

Reference Sheet - Actual cross-sectional areas of conduit, trunking and cable armouring

Data from IEE guidance note 1: Appendix D

Heavy gauge steel conduit to BS 4568 Pt1

Normal Diameter (mm)	Minimum Actual Steel csa (mm ²)
16	64.4
20	82.6
25	105.4
32	137.3

Steel surface trunking to BS 4678 Pt1 (sample sizes)

Normal Size mm x mm	Minimum Actual Steel csa (mm ²) without lid
50 x 50	135
75 x 75	243
100 x 50	216
100 x 100	324
150 x 100	378

PVC/SWA/PVC cables to BS 6346. PVC insulation. Operating at 70°C

Phase conductor csa (mm ²) (Cu)	Actual steel armour csa (mm ²) from BS 6346		
	2-core	3-core	4-core
1.5	15	16	17
2.5	17	19	20
4	21	23	35
6	24	36	40
10	41	44	49
16	46	50	72
25	60	66	76
35	66	74	84
50	74	84	122
70	84	119	138
95	122	138	160
120	131	150	220
150	144	211	240
185	201	230	265
240	225	260	299
300	250	289	333
400	279	319	467

XLPE insulated SWA armoured cables to BS 5467 and 6724. Operating at 90°C

Phase conductor csa (mm ²) (Cu)	Actual steel armour csa (mm ²) from BS 6346		
	2-core	3-core	4-core
1.5	15	16	17
2.5	17	19	20
4	21	23	35
6	24	36	40
10	41	44	49
16	46	50	72
25	60	66	76
35	66	74	84
50	74	84	122
70	84	119	138
95	122	138	160
120	131	150	220
150	144	211	240
185	201	230	265
240	225	260	299
300	250	289	333
400	279	319	467

Cable Equivalent csa can be calculated from the actual sizes (shown above) by using the following formula:

Cable Equivalent csa = $(k_2 / k_1) \times \text{actual section}$

Where k_1 is the phase conductor 'k' value (see BS 7671 table 43.1) and k_2 is the CPC 'k' value (see BS 7671 tables 54.4 and 54.5)