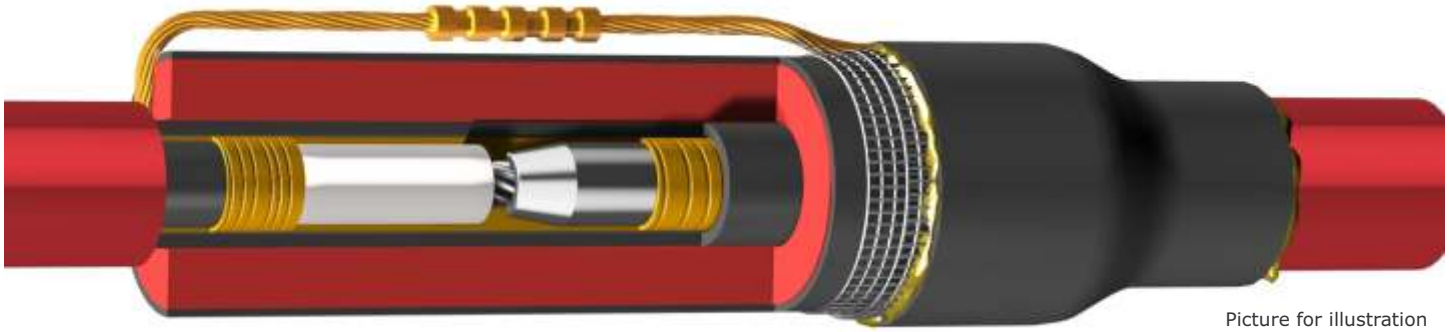
Shrink Polymer Systems

Cable Installation Materials – 24 volts to 36 kV

INSTALLATION INSTRUCTION
HEATSHRINK JOINT TO SUIT SINGLE CORE 12.7/22(24kV) NON ARMOURED XLPE CABLE WITH COPPER TAPE SCREEN



Picture for illustration purposes only

- THESE INSTRUCTIONS SHOULD BE FOLLOWED BY A TRAINED COMPETENT JOINTER
- A PROPANE GAS TORCH IS THE PREFERRED METHOD FOR SHRINKING THESE MATERIALS
- ENSURE THAT THE MATERIALS ARE KEPT CLEAN AND DRY AND ARE FREE FROM DUST, SAND AND GREASE
- PLEASE CALL SHRINK POLYMER SYSTEMS FOR ANY ADVICE

DATE OF ISSUE: 24.01.20

CABLE PREPARATION

ALL DIMENSIONS SHOWN IN mm

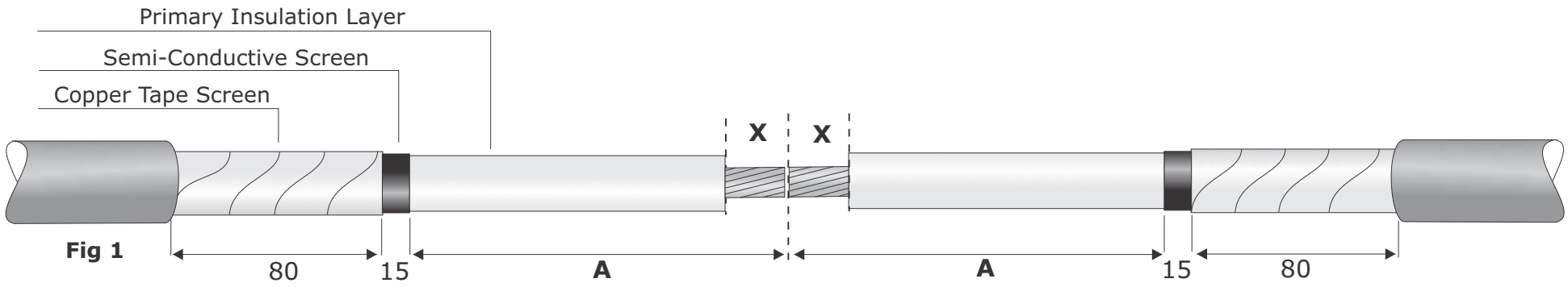


Fig 1

CONDUCTOR SIZE (mm^2)	DIMENSION A	DIMENSION X	MAX CONNECTOR LENGTH (mm)
25-70	200	HALF LENGTH OF CONNECTOR + 5mm	100
95-185	210		130
185-300	215		140
400-630	250		230
800	250		220

Table 1

Important:- If you have a cable size 185mm^2 and your kit ranges from 95-185mm^2, prepare the cable to the 95-185mm^2 range not the 185-300mm^2 range.

1. Ensure that the cables overlap before proceeding and the outer adhesive lined shrink tube is positioned over the cable end.

2. Expose the copper tape screen by 80mm and the black semi-conductive screen by a further 15-20mm beyond it (See Fig 1 and Table 1 for dimension A).

3. Carefully remove the semi-conductive screen layer using a suitable tool. Avoid scoring and damage to the primary insulation beneath. **Note:-** Screen removal tools are available and videos on screen removal feature on our website. It is good practice to polish the primary insulation with 240 grade aluminium oxide paper.

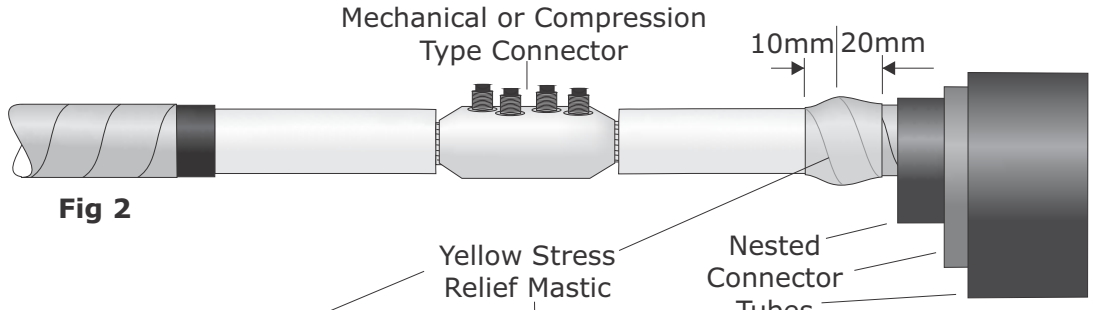


Fig 2

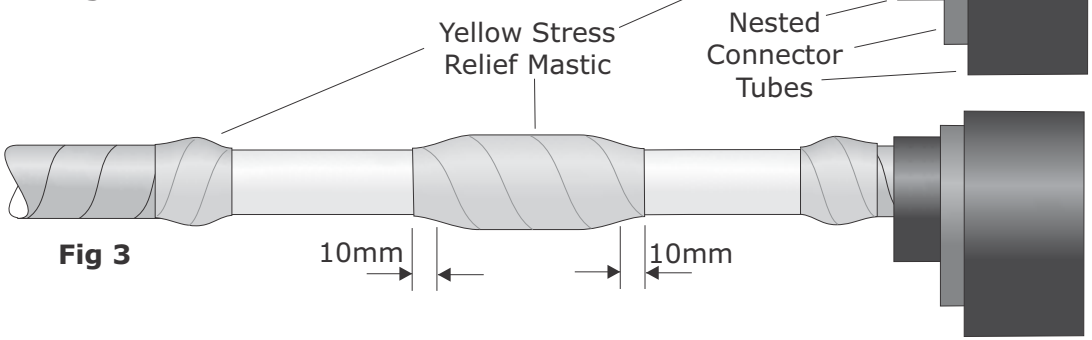


Fig 3

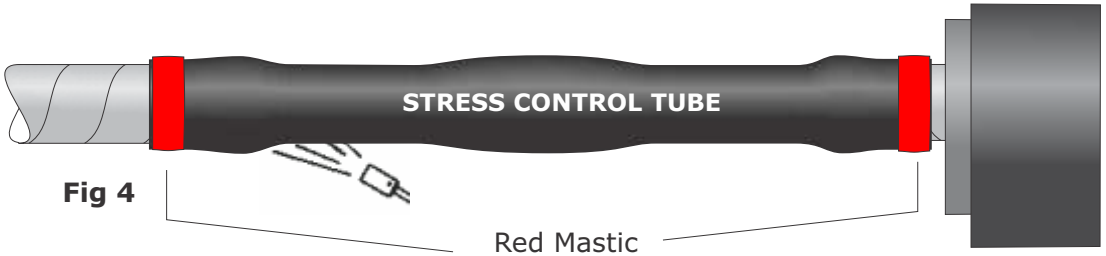


Fig 4

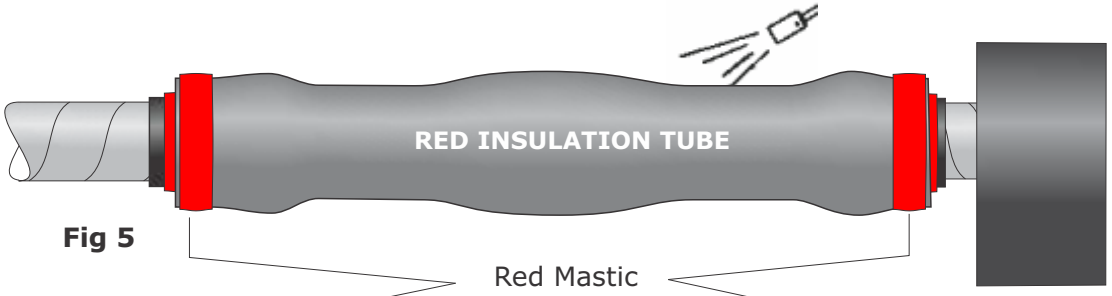


Fig 5

Fig 6

4. Ensure the outer shrink tube is over the cable end. Park the stress control tube, red insulation tube and red/black triple wall tube over the cable as shown in Fig 2.

Join the conductors using an approved MV "Tapered" connector, remove any sharp edges and de-grease before proceeding. **Note:** fit the conductor centering rings but **don't** use the black caps.

5. Stretch the yellow stress relief tape and apply over the screen cut area, extending onto the primary insulation by 10mm and catching the copper tape screens. **Note:** It may not be necessary to use all of the tape supplied.

6. Apply the yellow stress relief mastic over the connector area under tension and with a 50% overlap. Extend onto the primary insulation both sides by 10mm, as shown in Fig 3.

Important:- Fill in the gap between primary insulation and ensure a smooth taper to the connector. Don't apply too much tape, two layers maximum over the main body of connector. Also if mechanical connectors used, fill any voids that the bolts leave after they have been sheared with the grey hv mastic tape supplied.

7. Centralise the black stress control tube over the connector area, ensuring they overlap the core screens at both ends. Starting from the middle, using a soft flame torch, apply heat all around the tube until it has fully recovered.

8. Stretch and apply a turn of red mastic tape just in from the ends of the stress control tube to create an additional moisture seal as in Fig 4.

9. Now centrally position the red insulation tube and shrink as previous. Add another turn of red mastic tape as before (Fig 5+6).

10. Finally position the red/black triple wall tube and starting in the middle and working towards the ends, shrink it whilst keeping the flame moving all around the tube to ensure an even recovery and wall thickness. Allow tubes to cool down.

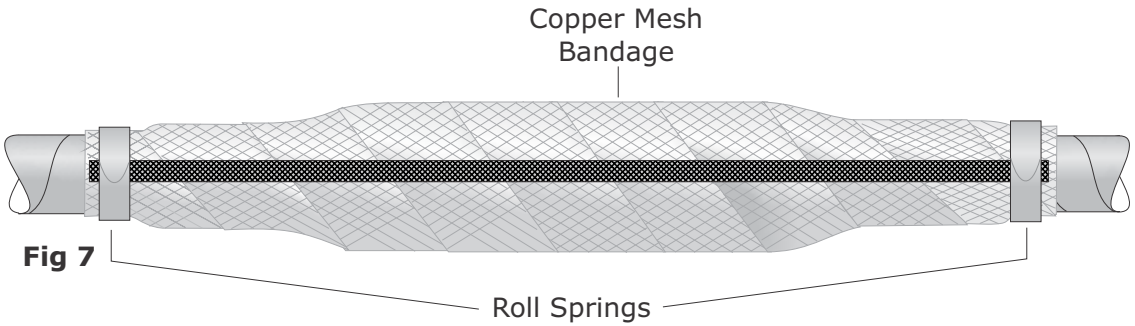


Fig 7

11. After the tubes have been allowed to cool down, apply the two layers of copper mesh bandage with overlap, across the joint and secure to the copper tape screen at both sides along with the tinned copper earth braid with the roll springs supplied. Tape over any sharp points.

Fig 8

12. Clean, de-grease and abrade the outer cable jackets. Position the outer adhesive lined shrink tube centrally over the joint gap. Start shrinking from the centre to one end at a time. Keep the flame on the move to ensure an even wall thickness. The tube should be wrinkle free and sealants should be visible at the ends.

13. Allow the completed joint to cool before applying any mechanical strain.

Important: user/circuit designer should determine whether or not special earthing requirements are needed to reduce the possible effects of induced sheath voltages or circulating currents in single core cables. The decision to single point earth/solid point earth or install cross bonding kits needs to be considered once length of run, loading and positioning of cables is known.

UNITS E3 CROWN WAY CROWN PARK INDUSTRIAL ESTATE RUSHDEN NORTHANTS NN10 6FD
TEL: +44 (0)1933 356758 EMAIL: info@shrinkpolymersystems.co.uk WEB: www.shrinkpolymersystems.co.uk