

SWA 1kV multicore 70°C cables

The following tables are extract from the IEE Wiring Regulations, 17th Edition – Multicore Armoured Thermoplastic Insulated Cables with Copper Conductors at 70°C (tables 4D4A & 4D4B), such as XLPE/SWA/PVC to BS5467 & XLPE/SWA/LSZH to BS6724.

The figures shown are to be considered as guiding values only.

For higher conductor temperatures see SWA 1kV multicore 90°C current ratings.

Current Carrying Capacity in Ampere (Amps)

Based on an operating temperature at conductor of 70°C, an ambient air temperature of 30°C and an ambient ground temperature of 20°C.

For 2 core cables it is presumed to be single-phase AC or DC, for 3 or 4 cables it is presumed to be 3-phase AC.

Conductor Area (mm ²)	C) One cable clipped direct.		D) One cable in ducts or in ground.		E) One cable in free air or on a perforated cable tray.	
	2 core	3 or 4 core	2 core	3 or 4 core	2 core	3 or 4 core
1.5	21	18	22	19	22	19
2.5	28	25	29	24	31	26
4.0	38	33	37	30	41	35
6.0	49	42	46	38	53	45
10	67	58	60	50	72	62
16	89	77	78	64	97	83
25	118	102	99	82	128	110
35	145	125	119	98	157	135
50	175	151	140	116	190	163
70	222	192	173	143	241	207
95	269	231	204	169	291	251
120	310	267	231	192	336	290
150	356	306	261	217	386	332
185	405	348	292	243	439	378
240	476	409	336	280	516	445
300	547	469	379	316	592	510
400	621	540	-	-	683	590

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Voltage Drop (mV, per ampere, per metre)							
Conductor operating temperature 70°C							
Conductor Area (mm ²)	2 core D.C.	Two-core cable single phase A.C.			Three or four-core cable three-phase A.C.		
1.5	29	29			25		
2.5	18	18			15		
4.0	11	11			9.5		
6.0	7.3	7.3			6.4		
10	4.4	4.4			3.8		
16	2.8	2.8			2.4		
		r	x	z	r	x	z
25	1.75	1.75	0.17	1.75	1.5	0.145	1.5
35	1.25	1.25	0.165	1.25	1.1	0.145	1.1
50	0.93	0.93	0.165	0.94	0.8	0.14	0.81
70	0.63	0.63	0.160	0.65	0.55	0.14	0.57
95	0.46	0.47	0.155	0.5	0.41	0.135	0.43
120	0.36	0.38	0.155	0.41	0.33	0.135	0.35
150	0.29	0.30	0.155	0.34	0.26	0.13	0.29
185	0.23	0.25	0.15	0.29	0.21	0.13	0.25
240	0.18	0.19	0.15	0.24	0.165	0.13	0.21
300	0.145	0.155	0.145	0.21	0.135	0.13	0.185
400	0.105	0.115	0.145	0.185	0.1	0.125	0.16

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