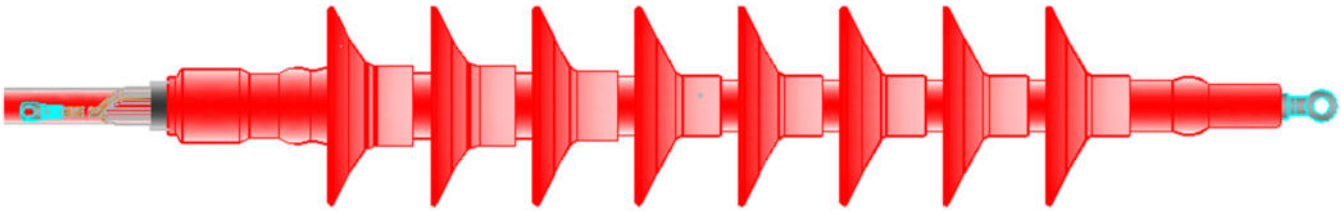
Installation instructions

HEAT SHRINKABLE OUTDOOR TERMINATION

for single core plastic or rubber insulated cable with wire screen

Highest voltage Um: 72,5 kV

ELCOhiTERM TES 72/EW Series



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DRAWING N°	Code MP14469	Drawn	Updated	Approved
909/E	Date	23/05/08	Rev.2 19/01/24	
	Signature	C.I.	G.DA.	G.DS.

THIS PRODUCT MUST BE INSTALLED BY COMPETENT PERSONAL WITH ELECTRICAL EQUIPMENT AND IN SAFETY CONDITIONS.
READ CAREFULLY ALL THE INSTRUCTIONS BEFORE STARTING CABLE PREPARATION. CHECK THAT ALL COMPONENTS LISTED ON THE BILL OF MATERIAL ARE AVAILABLE.

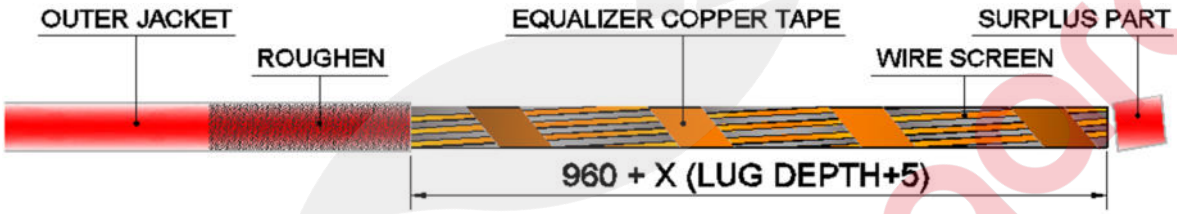
HEAT SHRINK THE TUBES FOLLOWING THESE GOLDEN RULES:

- Use only butan or propane gas torch.
- Flame must be soft.
- Heat the tubes uniformely.
- Move the flame all around the circumference of tubes.
- Start the heat-shrinking from the tubes end, directing the flame slowly towards the opposite side unless otherwise indicated in the instructions below.
- Do not insist on the same part.
- Stop when completely shrunk.

1.1 Prepare the cable in such a way to simulate the final position, find the point where it must be cut then remove the exceeding length.

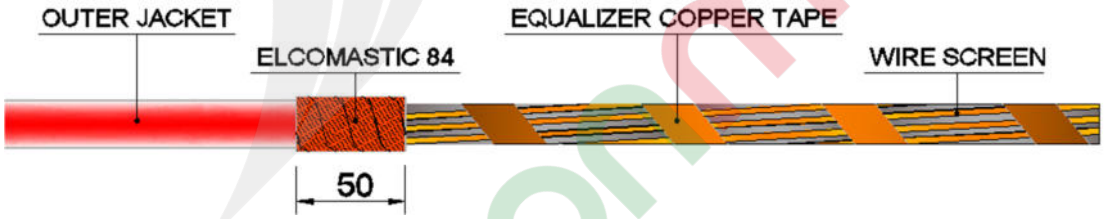
1.2 Remove, from the head of a cable, the **outer jacket** for a dimension of " **960 mm + X " (X** corresponding to the **LUG DEPTH + 5 mm).**

1.3 Roughen, by abrasive cloth contained in the kit, the **outer jacket** for about **100 mm**, starting from the edge.



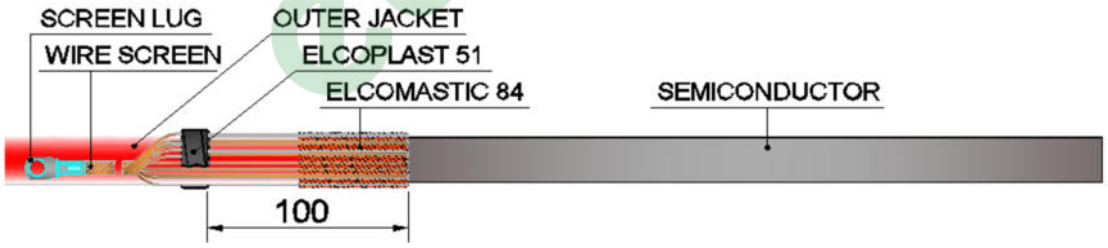
The sealing tape ELCOMASTIC 84 must be applied stretching it up to reduce the original width to the half, approximately.

2.1 Apply **two** half-lapped layers of **ELCOMASTIC 84** on the outer jacket edge for a tract of **50 mm** starting from the edge.

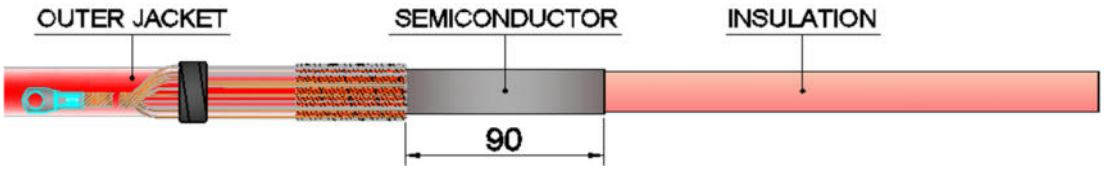


3.1 Remove eventual containing tape, the equalizer copper tape too. Don' t cut the **wires of the metallic screen**, but turn back completely on the outer jacket and fix them on to the cable at **100 mm** (top tape edge) from the outer jacket edge, by some laps of PVC tape **ELCOPLAST 51**.

3.2 Joint and twist the **wires of the metallic screen** together in order to obtain a strand-shape conductor, trim the wires edge, and apply to the end the **screen LUG** available in the kit and crimp or screw it with a suitable tools.

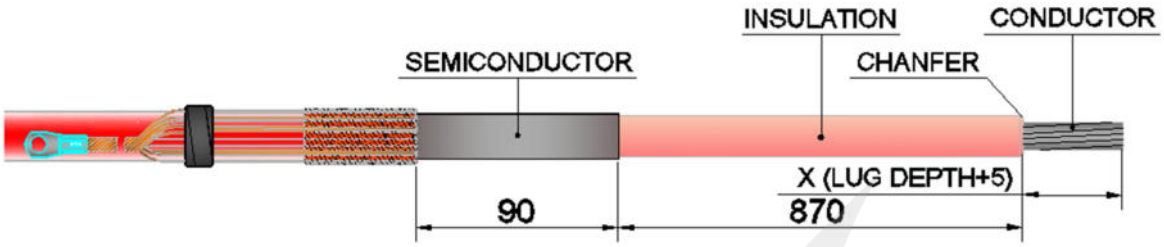


4.1 Remove the cable **semiconductor** (if necessary use appropriate tool) leaving exposed **90 mm** from the outer jacket edge.



5.1 Remove the **insulation** in such a way to expose the **conductor** of a cable for a dimension **" X " (X** corresponding to the **LUG DEPTH + 5 mm)**. Pay attention do not damage the conductor. Verify the other dimension shown.

5.2 Chanfer the **insulation edge** using the supplied abrasive cloth.

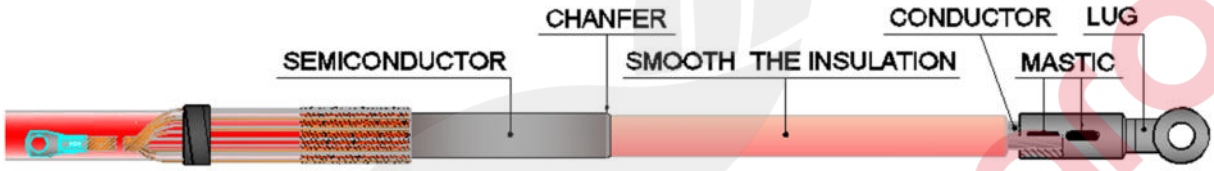


6.1 Insert a suitable **Lug**, onto the appropriate mating cores, ensuring that the lug is within the size specifications listed **the bill of material enclosed**. Orient it correctly.

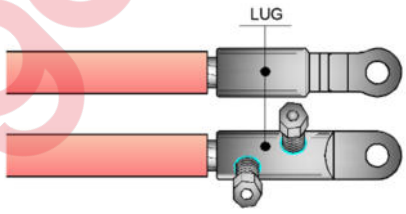
6.2 Crimp or shear it with a suitable tool following any instructions together.

6.3 If necessary, smooth the insulation surface, to be sure that all semiconducting traces are removed, using the supplied abrasive cloth.

6.4 Chanfer the **semiconductive edge** using the supplied abrasive cloth.



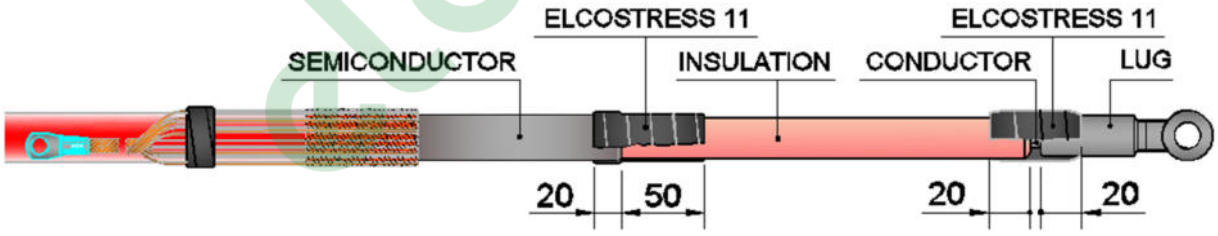
- Remove any anti-oxidant paste that migrates of the lug;
- Remove any traces present on the lug using the abrasive cloth;
- Clean the insulation of the cable through the supplied **cleaning tissue**, proceeding from the lug to the semiconductor to avoid dragging semi-conductive particles on the insulation, if necessary, clean the semiconductor being careful not to touch the insulation clean before;
- Fill properly with **mastic** the surface irregularities formed on the lug, following the failure of the screws or crimp void.



The stress control tape ELCOSTRESS 11 must be applied stretching it up to reduce the original width to the half, approximately.

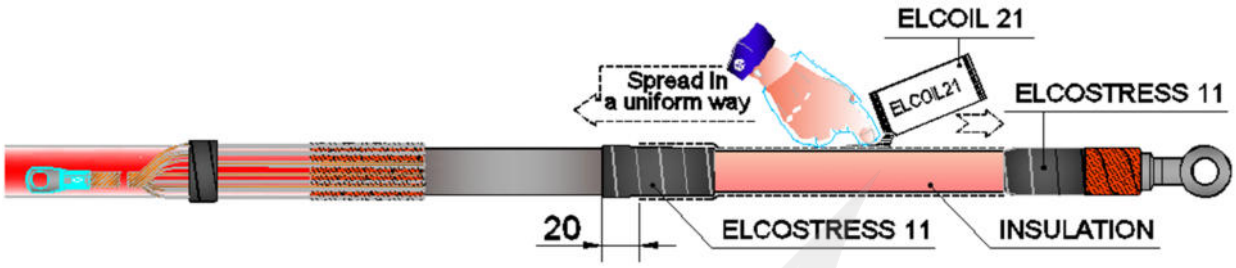
7.1 Wrap **four** half lapped layers of **ELCOSTRESS 11** tape, on the semiconductor edge, start the taping on the semiconductor overlapping it for about **20 mm**, continue on the insulation as far as to overlap it for about **50 mm**.

7.2 Apply the **ELCOSTRESS 11** on the exposed conductor, which is between insulation and lug, in such a way to level these surfaces. Then continue to apply it with **at least two** half lapped layers or however, reaching the insulation's diameter, until to overlap the cylindrical part of the lug itself for **20 mm** and the insulation's for **20 mm**.



8.1 Apply the **ELCOMASTIC 84,** overlap the cylindrical part of the lug and the ELCOSTRESS 11 tapping for **some mm**, with at **at least two** half lapped layers or however, reaching the insulation's diameter.

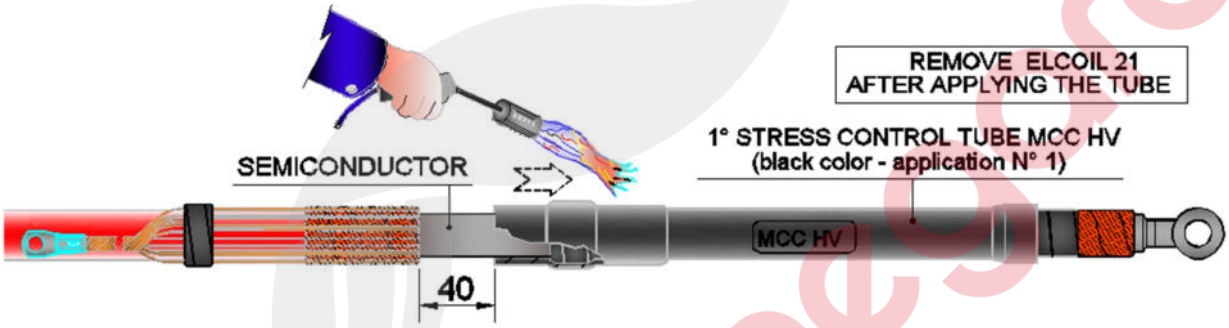
9.1 Apply, wear the gloves contained in the kit, an uniform layer of **ELCOIL 21**, starting on the ELCOSTRESS 11 tapping at **20 mm** bottom edge and continue on all the exposed insulation see figure.



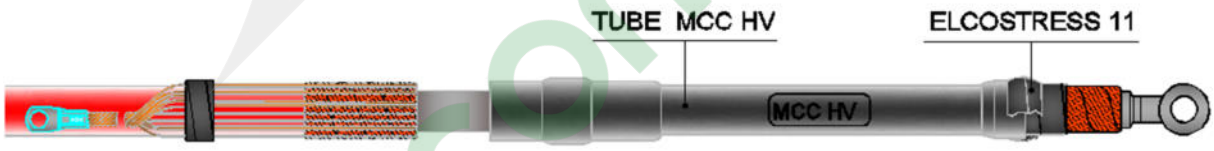
10.1 Apply the **first stress control tube MCC HV (BLACK COLOR - FIRST TUBE TO BE APPLIED, SEE THE BILL OF MATERIAL)** in such a way to position the bottom edge at **40 mm** from the outer jacket edge.

10.2 Heat shrink the tube, as per the GOLDEN RULES, starting from the edge locate on the semiconductor towards the top.

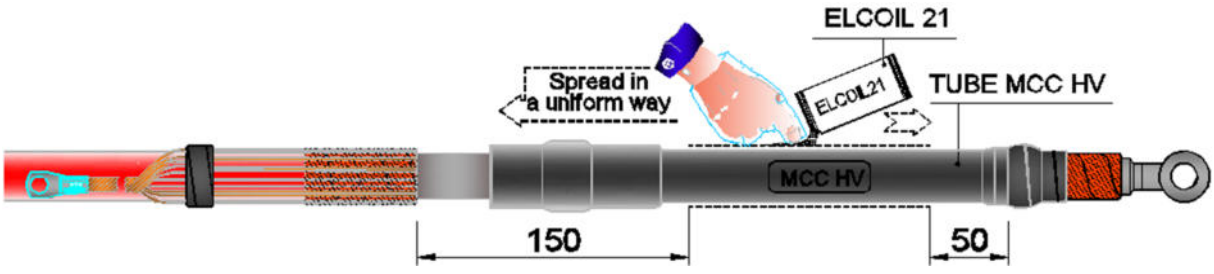
REMOVE ELCOIL 21 AFTER THE HEATH SHRINKING AND CLEAN THE TUBE WITH APPROPRIATE SOLVENT.



11.1 Apply the **ELCOSTRESS 11** around the top edge of stress control tube MCC.



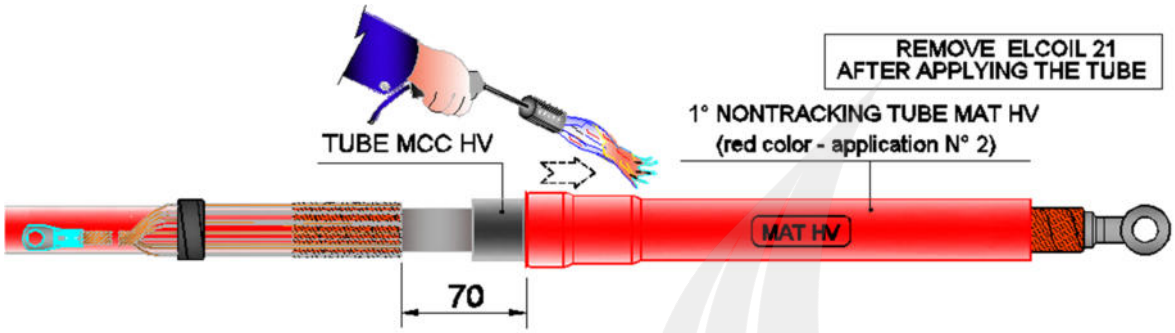
12.1 Apply, wear the gloves contained in the kit, an uniform layer of **ELCOIL 21**, on the MCC HV tube starting at **150 mm** from the outer jacket edge and continue on it as far **50 mm** from the edge see figure.



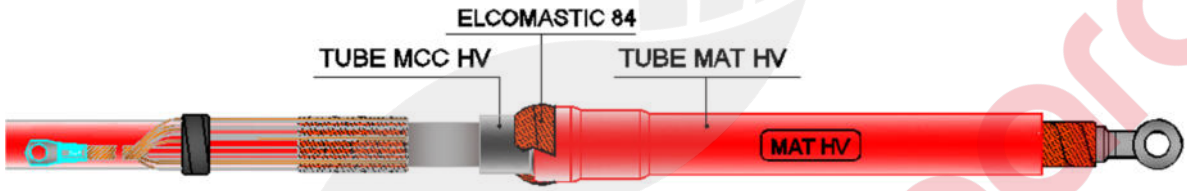
13.1 Apply the **first nontracking tube MAT HV (RED COLOR - SECOND TUBE TO BE APPLIED, SEE THE BILL OF MATERIAL)** in such a way to position the bottom edge at **70 mm** from the outer jacket edge.

13.2 Heat-shrink with the same caution previously indicate.

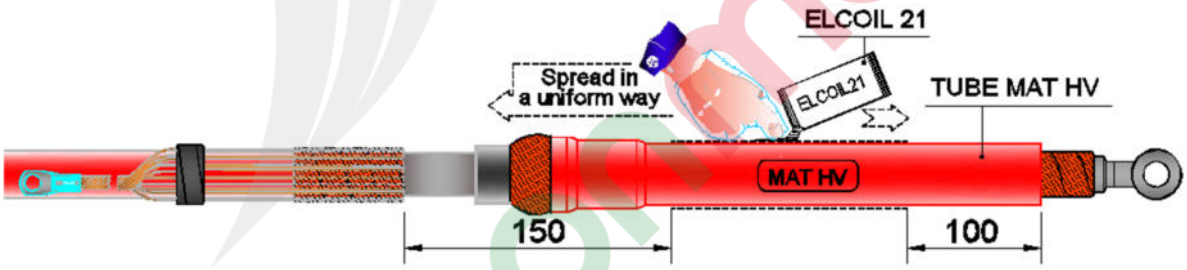
REMOVE ELCOIL 21 AFTER THE HEATH SHRINKING AND CLEAN THE TUBE WITH APPROPRIATE SOLVENT.



14.1 Apply the **ELCOMASTIC 84** around the bottom edge of nontracking tube MAT HV in order to fill up and smooth off the gap between the MAT HV tube and the MCC HV tube.



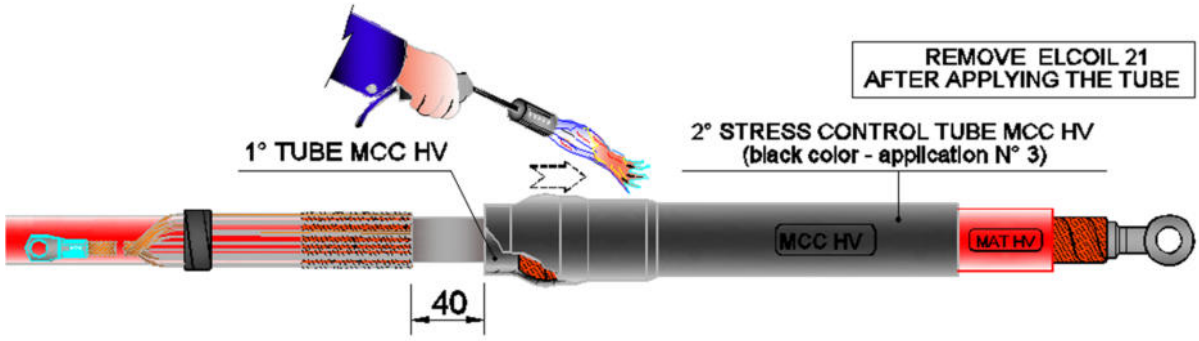
15.1 Apply, wear the gloves contained in the kit, an uniform layer of **ELCOIL 21**, on the MAT HV tube starting at **150 mm** from the outer jacket edge and continue on it as far **100 mm** from the edge see figure.



16.1 Apply the **second stress control tube MCC HV (BLACK COLOR - THIRD TUBE TO BE APPLIED, SEE THE BILL OF MATERIAL)** in such a way to position the bottom edge at **40 mm** from the outer jacket edge.

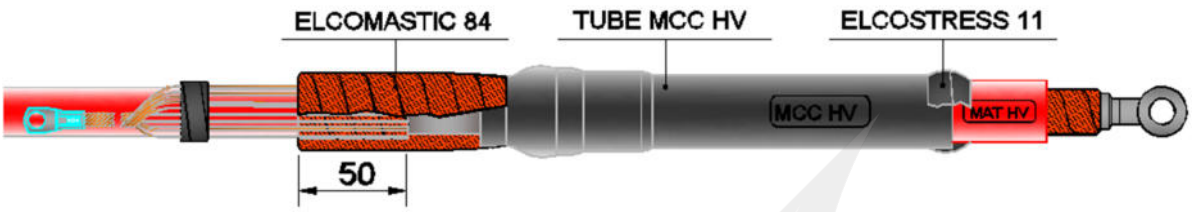
16.2 Heat shrink the tube, as per the GOLDEN RULES, starting from the edge locate on the semiconductor towards the top.

REMOVE ELCOIL 21 AFTER THE HEATH SHRINKING AND CLEAN THE TUBE WITH APPROPRIATE SOLVENT.



17.1 Apply the **ELCOSTRESS 11** around the top edge of stress control tube MCC, in order to fill up and smooth off the gap between the tube MCC HV and the tube MAT HV.

17.2 Apply **some layers** of **ELCOMASTIC 84** on the exposed semiconductor which is between tube MCC HV and outer jacket, in such a way to level these surfaces and continue to overlap with **one layer** the ELCOMASTIC 84 applied on the outer jacket.

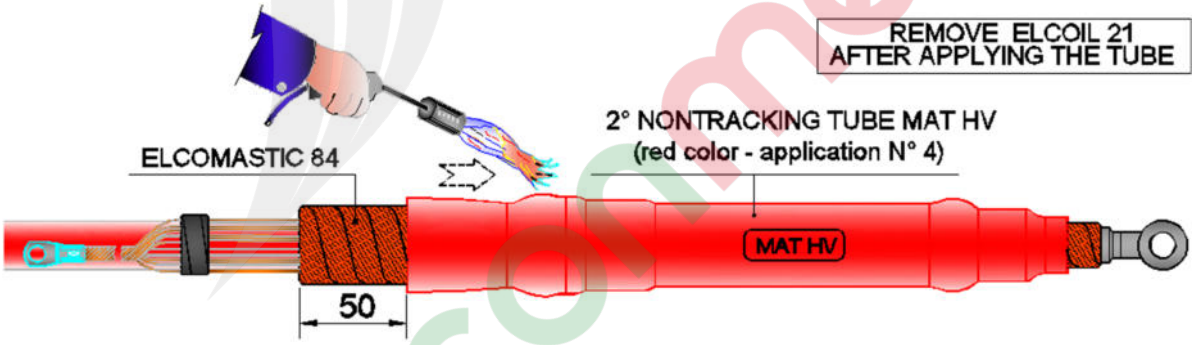


18.1 Apply, wear the gloves contained in the kit, an uniform layer of **ELCOIL 21**, on all the exposed MCC HV tube see figure.

19.1 Apply the **second nontracking tube MAT HV (RED COLOR - FOURTH TUBE TO BE APPLIED, SEE THE BILL OF MATERIAL)** position the lower edge on the ELCOMASTIC 84 tapping at **50 mm** from the edge.

19.2 Heat-shrink with the same caution previously indicate.

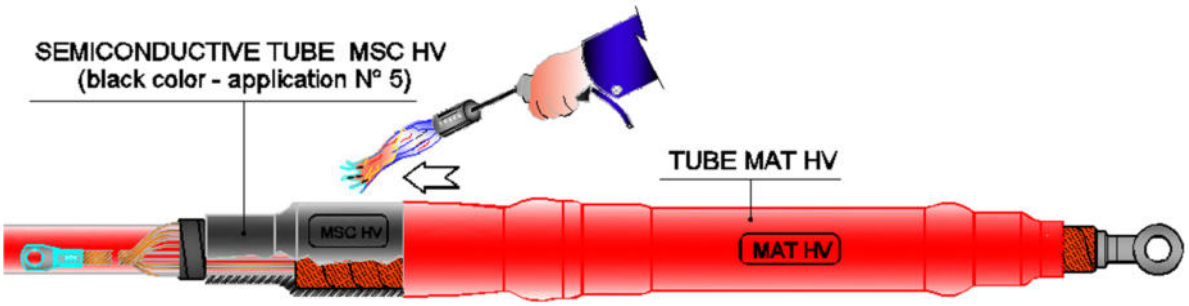
REMOVE ELCOIL 21 AFTER THE HEATH SHRINKING AND CLEAN THE TUBE WITH APPROPRIATE SOLVENT.



20.1 Apply the **semiconductive tube MSC HV (BLACK COLOR - FIFTH TUBE TO BE APPLIED, SEE THE BILL OF MATERIAL)** in such a way to position the top edge on bottom edge of nontraking tube MAT HV.

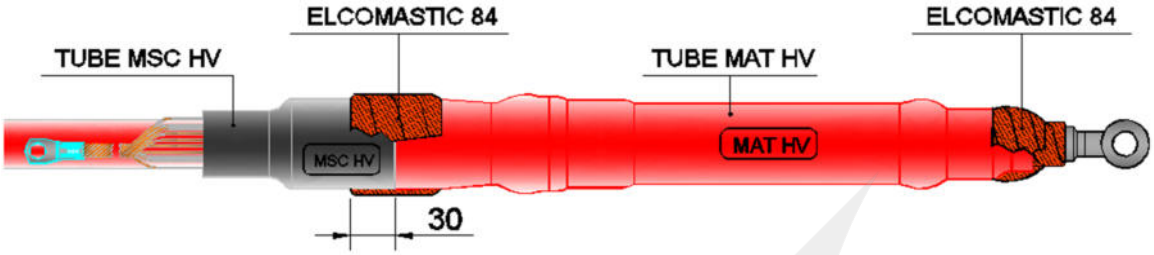
20.2 Heat-shrink with the same caution previously indicate.

CLEAN THE TUBE AFTER THE HEATH SHRINKING WITH APPROPRIATE SOLVENT.

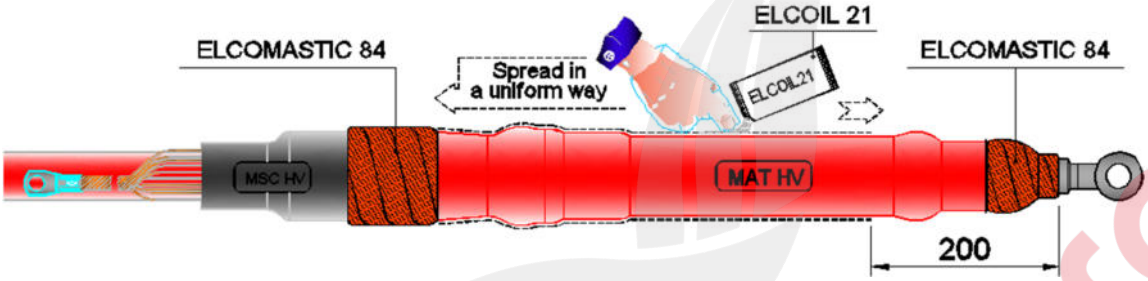


21.1 Apply the **ELCOMASTIC 84** around the top edge of semiconductive tube MSC HV, so indicate in the figure starting at **30 mm** from the edge and continue to overlap also the MAT HV tube edge.

21.2 Apply the **ELCOMASTIC 84** around the top edge of MAT HV tube.



22.1 Apply, wear the gloves contained in the kit, an uniform layer of **ELCOIL 21**, on the MAT HV tube starting on the bottom edge and continue on it as far **200 mm** from the lug barrel edge see figure.

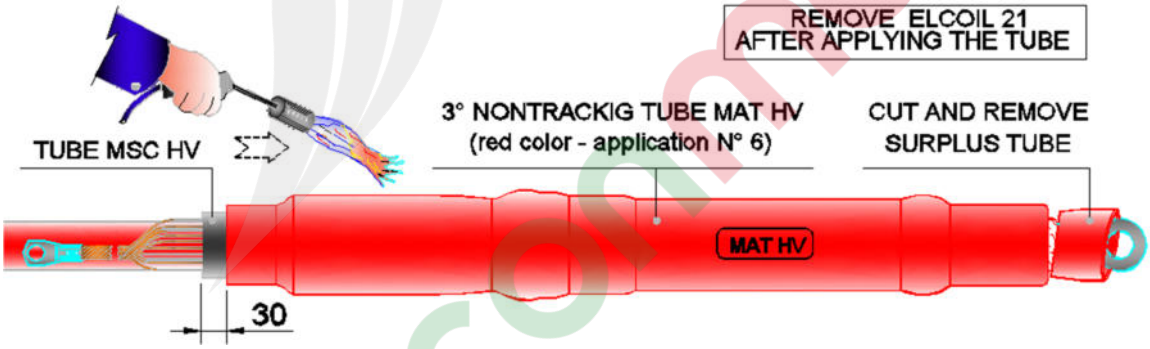


23.1 Apply the **third nontracking tube MAT HV (RED COLOR - SIXTH TUBE TO BE APPLIED, SEE THE BILL OF MATERIAL)** position the lower edge at **30 mm** from the lower edge of MSC tube previously applied on the outer jacket.

23.2 Heat-shrink with the same caution previously indicate.

REMOVE ELCOIL 21 AFTER THE HEATH SHRINKING AND CLEAN THE TUBE WITH APPROPRIATE SOLVENT.

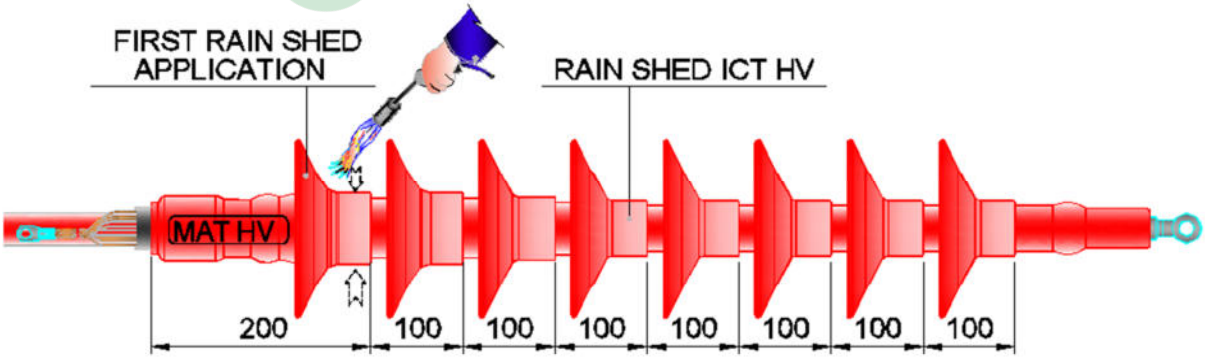
23.3 After the heat shrinking, cut eventualy the exceeding tube in such a way to leave exposed the lug hole.



24.1 ***Apply the first rain shed just after the heat shrinking of the MAT HV tube*** locating the upper **rain shed** edge at the distance of **200 mm** from the lower nontracking tube edge and heat-shrink around the circumference orienting the heat only on the neck of the rain shed.

24.2 Apply the others **rain shed** in such a way to leave the dimension of **100 mm** from the upper rain shed edge.

24.3 Connect the core lug to the electrical sistem and the screen lug to the ground station.



-. The termination is completed.