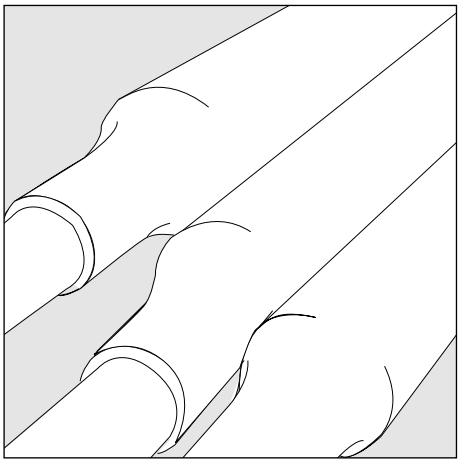
TE´s Raychem Cable Accessories



Installation Instructions EPP-2029-10/19

End Seal for Screened Single Core Plastic and Rubber Insulated Cables 36 kV without Armour

MXSE

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

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.
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.

Application Range of the MXSE-Kits:

The kit is based on polymeric insulated cables for **stranded circular conductors** and wire shielding.
Application range for aluminium or copper conductors are mentioned in **table A** below.

Table A: Application ranges subjected to cross-section and material of the conductor

36 kV	
Kit number	Range [mm^2]
MXSE-6132	**120 - 300**
MXSE-6151	**500**
MXSE-6161	**630**
MXSE-6181	**1000**

Table B: Admissible cable dimensions for MXSE-joints

Kit number	Conductor Ø		Core Insulation Ø		Outer Cable Ø	
	minimum	maximum	minimum	maximum	minimum	maximum
	mm	mm	mm	mm	mm	mm
MXSE-6132	12.7	23.1	29.3	39.6	37	51
MXSE-6151	25.5	27.6	40.1	46.6	44.0	60.0
MXSE-6161	29.0	32.5	45.8	50.5	55.0	68.0
MXSE-6181	38.5	39.2	55.7	58.8	69.0	73.0

Core Preparation

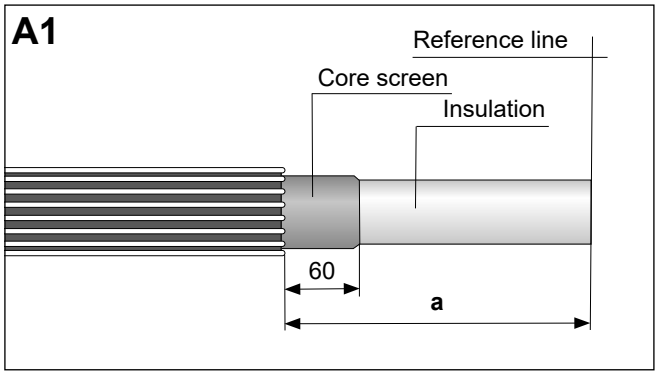
A. Cables with wire shield

Remove the oversheath according to the dimensions **a** given in table **1**.

Clean the remaining oversheath for 150 mm. Remove the core screen to the dimension given in drawing **A1** so that the insulation surface is free from all traces of conductive material.

Clean and degrease the insulation.

Note: Do not nick the insulation!



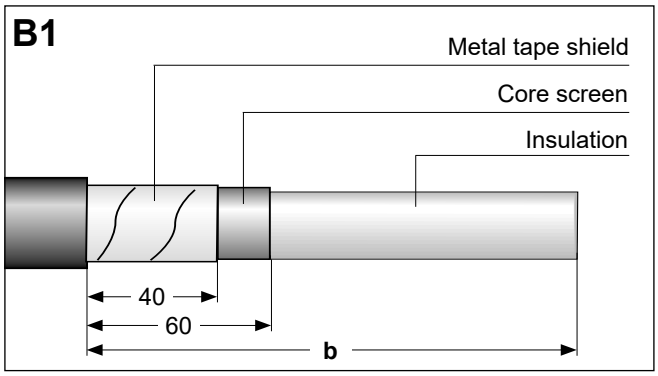
B. Cables with metal tape shield

Remove the oversheath according to the dimensions **b** given in table **1**.

Clean the remaining oversheath for 150 mm. Remove the metal tape shield and the core screen to the dimensions given in drawing **B1** so that the insulation surface is free from all traces of conductive material.

Clean and degrease the insulation.

Note: Do not nick the insulation!



Both cable types

Remove the insulation equal to the insert depth **l** (see table **1**).

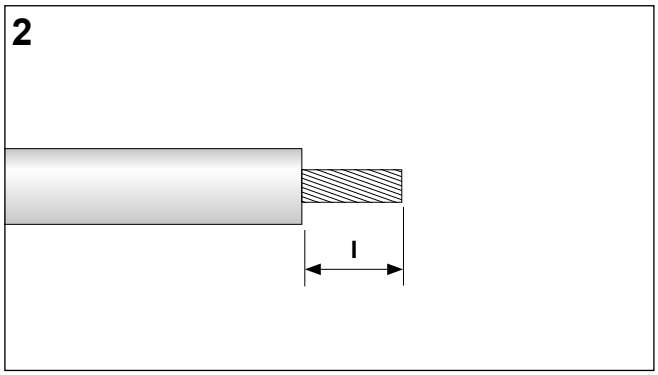


Table 1		**36 kV**		
Kit	**Range** (mm^2)	**a** (mm)	**b** (mm)	**l** (mm)
MXSE-6132	120 - 300	230	250	65
MXSE-6151	500	230	250	70
MXSE-6161	630	230	250	70
MXSE-6181	1000	250	270	85

Open the small aluminium bag and take the short yellow void filling strips with the pointed ends.

A. Cables with wire shield

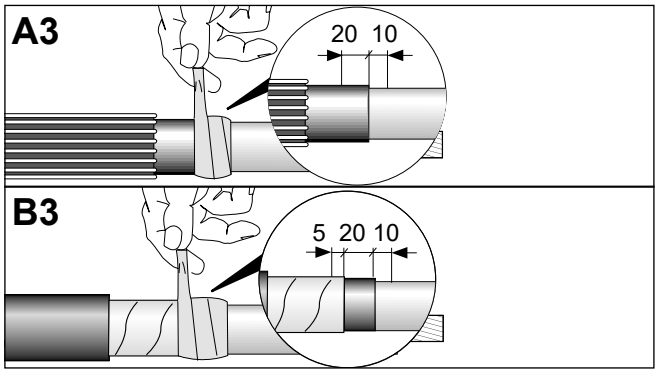
Remove the release papers and wrap the void filler around the core screen starting 20 mm from the end of the screen and continue onto the insulation for 10 mm.

B. Cables with tape shield

Remove the release papers and fix the metal tape shield into place with the void filler tape starting 5 mm onto the copper tape shield continuing over the core screen covering the insulation for 10 mm.

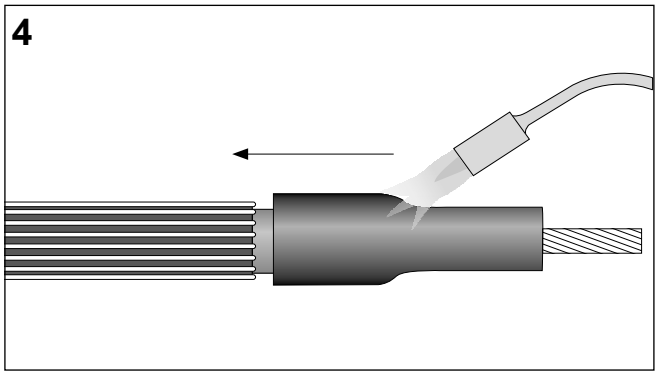
Both cable types

Stretch the strip to about half of its original width to achieve a fine, thin edge onto the insulation.



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 insulation cut back towards the oversheath as shown in drawing.

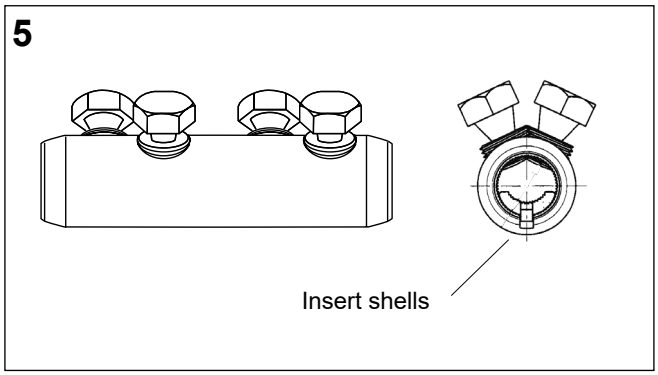


Installation of the mechanical connector

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 conductor.

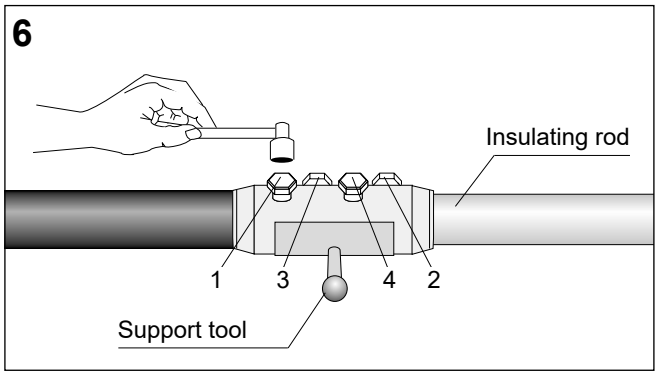
Insert conductor and the insulating rod so that the insulation butts against the end of the connector. Hand tighten the shear bolts so that the connector stays in place.

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:

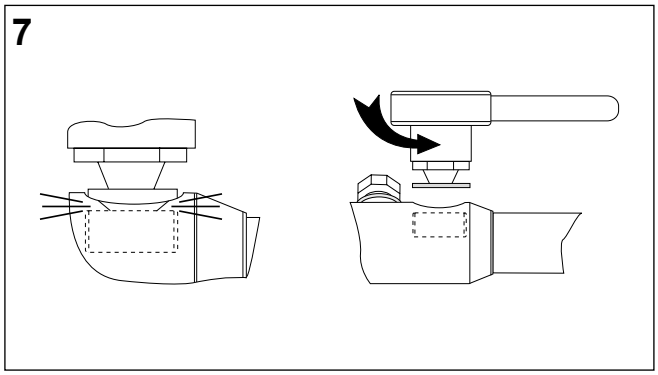
• When a cordless impact wrench is in use the tightening intervals should be in the range of 2 seconds.

• Avoid core bending on smaller cross sections by using a support tool available such as IT-1000-019 or similar.



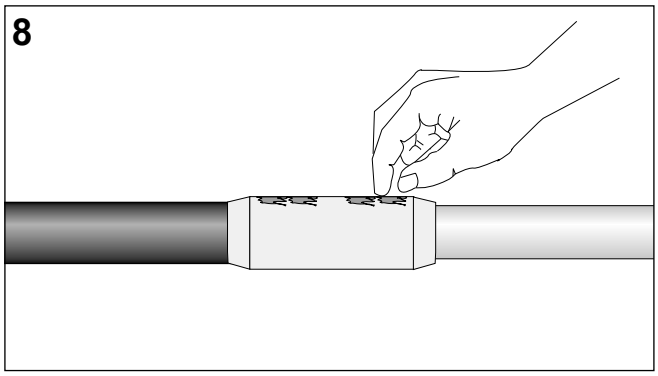
Smooth out any sharp edges of protruding bolts where appropriate. Clean and degrease the connector area and the insulation with a cleaning wipe.

It could be possible that the bolt shears but the top is retained in the connector body. In that case unscrew the head of the bolt until it is removed from the connector.



Clean and degrease the cable cores and the connector.

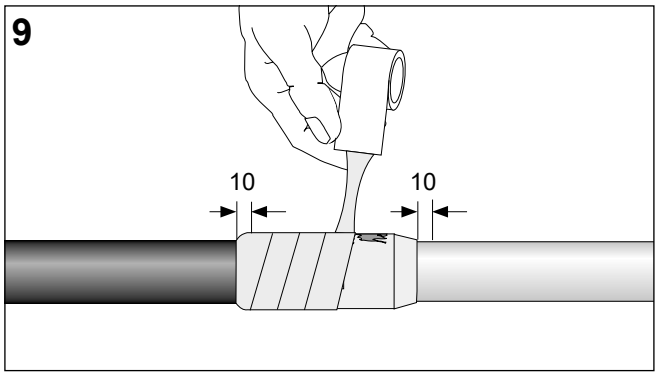
Smooth out any shear bolt indentations using the provided clay filling mastic.



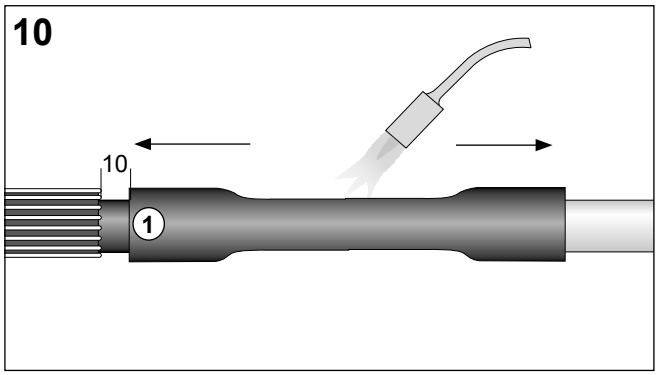
Remove the release paper from the void filling tape (yellow). Apply the tape with a 50 % overlap stretching it to about half of its original width.

Fill up the connector area continuing onto the insulation for not more than 10 mm. Use the filler to achieve a smooth transition from the connector onto the insulation.

Note: Do not use too much void filler, max. 2 mm over the connector



Pull the stress control tubing (black) from the inside of the tubing set and position it centrally over the connector. Start shrinking in the centre working towards the ends. The tubing should be fully shrunk and wrinkle free.

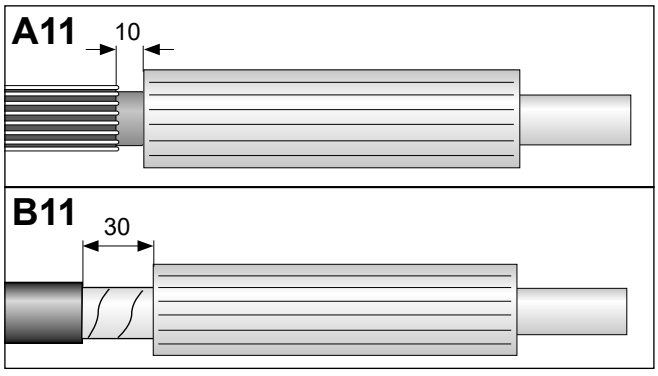


A. Cable with wire shield

Position the screened insulation sleeve (black and red) 10 mm from the end of the oversheath cut.

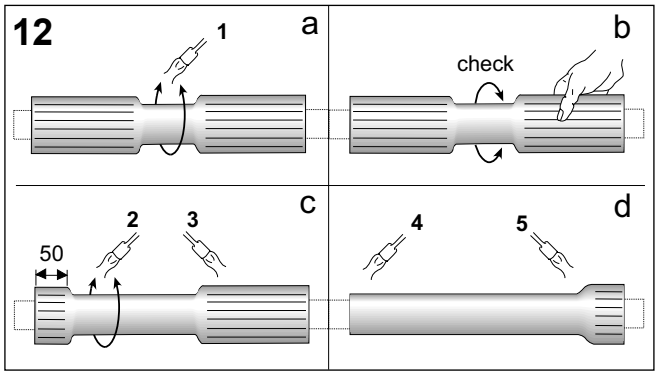
B. Cable with metal tape shield

Position the screened insulation sleeve (black and red) 30 mm from the end of the oversheath cut.



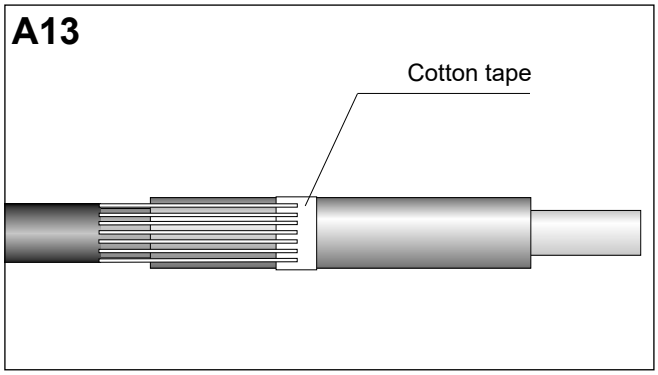
a. Start shrinking the sleeve in the centre (1).
b. Check if fully shrunk by twisting the end.
   The **sleeve should not move** from its position.
c. Continue shrinking by working towards one side (2), stopping 50 mm from the end.
   Shrink the other half in the same way (3).
d. Shrink down the first end (4) and finally the second (5).

The sleeve should be fully shrunk without leaving ridges.



A. Cable with wire shield

Wrap two layers of cotton tape on the screened insulation sleeve below the end of the shield wires.

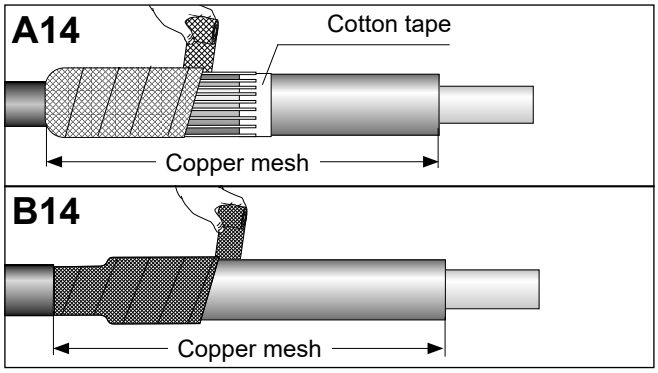


A. Cables with wire shield

Wrap one layer of copper mesh with a 50% overlap around the end seal. Start at the oversheath covering the complete screened insulation sleeve.

B. Cables with metal tape shield

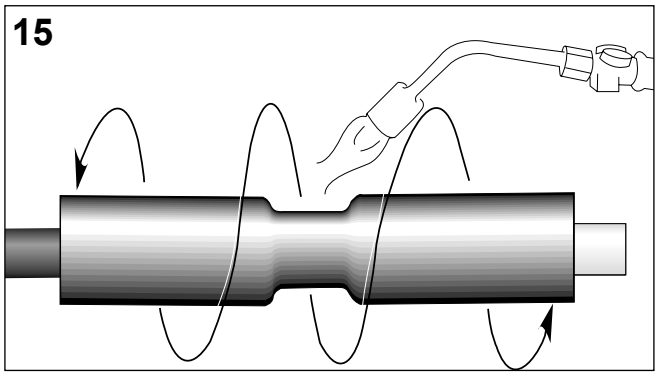
Wrap one layer of copper mesh with a 50% overlap around the end seal. Start on the metal shield covering the complete screened insulation sleeve.



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

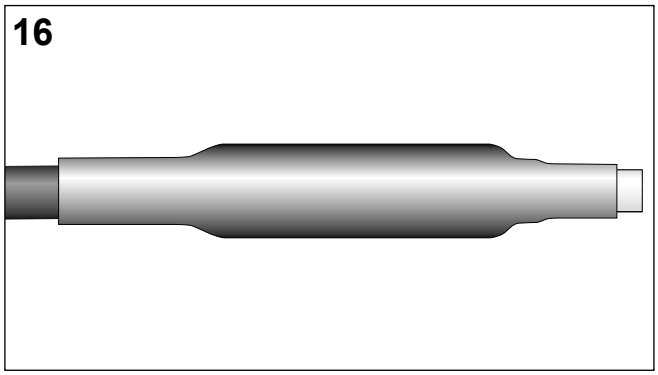
Centre the outer sleeve (black) over the copper mesh area.

Start shrinking in the centre, working towards the ends.



End Seal completed.

Allow to cool before applying any mechanical strain.



Please dispose of all waste according to environmental regulations.