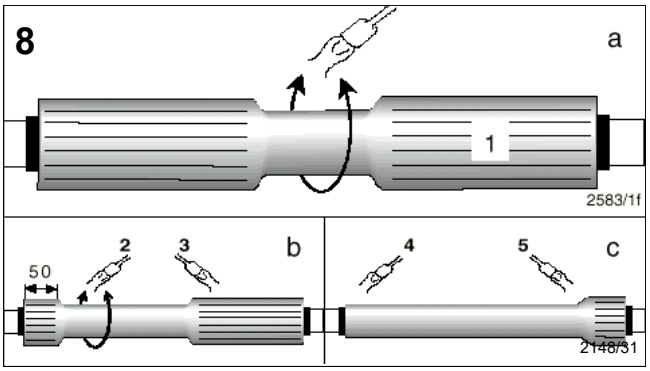
Insert conductors so that the insulation butts up with the end of the connector. Hand tighten the shear bolts so that the connector stays in place.
Tighten the bolts alternately and shear them off starting with the outer bolts (see also sequence shown in the drawing).



Clean and degrease the connector.
Remove the release paper 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.
Note: Do not stretch the patch.

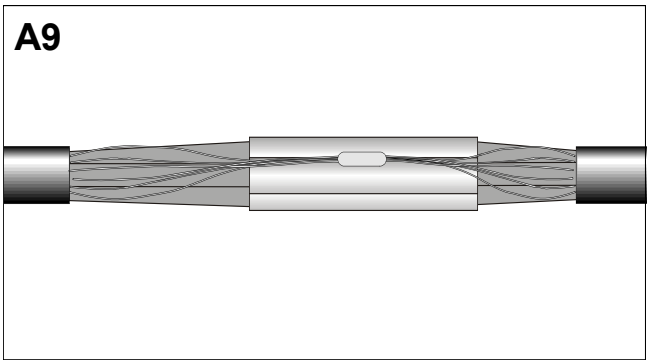


Fit the conductors into the connector so that the connector end lines up with the insulation.
Take up the tension equally on the bolts.
Tighten the bolts until the heads shear off.
Note: No gap should be left between the connector and the insulation.



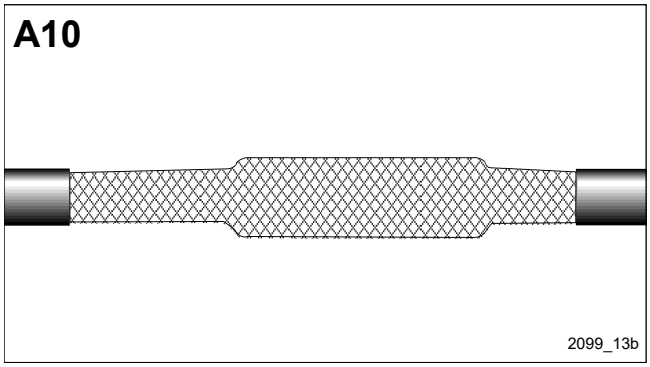
A. Cable with wire shield
Bend the shielding wires back over the joint area.
Gather the ends of the shielding wires together and connect them on the side of the joint with the mechanical connectors supplied.

Note: Place the connectors between phases so that they would not widen the overall dimension of the joint.
Distribute the shielding wires evenly in the joint area.



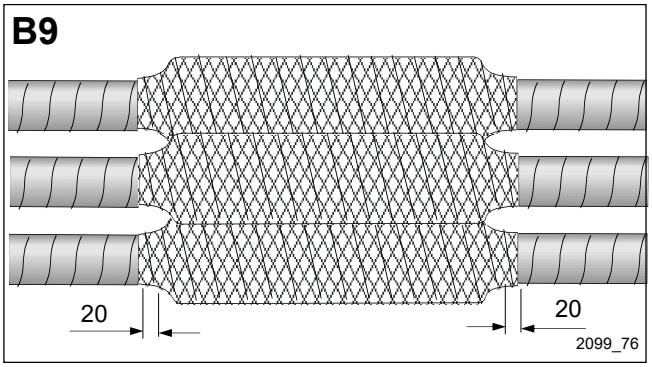
Relay the cores as far as possible.
Wrap one layer of copper mesh round the joint with a 50% overlap so that the whole joint area is covered.

Continue with step 11.



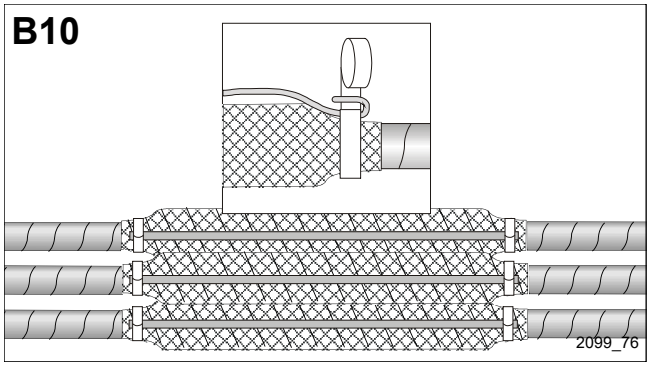
B. Cable with metal tape shield

Wrap two layers of copper mesh round the joint with a 50% overlap, completely covering the joint area and continuing for 20 mm onto the metal tape shield.

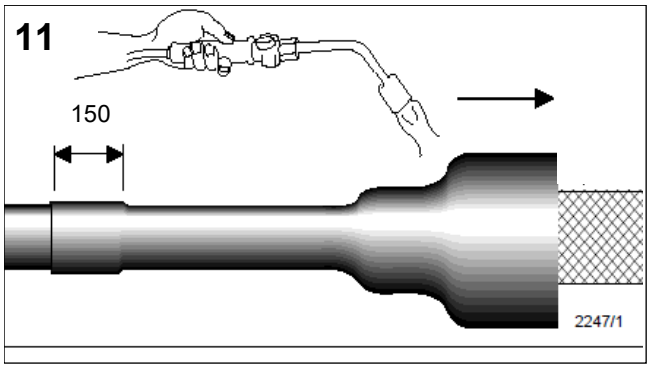


Place the earth lead over the copper mesh wrap.
Wrap the roll spring twice over the earth lead in the direction of the copper mesh wrap.
Fold the end of the earth lead back over the roll spring.
Wrap the rest of the roll spring over the earth lead.
Tighten the roll spring with a twisting action.

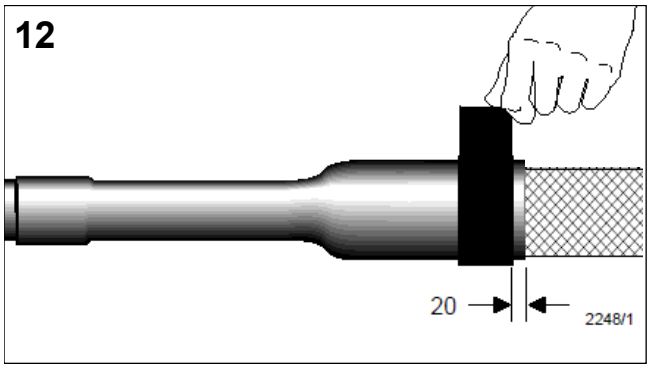
Continue with step 11.



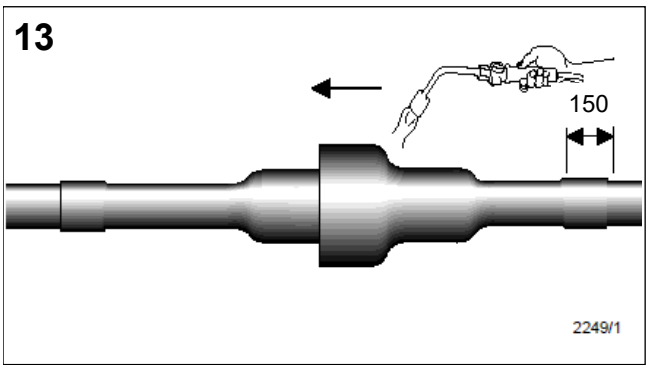
Clean, degrease and abrade both oversheath ends for 200 mm.
Position one outer sealing sleeve (of small diameter) so that it overlaps the end of the oversheath by about 150 mm min. Start shrinking at the oversheath end, working towards the connector area.
Note: Smaller sealing sleeve should be installed first.



Starting 20 mm from the inner end of the outer sealing sleeve, wrap one layer of sealant tape (black) around the sleeve.



Position the second sealing sleeve (of greater diameter) so that it overlaps the
other end of the oversheath by 150 mm.
Start shrinking at the oversheath end, working towards the connector area.



Joint completed. Allow the joint to cool down before applying any mechanical strain.

Please dispose of all waste according to environmental regulations.