

**AB Connectors**

**Selecting the Bond Required**

The selection of a suitable bond of an adequate cross-sectional area for any particular joint is dependent upon the design considerations of the network in which the cable is installed, and accordingly should only be made by the responsible engineer.

The Hepworth Armour Bonding systems employ tinned copper strips of 18 mm<sup>2</sup> c.s.a., a complete cross-bond being built up from one or more of these strips. Since the cross-sectional area required is a local decision, it cannot be precisely specified as part of a general recommendation, but the IEE Wiring Regulations are useful for guidance on this point.

The 15th Edition of the Regulations recognises two commonly used parameters of design criteria in selecting the bond.

- a. The short-circuit capacity of the cable armour, taking into account the temperature rise characteristics of different components. (Para. 543-2 of 15th Edition - tables 54B and 54D refer).
- b. The copper equivalent cross-sectional area of the cable phase conductors (Para. 543-3 of 15th Edition - table 54F refers).

Having decided which of the two parameters fits the requirements of the system, the number of standard copper strips necessary to comply with the 15th Edition of the IEE Wiring Regulations would be as follows: -

Cable size (mm <sup>2</sup> )	Number of copper strips 18mm <sup>2</sup> c.s.a.		
	a) Short-circuit equivalent	b) Copper equivalent c.s.a.	
		Copper cables	Aluminium cables
16	1	1	1
25	2	1	1
35	2	1	1
50	2	2	1
70	3	2	2
95	3	3	2
120	4	4	3
150	4	4	3
185	5	5	4
240	5	7	5
300	6	8	6

Based on typical steel wire armoured cables to BS.6346.

