First Aid Procedures

Skin:
Should the resin or hardener come into contact with the skin, wash with copious amounts of soap and water. Should irritation persist seek medical attention.

Eye:
Irrigate eyes with copious amounts of water or eye wash solution. Should irritation persist seek medical attention.

Ingestion:
DO NOT induce vomiting. Drink plenty water. Seek medical attention.

Inhalation: Avoid inhalation of the vapours. If affected, move to fresh air. Should respiratory distress become evident seek medical attention.

Spillage Procedure:
Spillage may be removed with detergent and water after absorbing areas with sand or earth.

Disposal:
If the product has been **mixed**, when it has cured, it can be disposed of as normal waste.

If the product is **unmixed**, dispose of it via a reputable disposal company or follow instructions from your local authority.

Fire Extinguishers:
Carbon dioxide, dry powder, foam, sand or earth should be used. If using water, large volumes will be required.

Storage:
Maximum shelf life 2 years from date of manufacture when stored in dry or air conditioned temperatures of between 10 - 35ºC. Keep away from water, segregate from food and animal feeds.

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Cable Jointing Instructions
Low Voltage (1Kv)

Content List

- 2 part polyurethane resin compound
- Disposable gloves
- Joint mould (shell)
- Joint mould lid
- Cable entry sealing system (PVC, foam or butyl putty tape)
- A form of cable connector separators
- Jointing instructions
- Earth continuity kit (optional)
- Cable connectors (optional)

Health & Safety

Health and Safety at work act 1974 section 6 amended by the Consumer Protection Act 1987 and the Control of Substances Hazardous to Health regulations 1988.

STATEMENT TO USERS

Having regard to the provisions of the above, it is intended that the obligations to whoever may be concerned with the handling and use of our underground cable joints do so in terms of these regulations.

Resin - A blend of complex polyols designed to ensure excellent electrical insulation and thermodynamical properties. Products should cause no problems providing good industrial hygiene procedures are adhered to.

Hardener - Comprises of a mixture of isocyanates with Diphenylmethane 4,4', Diisocyanate is the principal component. The products should cause no problems providing good industrial hygiene procedures are adhered to.

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The installation of this cable joint must be entrusted to appropriately qualified and experienced craftsmen. BS 6910-2 is the code of practice for the installation of cable joints on site using these materials. It is assumed that all cables are de-energised. The following instructions are to be taken as cable jointing recommendations complying with the test requirements of BS EN 50393.

NB – Before beginning the installation of the cable joint, please read the Health and Safety guidelines.

- Clean exposed cable and ensure that the cable joint area is dry.
- For stepped end joint moulds, using a hack-saw, cut the stepped ends of the mould so as to accommodate the size of the cable.
- Set the cables level. Remove the outer sheath ensuring that the manufacturer's recommendation of 40mm is maintained within the mould wherever possible, or an amount equal to the diameter of the cable. **For paper lead cables, a metal binder should be applied to the outer hessian sheath at a distant of 40mm within the mould. It is the manufacturer's recommendation that a further distant of 40mm must be allowed as a lengthways seal within the cable joint.**
- Abrade the remaining outer 40mm cable sheath that lies within the mould upto and including the cable entry point.
- If using Under Armour Rings - Cut and pull back the steel wire armouring and put the metal Under Armour Ring (UAR) into place. The UAR must be firmly placed under the armour. Fold back the steel wire armouring over the UAR, with no overlapping. Apply the wormdrive clips. Trim off unwanted armour wires in line with the end of each UAR ensuring a 10mm radial cover thickness of bedding at cutback wherever possible.
- If using Constant Force Springs – Cut the steel wire armour, trim if required, allow 25 - 40mm for the fitting of the Constant Force Spring (CFS)
- Cut and remove the exposed inner bedding to reveal the cores. **For paper lead cables cut through the exposed lead sheath to reveal the paper insulated cores. It is important that sufficient lead sheathing is still exposed to allow secure installation of the earth continuity. When removing the lead sheath, special care should be taken not to damage the cores. Cord or twine should be tied securely around the paper insulated cores to prevent unwinding.**
- Straighten the cables and spread the cable cores. **For multi-core and multi-pair cables remove all loose bedding and grease.**
- Cut and remove the appropriate amount of insulation respective to the type of cable connector being used.
- When using mechanical connectors, the copper conductors should be wrapped in brass gauze to ensure electrical stability between the copper and aluminium.
- Connect the cores using recommended mechanical or compression type cable connectors. Maintain a minimum 10mm clearance between each uninsulated connector. Apply additional approved connector insulation shroud, patch or tape where provided.
- Cut back an appropriate amount of insulation on the tinned copper braid to ensure a good contact. Secure into place using the wormdrive clip or CFS as supplied.
- **For paper lead cables, the lead sheath provides the earth, therefore an adequate bonding system MUST BE INSTALLED to reinstate the earth continuity. This is best achieved by a method known as 'plumbing'. Continue the tinned copper braid under the armour and secure using the wormdrive clip. It is important that an earth continuity is securely installed that matches the earth fault rating of the cable.**
- Set the cables level. Clean exposed cable and ensure the joint area is dry. **For paper lead cables apply a moisture seal around the lead sheath.**

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- Place the 2 halves of the moulds around the joint with the pour hole section at the top. If foam tape has been supplied, wrap this around the cable so it lines up with the ends of the mould. It may require cutting to the correct length as this forms the seal for the cable entry. Snap or secure the 2 halves of the mould together using the supplied materials, ensure the 10mm clearance is kept between uninsulated components and the inside surface of the mould whenever possible.
- Seal the cable entry points using the supplied PVC tape, foam tape or butyl putty tape.
- **It is important to support the mould before the compound is poured into it.**
- Refer to appropriate mixing and pouring instructions for the resin compound.
- Ensure all component parts have been encapsulated in the resin compound then fit the lid to the mould.
- Completed joint should be left for approximately 1 hour before energising or back filling.
- Care should be taken when back filling as to not disturb the joint whilst it is curing. Ensure no stones or sharp objects are included in the close vicinity of the joint. Pack soil firmly around the joint before back filling.

Two Part Polyurethane Resin Compound

(Read mixing and pouring instructions fully before commencing)

- Ensure items to be covered are dry and free from oils or grease.
- Where ambient temperature is below 10ºC, warm the compound before mixing
- Use gloves provided
- Open the silver foil bag and carefully remove the inner plastic bag. Check the following, The 2 components should be separated by a plastic dividing strip. Check this is still in place. The components should be in a liquid form and free from any contamination. If you notice any crystallisation or partial mixing of the 2 components **DO NOT** use this resin pack.
- Remove the separating strip by pulling both ends of the bag away from the seal.
- Mix the product for at least 2 minutes (If colder than 10ºC the product should be mixed for approx. 3 minutes). Ensure the resin and hardener are squeezed from all corners and edges of the bag and the 2 components are thoroughly mixed together. When mixed thoroughly and correctly the compound will become a uniform colour.
- Push the mixed product to one side of the bag and cut off the opposite corner of the bag to become a pouring spout. Carefully pour the mixture into the moulding. Care should be taken to avoid trapping any air at the cable entry points. Checking for any leaks as you go, plug any leaks with PVC or butyl putty tape supplied.
- NOTE - Approximately ¼ of the resin will be left in the bag if the resin is not squeezed out of the bag correctly. To help get as much resin out of the bag as possible, place the plastic separator strip in the opposite corner to the one cut off for pouring. Gradually twist the plastic strip towards the cut off corner and pour the remaining resin out.
- Pouring and mixing should be completed in approximately 10 minutes. If a subsequent bag of resin compound is required it should be mixed and poured immediately after the previous bag.
- All joint components must be entirely encapsulated in the resin compound.
- Allow 1 hour after completion of pouring before energising cable.
- Extra care must be taken when back filling to ensure the joint is not disturbed whilst the compound is curing.
- Provided the compound has been mixed correctly it is fully cured in 24 hour.
- Should the resin compound come into contact with skin, wash with copious amounts of water. If not removed immediately, staining of the skin may occur.

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