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POLYETHYLENE CABLES

Wire Jointing Using Connectors, Wire, Insulated No. 8A, 8B and 8C

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1 **GENERAL** This Instruction describes the method of wire jointing using Connectors, Wire, Insulated (CWI) No. 8A, B and C and Pliers, Crimping No. 8A.

The method is used for all joints between either aluminium, copper and aluminium or copper conductors, particularly in local-network cables of 100 pairs or less.

2 **DESCRIPTION OF CONNECTORS** The connectors consist of a plastic base and cap, containing a slotted-tag insulation-displacement connector, and are filled with a water-repellent insulating compound. Connectors from different contractors may vary in shape but all meet the relevant requirements.

The CWI 8A has a two-wire jointing capacity while the CWI 8B has a three-wire jointing capacity. The 8C has a side entry port to enable the connector to be used for teeing.

Fig 1 and Fig 2 show a typical example of CWI 8A.

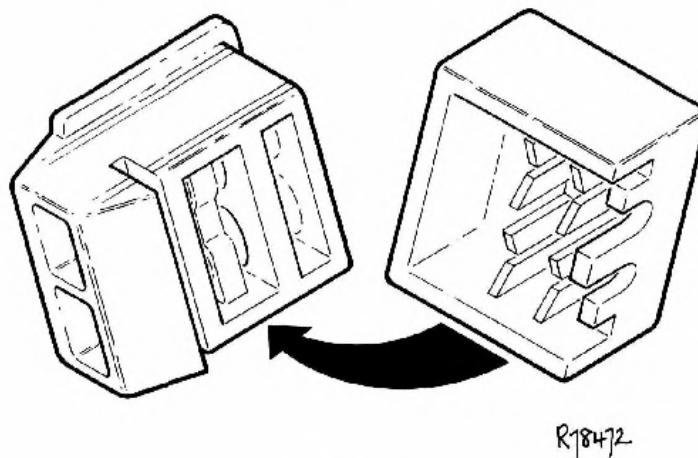


FIG 1

CONNECTOR CWI 8A WITH CAP REMOVED

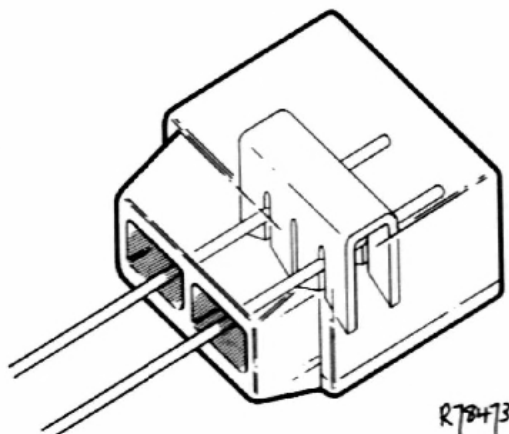


FIG 2

CONNECTOR CWI 8A FULLY CRIMPED

The wires to be jointed are inserted fully into the connector and the top is compressed into the base using Pliers Crimping No. 8A. This action forces the wires into the connector tag, displaces the insulation and forms an electrical connexion.

3 JOINTING CAPACITY OF CONNECTORS All diameters of conductor from 0.4 mm to 0.9 mm may be jointed in any combination, whether aluminium or copper, without first removing insulation.

The connectors may also be used with Wire Equipment or Wire Jumper without removing insulation.

4 PLIERS CRIMPING NO. 8A are illustrated in Figure 3. The pliers are sprung handled and produce a parallel closing action at the jaw ends. Wires can be cut by the blades which are incorporated in the scissor action of the plier handles.

The mechanical restraints are "in built" into the connector. Therefore, the pliers should be compressed until the connector is fully closed (only sufficient pressure to fully close the connector is required), after which any additional pressure is ineffective.

Figure 3 follows

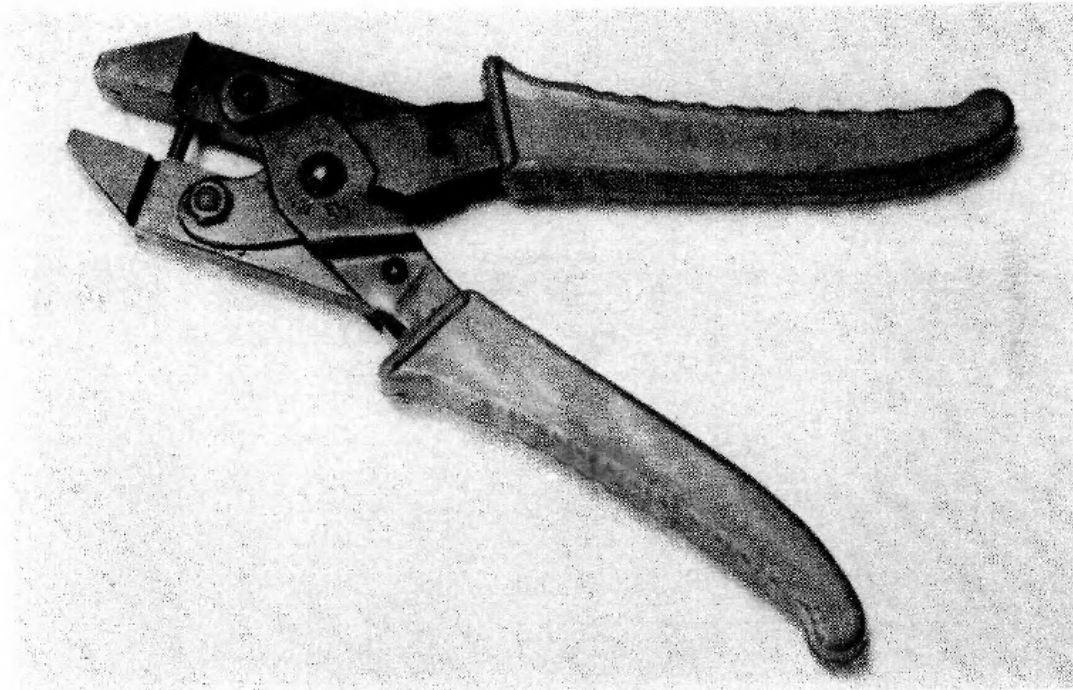


FIG 3

5 JOINTING

5.1 In-Line Jointing

Jointing Gaps For joints using Sleeves PE, refer to Table 3 in A2 H2605. For Jointing using Kit Joints Closure refer to Table below: —

KIT	CABLE SIZE	JOINTING GAPS	NO. OF BANKS
KJC No. 1A	Over 6 mm Dia up to 20/0.5	320 mm	10
KJC No. 1B	20/0.6 up to 50/0.5	320 mm	10
KJC No. 1C	50/0.6 up to 100/0.5 (100/0.6 and 100/0.9: see A2 H2614)	320 mm	10

For polyethylene to polyethylene-insulated conductors take the appropriate pair from each side of the joint and separate the A and B wires of each. Twist the A wires together for one complete turn only at a distance of 40 mm from one end of the jointing gap and repeat for the B wires. (See Figure 4.)

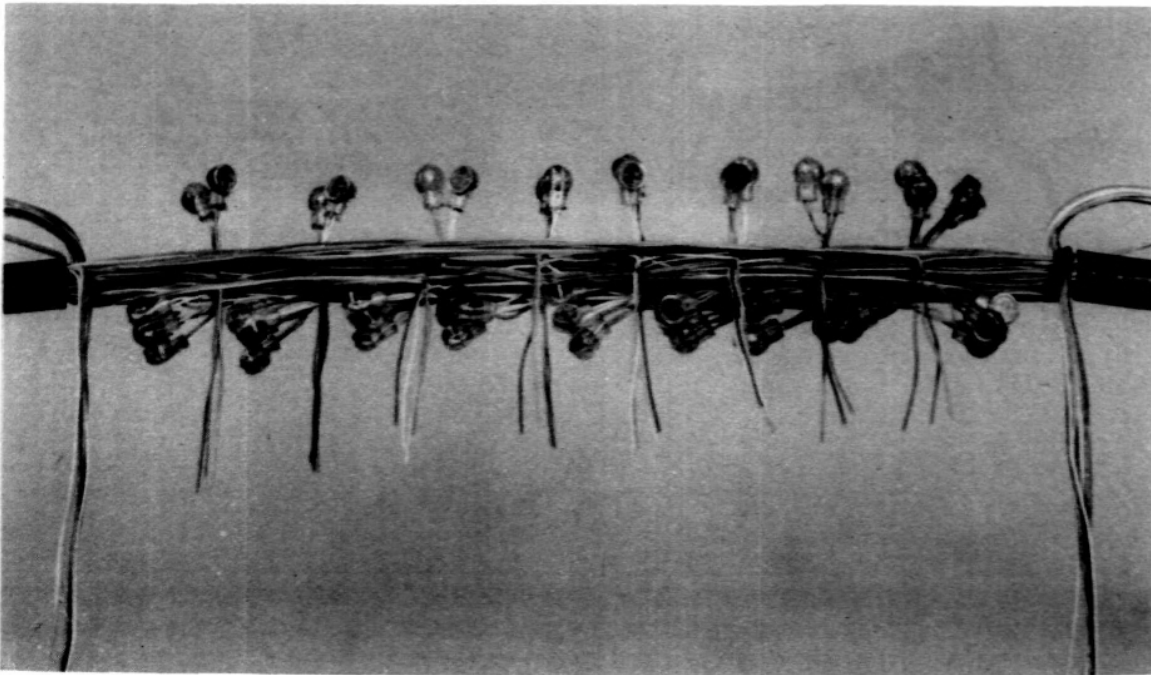


FIG 4

Repeat this operation with subsequent pairs at intervals of 30 mm across the jointing gap. At the last position take TWO pairs from either side and twist individual wires together as before. Cut all the twisted wires to approximately 25 mm in length beyond the twisted portion. (See Figure 5.)

Figure 5 follows

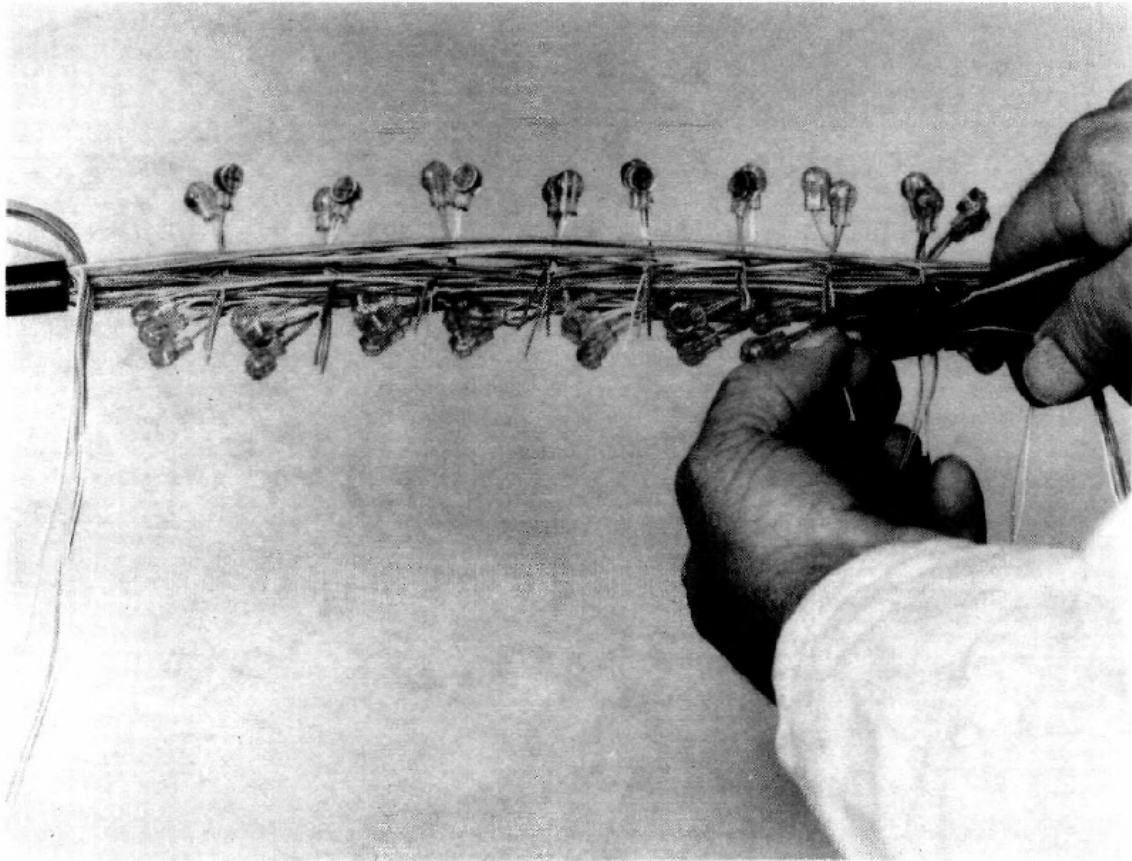


FIG 5

Place one Connector, Wire Insulated No. 8A over each pair of A Wires and one over each pair of B Wires. Push each connector down until the ends of the wire butt against the inner end of the connector (see Figure 6). All pairs across the jointing gap should be fitted with connectors.

Close each connector in the line by placing the jaws of the pliers over it and closing the handles. (See Figure 7.)

Figure 6 follows

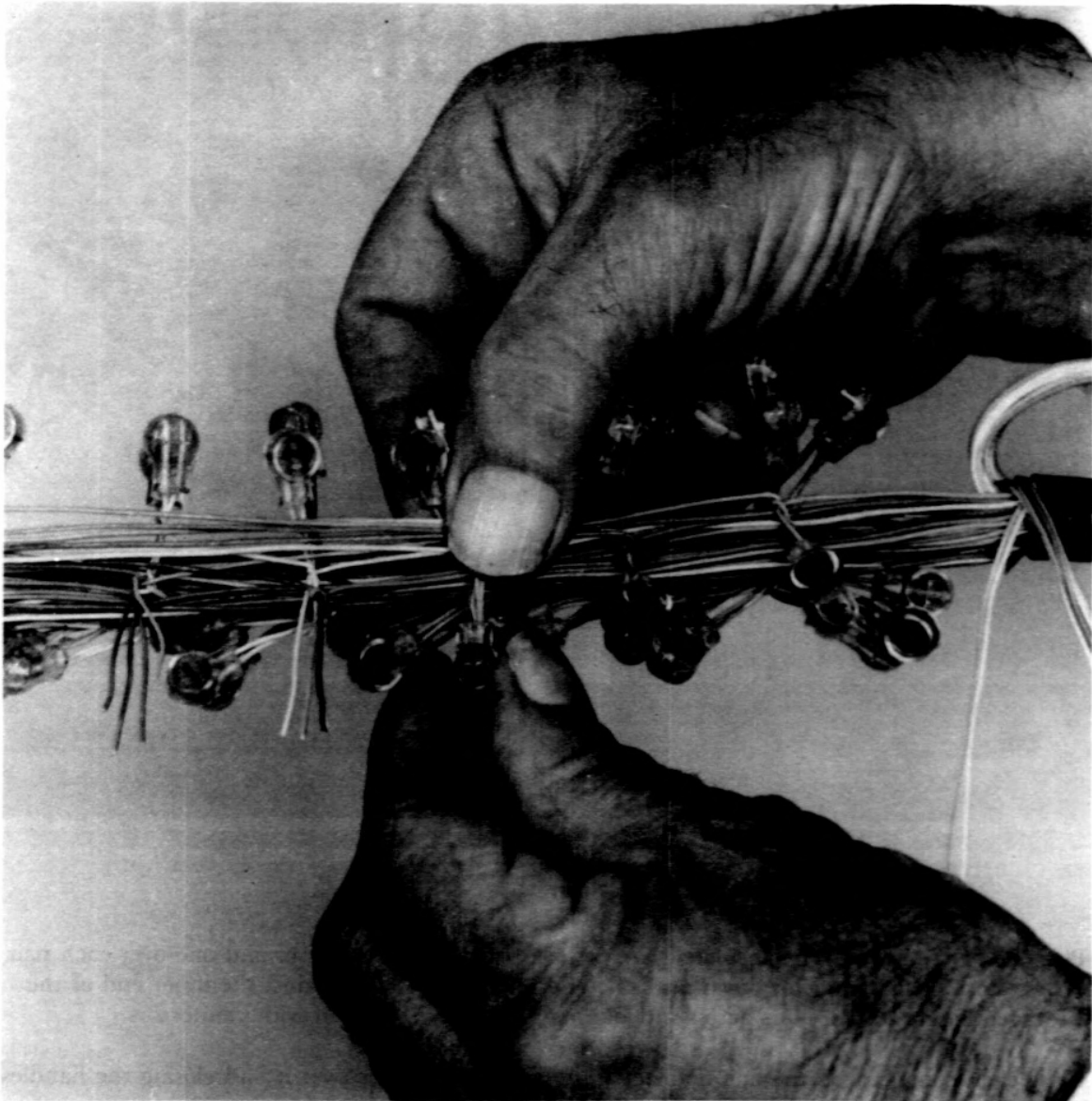


FIG 6

Figure 7 follows

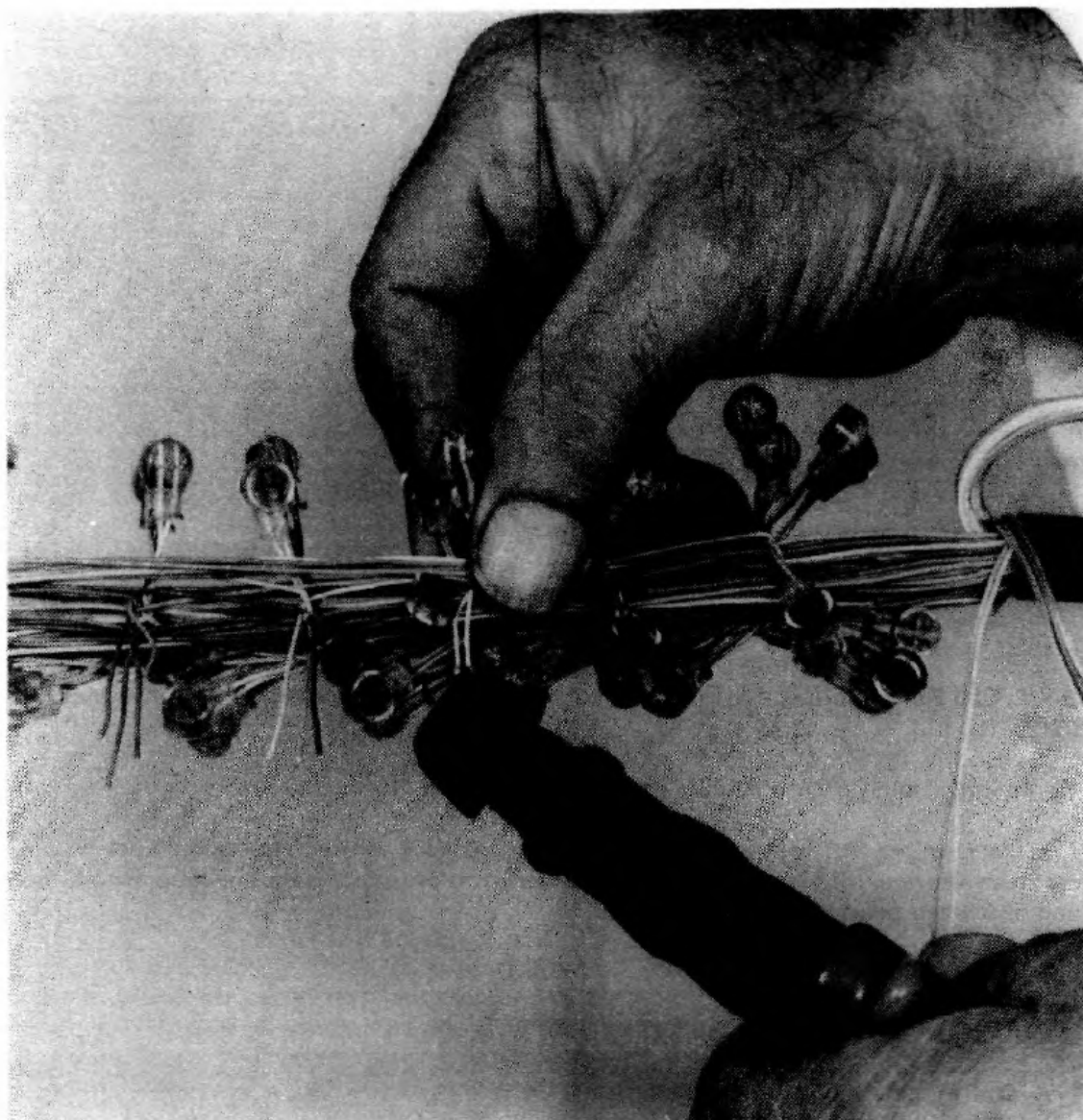


FIG 7

Lay the connectors flat by turning them horizontal in a direction away from the end where the two pairs have been twisted together. Lay one of the end two pairs down in the opposite direction thus making full use of the jointing gap.

Tie Tape 11A around the completed joint between each bank of connectors (see Figure 8). For joints within Sleeves PE wrap the whole joint with PAPER INSULATING 50 mm. For joints closed using Kits Joints Closure the procedures are described in A2 H2614. Dessicant packs should be included in all joints in accordance with A2 D4002 or E3 A3016.

Figure 8 follows

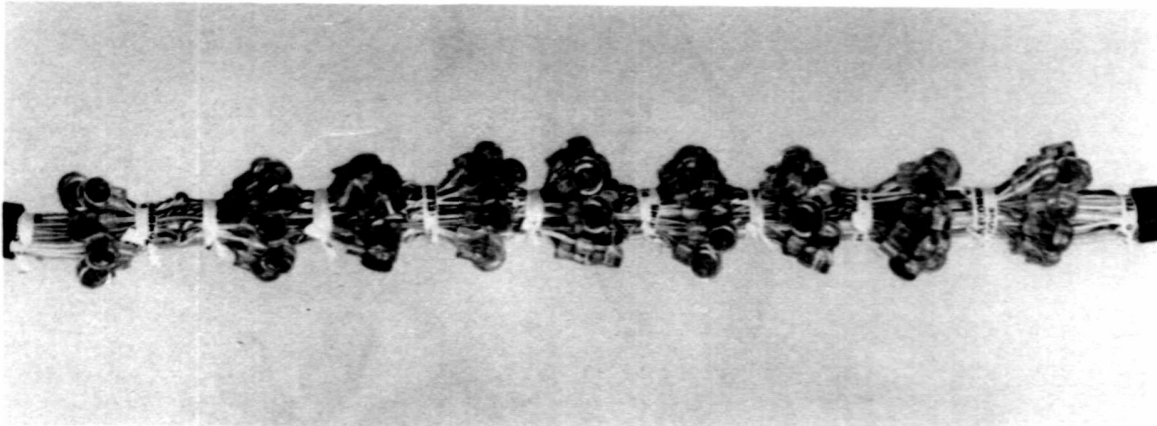


FIG 8

5.2 Cap Ended Joints The procedure for jointing with Sleeve No. 30A, 31A or 32B is given in A2 H2611.

Jig Jointing using Jig 7A is described in A2 H2526.

(NOTE: The Crimper 21A is unsuitable for closing any CWI 8 and therefore should not be used. However, the associated Jig No. 7A will still be required to provide a means of support to Sleeve 30A, 31A and 32B when pouring resin.)

BT/LCS/LLS3.2.3

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