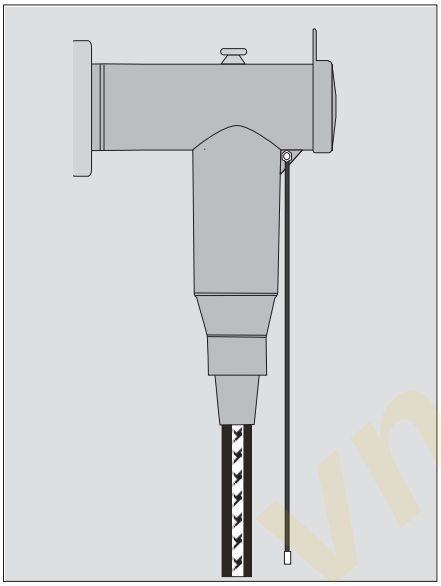
Raychem
Energy Division



# Installation Instruction

## EXRM-810-ELB-II FRONT

PII-0071-1
Screened Separable Connector 800A for Single Core Polymeric Insulated Cable up to 17.5kV / 24kV

Typ: ELBC-8xx

**Safety Warning:**
**It is essential to observe the applicable safety regulations for working with high voltage equipment.**
**For precise safety information please contact the responsible authority.**



**Tyco Electronics**
**Energy Division**

Version : 1
Date : 20 Jan. 11

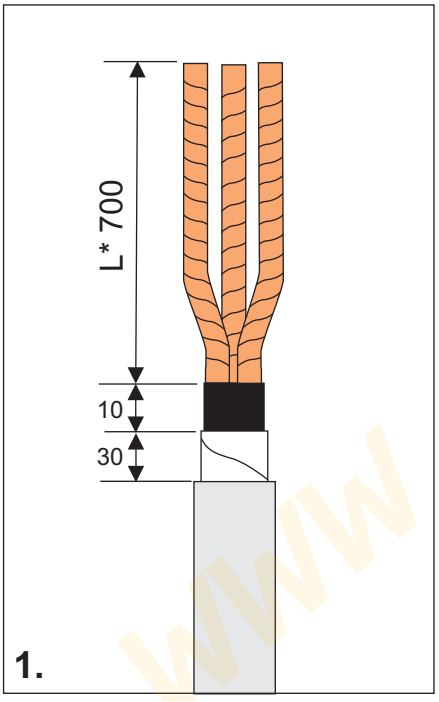
## Before Starting

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 work steps may have been improved since you last installed this product.
Carefully read and follow the steps in the installation instruction.

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



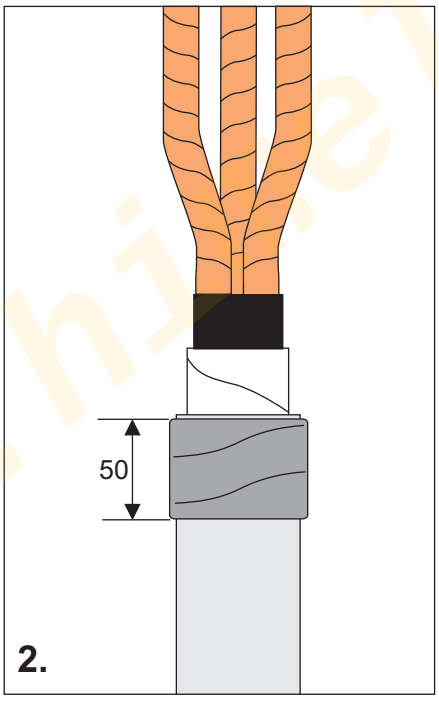
For single core cables, please jump to step 7.
For copper wire shielded cables, please contact with local selling group.



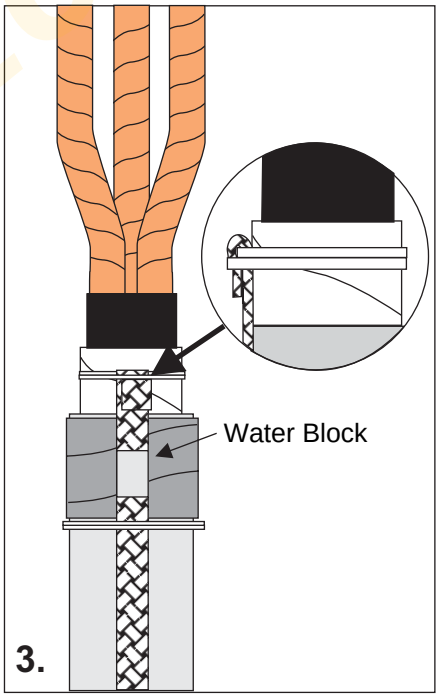

Remove the over sheath, tape armour and inner sheath according to the dimensions given in drawing 1.

L*= The length of cable core insulation tube in coupling. The actual length should be defined according to overall dimensions of the facilities.

Note: Avoid damaging the insulation shield while cut off the over sheath and armour.




Strip away the isolation paper on the red mastic sealant, and then wrap one layer of the sealant around the over sheath about 50mm length.

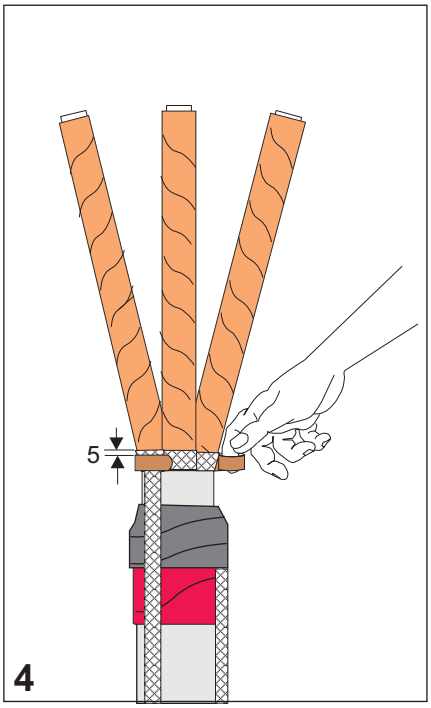



Attach the copper braid on to the armor with a wire binder.

Push the braid on to the sealant.

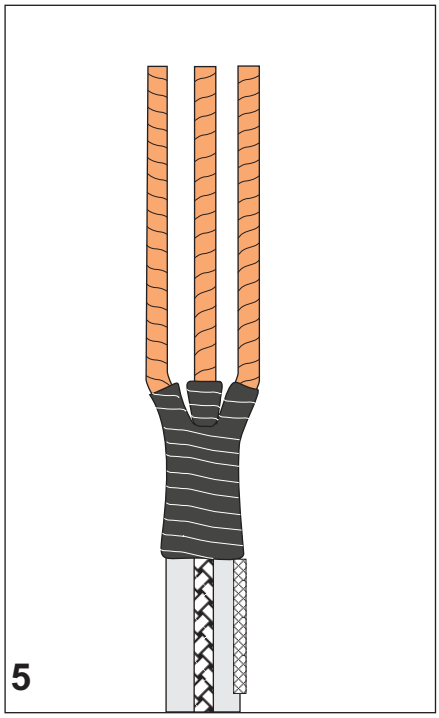
Then fix the braid on the over sheath below the sealant.

Note: Ensure the waterproof blocker (if has) is on the red mastic sealant.



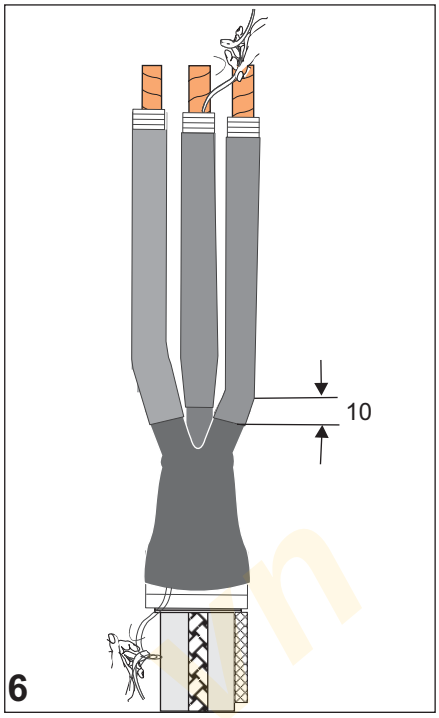

Wrap the longer copper braid across the cores bottom, and fix it with roll spring 5 mm from the upper edge of the braid.

Note: The position of this copper braid should be adjusted to the other side of the shorter one.




Wrap two layers of waterproof tape from the copper tape shield till the end of mastic sealant, to cover all burrs and sharp edges.

Note: Avoid overlap of the two copper braids.




Pass the breakout over the cores, pulling it well down into the cable crutch.

Remove the core of the breakout.

Slide the gray over sleeve onto the tape shielded cable cores.

Bend the cable core closely to the bushing. Mark on the surface of the core the position aligning to the inner bottom of the lug, and cut off the cable upon the mark(Measure at site).

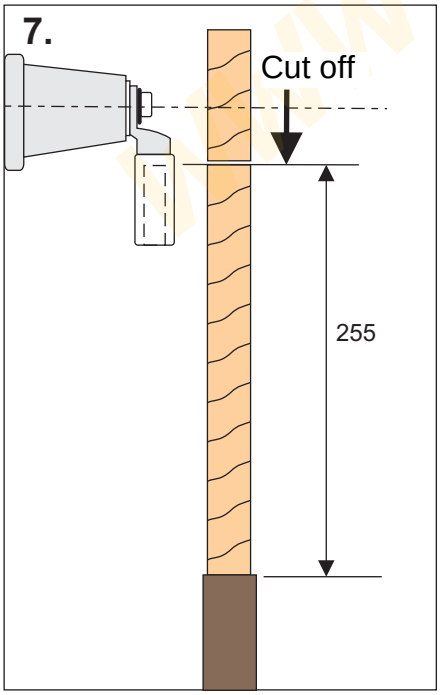
Note: Straighten the cable till 700mm below the mark before cut it.

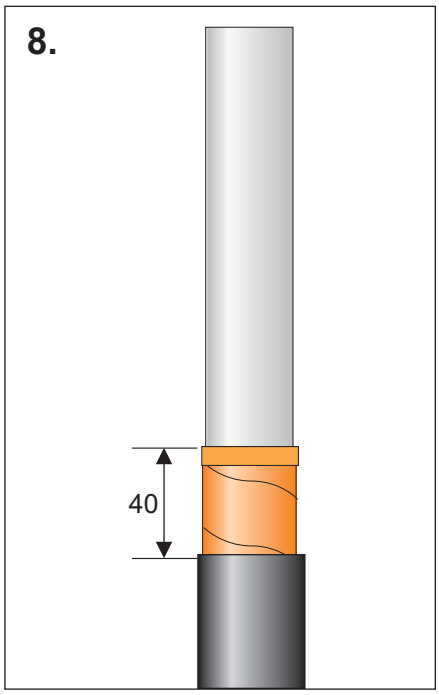
## Core Preparation

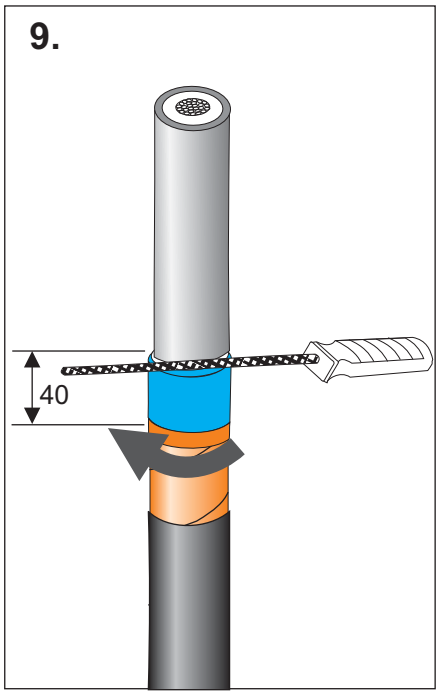
Remove the metal tape shield according to the dimension as shown, and keep the metal tape shield in place with a copper adhesive tape.

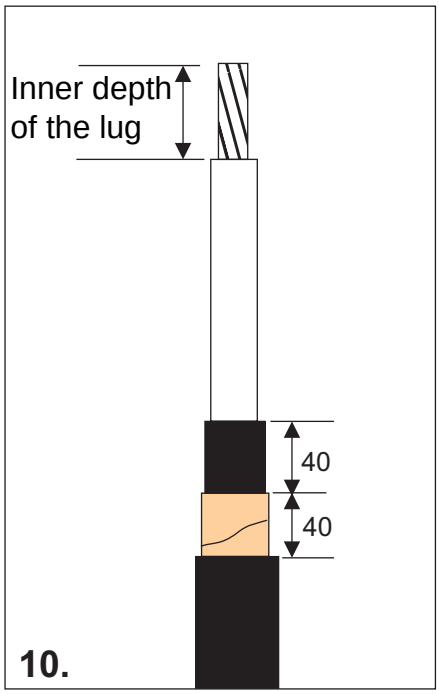
Wrap few layers of PVC tape over the core screen at 35mm below the end. Use round file to take away core screen in the cutback area until the white XLPE appeared. Use the depth limiting cutter to cut the core screen and throughly remove the core screen. Remove the PVC tape.

**Note :** Do not nick the core screen and insulation!



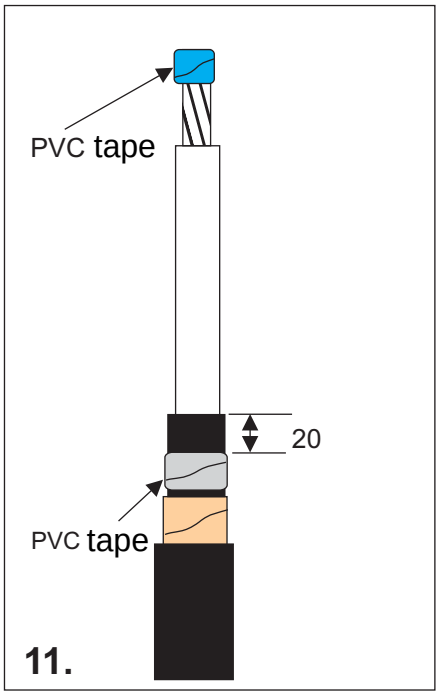



Cut back the insulation according to the the lug barrel hole.

A, For mechanical lugs, the cut length equals to the depth of the lug barrel hole.

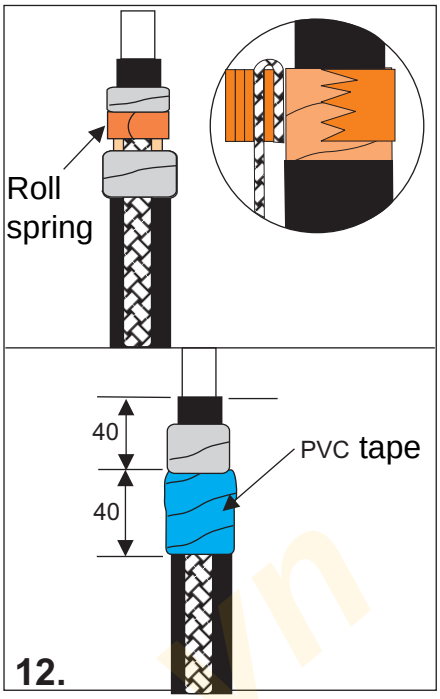
B, for compression lugs, the cut length equals to the depth of the lug barrel hole +5mm.
Remove the core protective sleeve, metal tape screen and core screen. The surface of the insulation should be free from all traces of conductive material.

Note:
Avoid damage to the insulation shield.




Wrap two layers of PVC tape 20mm below the cut end of core screen as shown for marking purpose.

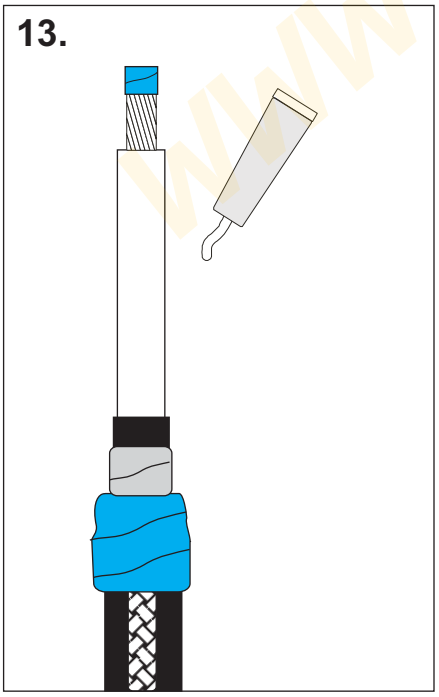
Wrap two layers of temporal PVC tape cover the end of the core conductor.




Insert the waterproof blocker (if has) into the grounding braid. Fix with roll spring the braid onto the metal tape screen aligning to its cut end. Adjust the position of waterproof blocker, make it coincide with the gray mastic sealant.

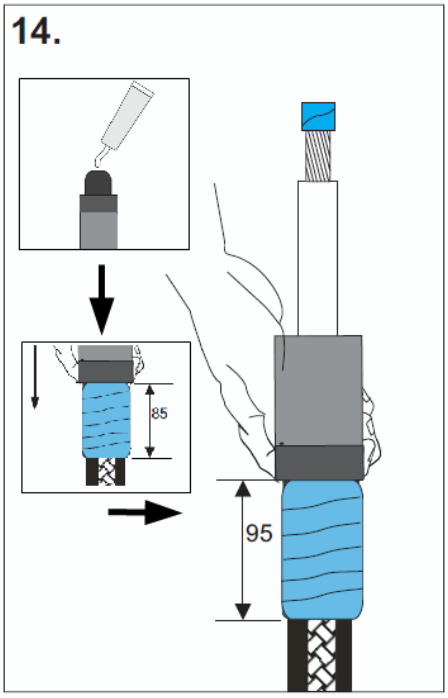
Wrap two layers of PVC tape according to dimension as shown, the tape should cover both of the 20mm metal tape screen and 20mm length of the core protective sleeve. The total wrapping length is 40mm.

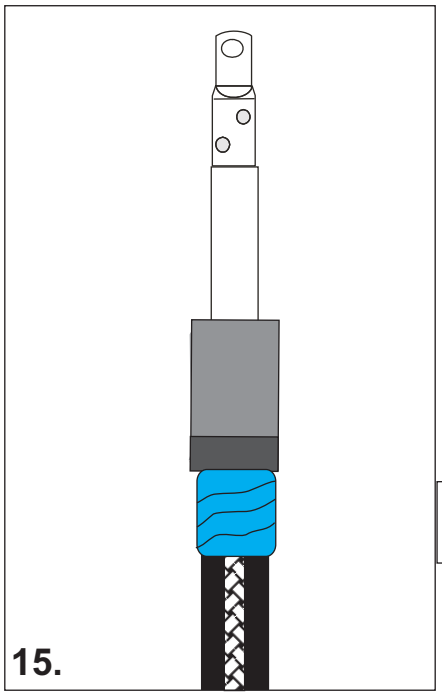
If all grounding braids have already been installed, please skip this step.




Apply a thin layer of assembly lubricant onto the core insulation shield.

Apply onto the inner surface of the stress cone at the bottom end a 3 cm long sausage of assembly lubricant and spread it evenly over the inner surface. Push the stress cone in one sequence with a twisting movement onto the insulation until the bottom of the stress cone reaches the PVC mark on core screen.
Wrap two layers of sealant tape around the lower part of the stress cone, lightly tight the tape to avoid air gap or bubble and cover 85mm below the step of the stress cone.
Wrap another two layers of PVC tap from the lower step of the stress cone and cover 95mm length.





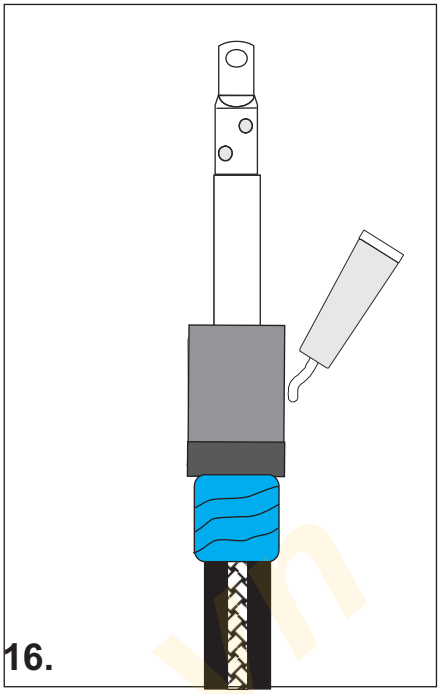

Remove the temporal PVC tape from the conductor. Install the cable lug.

While installing compression lugs, should start the compressing from the end to the bottom of the lugs orderly.
While installing mechanical lugs, should tighten the bolt set alternately in several equal steps until the heads shear off. select to install spacer according to below table.

Remove any sharp edges.
Clean insulation and lug.

| Conductor Section | 35 | 50 | 70 | 95 | 120 | 150 | 185 | 240 | 300 |
|---|---|---|---|---|---|---|---|---|---|
| 25/95 lug | Y | Y | N | N | | | | | |
| 95/240 lug | | | | Y | Y | Y | N | N | |
| 185/300 lug | | | | | | | Y | Y | N |

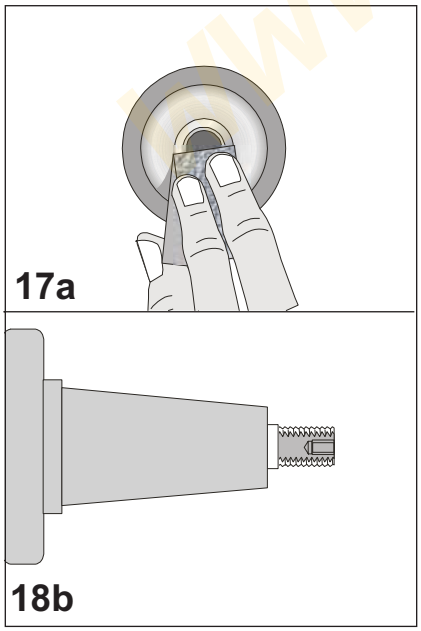
Apply a thin layer of lubricant onto the outer surface of the stress cone

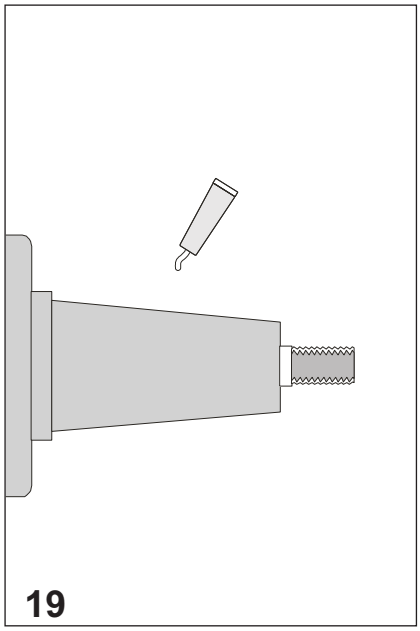


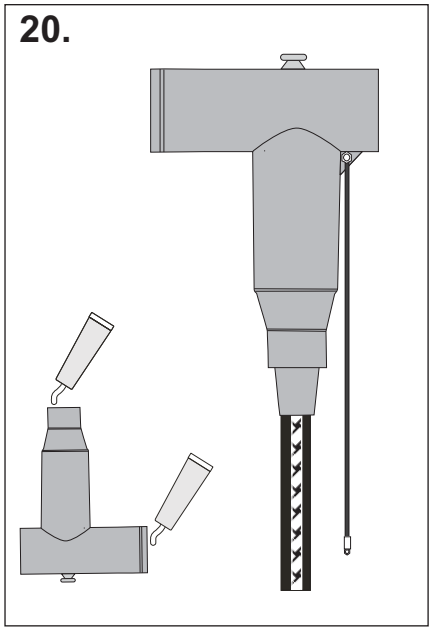

**a.** Abrade and clean the contact ring of the bushing thread from residuals such as resin or varnish if any.
**b.** Insert the threaded stud into the bushing and tighten it up with an Allen key (8 mm). Maximum torque: **35 Nm**.

Clean the conical surface of the bushing and lubricate it with the assembly lubricant as shown.

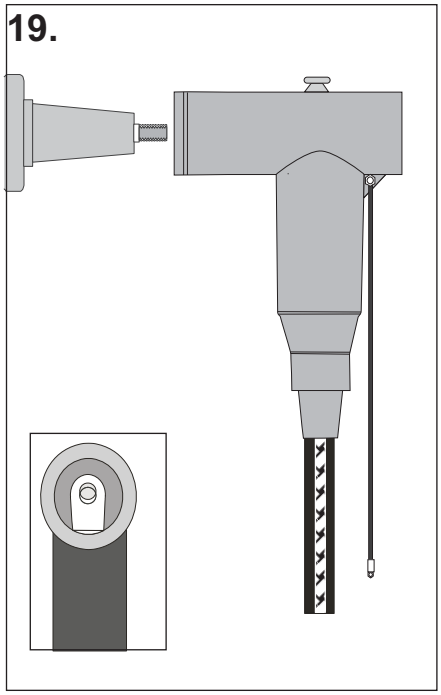
Clean and degrease the bottom and front end of the screened connector body and apply a thin layer of lubricant onto the inner surface.
Push screened connector body with no interruption onto the stress cone and hold it. Continue **immediately** with the next step.



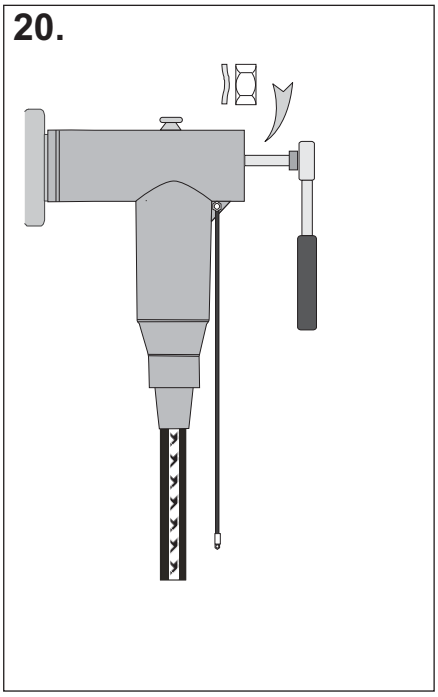
**19.**



Align the eye of the cable lug with the threaded pin and push the screened connector onto the bushing.

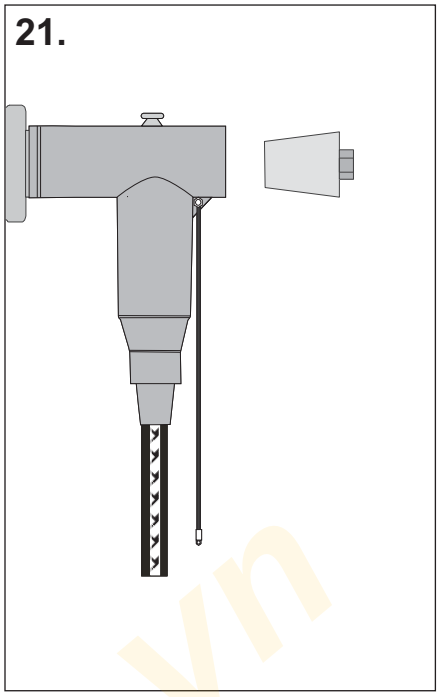
Note: Ensure the center line of the screened connector body bottom are aligned with the center line of the stress cone and the cable.

**20.**



Insert the spring washer and hex nut. Tighten the hex nut onto the stud with a spanner (24 mm) at a torque of **30 Nm**.

**21.**



Clean the inner surface of connector back end and apply a thin layer of assembly lubricant. Do the same with the conical interface of the back plug.

Ensure that the grounding lead is fastened tightly. Fix the cable under the connector and align to the center line of the screened connector bottom to avoid warp of cable.

**Perform connection to ground. Screened separable connector completed.**

**Please dispose of all waste according to environmental regulations.**

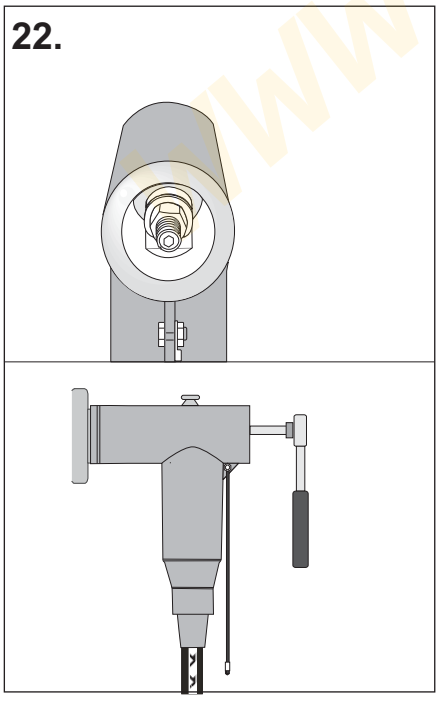
Insert the back plug and screw it into place using a spanner (19 mm) at a torque of **30 Nm**.

Regard the test point grove as a positioner to install the endcap

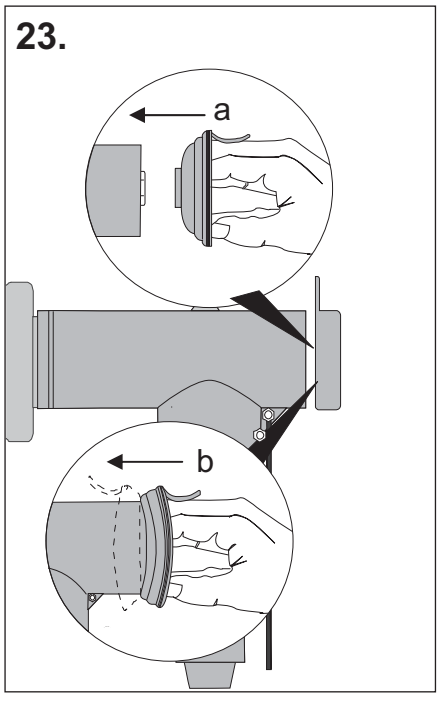
**a.** Flip-back the endcap as shown in **detail a**. Position the protruding ring onto test point.

**b.** Flip the endcap into fi nal position with your fi nger as shown in **detail b**.

**22.**



**23.**




**24.**