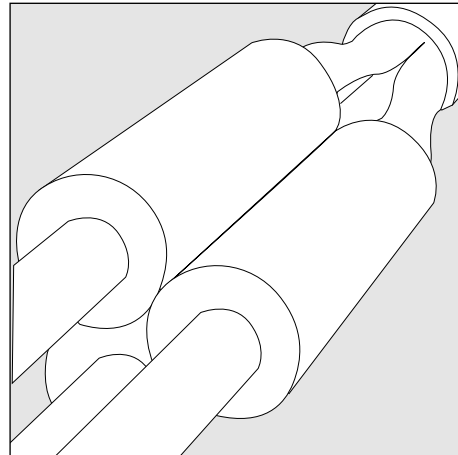




TE's Raychem Cable Accessories



Installation Instruction EPP-2971-8/17

**Raychem
Cold Shrinkable Joints
12 kV
for Screened
Single Core Polymeric
Insulated Cables with
Aluminium Wire Armour
with Heat Shrinkable
Rejacketing Sleeve**

Type: CSJH-W-M

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 core preparation dimensions before installing the product.

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

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.

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.

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

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

Grease the jointing area only with the provided grease.

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

Application Range of the CSJH-W-M Kits:

Admissible Cable Dimensions for CSJH joints with mechanical connectors

	Conductor Ø		Core insulation Ø		Outer cable Ø	
	min	max	min	max	min	max
Kit number	mm	mm	mm	mm	mm	mm
CSJH-12D-W-M	17.8	24.6	25.7	33.6	33.0	45.0

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.

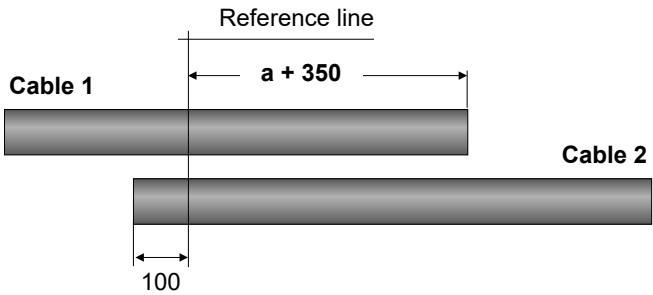
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Cable Overlap

Overlap the cables to be jointed according to the dimensions in the drawing. For dimension **a** see table 1 below.

Mark the reference line as shown in the drawing.



Dimensions in mm

Cable Preparation

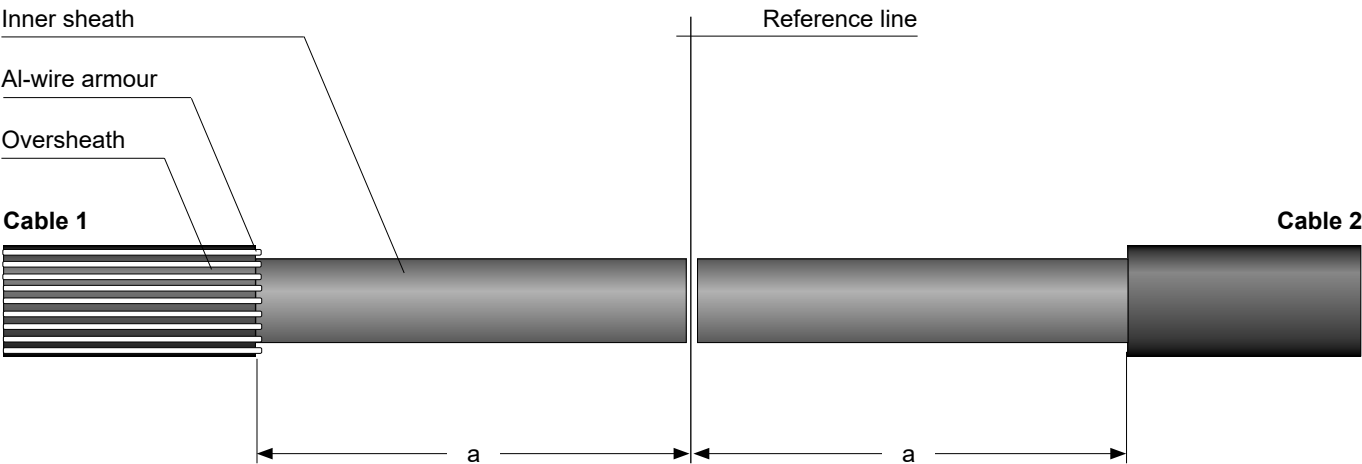


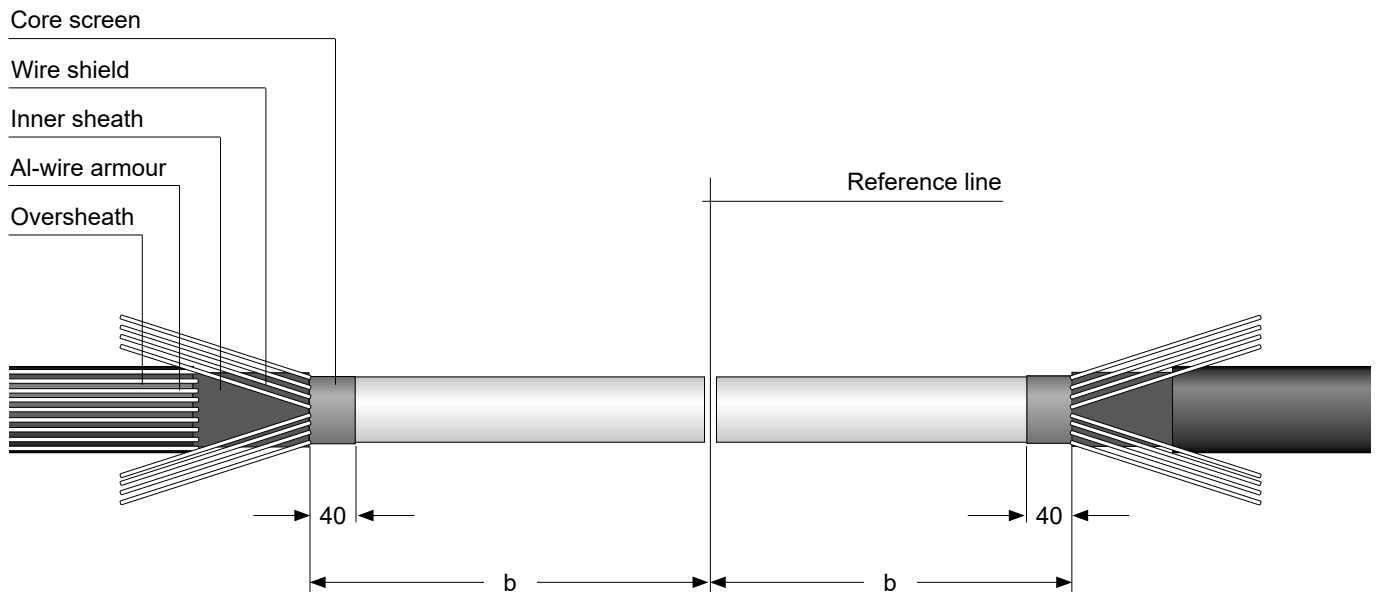
Table 1		
Kit No.	a [mm]	b [mm]
CSJH-12D-W-M	330	220

Remove the oversheath of both cables to dimension **a**, measured from the reference line.
Clean the remaining oversheath of both cables for about 600 mm.

Cable 1: Do not cut the armour wires. Carefully bend them back away from the joint area.

Cable 2: Cut partly through the armour wires at the oversheath cut. Bend and break them off at this position.

Cable with Copper Wire Shield



Remove the inner sheath to dimension **b** given in table 1.

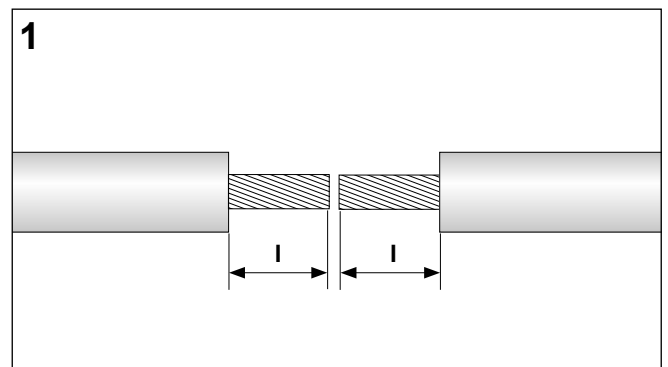
Bend back the shield wires onto the oversheath. Cover the sharp wire ends with plastic tape. Cut the cores at the reference line.

Thoroughly remove the core screen to the dimension given in drawing, so that the insulation surface is free from all traces of conductive material.

Note: Do not nick the insulation!

Remove the insulation on both cores equal to the insert depth of the connector **I** (see table below).

Kit range [mm ²]	L [mm]
240 - 400	80



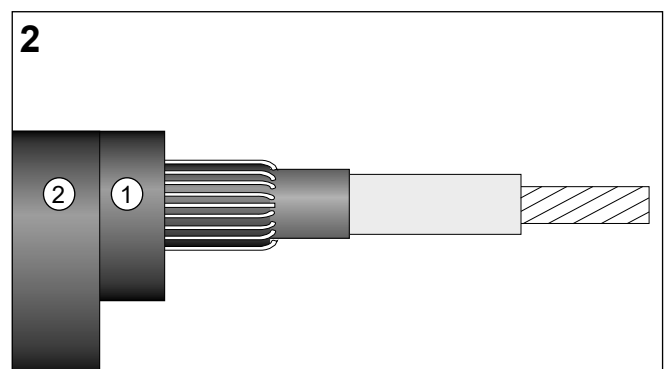
Long side (Cable 1)

Slide the inner sleeve and the outer sealing sleeve **over the cable end where the armour wires are still covered**.

The plastic bag of the tubing set can be used as an additional protection by placing it under the tubing set.

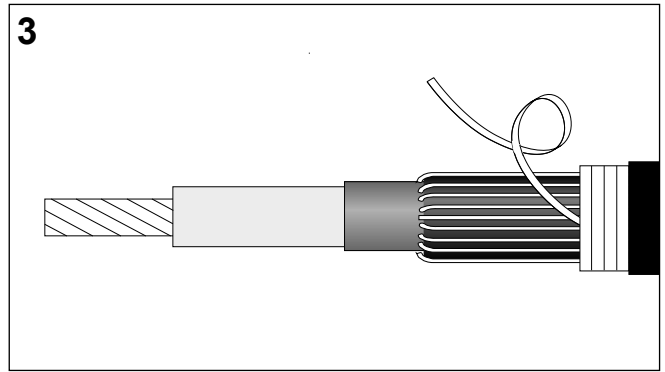
1. Inner sleeve (black)
2. Outer sleeve (black)

Note: If the tubings cant all be nested together as shown, position them behind each other, so that they can be installed in the sequence 1 - 2.



Short side (Cable 2)

Slide the joint module over the cable end so that the release strip of the spiral holdout points towards the cable end. Take care that the release strip of the spiral is positioned with enough clearance to the oversheath.

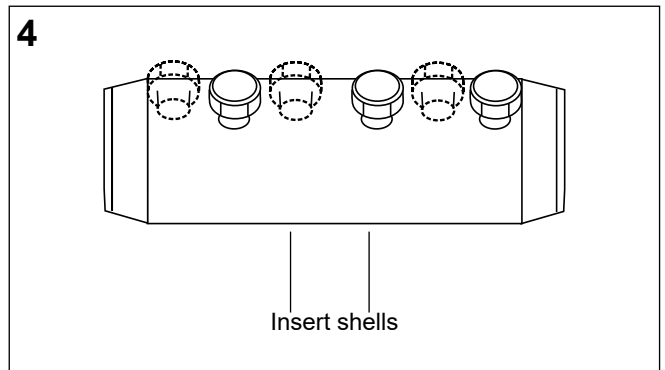


Installation of the mechanical connector

The connector is supplied with insert half shells which have to be used on small cross sections.

Check before installation if the conductor can be inserted into the connector with the half shells installed.

In case the conductor can not be inserted, remove the inserts from the connector bore.



Clean and abrade the surface of the exposed conductors. 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.

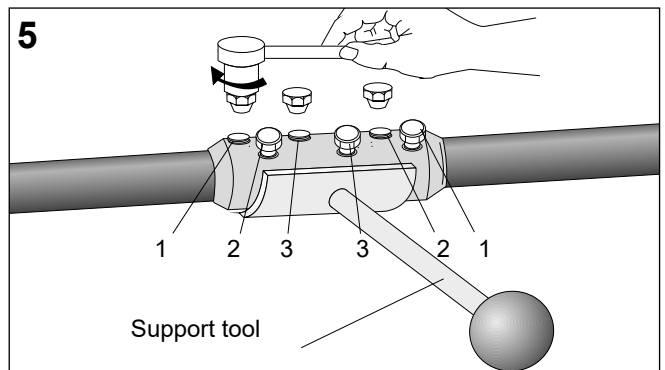
For connectors using more than one shear bolt per side, tighten the bolts alternately and shear them off starting with the outer bolts (see also sequence shown in the drawing).

Notes:

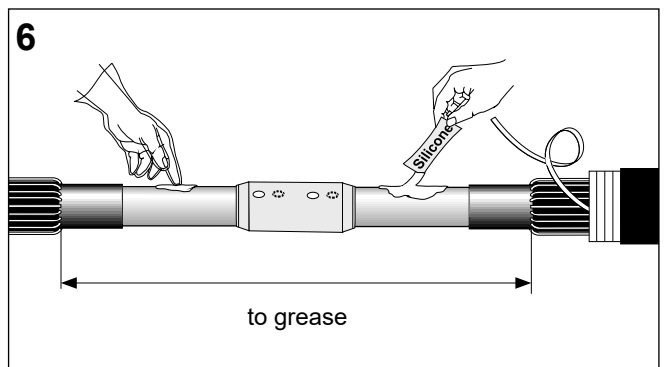
- When a cordless impact wrench is in use the tightening intervals should be in the range of 2 seconds.
- Avoid core bending on smaller cross sections by using a support tool available such as IT-1000-019 or similar.

Smooth out any sharp edges of protruding bolts where appropriate.

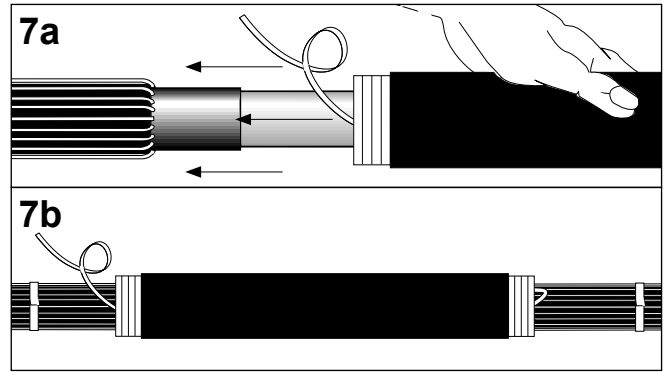
Clean and degrease the connector area and the insulation with a cleaning wipe.



Grease the joint area with a thin film of silicone grease. Grease the connector area last.



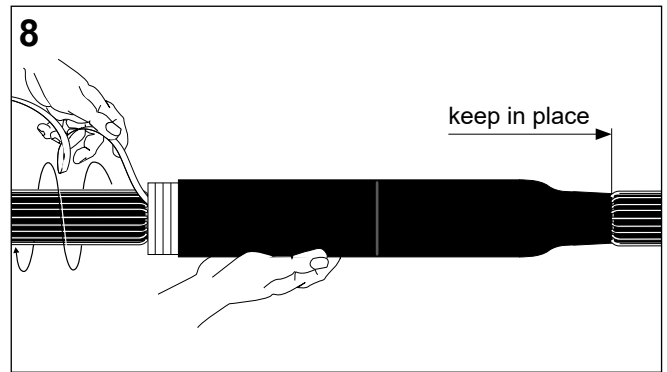
Position the joint body level with the end of the oversheath.



Release the spiral by pulling counterclockwise.

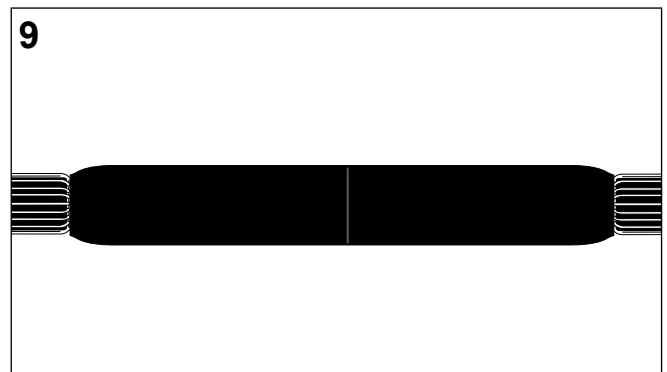
Check the position of the joint body after you have released 5 turns: The end of the joint body should touch the oversheath end. In case of misplacement move the joint body to the correct position.

Take care not to twist the cord of the spiral holdout during the release process. The cord of the spiral holdout should always be in line and never be wrapped around the cable.

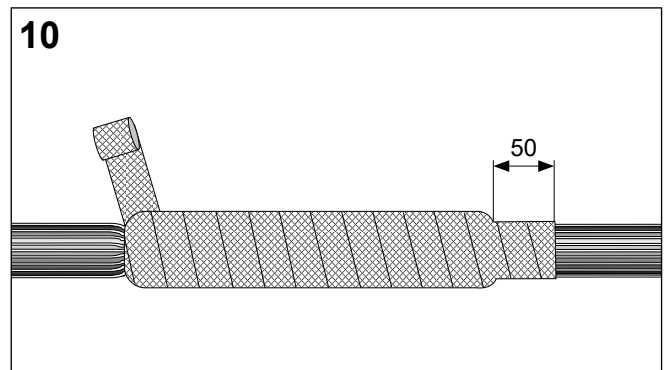


Control the position of the joint body:

The joint body is correctly installed if it touches the cable oversheath on both ends but does not overlap onto the oversheath. If necessary move the joint body to the correct position as shown.



Starting at the oversheath cut, apply one layer of copper mesh half overlapping onto the joint body and continue onto the wire shield for another 50 mm.



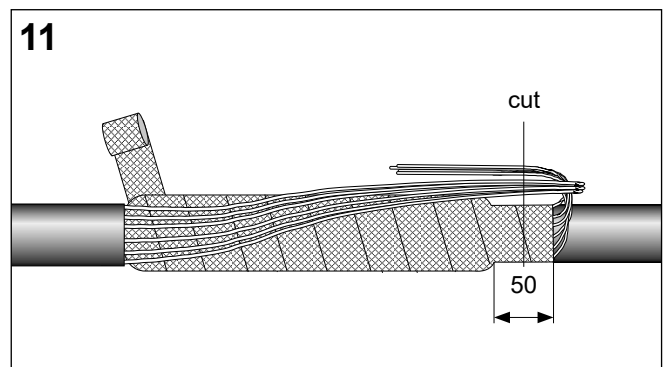
Cable side with long shield wires:

Bend the shield wires back over the joint area.

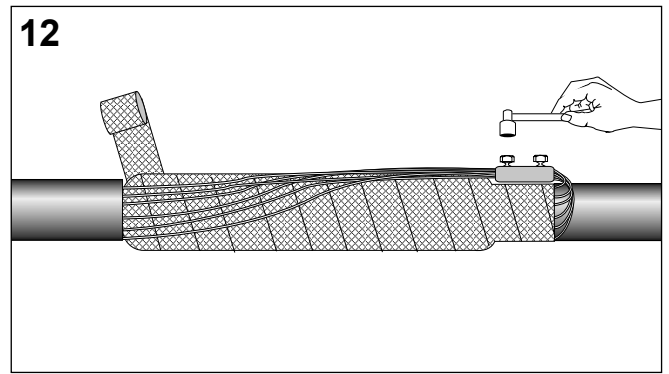
Cable side with the short shield wires:

Bend the shield wires back over the joint area close to the copper mesh.

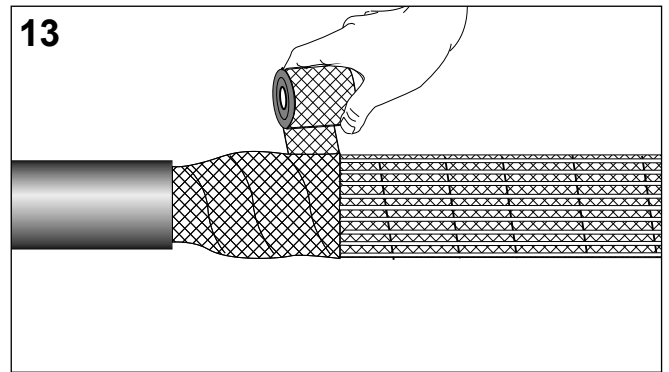
Gather the wires together and cut them centrally above the 50 mm copper mesh overlap on the cable oversheath.



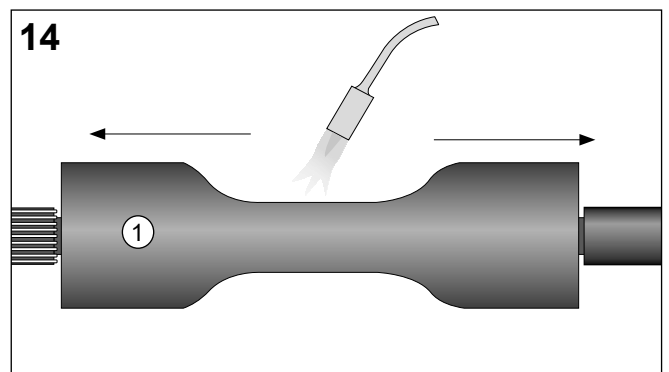
Form an earth lead of the shield wires and insert both ends into the mechanical shield connector supplied. Tighten the bolts with an allen key until the heads shear off. Flip the connector onto the copper mesh.



Distribute screen wires evenly in jointing area. Use up remainder of copper mesh as second layer over the whole jointing area and ensure complete coverage of the shield connector.

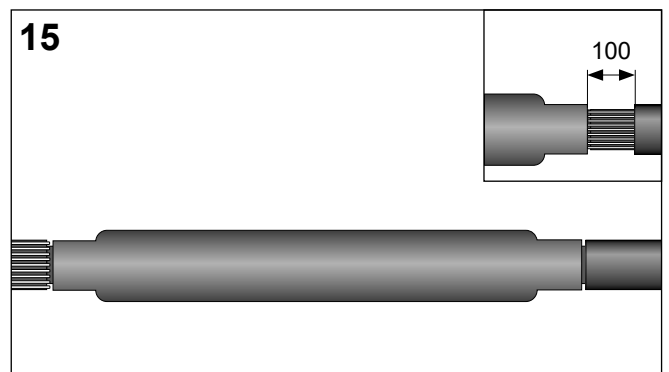


Centre the inner sleeve (black) over the joint area. Start shrinking in the centre, working towards the ends. This sleeve is to seal on to the cable inner sheath.



Carefully remove 100 mm of the oversheath on cable 2. Do not cut the armour wires.

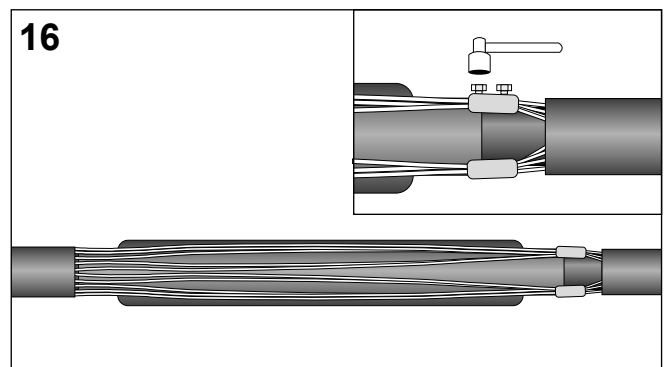
Lift the armour wires and thoroughly clean them. Separate the armour wires and form equal bunches to suit the number of armour wire connectors included in the joint kit.



Thoroughly clean the armour wires from cable 1. Separate the armour wires and form equal bunches, according to the number of the mechanical connectors (BAWA) supplied with the kit.

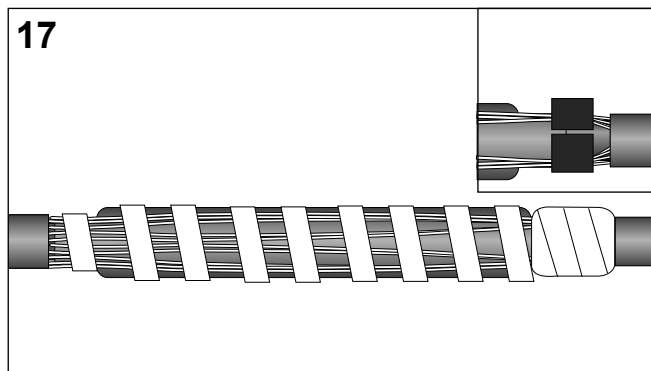
Fold back the long armour wires tightly across the joint, cut to length, and connect them using the mechanical connectors provided.

Shear off the connector bolts.



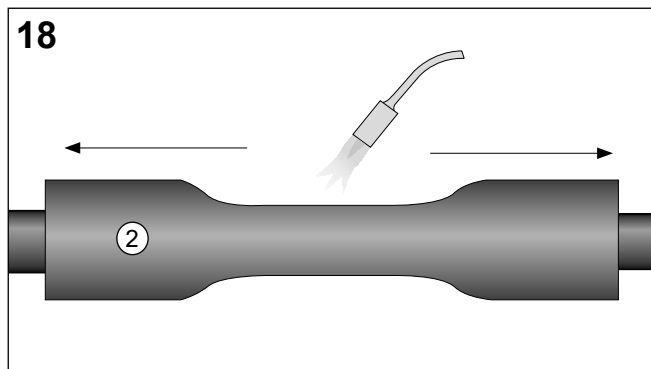
Wrap a piece of the inner bedding or of the cable sheath over the connectors.

Using the adhesive cotton tape provided, ensure all the wires are close to the cable and tubing set over the length of the joint and that there are no sharp edges.



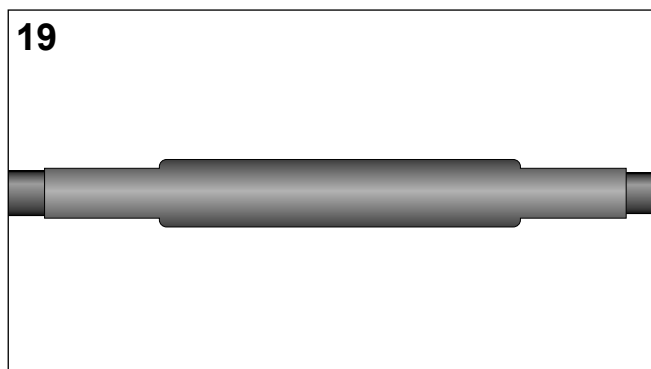
Abrade and degrease the cable jacket for 100 mm at both sides of the joint.

Position the outer sealing sleeve centrally, then shrink the sleeve down starting in the centre and working towards the ends.



The joint is now completed.

Allow to cool before moving.



Please dispose of all waste according to environmental regulations.

