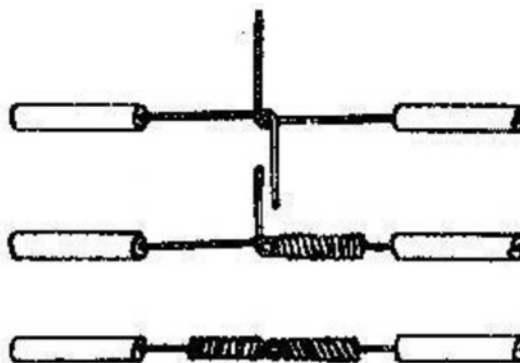


ANNEX 19A**EXAMPLES OF ELECTRICAL CABLE REPAIR TECHNIQUES****1. End to End Junction of a Single or Multi-Core Cable**

Used to join a single small conductor or a single multi stranded core. This repair is quick and effective but not suitable for any significant current. This cable is shown before any cable insulation has been applied. Prior to making the joint a piece of heat shrink sleeving should be passed over one side to provide insulation on completion. Recommended maximum current 5A.

Fig 19A-1.**2. Joint Using In-Line Crimps on a 3-Core Power Cable**

Used to join a single or multi core cables. The example below is a Type 23 damage control cable. The cable is shown before any insulation is carried out. This is an effective joint and could be considered a permanent repair if insulated correctly. Prior to making the joint, a piece of heat shrink sleeving should be passed over one side to provide the outer sheath on completion. Provided the crimps used are the correct size for the cross sectional area (CSA) of the cable and the correct crimping tool has been used, the joint should be capable of carrying the maximum rated current of the cable.

Fig 19A-2.

3. Joint Using Crimped Cable Tag Ends and Fasteners on a 3-Core Power Cable

Used to join a single or multi core cables up to 100A. The cable is shown before any insulation is carried out. This joint should be staggered to reduce the chance of a short circuit in the event of an insulation failure. Prior to making the joint, if available, a piece of heat shrink sleeving should be passed over one side to provide the outer sheath on completion. Provided the terminations used are the correct size for the CSA of the cable and the correct crimping tool is used, and the fastening arrangement is clean and tight, the joint should be capable of carrying the maximum rated current of the cable.

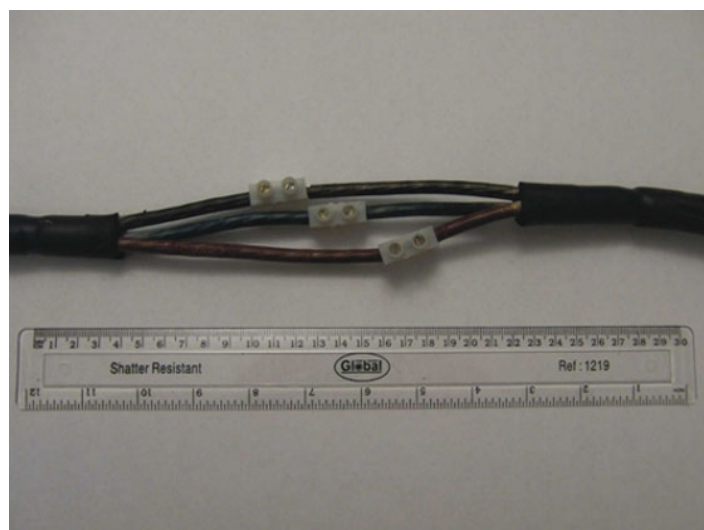
Fig 19A-3.



4. Joint Using Connector Block (Chocolate Block) on a 3-Core Power Cable

Used to join a single or multi core cables up to the rating of the connection block. The example below is a 30A cable for a transformer supply. This is a quick and effective repair. The cable is shown before any insulation is carried out. Once the joint is made it should be further insulated with self-amalgamating tape.

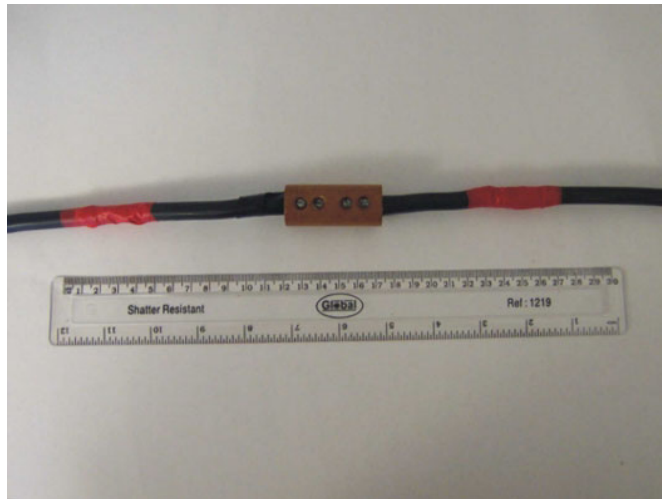
Fig 19A-4.



5. Joint Using Paxolin Connection Block

Used to join a single or multi core cables up to the rating of the connector. The Paxolin connector blocks are held in damage control lockers iaw BRd 2170(3). The example below is a 100A damage control cable. This is a quick and effective repair up to a maximum rating of the connector. The cable is shown before any insulation is carried out. Once the joint is made it should be further insulated with self-amalgamating tape.

Fig 19A-5.



6. Joint Using Locally Manufactured Connector

Used to join a large single or multi core cables in excess of 100A. The example below is a 100A damage control cable. This method can be protracted since the connectors are required to be manufactured locally. The connector is made up of steel bar with a drilled hole through the length. The hole should be as close to the diameter of the cable to be joined as possible. The connector has at least two drilled and tapped holes to take a screw fastener of a suitable size to crimp onto the majority of the cable core. The cable is shown before any insulation is carried out. Once the joint is made it should be further insulated with self-amalgamating tape.

Fig 19A-6.



7. Joint Using In-Line Crimps on a Multi-Core Control Cable

Used to join a single or multi core audio circuits or machinery control/indication circuits that carry voltages up to 50V DC or 35V AC. The example below is an internal communications cable. The cable is shown before any insulation is carried out. Once the joint is made it should be further insulated with self-amalgamating tape and supported if necessary.

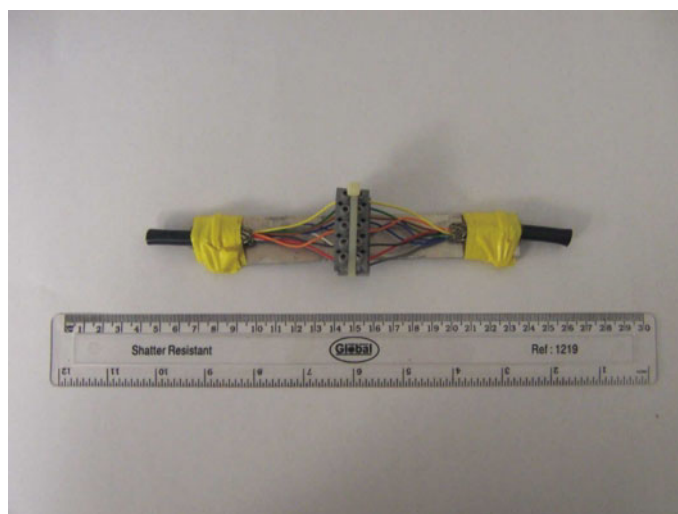
Fig 19A-7.



8. Joint Using Connector Block (Chocolate Block) on a Multi-Core Cable

Used to join a single or multi core audio circuits or machinery control/indication circuits that carry voltages up to 50V DC or 35V AC. The example below is an internal comms cable. The cable is shown before any insulation is carried out. Once the joint is made it should be further insulated with self-amalgamating tape and supported if necessary.

Fig 19A-8.



9. Joint For a Co-Axial Cable (Data Core and Screen)

Used to join single core cables that have a screen. These would not normally carry voltages in excess of 50V DC or 35V AC. and are more likely to carry a data signal. As such it is important that the integrity of the screen is maintained to prevent noise interference from other electronic equipment. The cable is shown before any insulation is carried out. Once the joint is made it should be further insulated with self-amalgamating tape and supported if necessary.

Fig 19A-9.

