

**Table 5 Equal Size Conductor Cables PVC ins. to BS3646, operating at 70°C. XLPE ins. to BS5467 & 6724, operating at 90°C**

Phase Conductor size	Minimum CSA of protective conductor to table 54G	Nearest available cable CSA to table 54G	Actual Steel Armour CSA to BS 6346 Copper Equivalent CSA from K2/K1 x section. PVC - SWA - PVC cables. mm <sup>2</sup> .						Actual Steel Armour CSA to BS 5467 & 6724 Copper Equivalent CSA from K2/K1 x section XLPE - SWA -PVC cables. mm <sup>2</sup> .						Calculations based on the following:- Copper equivalent CSA = $\frac{K2}{K1}$ x SWA section
			2 Core		3 Core		4 Core		2 Core		3 Core		4 Core		Where K1 is the phase conductor 'K' value from BS7671 table 43A.
Copper(Cu)	Copper(Cu)	Copper (Cu)	St	Cu	St	Cu	St	Cu	St	Cu	St	Cu	St	Cu	And K2 is the protective conductor (SWA) 'K' value from BS 7671 table 54D.
1.5	1.5	1.5	15	6.65	16	7.09	17	7.53	15	4.82	16	5.14	17	5.46	<b><u>Important Notes</u></b>
2.5	2.5	2.5	17	7.53	19	8.42	20	8.86	17	5.46	19	6.11	20	6.43	
4.0	4.0	4.0	20	8.86	22	9.75	34	15	19	6.11	20	6.43	22	7.07	for disconnection times up to and including 5 seconds.
6.0	6.0	6.0	22	9.75	34	15	38	16.8	22	7.07	23	7.39	36	11.5	For other times consult the cable manufacturer.
10	10	10	40	17.7	42	18.6	46	20.3	26	8.36	39	12.5	42	13.5	This table is not to be used as a substitute for proper
16	16	16	46	20.3	50	22.1	72	31.9	42	13.5	45	14.4	50	16	cable calculation and circuit design.
25	16	16	60	26.6	66	29.2	76	33.7	42	13.5	62	19.9	70	22.5	The formula used above is transposed from that given in
35	16	16	66	29.2	74	32.8	84	37.2	60	19.3	68	21.8	78	25	BS 7671 table 54G.
50	25	25	74	32.8	84	37.2	122	54.1	68	21.8	78	25	90	28.9	'..by calculation' refers to proper circuit design and
70	35	35	84	37.2	119	52.7	138	61.1	80	25.7	90	28.9	131	42.1	possible use of the Adiabatic Equation.
95	47.5	50	122	54.1	138	61.1	160	70.9	113	36.3	128	41.1	147	47.28	
120	60	70	131	58	150	66.5	220	97.5	125	40.2	141	45.3	206	66.2	
150	75	95	144	63.8	211	93.5	240	106	138	44.3	201	64.6	230	73.9	
185	92.5	95	201	89.1	230	101	265	117	191	61.4	220	70.7	255	82	
240	120	120	225	99.7	260	115	299	132	215	69.1	250	80.4	289	92.9	
300	150	150	250	123	289	143	333	164	235	75.5	269	86.5	319	102	
400	200	240	279	138	319	157	467	231	265	85.2	304	97.7	452	145	
	Use this column to compare with copper equivalents shown on right.		Red shows SWA too small to be used as protective conductor. Taken from table 54G (but may comply by calculation)				Green shows SWA adequate to table 54G		Red shows SWA too small to be used as protective conductor. Taken from table 54G (but may comply by calculation)				Green shows SWA adequate to table 54G		For reduced neutral and single core aluminium wire armoured cables, refer to BS 6346 (PVC) & BS 5467 or BS 6724 (XLPE) for armour wire total cross sectional area.