Installation Instructions

THREE CORE STRAIGHT JOINT (3CORE X 70SQMM)

The straight joint is a permanent, fully screened, submersible joint rated for the voltage class indicated on the joint housing and having a current carrying capacity equal to that of the cable, for extruded solid dielectric (XLPE or EPR) cable with copper or aluminum conductor and an extruded insulation shield (semi-conductive layer).

DANGER

All apparatus must be de-energized during installation or removal of part(s).

Do not touch or move energized products by hand.

Excess distortion of the assembled product may result in its failure.

Inspect parts for damage, rating and compatibility with mating parts.

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 will result in damage to the product and serious or fatal injury.

FOR MORE INFORMATION ON PARTS, INSTALLATION RATINGS AND COMPATIBILITY, CALL THE NEAREST PYUNG-IL OFFICE

IMPORTANT

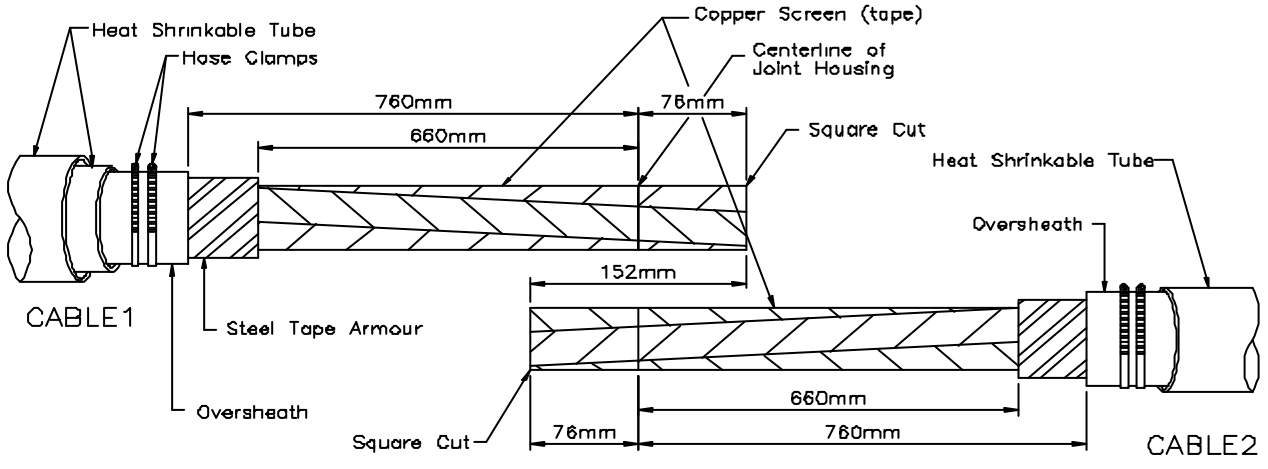
1. Check contents of package to insure they are complete and undamaged.
2. Check all components to insure proper fit with cable and/or mating products.
3. Read entire installation instructions before starting.
4. Have all required tools at hand and maintain cleanliness throughout the procedure.

STEP A - CABLE PREPARATION

WARNING: IF A CONTINUOUS PHASE IDENTIFICATION MARKER IS NOT PROVIDED ON EACH CORE OF THE CABLE, SPECIAL CARE MUST BE TAKEN TO MAINTAIN THE PHASE IDENTIFICATION OF EACH CORE THROUGHOUT THE JOINING OPERATION.

1. Overlap cable 2 to be joined by 152mm after identifying each phase.
2. Store two(one large, one small) heat-shrinkable tubes and two hose clamps over cable 1. Store one small heat-shrinkable tube and two hose clamps over cable 2.
3. Remove the oversheath, steel tape armour, armour bedding, binding tape and fillers to dimension shown.

- Remove oversheath for a distance of **836mm** from the end of cable 1
- Remove steel tape armour and armour bedding, binding tape and fillers for a distance of **736mm** form the end of cable 1
- Remove oversheath for a distance of **836mm** from the end of cable 2.
- Remove steel tape armour and armour bedding, binding tape and fillers for a distance of **736mm** from the end of cable 2.



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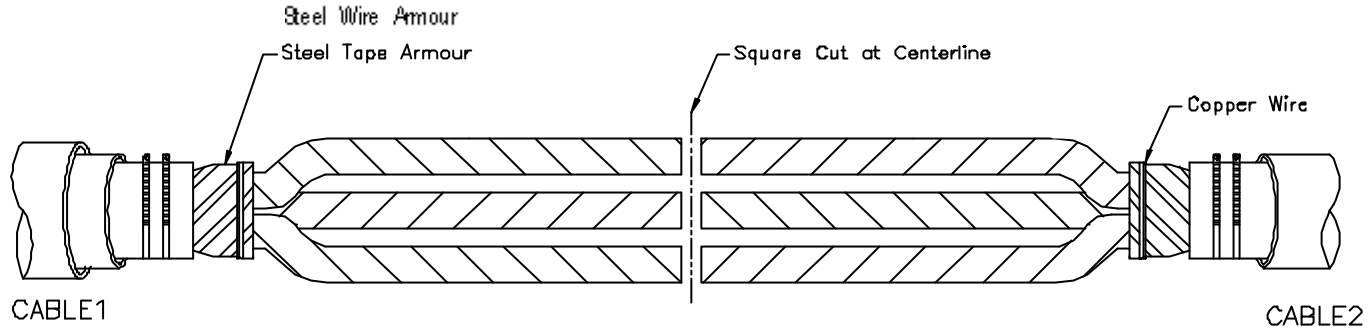
STEP B - STEEL TAPE OR WIRE ARMOUR

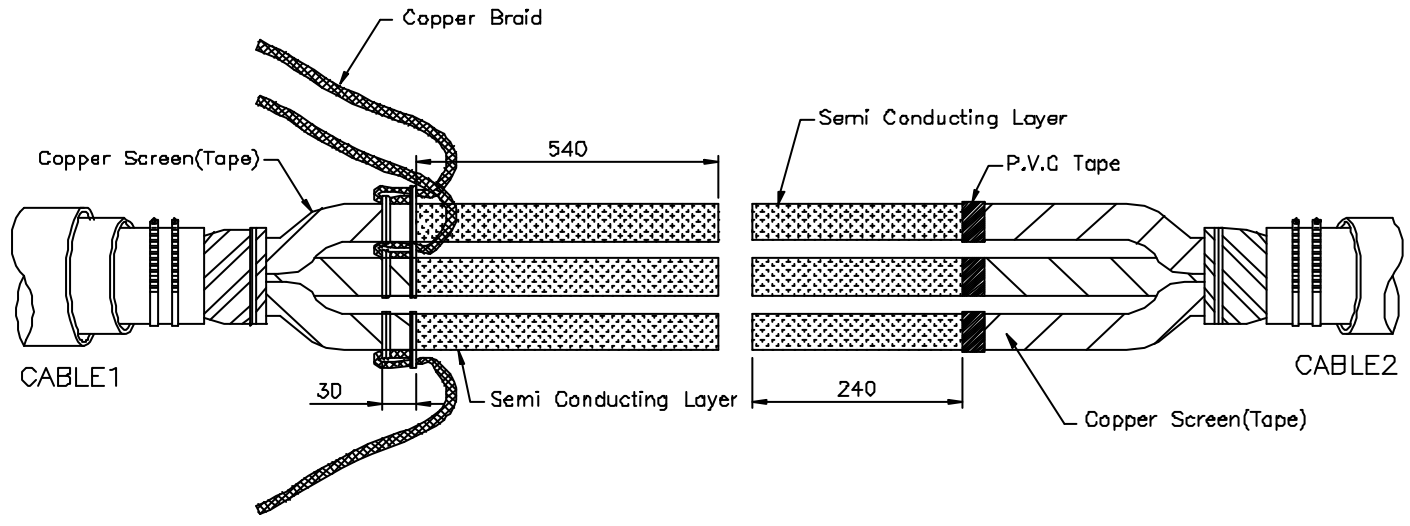
1. Secure the end of the steel tape armour with a piece of given copper wire.
2. Repeat Steps on Cable 2
3. Shape and position the cores as shown and square cut them at the centerline.



STEP C - COPPER BRAID

1. Place the given copper braid on the copper screen towards oversheath from the position of 540mm from the end of Cable 1 and **tie the copper braid onto the copper screen with two layers of the given copper wire at the position of 570mm from the end of Cable 1.**
2. Bend back the copper braid over the tied two layers of copper wire and **tie it onto the copper screen again with two layers of the given copper wire at the position of 540mm from the end of Cable 1.**
3. Then **remove the copper screen by 540mm from the end of cable 1**.
4. And **remove the copper screen by 240mm from the end of cable 2.** And apply one layer (half-overlapped) of PVC tape over the copper screen 13mm as shown on Cable 2.

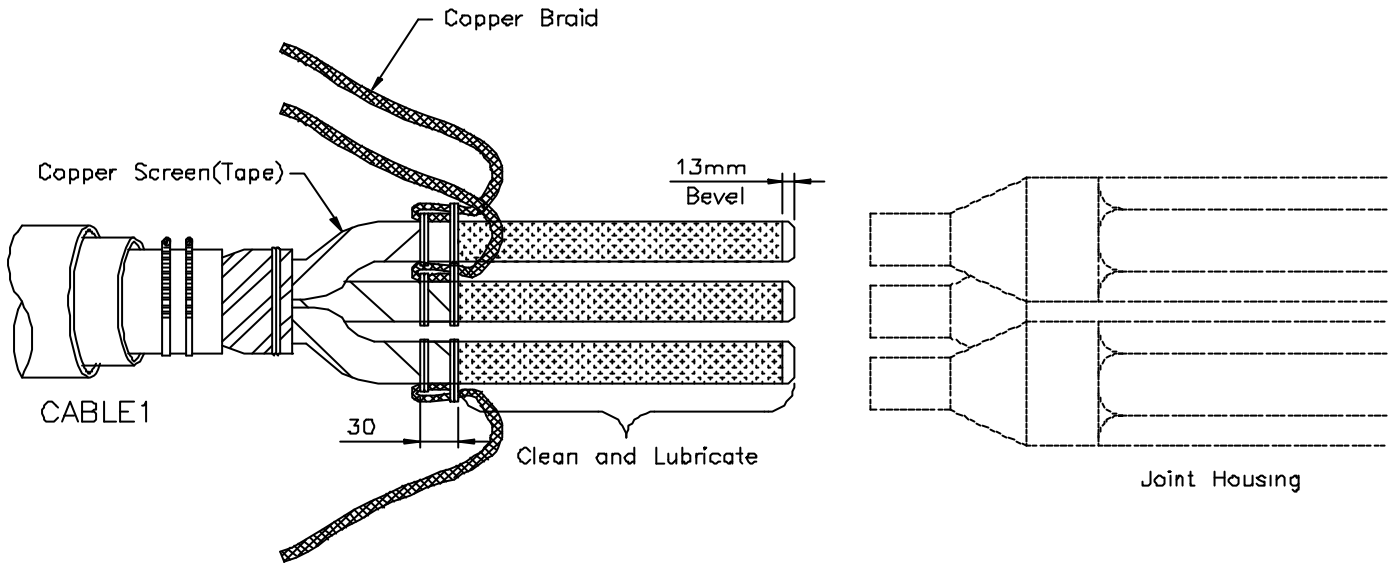
REPEAT STEP C ON THE REMAINING PHASES



STEP D - STORAGE OF SPLICE HOUSING

1. Bevel edge of cable 1 only, by 13mm (1/2")
2. **Clean the semi-conductive layer with cleaning tissue** and **lubricate** the semi-conductive layer on Cable 1.
3. Slide joint housing onto the cable 1 up to the tied point (540mm from the end of cable 1).

REPEAT STEP D ON THE REMAINING PHASES



STEP E - CORE PREPARATION

WARNING: DO NOT NICK, CUT, OR IN ANYWAY DAMAGE THE INSULATION SURFACE OR CONDUCTOR STRANDS. DAMAGE TO EITHER AREA COULD RESULT IN FAILURE OF THE CABLE/JOINT.

1. **Clean** the applied lubricant from semi-conductive layer on cable 1 **by cleaning paper.**
2. **Carefully remove semi-conductive layer by 150mm from the ends of cable 1 and cable 2.**
3. **Carefully remove insulation by 50mm from the ends of cable 1 and cable 2.**

REPEAT STEP E ON THE REMAINING PHASES

STEP F - SLEEVE INSTALLATION

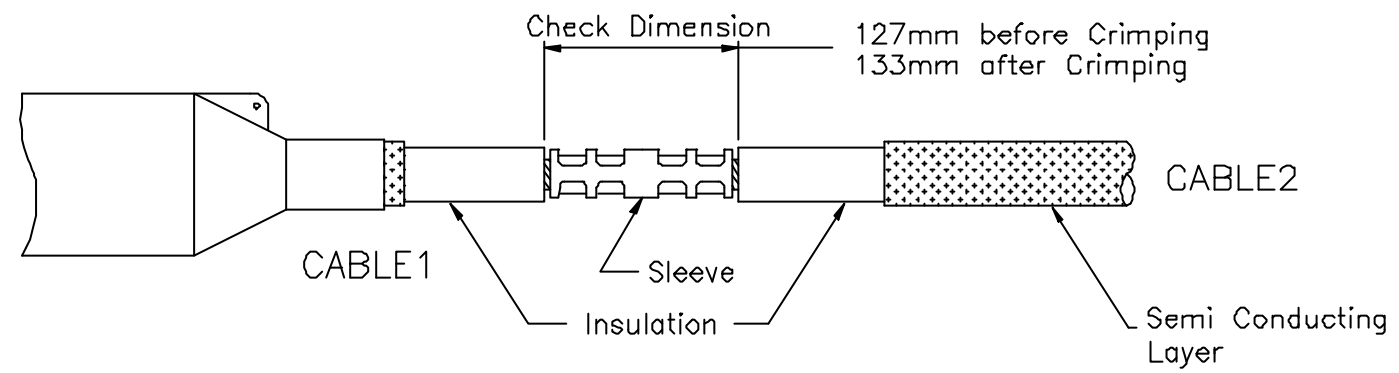
1. Wire-brush exposed conductors of cable 1 and cable 2 and immediately insert into the sleeve.
2. Insure that both conductors are fully seated in the sleeve. (DO NOT CRIMP YET).

WARNING: INSURE THAT THE PROPER PHASE CONDUCTORS HAVE BEEN INSERTED TO AVOID CROSS PHASING.

3. Be sure the "**check dimension**"(before crimping) after inserting into the sleeve **should not exceed 127mm, otherwise redo assembly.**
4. Crimp the sleeve as shown.

   IMPORTANT : Do not forget to FILE OR ABRADE sharp edge of the convex part of the sleeve after crimping, to avoid the damage of inside of joint housing later.
5. Wipe-off all excess inhibitor. **BE SURE the "check dimension" (after crimping) should not exceed 133mm (5¼").**
   If it does DO NOT PROCEED. Review the instructions and redo assembly.

REPEAT STEP F ON THE REMAINING PHASES

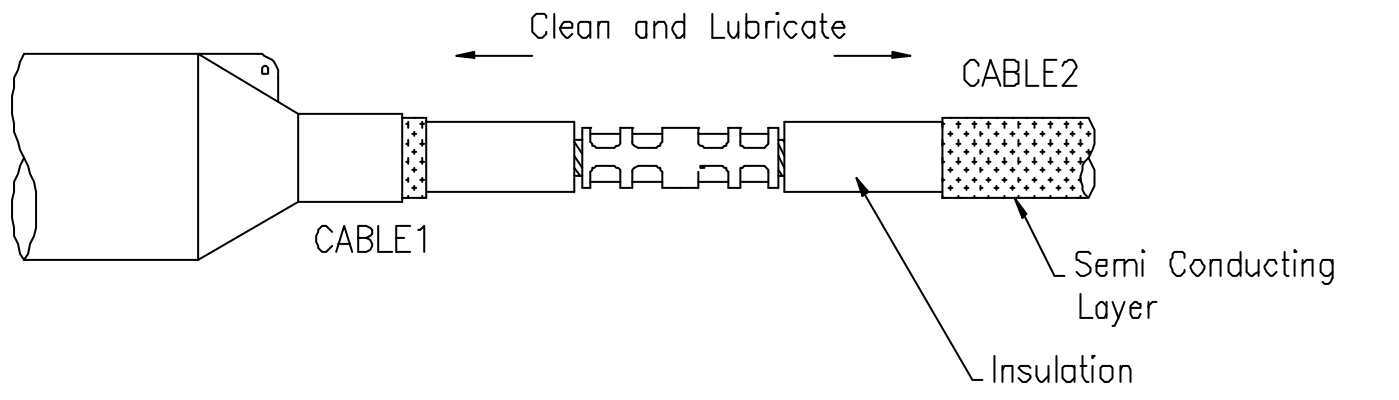


STEP G - CORE CLEANING AND LUBRICATING

WARNING: NO CONTAMINANTS SHOULD BE LEFT ON THE SURFACE OF THE INSULATION. CONTAMINANTS ON THE INSULATION CAN AVERSELY AFFECT THE JOINT PERFORMANCE AND SHOULD BE REMOVED BY RE-CLEANING AND RE-GREASING CONTAMINATED AREA.

1. Clean core insulation surfaces with cleaning tissue. Always wipe in the direction of the arrows.
2. Lubricate core cable insulation surfaces using lubricant supplied. Always apply by wiping **in the direction of the arrows** to provide build-up or ramp of lubricant at the edge of the semi-conductive layer. Do not substitute with other lubricants.

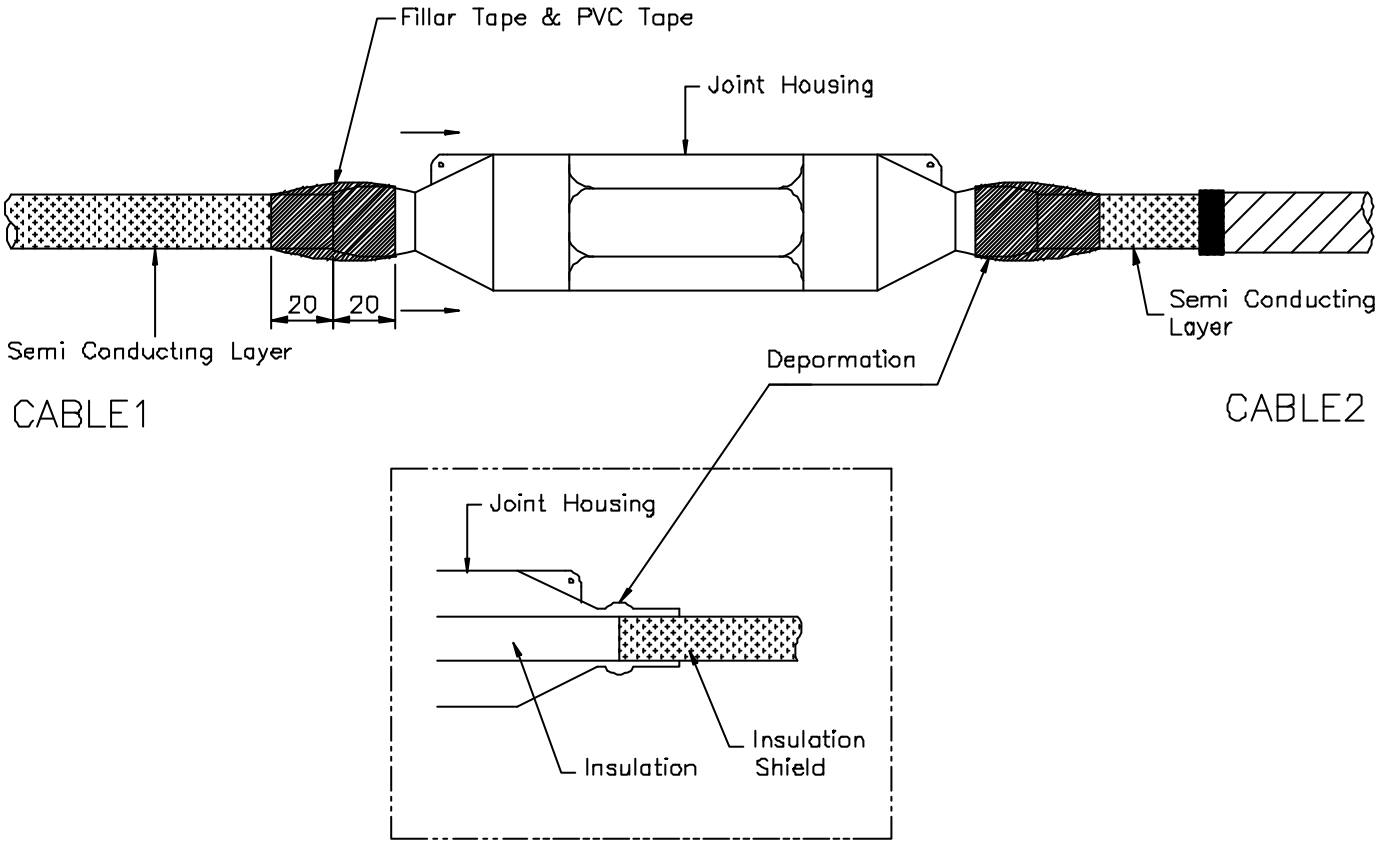
REPEAT STEP G ON THE REMAINING PHASES



STEP H - INSTALLATION OF JOINT HOUSING

1. Slide housing into final position. **Proper positioning is very important and can be insured by observing and equalizing the deformation of the joint housing ends caused by the underlying semi-conductive layer.**
2. Clean lubricants on semi-conductive layer and both sides of joint housing **by use of the given cleaning paper** before applying filler tape.
3. Apply two half-overlapped layers of filler tape(electrical adhesive sealing compound tape) beginning at **20mm from each end of joint housing up to 20mm onto cable 1 and cable 2**. When applying **filler tape,** remove interleaving, **stretch to about 25% to 50% elongation and apply.** For additional protection, apply two half-overlapped layers of **PVC tape over the filler tape without stretch force.**

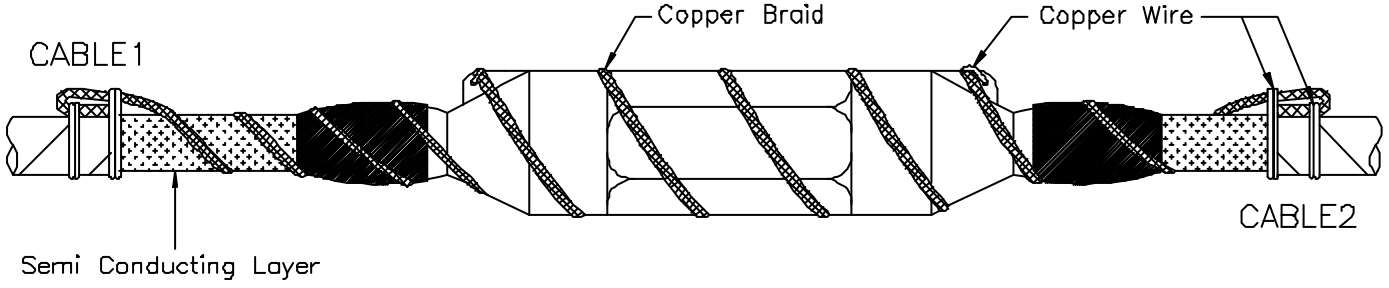
REPEAT STEP H ON THE REMAINING PHASES



STEP I - COPPER SCREEN RESTORATION

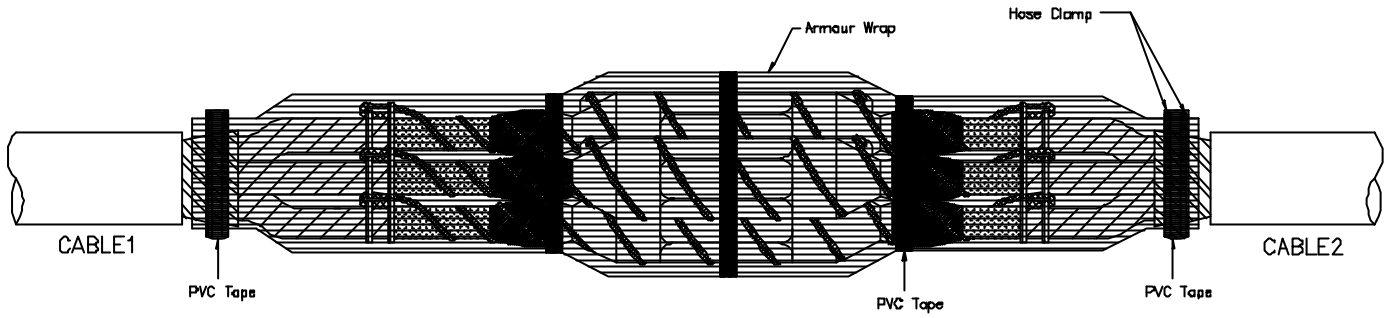
1. Wrap the copper braid around the joint housing from cable 1 to cable 2, and **bind it onto the copper screen of cable 2 with two layers of the given copper wire at two places as shown.**
2. Link the copper braid with the earth ear of the joint housing by the given copper wire.

REPEAT STEP I ON THE REMAINING PHASES



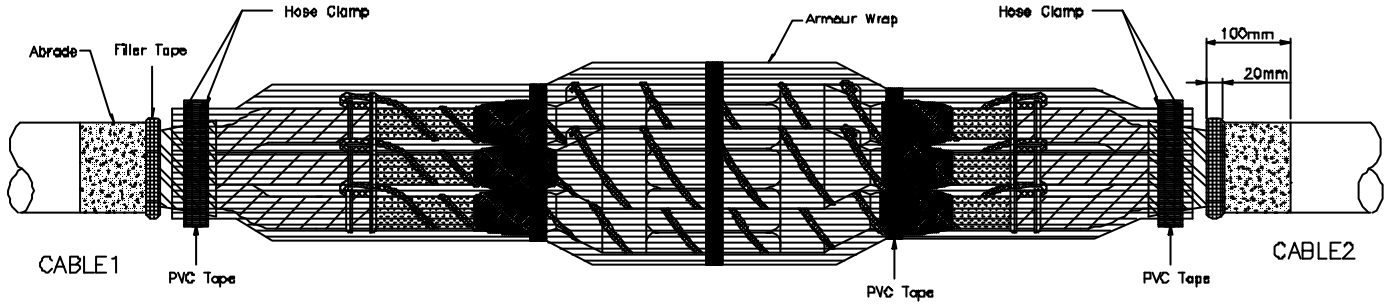
STEP J - ARMOUR RESTORATION

1. Place the armour wrap around the three joint housings and secure with two layers of PVC tape in three areas, as shown.
2. Place two hose clamps on each side of armour wrap and tighten hose clamps onto the area of support ring as shown.
3. Apply PVC tape over hose clamps to make smooth surface before heat-shrinking.



STEP J - CLEANING OVERSHEATH

1. Abrade cable oversheath by abrasive paper for a distance of 100mm from each end of cable oversheath.
2. Apply one half-overlapped layer of filler tape (electrical adhesive sealing compound tape) around oversheath for a distance of about 20mm from each end of oversheath, with stretching force of 25% to 50% elongation.



STEP K - POSITIONING HEAT SHRINKABLE TUBES AND HEAT SHRINKING

1. Place the long heat shrinkable tube from cable 1 onto the centre of armor wrap.
2. Start heat shrinking by torch from the centre of heat shrinkable tube towards both ends of the long tube.
3. Place a short tube on each end of the heat-shrinkun long tube as shown in the figure, overlapping about 100mm.
4. Start heat shrinking by torch from the centre of the short tubes toward the ends of them.