

TABLE 4J3A Single-core 90°C armoured thermosetting insulated cables (non magnetic armour) (Aluminium Conductors)

CURRENT-CARRYING CAPACITY (amperes):

Ambient temperature : 30°C
Conductor operating temperature: 90°C

Conductors cross-sectional area	Reference Method C (clipped direct)		Reference Method F (in free air or on a perforated cable tray, horizontal or vertical)								
	2 cables single-phase a.c. or d.c. flat and touching	3 or 4 cables, three-phase a.c. flat and touching	2 cables single-phase a.c. or d.c. flat and touching	3 cables, three-phase a.c. flat and touching	3 cables, three-phase a.c. trefoil and touching	2 cables, d.c.		2 cables, single-phase a.c.		3 or 4 cables, three-phase a.c.	
						horizontal	vertical	horizontal	vertical	horizontal	vertical
1	2	3	4	5	6	7	8	9	10	11	12
(mm ²)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
50	179	165	192	176	162	216	197	212	199	215	192
70	228	209	244	222	207	275	253	269	254	270	244
95	276	252	294	267	252	332	307	328	310	324	296
120	320	291	340	308	292	384	357	378	358	372	343
150	368	333	390	352	337	441	411	429	409	424	394
185	419	378	444	400	391	511	480	490	467	477	447
240	494	443	521	468	465	605	572	576	549	554	523
300	568	508	597	536	540	701	666	654	624	626	595
380	655	573	688	608	625	812	780	735	704	639	649
480	747	642	786	685	714	942	906	825	790	765	717
600	836	706	880	757	801	1076	1036	909	872	832	780
740	934	764	988	824	897	1250	1205	989	950	890	835
960	1056	838	1121	911	1014	1488	1435	1094	1052	970	911
1200	1163	903	1236	990	1118	1715	1658	1187	1141	1043	980

NOTES:

- Where a conductor operates at a temperature exceeding 70°C it must be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see Regulation 512.1.2).
- Where cables in this table are connected to equipment or accessories designed to operate at a temperature not exceeding 70°C, the current ratings given in the equivalent table for 70°C pvc insulated cables (Table 4H3A) must be used (see Regulation 523.1).

VOLTAGE DROP (per ampere per metre)

TABLE 4J3B

Conductor operating temperature: 90°C

Conductor cross-sectional area	2 cables d.c.	Reference Methods C & F (clipped direct, on tray or in free air)														
		2 cables, single-phase a.c.						3 or 4 cables, three-phase a.c.								
		touching			spaced*			trefoil and touching			flat and touching			flat and spaced*		
1	2	3			4			5			6			7		
(mm ²)	(mV/A /m)	(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
50	1.60	1.60	0.22	1.60	1.60	0.30	1.60	1.40	0.185	1.40	1.40	0.26	1.40	1.35	0.34	1.40
70	1.10	1.10	0.21	1.15	1.10	0.29	1.15	0.96	0.180	0.98	0.97	0.25	1.00	0.99	0.33	1.05
95	0.82	0.83	0.20	0.85	0.85	0.29	0.90	0.71	0.175	0.74	0.74	0.25	0.78	0.76	0.32	0.83
120	0.66	0.66	0.20	0.69	0.69	0.28	0.74	0.57	0.170	0.60	0.60	0.24	0.64	0.63	0.31	0.70
150	0.52	0.53	0.195	0.57	0.56	0.28	0.62	0.46	0.170	0.49	0.49	0.24	0.54	0.52	0.30	0.60
185	0.42	0.43	0.190	0.47	0.46	0.27	0.54	0.38	0.165	0.41	0.40	0.24	0.47	0.44	0.30	0.53
240	0.32	0.34	0.185	0.39	0.37	0.27	0.45	0.29	0.160	0.34	0.32	0.23	0.39	0.35	0.29	0.46
300	0.26	0.27	0.185	0.33	0.30	0.26	0.40	0.24	0.160	0.29	0.26	0.23	0.34	0.29	0.29	0.41
380	0.21	0.23	0.180	0.29	0.26	0.25	0.36	0.195	0.155	0.25	0.23	0.22	0.32	0.27	0.27	0.38
480	0.160	0.185	0.175	0.25	0.23	0.25	0.34	0.160	0.155	0.22	0.20	0.21	0.29	0.24	0.26	0.35
600	0.130	0.160	0.175	0.24	0.20	0.24	0.31	0.135	0.150	0.20	0.175	0.21	0.27	0.22	0.25	0.33
740	0.105	0.140	0.170	0.22	0.190	0.22	0.29	0.120	0.145	0.190	0.165	0.195	0.26	0.21	0.22	0.30
960	0.080	0.120	0.160	0.20	0.170	0.21	0.27	0.105	0.140	0.175	0.150	0.180	0.24	0.195	0.195	0.28
1200	0.064	0.105	0.160	0.190	0.155	0.20	0.25	0.093	0.135	0.165	0.140	0.175	0.22	0.180	0.185	0.26

NOTE: * Spacings larger than one cable diameter will result in larger volt drop.

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