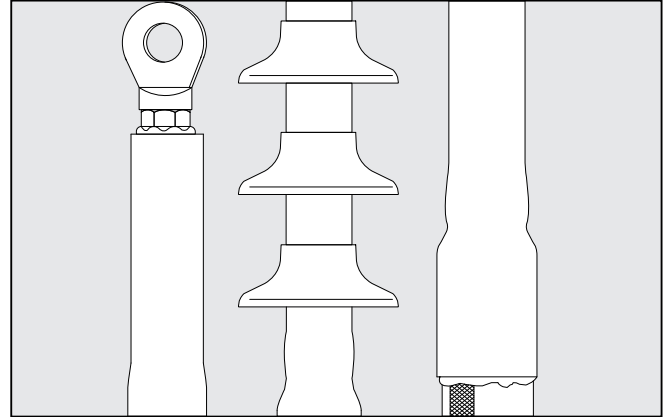


## INSTALLATION INSTRUCTIONS

EPP-2928-3/23

### Terminations for Screened Single Core Polymeric Insulated Cables up to 42 kV

### POLT (IXSU / OXSU-F)



TE's Raychem Cable Accessories

#### NOTE

Separate Raychem earthing kits are recommended for cables with metal tape shield, with aluminium wire screen or with armour.

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.

Please dispose of all waste according to environmental regulations.



For more information: [te.com/energy](https://te.com/energy)

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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.

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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 rips 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.

## 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.

**Video information:**  
Semicon Layer Removal



## 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.

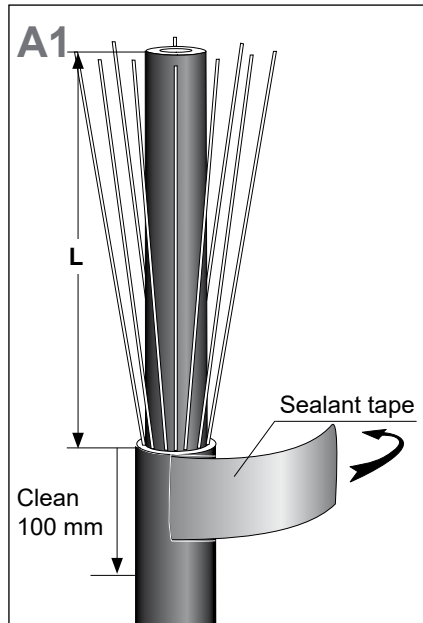
If cables are outside those standard dimensions, pls contact your local support for advise.

**Table 1 - Cut Back Dimensions**

Volt.	Type POLT-	Wire Shield		Tape Shield	
		L indoor [mm]	L outdoor [mm]	L indoor [mm]	L outdoor [mm]
12	12C - 12D	190	230	200	240
	12E - 12F	230	230	240	240
24	24C - 24F	270	370	280	380
42	42C - 42F	430	490	440	500
	42G - 42H	490	490	500	500

## Cable Preparation

### A. Cable with wire shield



#### **NOTE**

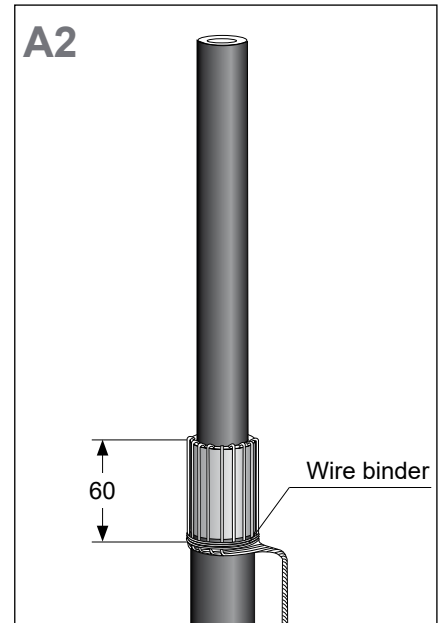
If Raychem solderfree earthing kits for tape screen or armour are used, read the additional installation instruction enclosed, before continuing.

Cut the cable to the required length.

Remove the overshooth according to dimension **L** (see **Table 1**, page 2).

Clean and degrease the end of the overshooth for about 100 mm.

Wrap the red sealant tape around the end of the overshooth.



Bend the shielding wires back onto the overshooth. Avoid crossing the individual wires.

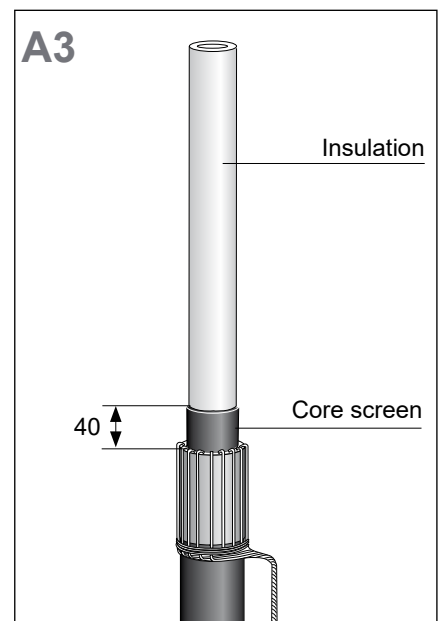
Fix the shielding wires with a wire binder 60 mm from the end of the overshooth. Gather the shielding wires together to form an earth lead.

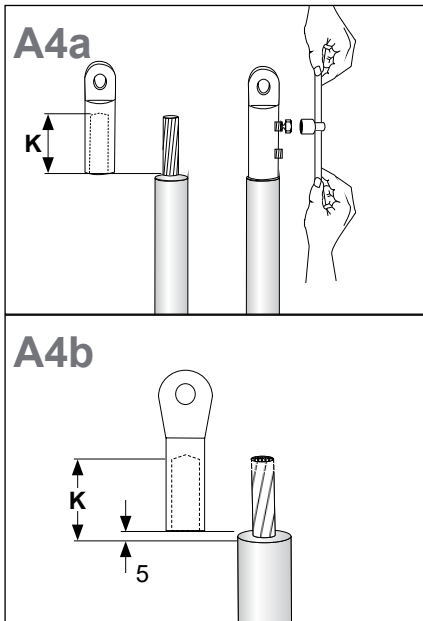
Thoroughly remove the core screen to within 40 mm of the overshooth cut. The surface of the insulation should be free from all traces of conductive material. Smooth out any irregularities.

#### **NOTE**

**Do not nick the insulation.**

Watch video  
(View-0132)





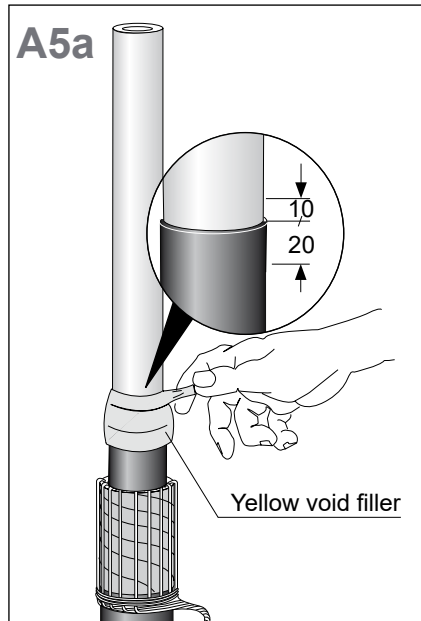
Cut back the insulation according to dimension **K** given in drawing details.

**a. Mechanical lugs**

Install the cable lug. Take up the tension equally on the bolts. Tighten the bolts until heads shear off.

**b. Crimp lugs**

Install the cable lug.

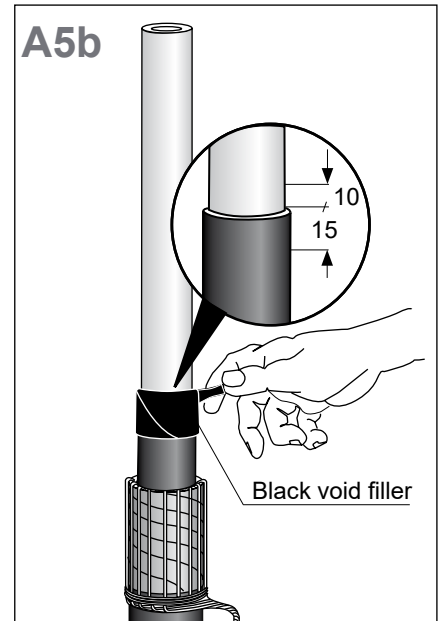


**12 - 24 kV**

Clean and degrease the lug and insulation. Remove the release paper and wrap the yellow void filling strip 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 onto the insulation.

Watch video  
(View-0136)



**36 - 42 kV**

Remove the release paper and wrap the black void filling strip around the end of the core screen.

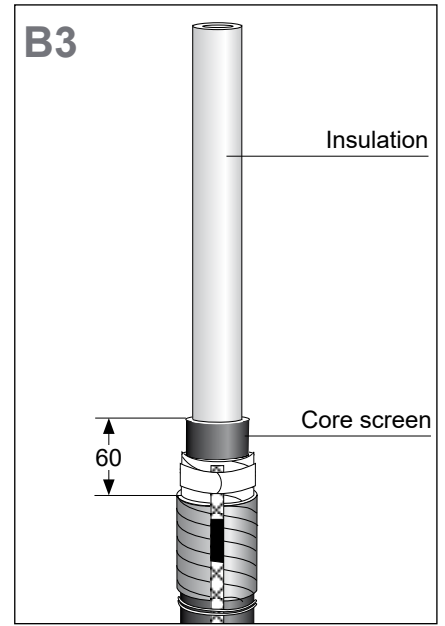
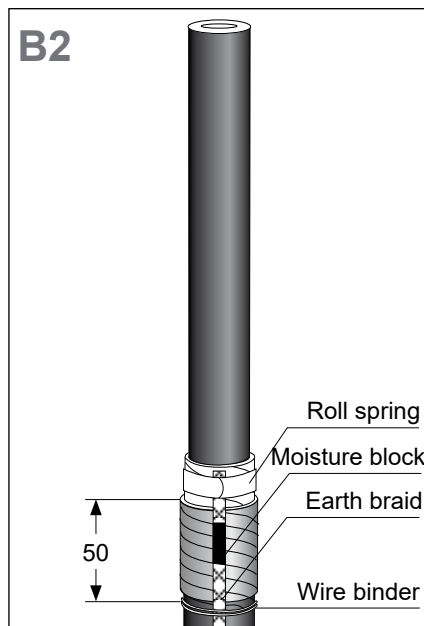
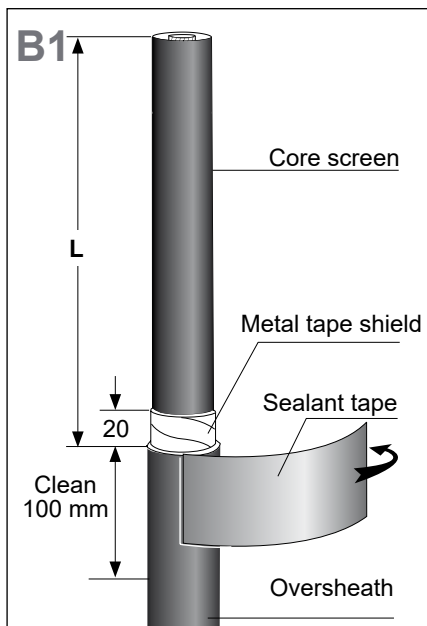
Stretch the tape to 50 % of its original width.

Cover 15 mm of the core screen and 10 mm of the insulation.

Watch video  
(View-0133)



**Cable Preparation**  
**B. Cable with metal tape shield**



**NOTE**

If Raychem solderfree earthing kits for tape screen or armour are used, read the additional installation instruction enclosed, before continuing.

Cut the cable to the required length.

Remove the oversheath according to dimension **L** (see **Table 1**, page 2).

Remove the metal tape shield to within 20 mm of the oversheath cut.

Clean and degrease the end of the oversheath for about 100 mm.

Wrap the sealant tape (red) around the end of the oversheath.

Bind and solder the earth braid to the metal tape shield (or attach the earth lead by any other equivalent method).

Fill the earth braid with solder to form a 30 mm moisture block 20 mm from the oversheath end.

Tie the earth braid with a wire binder to the oversheath directly below the sealant tape.

Thoroughly remove the core screen to within 60 mm of the oversheath cut.

The surface of the insulation should be free from all traces of conductive material.

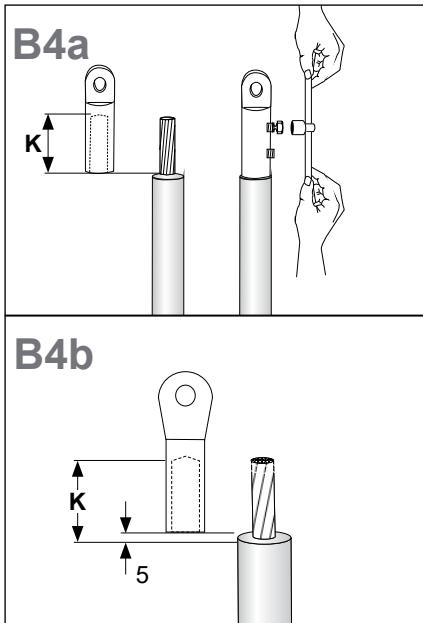
Smooth out any irregularities.

**NOTE**

**Do not nick the insulation.**

Watch video  
 (View-0132)





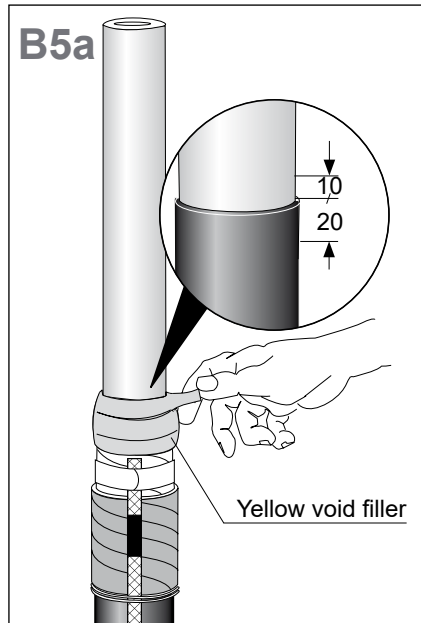
Cut back the insulation according to dimension **K** given in drawing details.

**a. a. Mechanical lugs**

Install the cable lug. Take up the tension equally on the bolts. Tighten the bolts until heads shear off.

**b. b. Crimp lugs**

Install the cable lug.



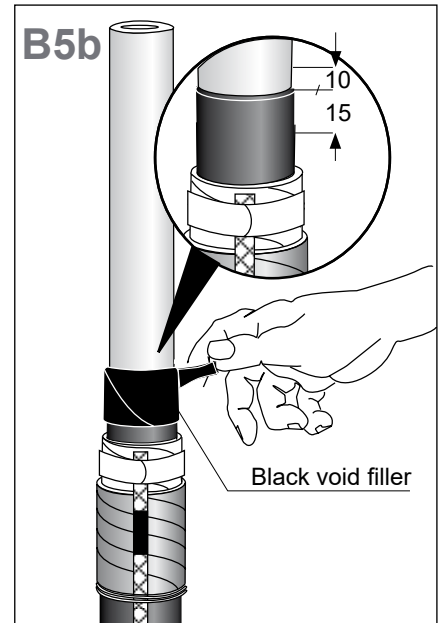
**12 - 24 kV**

Clean and degrease the lug and insulation.

Remove the release paper and wrap the yellow void filling strip 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 onto the insulation.

Watch video  
(View-0136)



**36 - 42 kV**

Remove the release paper and wrap the black void filling strip around the end of the core screen.

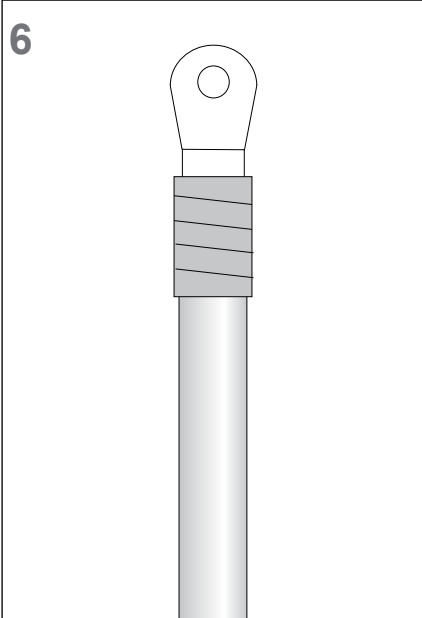
Stretch the tape to 50% of its original width.

Cover 15 mm of the core screen and 10 mm of the insulation.

Watch video  
(View-0133)



## Completion of Termination



### Shim of the cable lug barrel:

Use additional red sealant tape to shim the cable lug barrel for following voltage levels and cross sections.

**12 kV:** 10 to 25 mm<sup>2</sup>

**17,5 kV:** 16 to 25 mm<sup>2</sup>

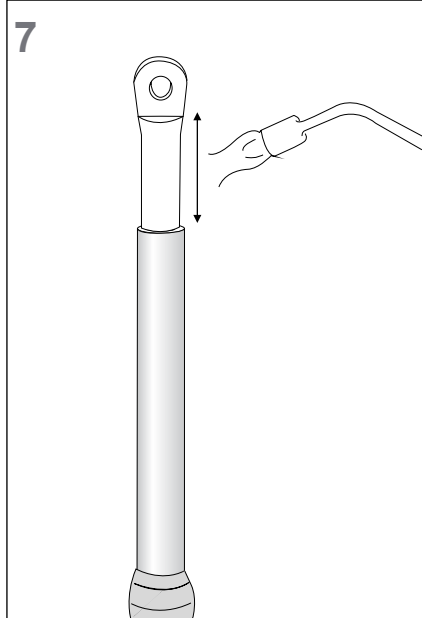
**24 kV:** 25 mm<sup>2</sup>

**36 kV:** 35 to 50 mm<sup>2</sup>

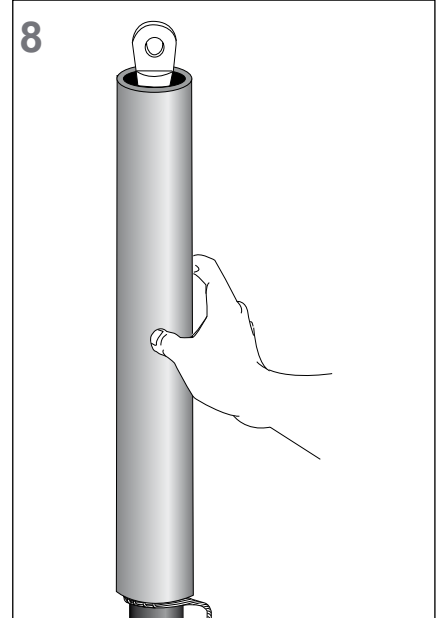
**42 kV:** 35 to 50 mm<sup>2</sup>

Shrink the tubing down starting at the screen cut **using a soft yellow flame**. Heat the area well but avoid scorching of surface. Continue shrinking towards the cable lug. Finally shrink down the bottom end of the tubing. The numbers in the drawing indicate the shrink sequence.

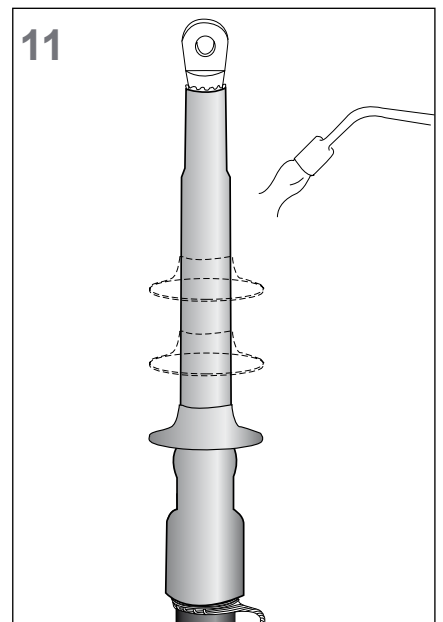
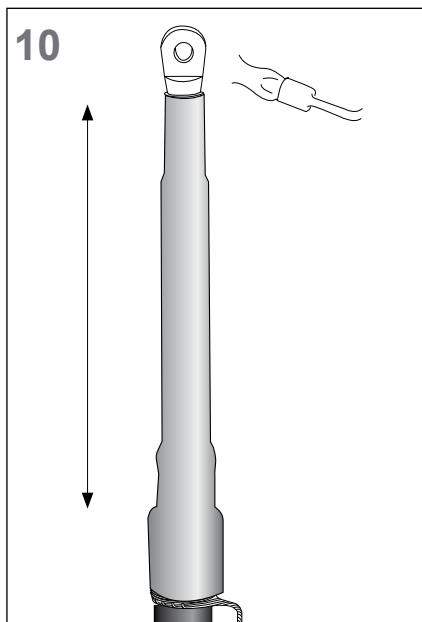
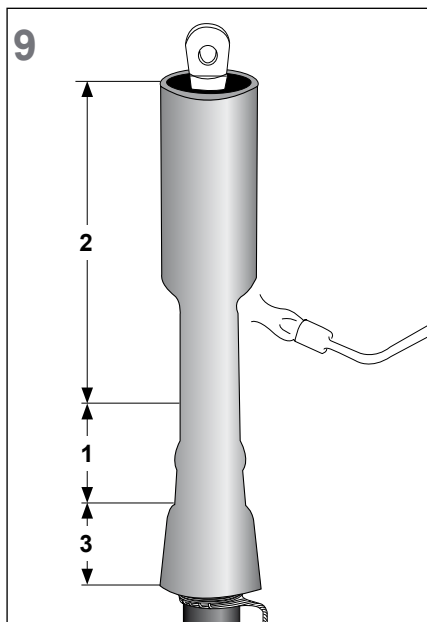
Watch video  
(View-0134)



Preheat the cable lug slightly before placing the tubing over the core.



The bottom end of the tubing should be level with the wire binder.



### Indoor termination completed.

#### NOTE

After installation the termination must be post-heated as well as the palm of the cable lug until a bead of sealant (green) appears around the top of the tubing.

Allow the termination to cool before applying any mechanical strain.

### For outdoor terminations:

Shrink the skirts into place at the position shown in the drawings on the back page. Start with the first skirt on the lowest position.

Watch video  
(View-0137)



0 cm

5

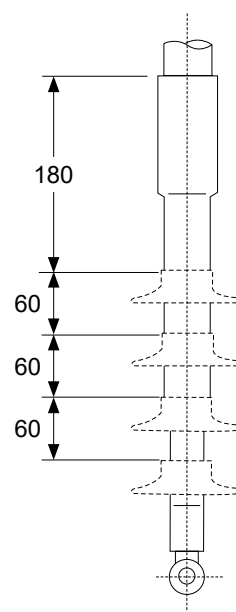
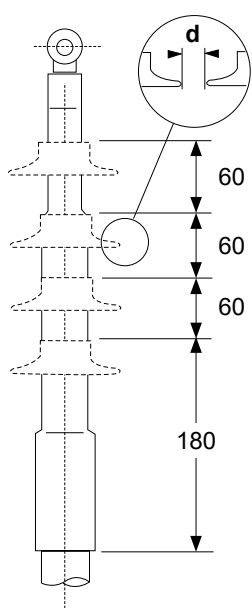
10

15

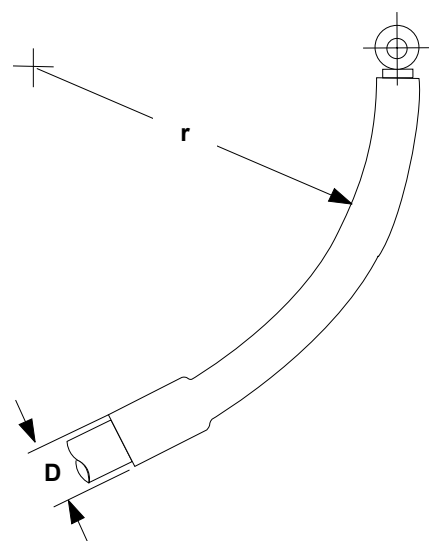
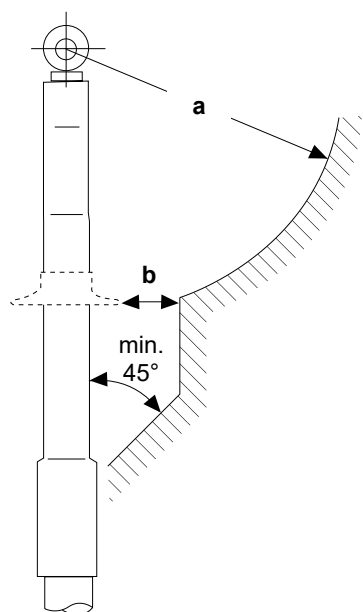
20

25

Number of skirts per core		
kV	Indoor	Outdoor
12	0	1
17.5/24	0	3
36	0	4
42	0	4 </td



**Minimum bending radius and clearances**



Min. clearances		Max. system voltage in kV				
		12	17.5	24	36	42
<b>a</b>	Air clearance	as for local specifications				
<b>b</b>	ph/ph and ph/ground in mm	15	20	25	35	45
<b>d</b>	Between skirts in mm	10	15	20	25	35
<b>r</b>	(min. bending radius) = 15 x D					