JTS3 K

THREE CORE
HEATSHRINKABLE
STRAIGHT THROUGH JOINT

INSTALLATION INSTRUCTION IM2175i - ed. 15/01/2020

TYPE OF CABLE: Solid insulation (XLPE-HEPR) STA/SWA armour
SECTION: 25 - 500 mm²
TYPE OF SCREEN: Copper tape screen
VOLTAGE: Umax 24 kV

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1 THREE CORE CABLE PREPARATION

● **1.1**

Straighten and set cables at the joint position.
Determine the center of the joint and cut the cables with a 200 mm overlap.
Clean the cable for 2 m at both sides.
Slide the two heatshrinkable end tubes "GT3" along each cable.
Slide the heatshrinkable central tube "GT8" along one of the cable.
Slide these tubes up to the position where the jointing work will not be disturbed.

TUBE GT3
TUBE GT8
CENTER OF THE JOINT
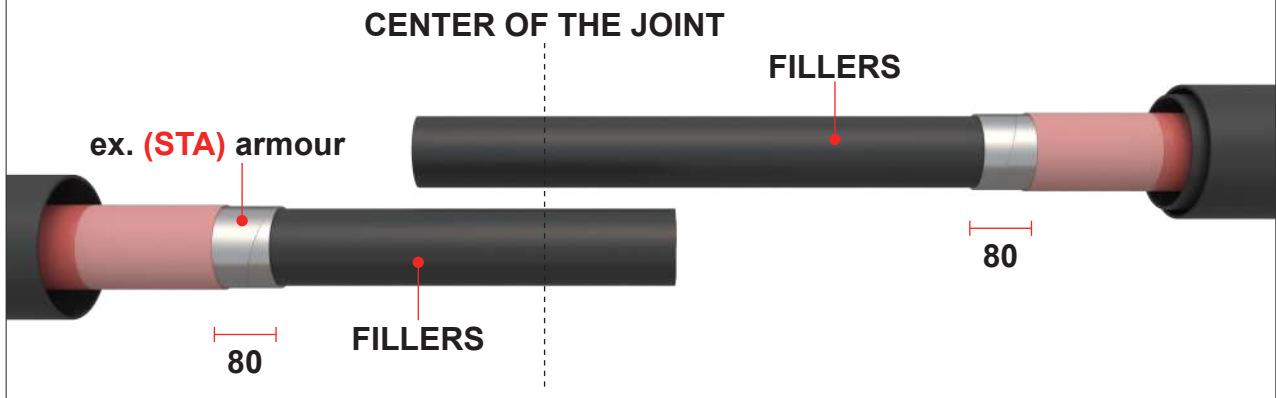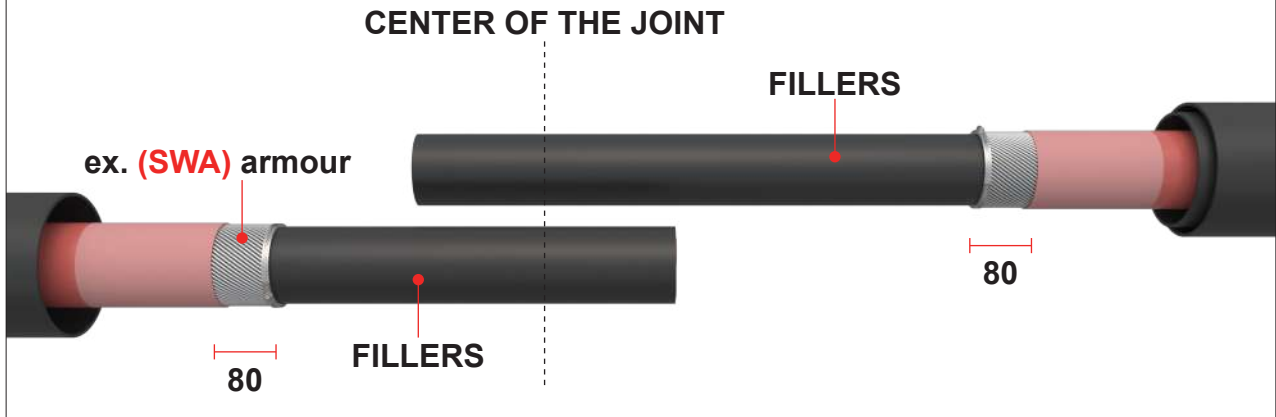**200**

200

TUBE GT3
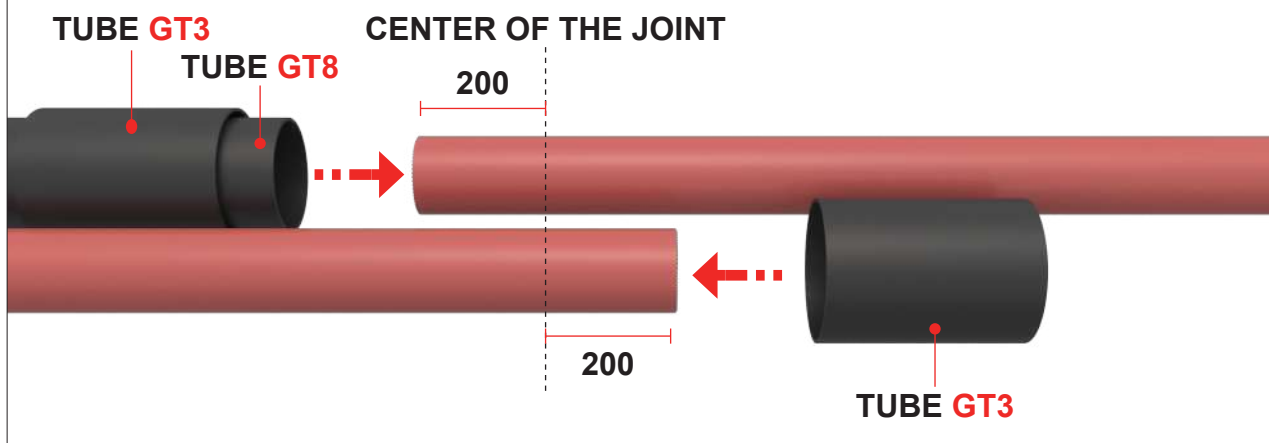
● **1.2**

Remove the outer sheath for the length "Y+200 mm" (short stripping side)
and for the length "Y1+200 mm" (long stripping side).
Abrade the outer sheath for 200 mm at both sides. Clean the abraded area.

CENTER OF THE JOINT

200   **Y1**   **200**

ex. (SWA) armour

ex. (SWA) armour

200   **Y**   **200**
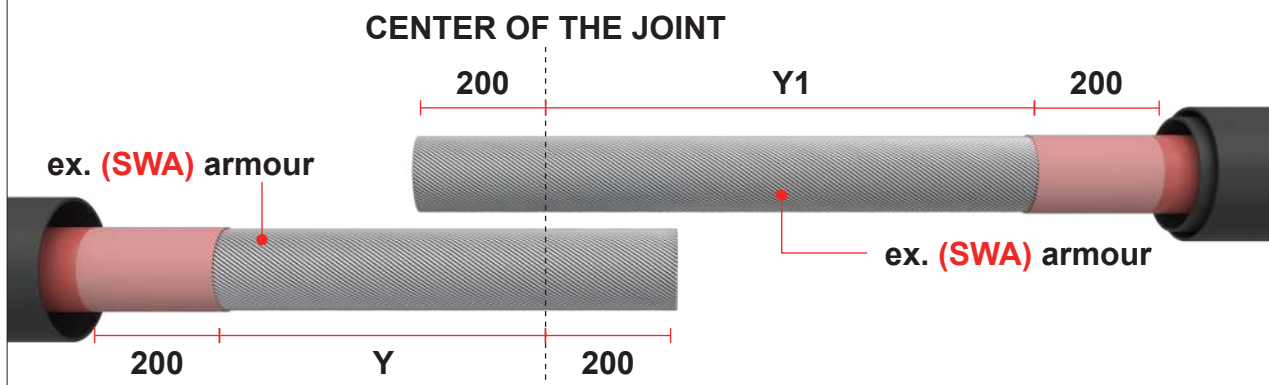
Length of GT125 "triple wall" tube	Y	Y1
300 mm	450 mm	750 mm
350 mm	450 mm	750 mm
400 mm	550 mm	850 mm

1.3

Position the metallic clamp at 80 mm from cut outer sheath and cut the armour.

CENTER OF THE JOINT

FILLERS

ex. (SWA) armour

FILLERS

80

80

CENTER OF THE JOINT

FILLERS

ex. (STA) armour

FILLERS

80

80

1.4

Cut the eventual PVC inner sheath and fillers leaving 5 mm out of the armour.

CENTER OF THE JOINT

FILLERS

COPPER TAPE SCREEN

FILLERS

5   80

80   5

COPPER TAPE SCREEN

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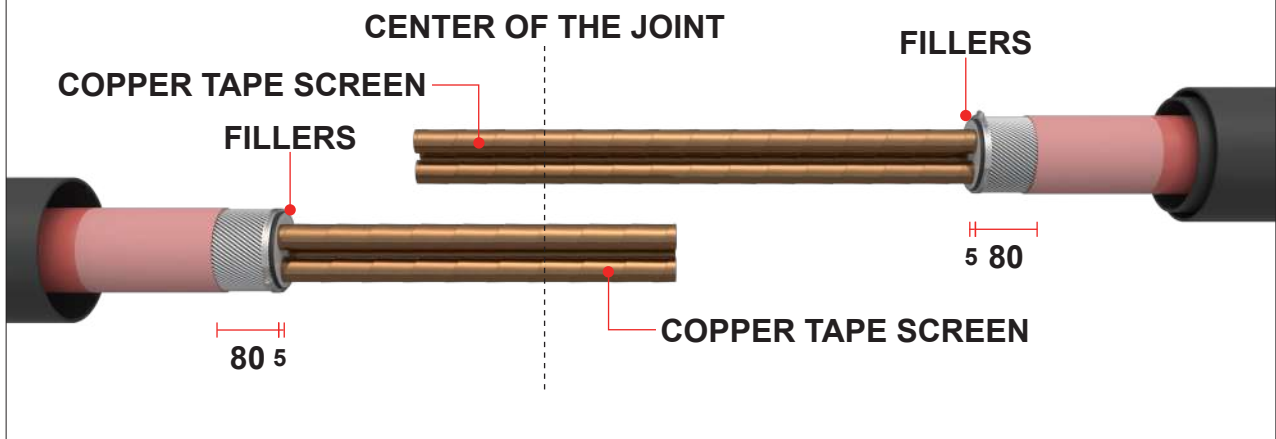
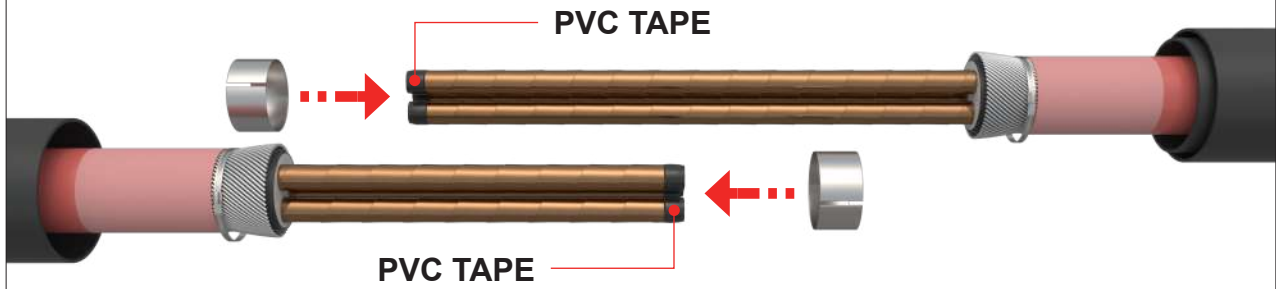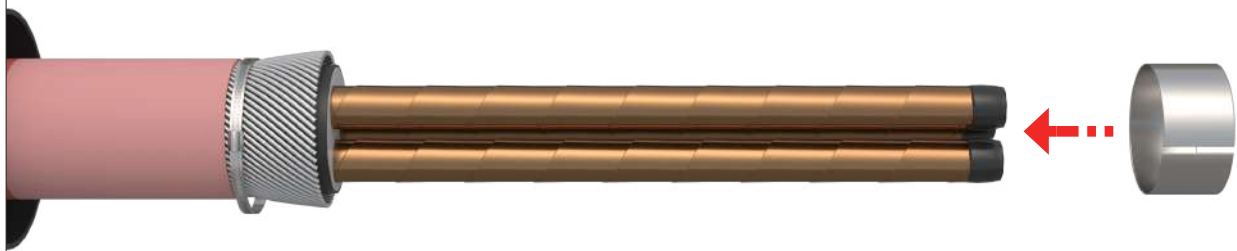**1.5**

Fix the edges of screen tapes with some PVC tape to prevent unwinding.

1.6

ONLY FOR CABLES WITH STEEL WIRES ARMOUR:

PVC TAPE

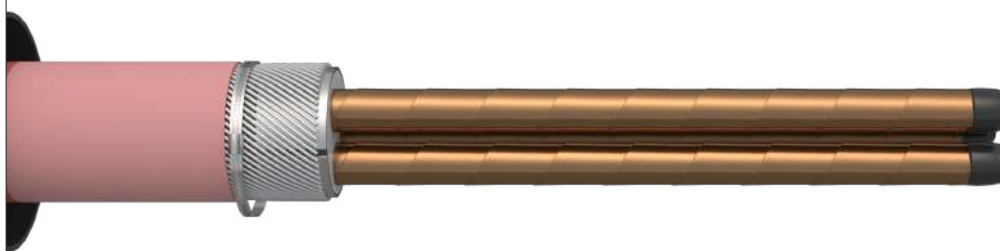**PVC TAPE**

Loose the metallic clamp, open the armour wires and insert the under armour ring.

Close the armour wires.
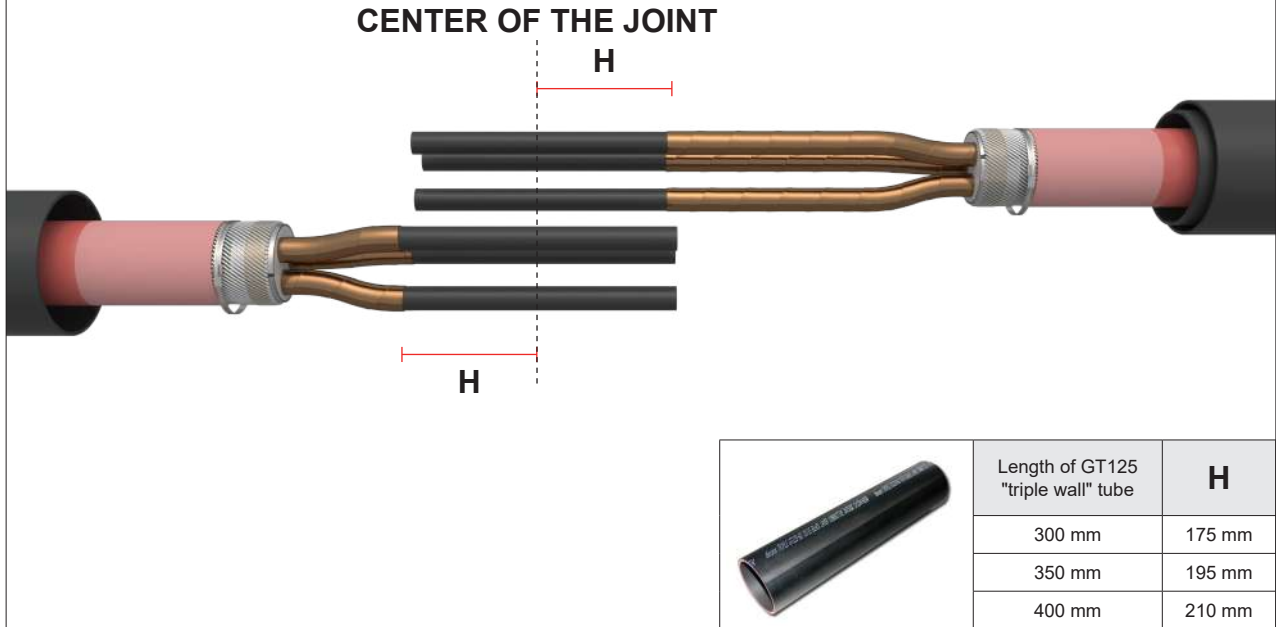
Secure with NCV tape.

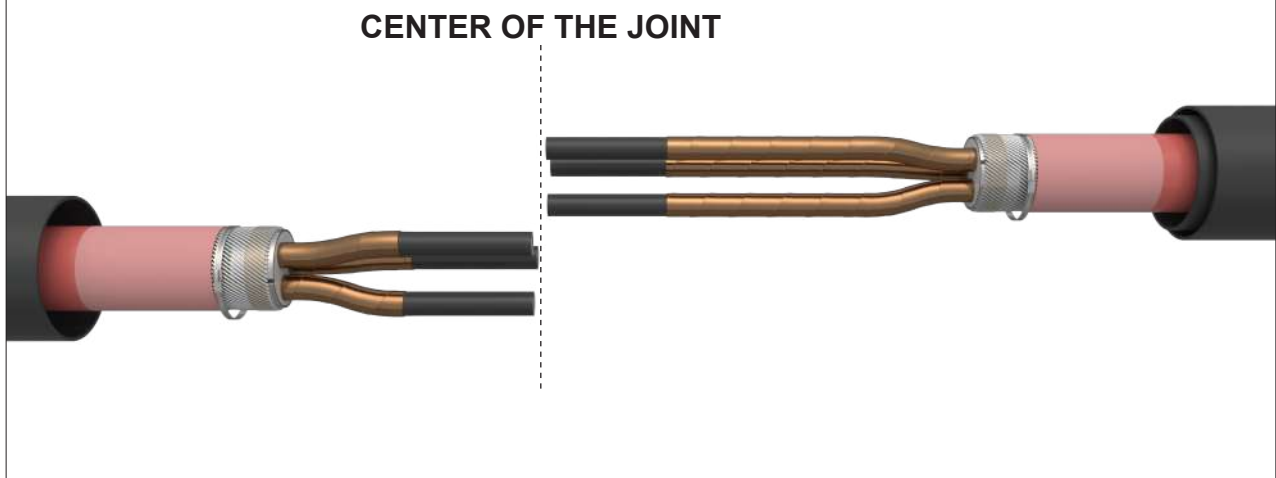**TAPE NCV**

● 1.7

Shape the cable cores.
Remove the copper tape screen for the distance "H" from the center of the joint.
Fix the extremities of each tape screen with some PVC tape or copper adhesive tape (if supplied) to avoid unwinding.

CENTER OF THE JOINT

Length of GT125 "triple wall" tube	H
300 mm	175 mm
350 mm	195 mm
400 mm	210 mm

● 1.8

Cut the cable cores at the reference line. (Center of the joint).

CENTER OF THE JOINT

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1.9

Remove the semiconductive layer leaving 50 mm from the metallic screen.
Take care not to damage the insulation.

SEMICONDUCTIVE LAYER

INSULATION

50

50
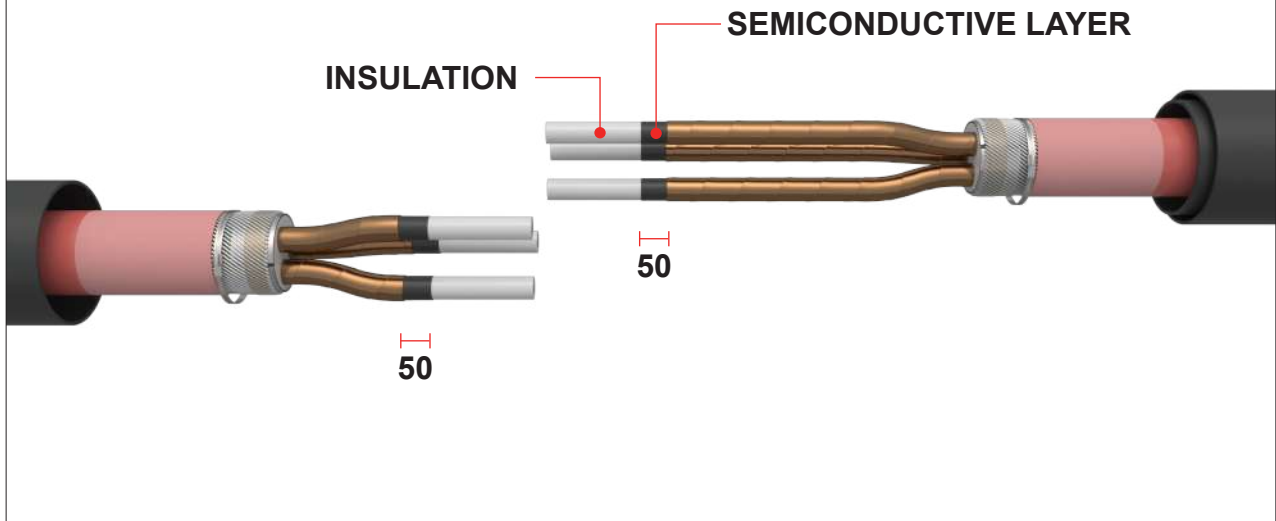
1.10

Bare the conductor for a length of inside depth of the connector for mechanical types or, in case of compression ones, for a length of inside depth of the connector + 5 mm.
Clean and degrease the conductor.
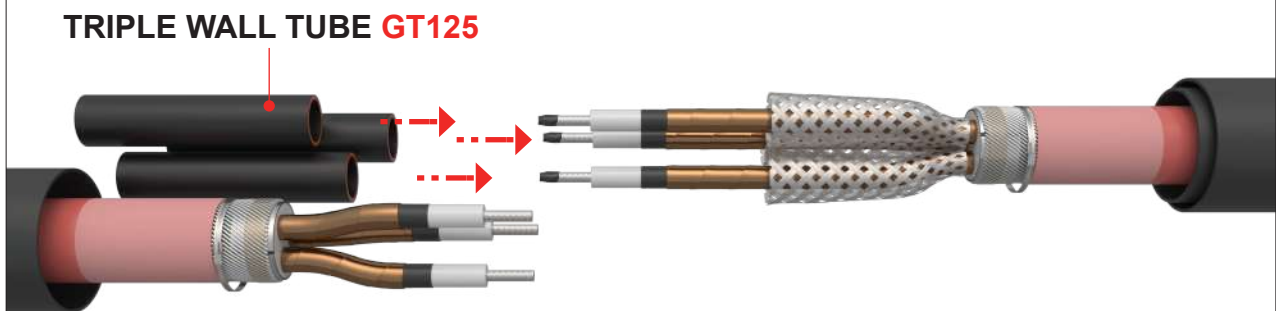As a protection, wrap few turns of adhesive tape around the conductor end (LONG STRIPPING SIDE).

CONDUCTOR

PVC TAPE

=

=

50
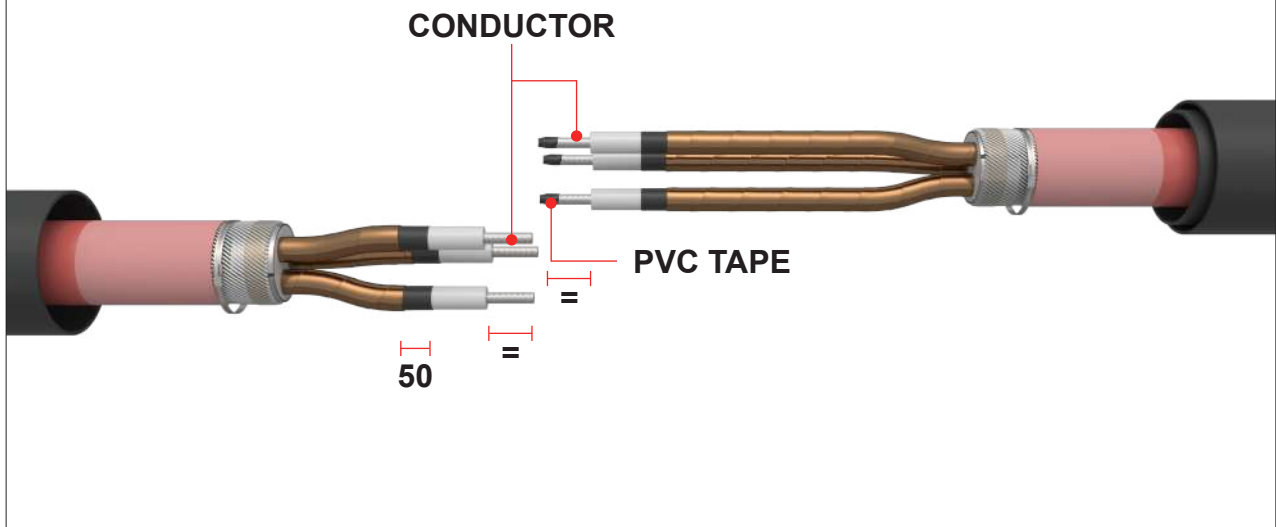
● **1.11**

Slide the copper stocking meshes into the cable on THE LONG STRIPPING SIDE of the joint.

COPPER STOCKING MESH
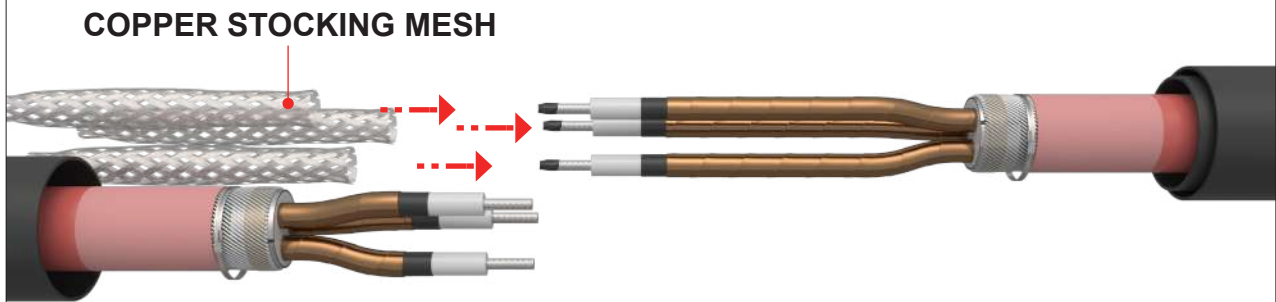
Slide the triple wall tubes into the cable on the LONG STRIPPING SIDE of the joint.

TRIPLE WALL TUBE GT125

2 ASSEMBLY OF THE JOINT

2.1

Remove the tape PVC applied on the conductor.

PVC TAPE
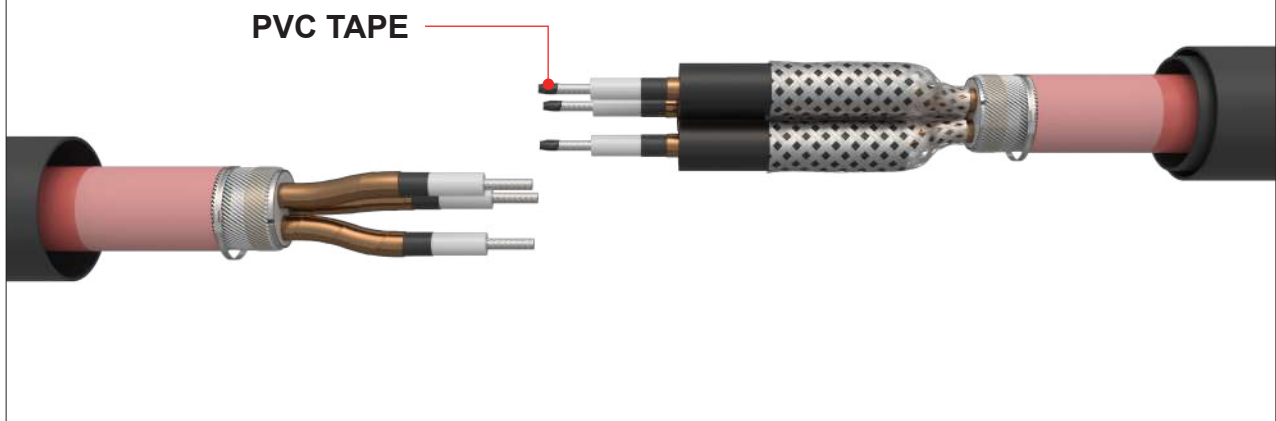
2.2

Install the connector onto the cable cores as per the manufacturer's instructions. If using hexagonal compression connectors ensure that any sharp edges and flashing are removed from the connector with a file or abrasive cloth. If using mechanical connectors make sure any indents left after shearing the bolts are filled with "CLAY" mastic.
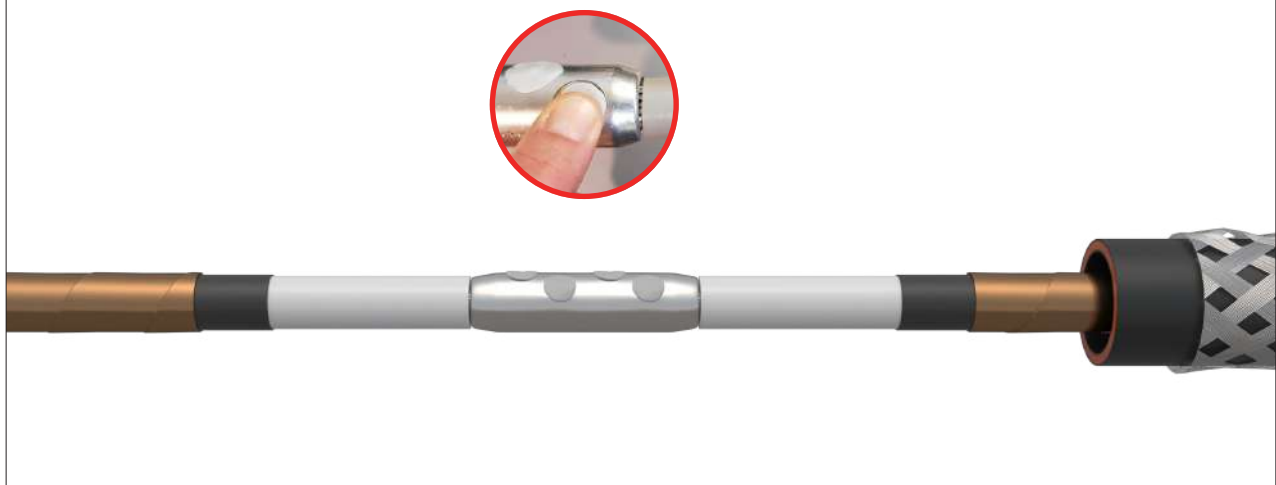
2.3

Wrap the mastic patch around the connector area, centering the patch over the connector with equal distance at both sides. Do not squeeze the extremities.

MASTIC PATCH
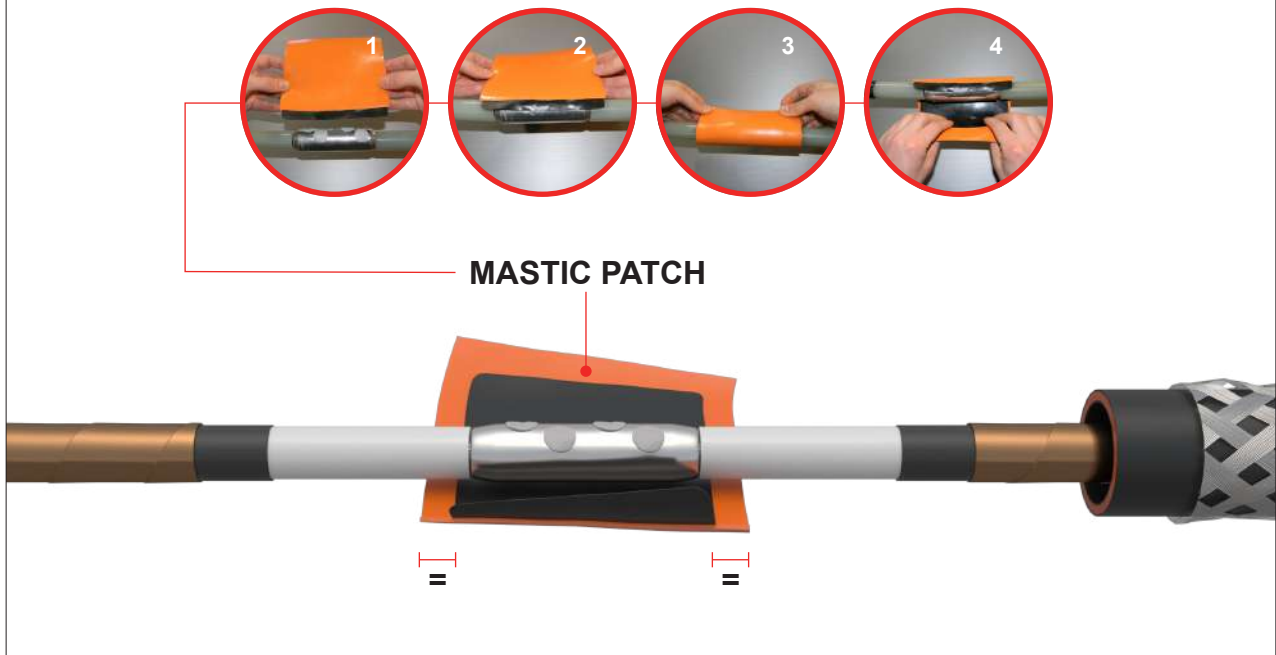
2.4

Apply a layer of stress relief mastic "OM" overlapping the semiconductive layer and the insulation of the cable (short mastic strip).

MASTIC OM SHORT STRIP

MASTIC OM SHORT STRIP

**MASTIC PATCH**

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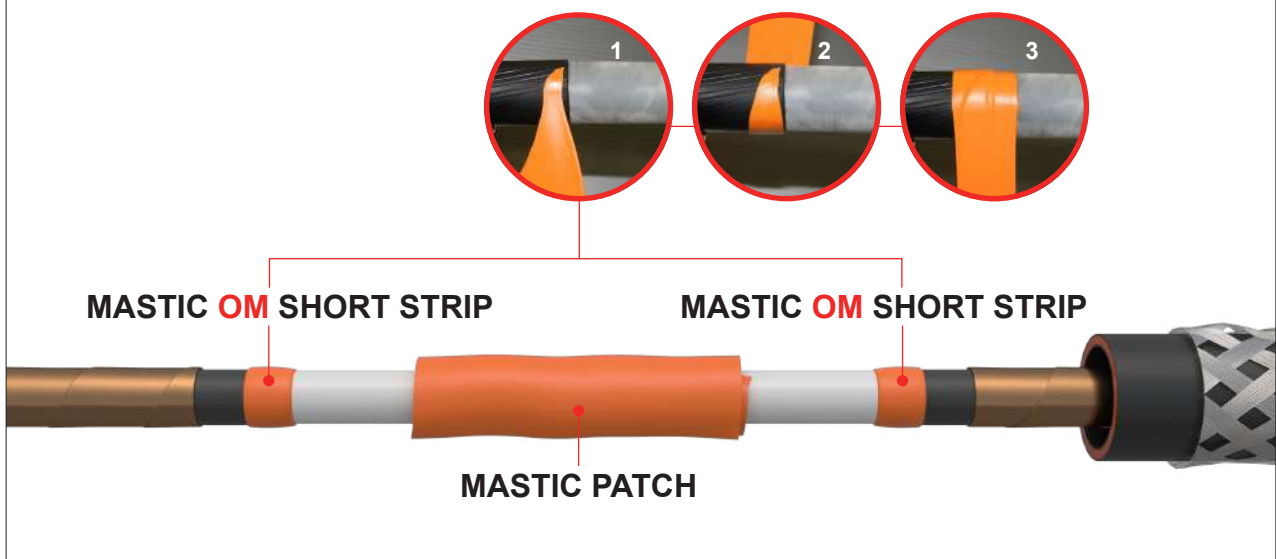
2.5

Position the triple wall tube "GT125" in the centre of the joint, pre-heat the tube for a minute and start shrinking from the centre towards to the extremities.

- To avoid over-heating of the heatshrunkable tube, keep the flame moving continously and mantail ad adeguate distanza with the angle of 45°.
- Heatshrink the tube from the center until obtaining a smooth surface.
- Continue the heatshrinking for circular sector of 100 mm alternating itself from both sides.
- At the end of the work, the surface of the heatshrinkable tube must be smooth.

Blue flame
Yellow flame
50 mm
45°
150-200 mm

TRIPLE WALL TUBE GT125

1

2

3

4
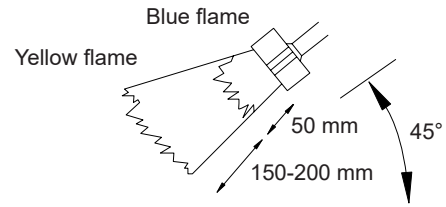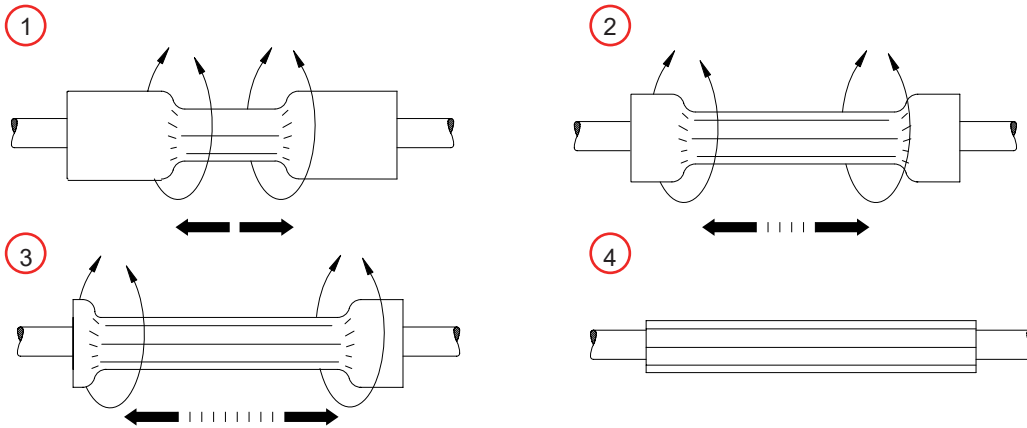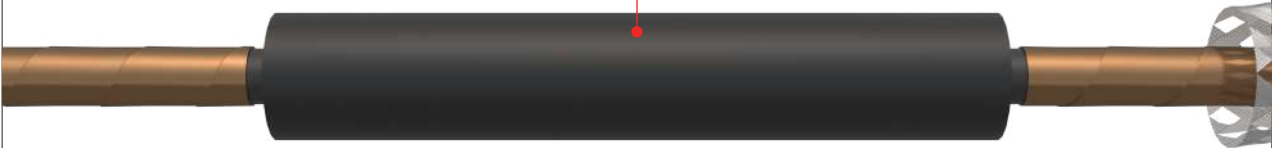
2.6

Slide and position the copper stocking mesh, fix the stocking mesh to the copper tape screen with the constant roll force springs.

COPPER STOCKING MESH

CONSTANT FORCE SPRING

CONSTANT FORCE SPRING

2.7

Apply some PVC tape over the constant roll force springs.

PVC TAPE NAE

PVC TAPE NAE

2.8

Fold back the stocking mesh exceeding towards the centre of the joint.
Apply some PVC tape over the edge of stocking mesh.

PVC TAPE NAE

FOLDED STOCKING MESH

PVC TAPE NAE

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2.9

Wrap around the whole joint the earthing braid and fix to the armour
and to the tape screen with a binding of tinned copper wire.
Wrap around the cores with "NCV" reinforcing tape.

REINFORCING TAPE NCV

BINDING

EARTHING BRAID

BINDING
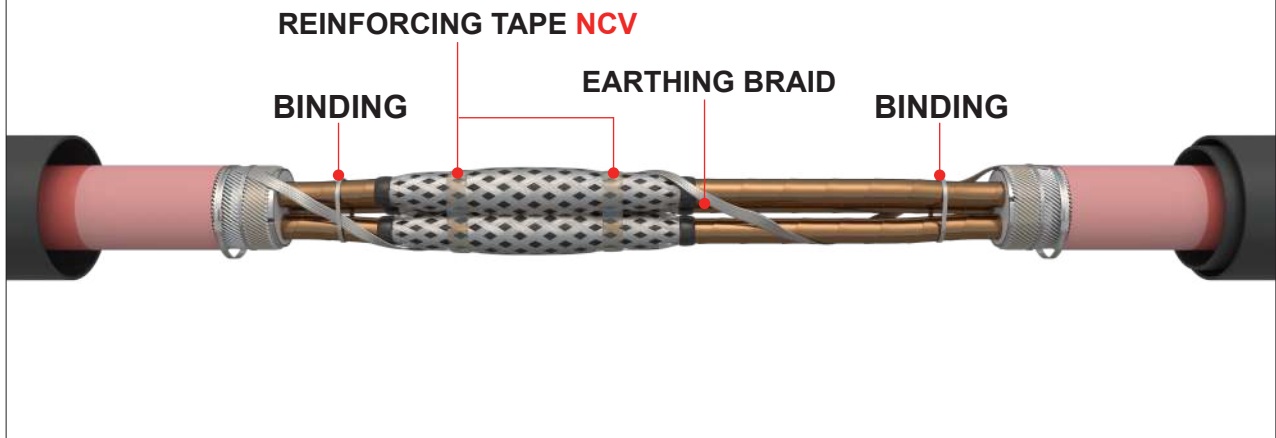
2.10

Clean the abraded area of the outer sheath.
Wrap around the metallic protection and position centrally over the jointing area.

METALLIC PROTECTION
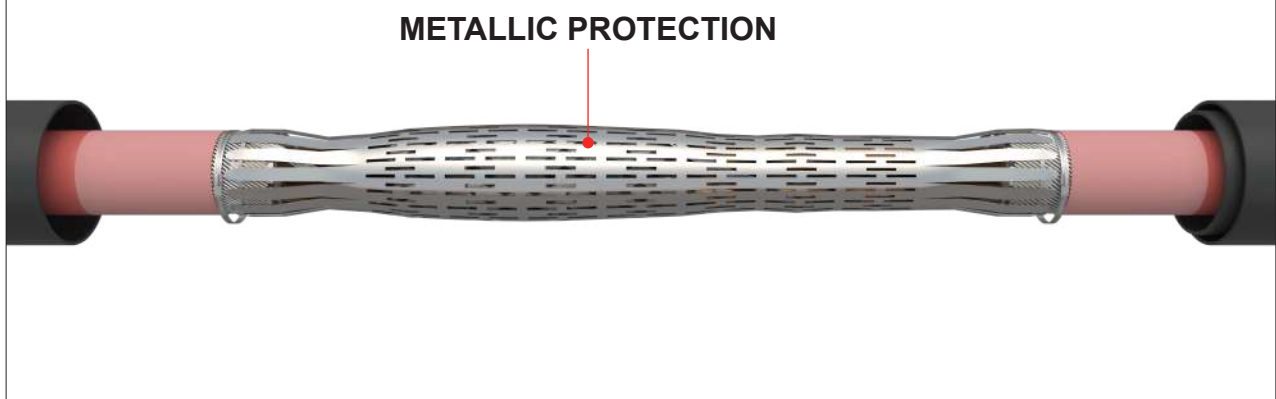
2.11

Wrap around the rolled mechanical protection some layers of NCV reinforcing tape
At both ends bend the fingers. Secure to the armour with metallic clamps. (TO BE PROPERLY TIGHTENED).

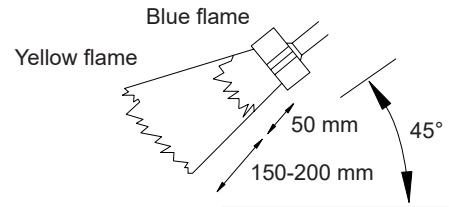**METALLIC CLAMP**　　　　　　　　　　　　　**METALLIC CLAMP**

NCV TAPE　　**NCV** TAPE
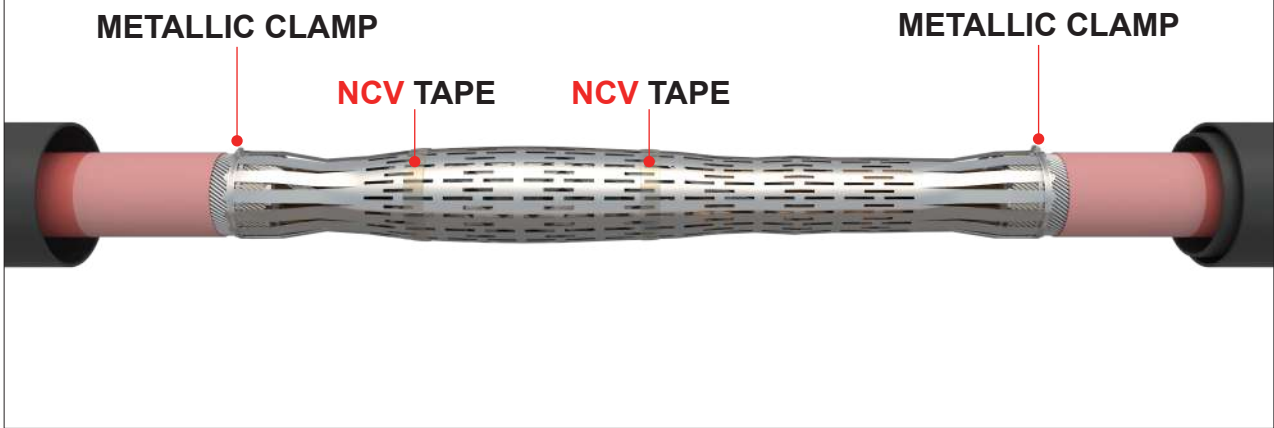
2.12

Apply a layer of sealing mastic tape "NGAF" (50% overlap) over the clamps
till covering the outer sheath for 15 mm.

SEALING MASTIC TAPE NGAF　　　　　　**SEALING MASTIC TAPE NGAF**

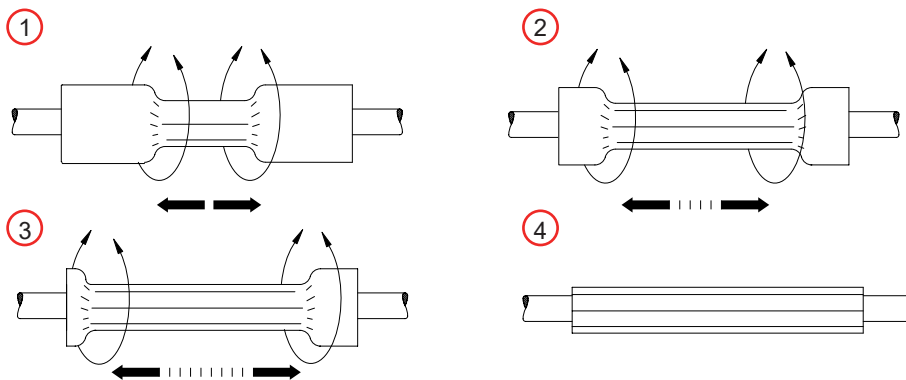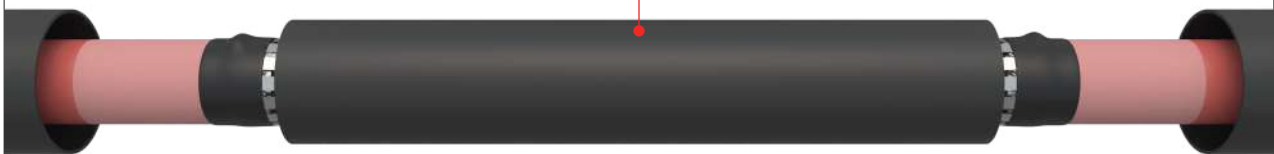**15**　　　　　　　　　　　　　　　　　　　**15**

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● 2.13

Slide the outer central tube "GT8" into position ensuring equal distance at both sides.
Start heatshrinking from the centre towards the extremities.

- To avoid over-heating of the heatshrunkable tube, keep the flame moving continously and mantail ad adeguate distanza with the angle of 45°.
- Heatshrink the tube from the center until obtaining a smooth surface.
- Continue the heatshrinking for circular sector of 100 mm alternating itself from both sides.
- At the end of the work, the surface of the heatshrinkable tube must be smooth.

Blue flame
Yellow flame
50 mm
150-200 mm
45°

OUTER PROTECTION CENTRAL TUBE GT8

1

2

3

4

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● **2.14**

Slide the end tubes "GT3" overlapping the shrunk outer central tube for equal distance, taking care to heatshrink starting from the external side towards the centre of the joint.

OUTER PROTECTION TUBES GT3
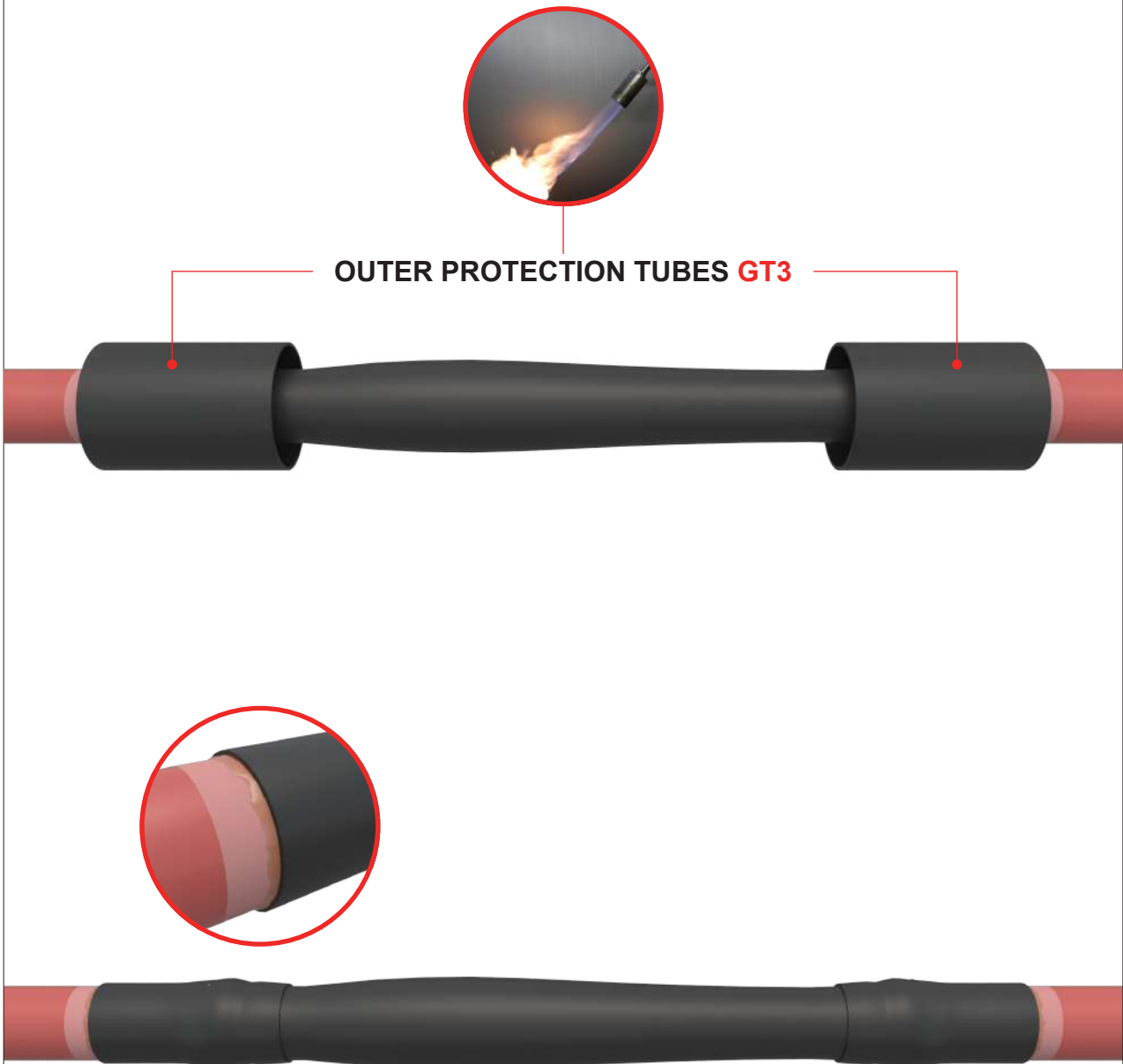
The joint is complete. Allow to cool before moving.

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Adjust torch to give a soft blue flame with yellow tip.
Heatshrink tubes uniformly avoiding wrinkles along the surface.
Keep the flame moving continuously and maintain adequate distance to avoid
over heating.

This product should be installed by competent personnel familiar with electrical
equipment and safe operating practices. Parts contained in this kit should be
visually inspected for possible damage, and installed in accordance with
these instructions. These instructions are not intended as a substitute
for adequate training and experience.

 Please dispose of all waste according to environmental regulations.