

**CAUTION** : Read instructions thoroughly and completely prior to beginning installation.

## Installation Instructions

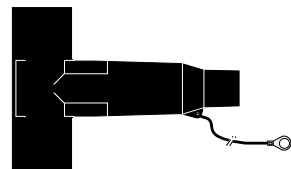
# (K),(M),(P)400TB/G

## Separable Tee Connector - Type C interface

Only to be used on copper wire screened cable with  
extruded easy strip or bonded semi-conductive screen (Part A) or fabric tape screen (Part B)

### Required components for the connector installation :

1 x Tee connector housing - 400BT/G



1 x Cable reducer - 411CA-W



1 x Clamping screw - 400TCS



1 x Conductor contact - TBC-X or TMBC-X



1 x Basic insulating plug + cap - 400BIPA



- Field control mastic, type MFC
- Silicone grease + wipers
- Installation instructions + crimp chart

### Further required components depending on application and cable type (optional supply) :

- Semi-conductive tape, type TSC, for fabric tape screened cable only
- Water sealing mastic, type MWS, for outdoor applications only

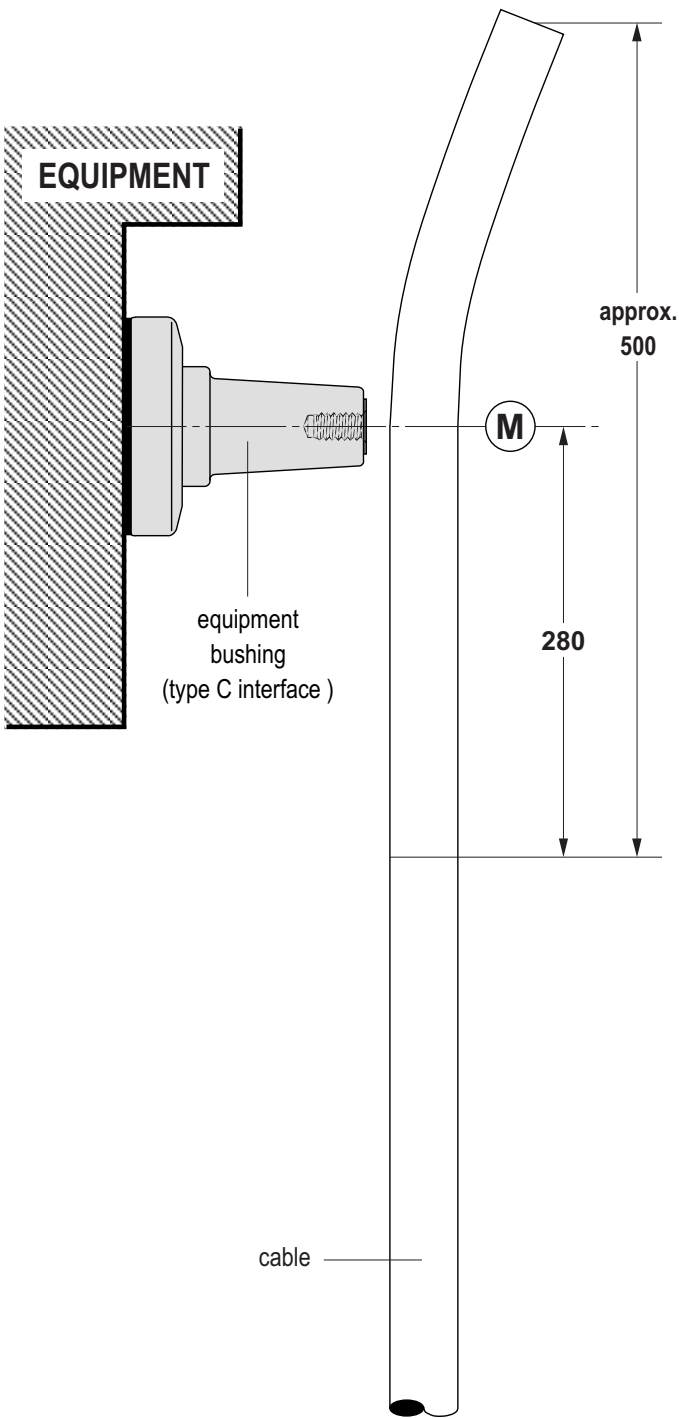
90358E-R/10

This product should be installed only by competent personnel trained in good safety practices involving high voltage electrical equipment. These instructions are not intended as a substitute for adequate training or experience in such safety practices. These instructions do not attempt to provide for every possible contingency.

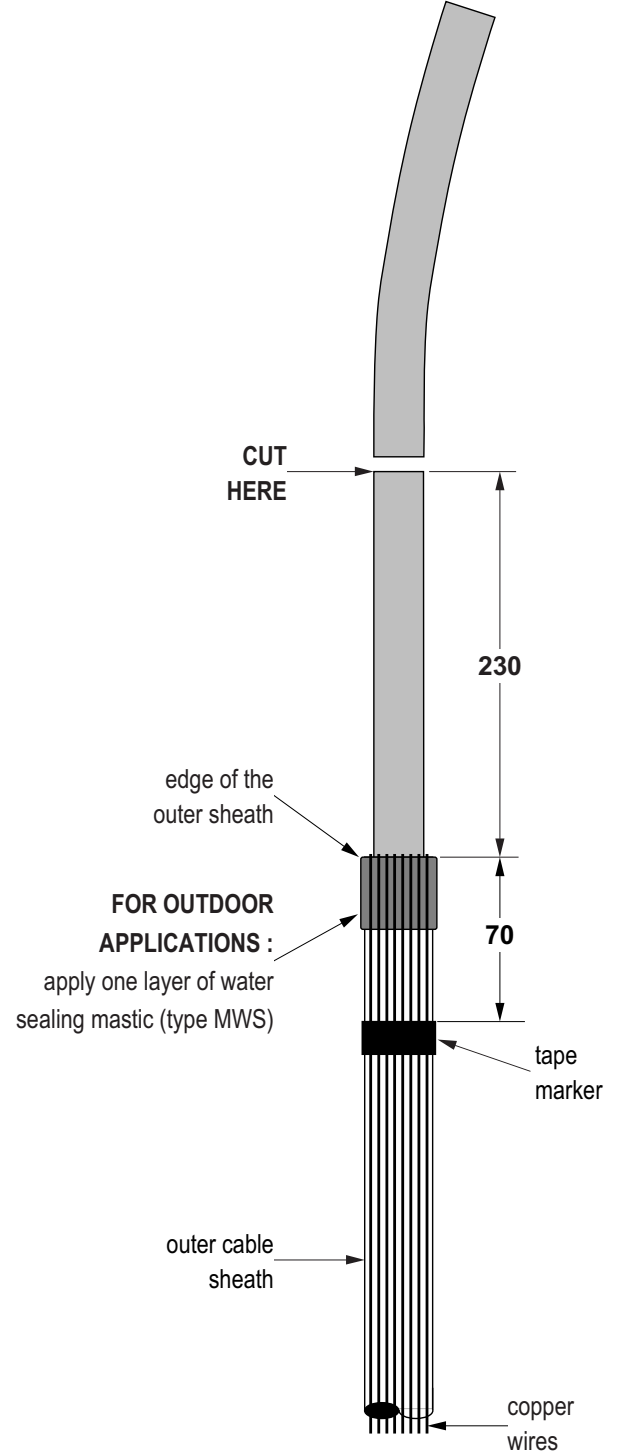
Failure to follow these instructions could result in damage to the product and serious or fatal injury.

**IMPORTANT** : Cable and associated apparatus must be de-energised, locked out, and tagged prior to product installation.

**FOR INFORMATION ONLY** Please always use the instructions supplied in the kit



1. Train the cable into the approximate finished position next to the equipment bushing.
2. Remove the outer cable sheath to a point **280** mm from the centre line «M» of the bushing.



3. Apply a tape marker around the outer sheath **70** mm from the edge. For indoor applications, bend the screen wires back over the outer sheath and proceed to step no. 4.

**FOR OUTDOOR APPLICATIONS :**

- Wrap one layer of water sealing mastic (type MWS) around the outer sheath, flush with the end (**25** mm minimum width). Completely encircle the cable.
  - Bend the screen wires back over the mastic and along the outer sheath, pressing them into the mastic.
- IMPORTANT:** screen wires should not touch each other when pressed into the mastic to prevent water ingress.

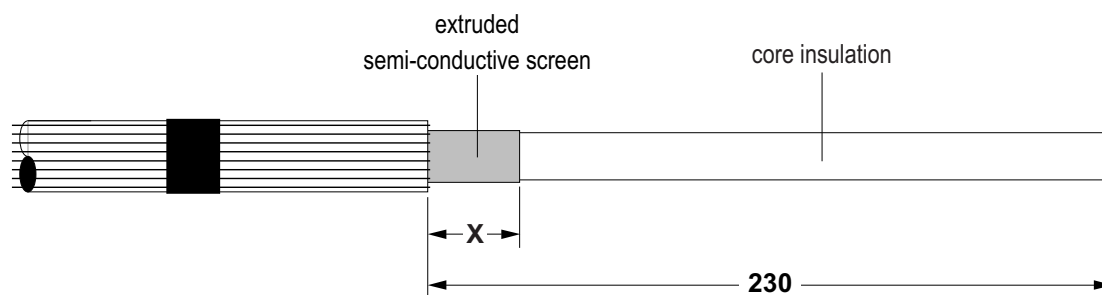
4. Cut the cable to a point **230** mm from the outer sheath.



## CABLE PREPARATION

### PART A

#### Copper wire screened cable with extruded semi-conductive screen



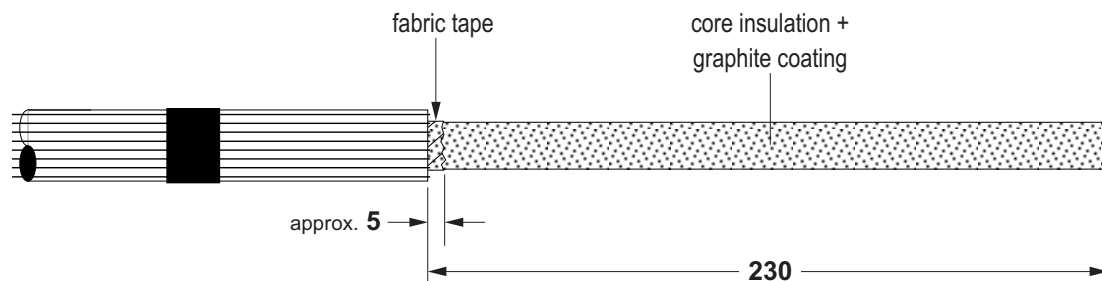
	X
400TB	45
K400TB	45
M400TB	45
P400TB	25

1. Check distance of **230** mm.
2. Remove the extruded semi-conductive screen up to a point **X** mm from the outer sheath.  
For extruded easy strip conductive screen : cut squarely taking care not to cut the core insulation.  
For bonded extruded conductive screen : use an appropriate pencilling tool.
3. **REMOVE ANY TRACES OF CONDUCTIVE RESIDUE FROM THE CORE INSULATION.**

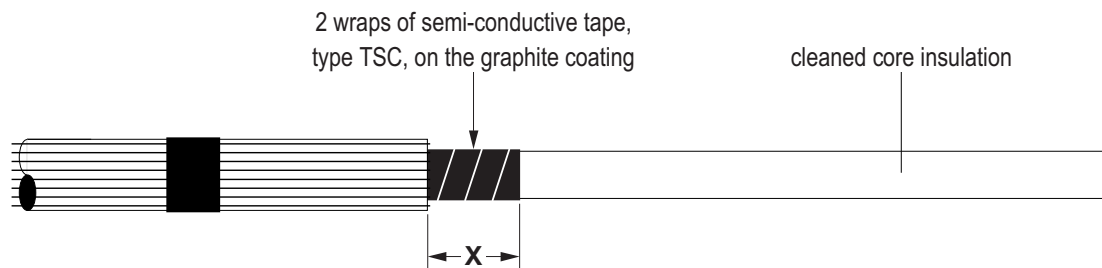
**PROCEED ON PAGE 4 : REMOVAL OF THE CORE INSULATION**

### PART B

#### Copper wire screened cable with fabric tape screen



1. Check distance of **230** mm.
2. Remove the fabric tape to a point approx. **5** mm from the outer sheath.  
**DO NOT REMOVE THE GRAPHITE VARNISH AT THIS STAGE.**

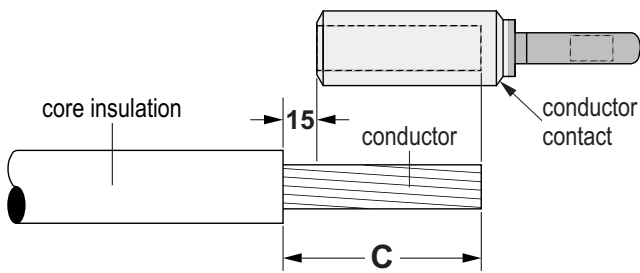


	X
400TB	45
K400TB	45
M400TB	45
P400TB	25

3. Apply 2 wraps of semi-conductive tape, type TSC, on the graphite coating up to a point of **X** mm from the outer sheath.
4. **USING AN APPROPRIATE SOLVENT THOROUGHLY REMOVE THE GRAPHITE COATING UP TO THE SEMI-CONDUCTIVE TAPE.**

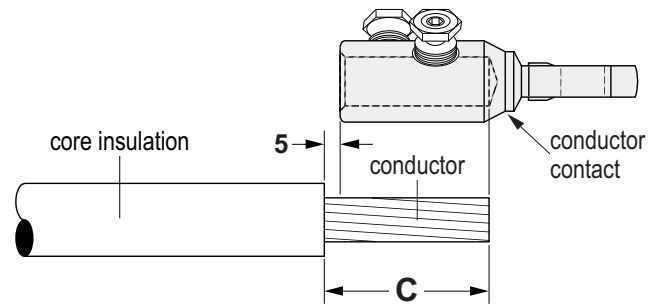
## REMOVAL OF THE CORE INSULATION

### A. Compression type contacts (Type TBC-X)

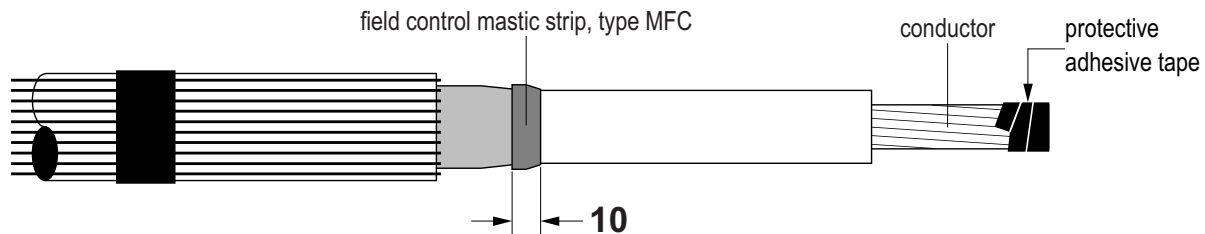


- 1A. Remove the core insulation from the conductor for a distance «C» mm (C = depth of contact bore + 15 mm).

### B. Mechanical type contacts (Type TMBC-X)

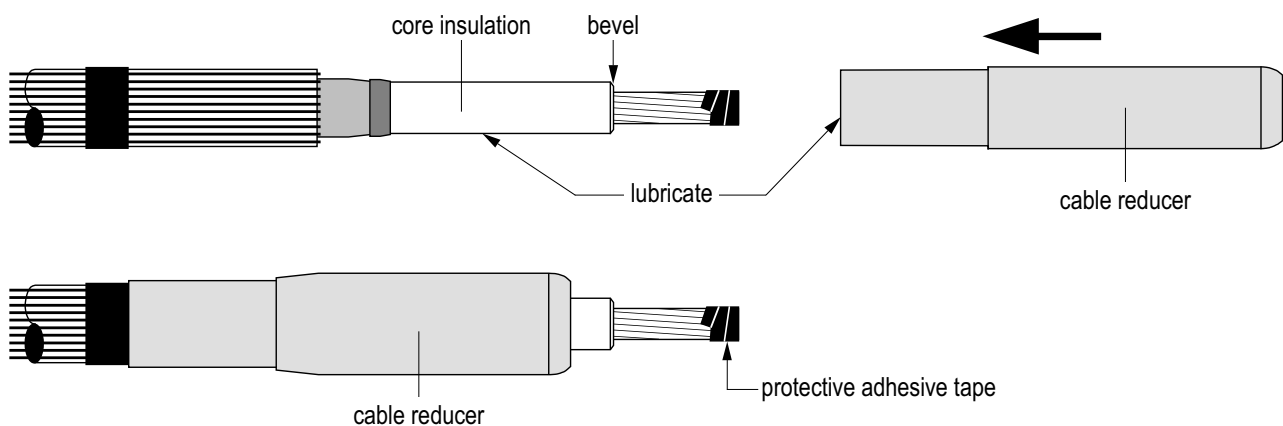


- 1B. Remove the core insulation from the conductor for a distance «C» mm (C = depth of contact bore + 5 mm).



- As a protection, wrap a few turns of adhesive tape around the conductor end.
- Remove field control mastic strip, type MFC, from coated paper.
- Slightly stretch one end of the strip, making sure not to break it.
- Apply the mastic on the cutback edge of the semi-conductive screen, covering approximately 5 mm of the extruded semi-conductive screen and 5 mm of the core insulation.
- Push the mastic in place while stretching it progressively until both ends overlap and tear-off the excess mastic.
- Using the coated side of the paper, squeeze the mastic tightly in place on the step of the semi-conductive screen.

## INSTALLATION OF THE CABLE REDUCER



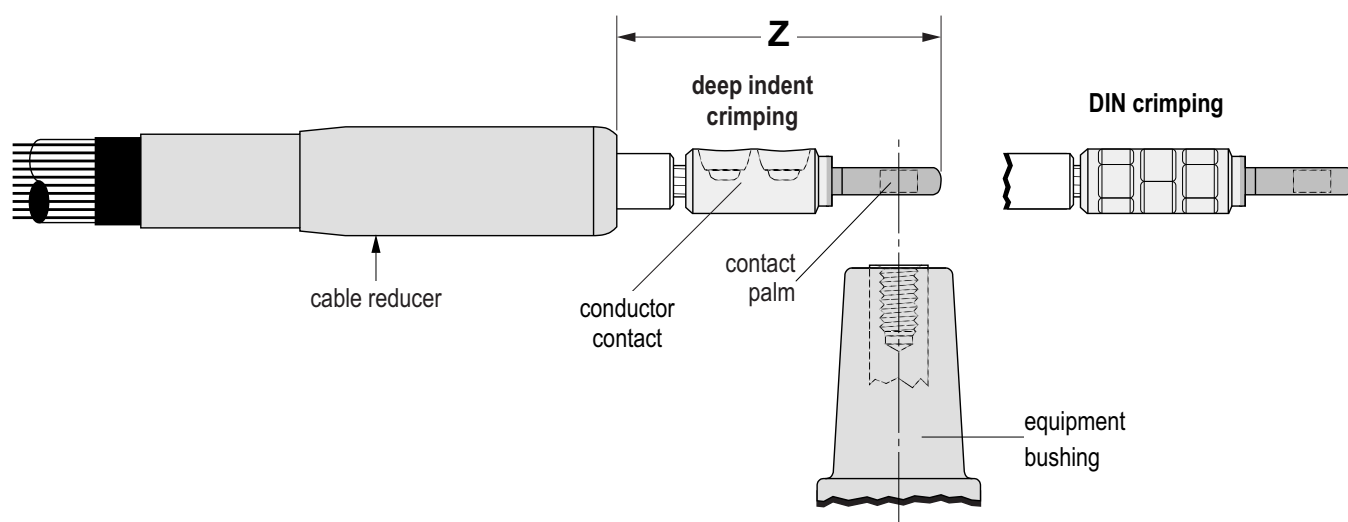
- Slightly bevel the edge of the core insulation.
- THOROUGHLY CLEAN CORE INSULATION.** Always wipe towards the screen wires.
- Lubricate\* core insulation and the inside surface of the cable reducer.
- Slide the reducer down the cable.
- Remove protective adhesive tape from the conductor.

\* USE ONLY THE SILICONE LUBRICANT SUPPLIED

## A. Compression type contacts (Type TBC-X)

### CRIMPING OF THE CONTACT

Please refer to the crimp chart supplied with the contact.

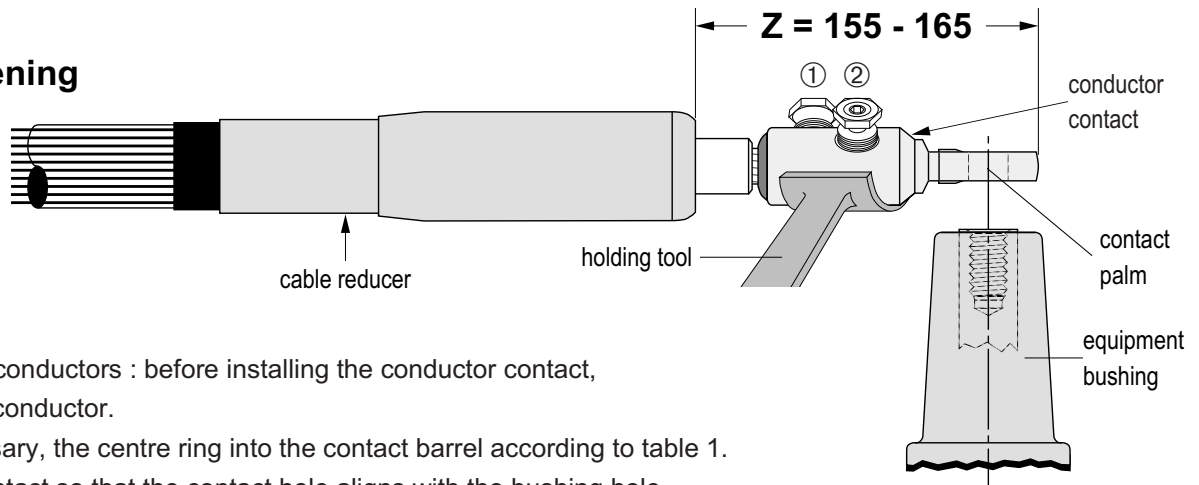


1. For aluminium conductors : before installing the conductor contact, wire brush the conductor.
2. Fit the contact on to the conductor.
3. Position the crimp contact taking care that the contact hole aligns with the bushing hole.
4. Prior to crimping distance «Z» must be between **150** and **160** mm.
5. Crimp the contact. Please refer to the crimp chart for crimp sequence.
6. After crimping distance «Z» must be between **155** and **165** mm.  
If necessary, adjust the position of the cable reducer until distance «Z» is within the tolerance range.
7. **REMOVE ANY BURRS LEFT AFTER CRIMPING AND WIPE-OFF EXCESS INHIBITOR.**

## B. Mechanical type contacts (Type TMBC-X)

### TIGHTENING OF THE CONTACT

#### Before tightening



1. For aluminium conductors : before installing the conductor contact, wire brush the conductor.
2. Insert, if necessary, the centre ring into the contact barrel according to table 1.
3. Position the contact so that the contact hole aligns with the bushing hole.
4. Before tightening, distance «Z» must be between **155** and **165** mm.
5. Tighten the screws slowly and alternately, with the tool according to table 2, until the heads shear off. It is recommended to use the holding tool for ease of installation. Tighten first screw ① then ②.
6. When the screws do not shear off flush with the barrel surface, apply one layer of vinyl tape around the barrel in order to protect the inside surface of the connector body during installation.

#### TMBC-16.95-14-5-V

Table 1




35 - 50 mm <sup>2</sup>	70 - 95 mm <sup>2</sup>
grey  Small bore	yellow  Large bore

Table 2

Al : 35 - 50 mm <sup>2</sup> Cu : 35 - 50 mm <sup>2</sup>	Al : 70 - 95 mm <sup>2</sup> Cu : 70 - 95 mm <sup>2</sup>
	 SW 6 L > 15 mm

#### TMBC-50.150-14-5-V

Table 1





50 mm <sup>2</sup>	70 - 95 mm <sup>2</sup>	120 - 150 mm <sup>2</sup>
grey  Small bore	yellow  Large bore	No centre ring necessary

Table 2

Al : 50 - 120 mm <sup>2</sup> Cu : 50 - 95 mm <sup>2</sup>	Al : 150 mm <sup>2</sup> Cu : 120 mm <sup>2</sup>
	 SW 6 L > 15 mm

#### TMBC-95.240-14-5-V

Table 1





95 mm <sup>2</sup>	120 - 150 mm <sup>2</sup>	185 - 240 mm <sup>2</sup>
red  Small bore	brown  Large bore	No centre ring necessary

Table 2

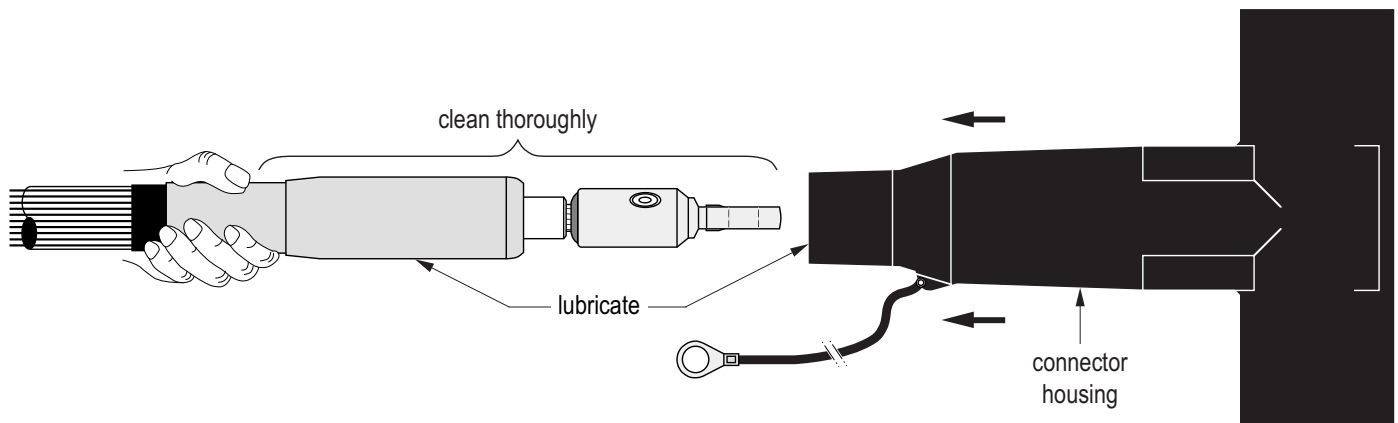
Al : 95 - 185 mm <sup>2</sup> Cu : 95 - 150 mm <sup>2</sup>	Al : 240 mm <sup>2</sup> Cu : 185 - 240 mm <sup>2</sup>
	 SW 6 L > 19 mm

#### After tightening



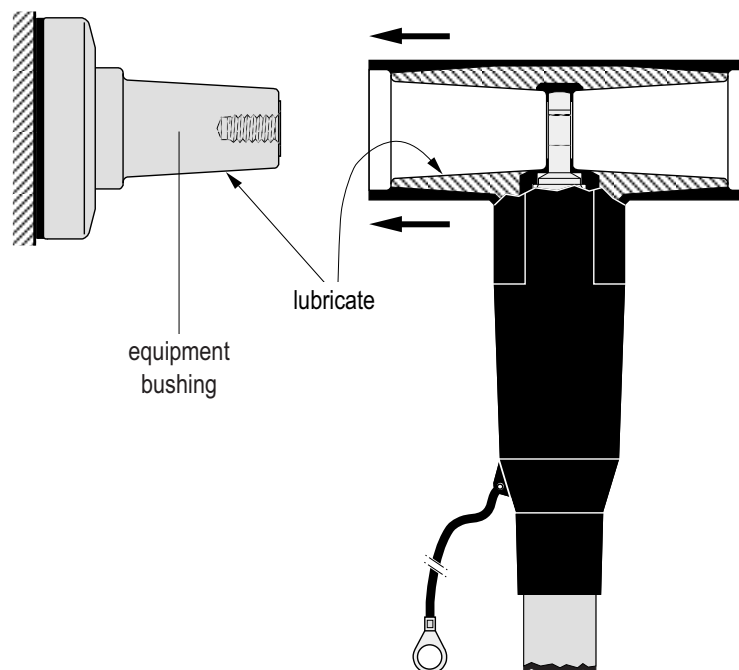
7. After tightening, distance «Z» must be between **155** and **165** mm. If necessary, adjust the position of the cable reducer until distance «Z» is within the tolerance range.
8. **WIPE-OFF EXCESS INHIBITOR AND REMOVE ANY BURRS RESULTING FROM TIGHTENING.**

## CONNECTOR INSTALLATION ON CABLE



1. Clean and lightly lubricate\* the inside surface of the connector housing and outer surface of the cable reducer.
2. Check if the angle of the tee connector housing is correct relative to the palm of the crimp contact and, whilst preventing the cable reducer from further movement down the cable, gently slide the housing on the cable until it cannot advance any further.
3. Make sure the cable reducer stays in place during installation and remove tape marker from the cable.

## CONNECTOR INSTALLATION ON BUSHING



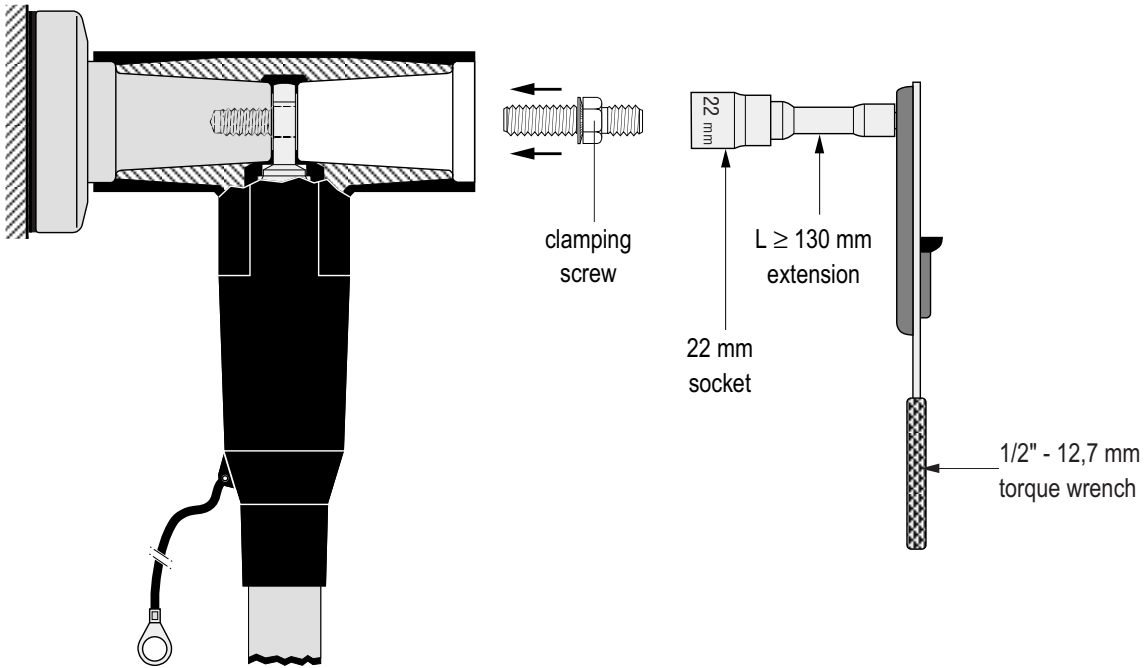
1. Clean and lightly lubricate\* both connector and bushing interface.
2. Push connector on to the bushing (**SEE IMPORTANT NOTES ON PAGE 9**).

**\* USE ONLY THE SILICONE LUBRICANT SUPPLIED**

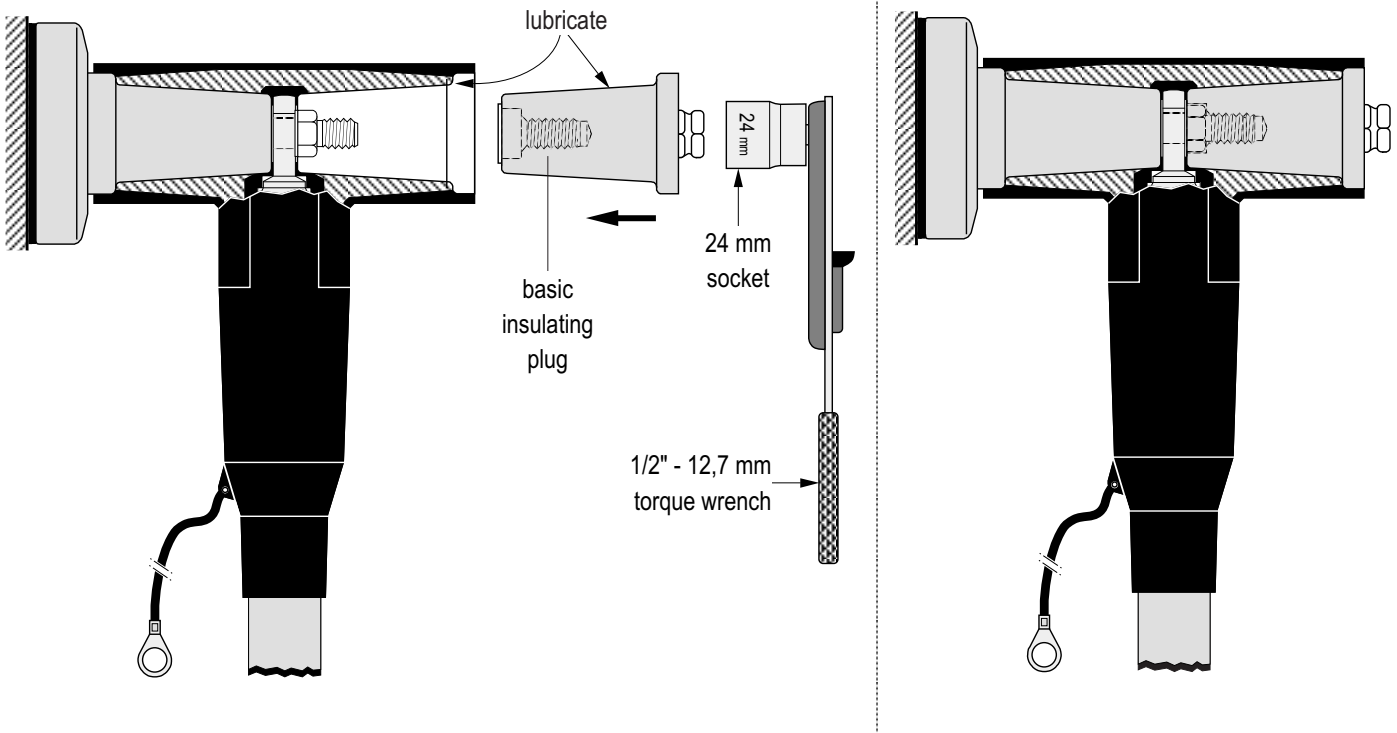


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3. Insert clamping screw into the threaded hole of the bushing.
4. Use torque wrench with a socket wrench 22 and tighten exerting 50 Nm (5 kgm or 35 foot-pounds) of torque (SEE IMPORTANT NOTES ON PAGE 9).



5. Clean and lubricate\* the insulating plug for the opposite side of the connector.
6. Insert the plug in the connector, engage the threads and hand tighten.
7. Tighten assembly : use torque wrench with socket of 24 and tighten exerting 50 Nm (5 kgm or 35 foot-pounds) of torque (SEE IMPORTANT NOTES ON PAGE 9).

\* USE ONLY THE SILICONE LUBRICANT SUPPLIED

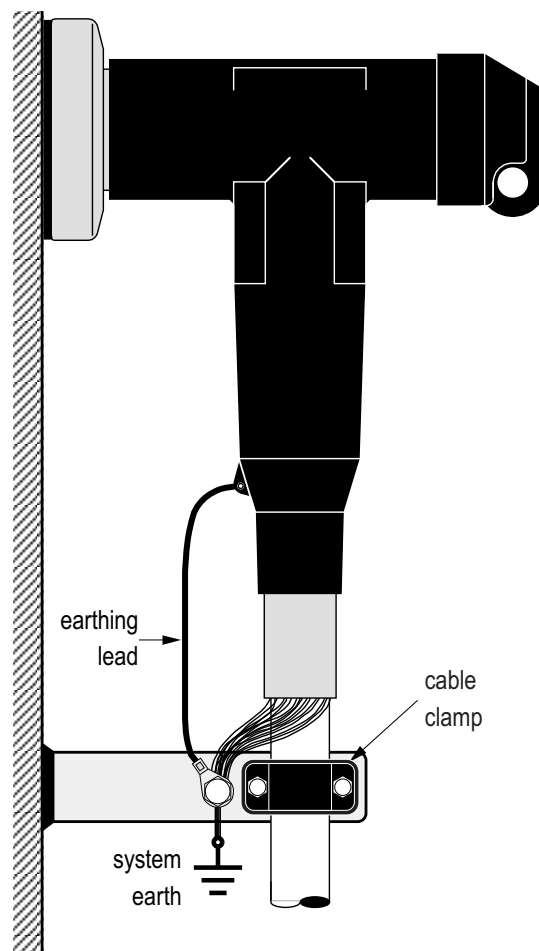
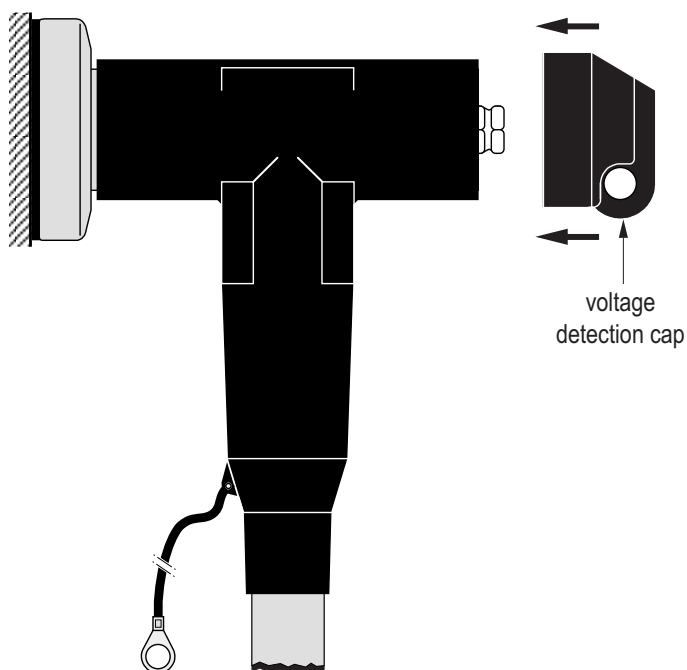


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## CONNECTOR EARTHING AND CABLE CLAMPING



8. Clean inner surface of voltage detection cap (do not lubricate) and place on the connector. Push down hard until cap "snaps" into place.

1. Bend back the screen wires along the outer sheath to form a pig tail.
2. Connect earthing lead and screen wires to the system earth.

### NOTE :

*A connector/bushing mated combination should not be allowed to carry the full weight of the cable. Therefore it is necessary to clamp the cable as close as possible to the connector.*

### IMPORTANT NOTES :

- In order to achieve the correct applied torque ensure that there is no lubricant on the threaded parts.
- Never disconnect the connector from energised equipment nor energise a disconnected connector without previously installing on its appropriate corresponding mating part.
- Do not allow hydrocarbon oils or solvents to contaminate the E.P.D.M. rubber.  
In the event of contamination, wipe the surface clean with a dry cloth.

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