

APPENDIX 2 - Current Carrying and Voltage Drop Tables for PVC insulated and XLPE Insulated Cables

TABLE (1) Single-core PVC insulated cables, non-armoured, with or without sheath (COPPER CONDUCTORS)

BS6004 / BS6346 / GB5023 / GB/T12706.1 / IEC60227 / IEC60502

Ambient temperature: 30°C
Conductor operating temperature: 70°C

CURRENT CARRYING CAPACITY (Amperes):

Conductor cross-sectional area	Reference Method 4 (enclosed in conduit in thermally insulating wall etc.)		Reference Method 3 (enclosed in conduit on a wall or in trunking etc.)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray horizontal or vertical)		Reference Method 12 (free air)		
	2 cables, single-phase a.c. or d.c.	3 or 4 cables, three-phase a.c.	2 cables, single-phase a.c. or d.c.	3 or 4 cables, three-phase a.c.	2 cables, single-phase a.c. or d.c. flat and touching.	3 or 4 cables, three-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables, three-phase a.c. flat and touching or trefoil	Horizontal flat spaced	Vertical flat spaced	Trefoil
									2 cables single-phase a.c. or d.c. or 3 cables three-phase a.c.	2 cables single-phase a.c. or d.c. or 3 cables three-phase a.c.	3 cables trefoil three phase a.c.
mm ²	A	A	A	A	A	A	A	A	A	A	A
1	11	10.5	13.5	12	15.5	14	-	-	-	-	-
1.5	14.5	13.5	17.5	15.5	20	18	-	-	-	-	-
2.5	20	18	24	21	27	25	-	-	-	-	-
4	26	24	32	28	37	33	-	-	-	-	-
6	34	31	41	36	47	43	-	-	-	-	-
10	46	42	57	50	65	59	-	-	-	-	-
16	61	56	76	68	87	79	-	-	-	-	-
25	80	73	101	89	114	104	131	114	146	130	110
35	99	89	125	110	141	129	162	143	181	162	137
50	119	108	151	134	182	167	196	174	219	197	167
70	151	136	192	171	234	214	251	225	281	254	216
95	182	164	232	207	284	261	304	275	341	311	264
120	210	188	269	239	330	303	352	321	396	362	308
150	240	216	300	262	381	349	406	372	456	419	356
185	273	245	341	296	436	400	463	427	521	480	409
240	321	286	400	346	515	472	546	507	615	569	485
300	367	328	458	394	594	545	629	587	709	659	561
400	-	-	546	467	694	634	754	689	852	795	656
500	-	-	626	533	792	723	868	789	982	920	749
630	-	-	720	611	904	826	1005	905	1138	1070	885
800	-	-	-	-	1030	943	1086	1020	1265	1188	971
1000	-	-	-	-	1154	1058	1216	1149	1420	1337	1079



Table (1)(Cont.)

VOLTAGE DROP (per ampere per metre):

Conductor operating temperature:70°C

Conductor cross-sectional area	2 cables d.c.	2 cable-single-phase a.c.									3 or 4 cables-three-phase a.c.											
		Reference Methods 3 & 4 (Enclosed in conduit etc. in or on a wall)			Reference Method 1 & 11 (Clipped direct or on trays, touching)			Reference Methods 12 (spaced*)			Reference Methods 3 & 4 (Enclosed in conduit etc. in or on a wall)			Reference Methods 1, 11 & 12 (In trefoil)			Reference Methods 1 & 11 (Flat and touching)			Reference Methods 12 (Flat spaced*)		
mm ²	mV	mV			mV			mV			mV			mV			mV			mV		
1	44	44			44			44			38			38			38			38		
1.5	29	29			29			29			25			25			25			25		
2.5	18	18			18			18			15			15			15			15		
4	11	11			11			11			9.5			9.5			9.5			9.5		
6	7.3	7.3			7.3			7.3			6.4			6.4			6.4			6.4		
10	4.4	4.4			4.4			4.4			3.8			3.8			3.8			3.8		
16	2.8	2.8			2.8			2.8			2.4			2.4			2.4			2.4		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.75	1.8	0.33	1.8	1.75	0.2	1.75	1.75	0.29	1.8	1.5	0.29	1.55	1.5	0.175	1.5	1.5	0.25	1.55	1.5	0.32	1.55
35	1.25	1.3	0.31	1.3	1.25	0.195	1.25	1.25	0.28	1.3	1.1	0.27	1.1	1.1	0.17	1.1	1.1	0.24	1.1	1.1	0.32	1.15
50	0.93	0.95	0.3	1.0	0.93	0.19	0.95	0.93	0.28	0.97	0.81	0.26	0.85	0.8	0.165	0.82	0.8	0.24	0.84	0.8	0.32	0.86
70	0.63	0.65	0.29	0.72	0.63	0.185	0.66	0.63	0.27	0.69	0.56	0.25	0.61	0.55	0.160	0.57	0.55	0.24	0.6	0.55	0.31	0.63
95	0.46	0.49	0.28	0.56	0.47	0.180	0.5	0.47	0.27	0.54	0.42	0.24	0.48	0.41	0.155	0.43	0.41	0.23	0.47	0.4	0.31	0.51
120	0.36	0.39	0.27	0.47	0.37	0.175	0.41	0.37	0.26	0.45	0.33	0.23	0.41	0.32	0.150	0.36	0.32	0.23	0.4	0.32	0.3	0.44
150	0.29	0.31	0.27	0.41	0.3	0.175	0.34	0.29	0.26	0.39	0.27	0.23	0.36	0.26	0.150	0.3	0.26	0.23	0.34	0.26	0.3	0.40
185	0.23	0.25	0.27	0.37	0.24	0.17	0.29	0.24	0.26	0.35	0.22	0.23	0.32	0.21	0.145	0.26	0.21	0.22	0.31	0.21	0.3	0.36
240	0.18	0.195	0.26	0.33	0.185	0.165	0.25	0.185	0.25	0.31	0.17	0.23	0.29	0.160	0.145	0.22	0.16	0.22	0.27	0.16	0.29	0.34
300	0.145	0.160	0.26	0.31	0.15	0.165	0.22	0.15	0.25	0.29	0.14	0.23	0.27	0.13	0.14	0.19	0.13	0.22	0.25	0.13	0.29	0.32
400	0.105	0.13	0.26	0.29	0.12	0.16	0.2	0.115	0.25	0.27	0.12	0.22	0.25	0.105	0.14	0.175	0.105	0.21	0.24	0.10	0.29	0.31
500	0.086	0.11	0.26	0.28	0.098	0.155	0.185	0.093	0.24	0.26	0.1	0.22	0.25	0.086	0.135	0.160	0.086	0.21	0.24	0.081	0.29	0.3
630	0.68	0.094	0.25	0.27	0.081	0.155	0.175	0.076	0.24	0.25	0.08	0.22	0.24	0.072	0.135	0.150	0.072	0.21	0.22	0.066	0.28	0.29
800	0.053	-	-	-	0.068	0.15	0.165	0.061	0.24	0.25	-	-	-	0.06	0.13	0.145	0.06	0.21	0.22	0.053	0.28	0.29
1000	0.042	-	-	-	0.059	0.15	0.16	0.05	0.24	0.24	-	-	-	0.052	0.13	0.14	0.052	0.2	0.21	0.044	0.28	0.28



TABLE (2) Multicore PVC insulated cables, non-armoured (COPPER CONDUCTORS)

BS6004 / BS6346 / GB5023 / GB/T12706.1 / IEC60227 / IEC60502

Ambient temperature: 30°C
Conductor operating temperature: 70°C

CURRENT CARRYING CAPACITY (Amperes):

Conductor cross-sectional area	Reference Method 4 (enclosed in an insulated wall, etc.)		Reference Method 3 (enclosed in conduit on a wall or ceiling, or in trunking)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray), or Reference method 13 (free air)	
	1 two-core cable*, single-phase a.c. or d.c.	1 three-core cable*, or 1 four-core cable, three-phase a.c.	1 two-core cable*, single-phase a.c. or d.c.	1 three-core cable*, or 1 four-core cable, three-phase a.c.	1 two-core cable*, single-phase a.c. or d.c.	1 three-core cable*, or 1 four-core cable, three-phase a.c.	1 two-core cable*, single-phase a.c. or d.c.	1 three-core cable*, or 1 four-core cable, three-phase a.c.
mm ²	A	A	A	A	A	A	A	A
1	11	10	13	11.5	15	13.5	17	14.5
1.5	14	13	16.5	15	19.5	17.5	22	18.5
2.5	18.5	17.5	23	20	27	24	30	25
4	25	23	30	27	36	32	40	34
6	32	29	38	34	46	41	51	43
10	43	39	52	46	63	57	70	60
16	57	52	69	62	85	76	94	80
25	75	68	90	80	112	96	119	101
35	92	83	111	99	138	119	148	126
50	110	99	133	118	168	144	180	153
70	139	125	168	149	213	184	232	196
95	167	150	201	179	258	223	282	238
120	192	172	232	206	299	259	328	276
150	219	196	258	225	344	299	379	319
185	248	223	294	255	392	341	434	364
240	291	261	344	297	461	403	514	430
300	334	298	394	339	530	464	593	497
400	-	-	470	402	634	557	715	597



TABLE (2) (Cont.)

Table (2) (Cont.)

VOLTAGE DROP (per ampere per metre):

Conductor operating temperature:70°C

Conductor cross-sectional area mm ²	Two-core cable d.c.		Two-core cable single phase a.c.			Three-or four-core cable three phase a.c.		
	mV		mV			mV		
1	44		44			38		
1.5	29		29			25		
2.5	18		18			15		
4	11		11			9.5		
6	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	0.16	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		0.3	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



TABLE (3) Single-core armoured PVC insulated cables (non-magnetic armour) (COPPER CONDUCTORS)

BS6346 / GB/T12706.1 / IEC60502

Ambient temperature: 30°C
Conductor operating temperature: 70°C

CURRENT CARRYING CAPACITY (Amperes):

Conductor cross-sectional area	Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray)		Reference Method 12 (free air)						
	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 or 4 cables, three-phase a.c. flat and touching	2 cables single phase a.c.		2 cables d.c.		3 or 4 cables, three-phase a.c.		
					Horizontal flat spaced	Vertical flat spaced	Horizontal, spaced	Vertical, spaced	Horizontal flat spaced	Vertical flat spaced	3 cables trefoil
mm ²	A	A	A	A	A	A	A	A	A	A	A
50	193	179	205	189	229	217	229	216	230	212	181
70	245	225	259	238	287	272	294	279	286	263	231
95	296	269	313	285	349	332	357	340	338	313	280
120	342	309	360	327	401	383	415	396	385	357	324
150	393	352	413	373	449	429	479	458	436	405	373
185	447	399	469	422	511	489	548	525	490	456	425
240	525	465	550	492	593	568	648	622	566	528	501
300	594	515	624	547	668	640	748	719	616	578	567
400	687	575	723	618	737	707	885	851	674	632	657
500	763	622	805	673	810	777	1035	997	721	676	731
630	843	669	891	728	893	856	1218	1174	771	723	809
800	919	710	976	777	943	905	1441	1390	824	772	886
1000	975	737	1041	808	1008	967	1685	1627	872	816	945



Table (3) (Cont.)

VOLTAGE DROP (per ampere per metre):

Conductor operating temperature:70°C

Conductor cross-sectional area	2 cables d.c.	2 cables-single phase a.c.						3 or 4 cables-three phase a.c.								
		Reference Methods 1 & 11 (Touching)			Reference Method 12 (Spaced*)			Reference Methods 1, 11 and 12 (in trefoil touching)			Reference Methods 1 & 11 (Flat and touching)			Reference Method 12 (Flat spaced*)		
mm ²	mV	mV			mV			mV			mV			mV		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
50	0.93	0.93	0.22	0.95	0.92	0.3	0.97	0.8	0.19	0.82	0.79	0.26	0.84	0.79	0.34	0.86
70	0.63	0.64	0.21	0.68	0.66	0.29	0.72	0.56	0.18	0.58	0.57	0.25	0.62	0.59	0.32	0.68
95	0.46	0.48	0.20	0.52	0.51	0.28	0.58	0.42	0.175	0.45	0.44	0.25	0.50	0.47	0.31	0.57
120	0.36	0.39	0.195	0.43	0.42	0.28	0.50	0.33	0.170	0.37	0.36	0.24	0.43	0.40	0.30	0.50
150	0.29	0.31	0.19	0.37	0.34	0.27	0.44	0.27	0.165	0.32	0.30	0.24	0.38	0.34	0.30	0.45
185	0.23	0.26	0.19	0.32	0.29	0.27	0.39	0.22	0.160	0.27	0.25	0.23	0.34	0.29	0.29	0.41
240	0.18	0.20	0.18	0.27	0.23	0.26	0.35	0.175	0.160	0.23	0.20	0.23	0.3	0.24	0.28	0.37
300	0.145	0.16	0.18	0.24	0.19	0.26	0.32	0.140	0.155	0.21	0.165	0.22	0.28	0.20	0.28	0.34
400	0.105	0.14	0.175	0.22	0.18	0.24	0.30	0.120	0.130	0.195	0.160	0.21	0.26	0.21	0.25	0.32
500	0.086	0.12	0.17	0.21	0.165	0.23	0.29	0.105	0.145	0.18	0.145	0.2	0.25	0.19	0.24	0.30
630	0.068	0.105	0.165	0.195	0.15	0.22	0.27	0.091	0.145	0.17	0.135	0.195	0.23	0.175	0.22	0.28
800	0.053	0.095	0.16	0.185	0.145	0.21	0.25	0.082	0.140	0.16	0.125	0.18	0.22	0.17	0.195	0.26
1000	0.042	0.091	0.155	0.18	0.14	0.19	0.24	0.079	0.135	0.155	0.125	0.165	0.21	0.165	0.17	0.24



TABLE (4) Multicore armoured PVC insulated cables (COPPER CONDUCTORS)

BS6346 / GB/T12706.1 / IEC60502

Ambient temperature: 30°C

Conductor operating temperature:70°C

CURRENT CARRYING CAPACITY (Amperes):

Conductor cross-sectional area ¹	Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated horizontal or vertical cable tray), or Reference Method 13 (free air)	
	1 two-core cable, single-phase a.c. or .d.c.	1 three- or four-core cable, three-phase a.c.	1 two-core cable, single- phase a.c. or .d.c.	1 three- or four-core cable, three- phase a.c.
mm ²	A	A	A	A
1.5	21	18	22	19
2.5	28	25	31	26
4	38	33	41	35
6	49	42	53	45
10	67	58	72	62
16	89	77	97	83
25	118	102	128	110
35	145	125	157	135
50	175	151	190	163
70	222	192	241	207
95	269	231	291	251
120	310	267	336	290
150	356	306	386	332
185	405	348	439	378
240	476	409	516	445
300	547	469	592	510
400	621	540	683	590



Table (4) (Cont.)

VOLTAGE DROP (per ampere per metre):

Conductor operating temperature:70°C

Conductor cross-sectional area mm ²	Two-core cable d.c.		Two-core cable single phase a.c.			Three- or four-core cable three phase a.c.		
	mV		mV			mV		
1.5	29		29			25		
2.5	18		18			15		
4	11		11			9.5		
6	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	1.50	0.145	1.50
35	1.25		1.25	0.165	1.25	1.10	0.145	1.10
50	0.93		0.93	0.165	0.94	0.8	0.14	0.81
70	0.63		0.63	0.16	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		0.3	0.155	0.34	0.26	0.130	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	0.100	0.125	0.160



TABLE (5) Single core XLPE insulated cables, non-armoured, with or without sheath (COPPER CONDUCTORS)

BS7211 / BS7889 / GB/T12706.1 / IEC60502

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

CURRENT CARRYING CAPACITY (Amperes):

Conductor cross-sectional area	Reference Method 4 (enclosed in conduit in thermally insulating wall etc.)		Reference Method 3 (enclosed in conduit on a wall or in trunking etc.)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray horizontal or vertical)		Reference Method 12 (Free air)		
	2 cables, single-phase a.c. or d.c.	3 or 4 cables three -phase a.c.	2 cables, single-phase a.c. or d.c.	3 or 4 cables three -phase a.c.	2 cables, single-phase a.c. or d.c flat and touching	3 or 4 cables three -phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables three -phase a.c. flat and touching or trefoil	Horizontal flat spaced	Vertical flat spaced	Trefoil
									2 cables, single-phase a.c. or d.c. or 3 cables three-phase	2 cables, single-phase a.c. or d.c. or 3 cables three-phase	3 cables, trefoil three-phase a.c.
mm ²	A	A	A	A	A	A	A	A	A	A	A
1	14	13	17	15	19	17.5	-	-	-	-	-
1.5	19	17	23	20	25	23	-	-	-	-	-
2.5	26	23	31	28	34	31	-	-	-	-	-
4	35	31	42	37	46	41	-	-	-	-	-
6	45	40	54	48	59	54	-	-	-	-	-
10	61	54	75	66	81	74	-	-	-	-	-
16	81	73	100	88	109	99	-	-	-	-	-
25	106	95	133	117	143	130	161	141	182	161	135
35	131	117	164	144	176	161	200	176	226	201	169
50	158	141	198	175	228	209	242	216	275	246	207
70	200	179	253	222	293	268	310	279	353	318	268
95	241	216	306	269	355	326	377	342	430	389	328
120	278	249	354	312	413	379	437	400	500	454	383
150	318	285	393	342	476	436	504	464	577	527	444
185	362	324	449	384	545	500	575	533	661	605	510
240	424	380	528	450	644	590	679	634	781	719	607
300	486	435	603	514	743	681	783	736	902	833	703
400	-	-	683	584	868	793	940	868	1085	1008	823
500	-	-	783	666	990	904	1083	998	1253	1169	946
630	-	-	900	764	1130	1033	1254	1151	1454	1362	1088
800	-	-	-	-	1288	1179	1358	1275	1581	1485	1214
1000	-	-	-	-	1443	1323	1520	1436	1775	1671	1349

NOTE:

1. Where the conductor is to be protected by a semi-enclosed fuse to BS 3036
2. Where a conductor operates at a temperature exceeding 70°C it shall be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature.
3. 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 (BS 6004, BS 6346) shall be used.
4. The current carrying capacity in columns 2 to 5 are also applicable to flexible cables to BS 7211 Table 3(b) where the cables are used in fixed installations.
5. For cable in rigid PVC conduit, the values stated in table A6 (1) are applicable.



Table (5) (Cont.)

VOLTAGE DROP (per ampere per metre):

Conductor operating temperature:90°C

Conductor cross-sectional area1	2 cables d.c.	2 cables- single phase a.c.									3 or 4 cables - three phase a.c.											
		Reference Methods 3 & 4 (Enclosed in conduit etc. in or on a wall)			Reference Methods 1 & 11 (clipped direct or on trays, touching)			Reference Method 12 (Spaced*)			Reference Methods 3 & 4 (Enclosed in conduit etc. in or on a wall)			Reference Methods 1, 11 & 12 (In trefoil)			Reference Methods 1 & 11 (Flat touching)			Reference Method 12 (Flat spaced*)		
mm ²	mmV	mV			mV			mV			mV			mV			mV			mV		
1	46	46			46			46			40			40			40			40		
1.5	31	31			31			31			27			27			27			27		
2.5	19	19			19			19			16			16			16			16		
4	12	12			12			12			10			10			10			10		
6	7.9	7.9			7.9			7.9			6.8			6.8			6.8			6.8		
10	4.7	4.7			4.7			4.7			4.0			4.0			4.0			4.0		
16	2.9	2.9			02.9			2.9			2.5			2.5			2.5			2.5		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	1.85	0.31	1.90	1.85	0.19	1.85	1.85	0.28	1.85	1.60	0.27	1.65	1.60	0.165	1.60	1.60	0.19	1.60	1.60	0.27	1.65
35	1.35	1.35	0.29	1.35	1.35	0.18	1.35	1.35	0.27	1.35	1.15	0.25	1.15	1.15	0.155	1.15	1.15	0.18	1.15	1.15	0.26	1.20
50	0.99	1.00	0.29	1.05	0.99	0.18	1.00	0.99	0.27	1.00	0.87	0.25	0.90	0.86	0.155	0.87	0.86	0.18	0.87	0.86	0.26	0.89
70	0.68	0.70	0.28	0.75	0.68	0.175	0.71	0.68	0.26	0.73	0.60	0.24	0.65	0.59	0.15	0.61	0.59	0.175	0.62	0.59	0.25	0.65
95	0.49	0.51	0.27	0.58	0.49	0.17	0.52	0.49	0.26	0.56	0.44	0.23	0.50	0.43	0.145	0.45	0.43	0.17	0.46	0.43	0.25	0.49
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.39	0.25	0.47	0.35	0.23	0.42	0.34	0.14	0.37	0.34	0.165	0.38	0.34	0.24	0.42
150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.32	0.25	0.41	0.29	0.23	0.37	0.28	0.14	0.31	0.28	0.165	0.32	0.28	0.24	0.37
185	0.25	0.27	0.26	0.37	0.26	0.165	0.3	0.25	0.25	0.36	0.23	0.23	0.32	0.22	0.14	0.26	0.22	0.165	0.28	0.22	0.24	0.33
240	0.19	0.21	0.26	0.33	0.20	0.16	0.25	0.195	0.25	0.31	0.185	0.22	0.29	0.17	0.14	0.22	0.17	0.165	0.24	0.17	0.24	0.29
300	0.155	0.175	0.25	0.31	0.16	0.16	0.22	0.155	0.25	0.29	0.15	0.22	0.27	0.14	0.14	0.195	0.135	0.16	0.21	0.135	0.24	0.27
400	0.12	0.140	0.25	0.29	0.13	0.155	0.20	0.125	0.24	0.27	0.125	0.22	0.25	0.11	0.135	0.175	0.11	0.16	0.195	0.11	0.24	0.26
500	0.093	0.120	0.25	0.28	0.105	0.155	0.185	0.098	0.24	0.26	0.100	0.22	0.24	0.09	0.135	0.160	0.088	0.160	0.18	0.85	0.24	0.25
630	0.072	0.100	0.25	0.27	0.086	0.155	0.175	0.078	0.24	0.25	0.088	0.21	0.23	0.074	0.135	0.15	0.071	0.16	0.17	0.068	0.23	0.24
800	0.056	-	-	-	0.075	0.15	0.17	0.064	0.24	0.25	-	-	-	0.062	0.13	0.145	0.059	0.155	0.165	0.055	0.23	0.24
1000	0.045	-	-	-	0.063	0.15	0.165	0.054	0.24	0.24	-	-	-	0.055	0.13	0.14	0.05	0.155	0.165	0.047	0.23	0.24



TABLE (6) Multicore XLPE insulated cables, non-armoured (COPPER CONDUCTORS)

BS7211 / GB/T12706.1 / IEC60502

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

CURRENT CARRYING CAPACITY (Amperes):

Conductor cross-sectional area	Reference Method 4 (enclosed in an insulated wall, etc.)		Reference Method 3 (enclosed in conduit on a wall or ceiling, or in trunking)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray),or Reference method 13 (free air)	
	1 two-core cable*, single-phase a.c. or d.c.	1 three-core cable*, or 1 four-core cable, three -phase a.c.	1 two- core cable*, single-phase a.c. or d.c.	1 three-core cable*, or 1 four-core cable, three -phase a.c.	1 two- core cable*, single-phase a.c. or d.c.	1 three-core cable*, or 1 four-core cable, three -phase a.c.	1 two- core cable*, single-phase a.c. or d.c.	1 three-core cable*, or 1 four-core cable, three -phase a.c.
mm ²	A	A	A	A	A	A	A	A
1	14.5	13	17	15	19	17	21	18
1.5	18.5	16.5	22	19.5	24	22	26	23
2.5	25	22	30	26	33	30	36	32
4	33	30	40	35	45	40	49	42
6	42	38	51	44	58	52	63	54
10	57	51	69	60	80	71	86	75
16	76	68	91	80	107	96	115	100
25	99	89	119	105	138	119	149	127
35	121	109	146	128	171	147	185	158
50	145	130	175	154	209	179	225	192
70	183	164	221	194	269	229	289	246
95	220	197	265	233	328	278	352	298
120	253	227	305	268	382	322	410	346
150	290	259	334	300	441	371	473	399
185	329	295	384	340	506	424	542	456
240	386	346	459	398	599	500	641	538
300	442	396	532	455	693	576	741	621
400	-	-	625	536	803	667	865	741



Table (6) (Cont.)

VOLTAGE DROP (per ampere per metre):

Conductor operating temperature:90°C

Conductor cross-sectional area mm ²	Two-core cable d.c.		Two-core cable single phase a.c.			Three-or four-core cable three phase a.c.		
	mV		mV			mV		
1	46		46			40		
1.5	31		31			27		
2.5	19		19			16		
4	12		12			10		
6	7.9		7.9			6.8		
10	4.7		4.7			4		
16	2.9		2.9			2.5		
			r	x	z	r	x	Z
25	1.85		1.85	0.16	1.90	1.6	0.14	1.65
35	1.35		1.35	0.155	1.35	1.15	0.135	1.15
50	0.98		0.99	0.155	1.00	0.86	0.135	0.87
70	0.67		0.67	0.150	0.69	0.59	0.130	0.60
95	0.49		0.50	0.150	0.52	0.43	0.130	0.45
120	0.39		0.40	0.145	0.42	0.34	0.130	0.37
150	0.31		0.32	0.145	0.35	0.28	0.125	0.30
185	0.25		0.26	0.145	0.29	0.22	0.125	0.26
240	0.195		0.20	0.140	0.24	0.175	0.125	0.21
300	0.155		0.16	0.140	0.21	0.140	0.120	0.185
400	0.120		0.13	0.140	0.190	0.115	0.120	0.165



TABLE (7) Single-core XLPE insulated cables (non-magnetic armour) (COPPER CONDUCTORS)

BS5467 / BS6724 / BS7846 / GB/T12706.1 / IEC60502

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

CURRENT CARRYING CAPACITY (Amperes):

Conductor cross-sectional area	Reference Method 11 (clipped direct)		Reference Method 1 (on a perforated cable tray)		Reference Method 12 (free air)						
	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 & touching	3 or 4 cables, three -phase a.c. flat & touching	2 cables single phase a.c.		2 cables d.c.		3 or 4 cables, three-phase a.c.		
					Horizontal flat spaced	Vertical flat spaced	Horizontal spaced	Vertical spaced	Horizontal flat spaced	Vertical flat spaced	3 cables trefoil
mm ²	A	A	A	A	A	A	A	A	A	A	A
50	237	220	253	232	282	266	284	270	288	266	222
70	303	277	322	293	357	337	356	349	358	331	285
95	367	333	389	352	436	412	446	426	425	393	346
120	425	383	449	405	504	477	519	497	485	449	402
150	488	437	516	462	566	539	600	575	549	510	463
185	557	496	587	524	643	614	688	660	618	574	529
240	656	579	689	612	749	714	815	782	715	666	625
300	755	662	792	700	842	805	943	906	810	755	720
400	853	717	899	767	929	889	1137	1094	848	797	815
500	962	791	1016	851	1032	989	1314	1266	923	871	918
630	1082	861	1146	935	1139	1092	1528	1474	992	940	1027
800	1170	904	1246	987	1204	1155	1809	1744	1042	978	1119
1000	1261	961	1345	1055	1289	1238	2100	2026	1110	1041	1214



Table (7) (Cont.)

VOLTAGE DROP (per ampere per metre):

Conductor operating temperature:90°C

Conductor cross-sectional area	2 cables d.c.	2 cables-single phase a.c.						3 or 4 cables-three phase a.c.								
		Reference Methods 1 & 11 (Touching)			Reference Method 12 (Spaced*)			Reference Methods 1, 11 and 12 (in trefoil touching)			Reference Methods 1 & 11 (Flat and touching)			Reference method 12 (Flat spaced*)		
mm ²	mV	mV			mV			mV			mV			mV		
		r	x	z	r	x	z	r	x	Z	r	x	z	r	x	Z
50	0.98	0.99	0.21	1.00	0.98	0.29	1.00	0.86	0.18	0.87	0.84	0.25	0.88	0.84	0.33	0.9
70	0.67	0.68	0.20	0.71	0.69	0.29	0.75	0.59	0.17	0.62	0.6	0.25	0.65	0.62	0.32	0.7
95	0.49	0.51	0.195	0.55	0.53	0.28	0.6	0.44	0.17	0.47	0.46	0.24	0.52	0.49	0.31	0.58
120	0.39	0.41	0.19	0.45	0.43	0.27	0.51	0.35	0.165	0.39	0.38	0.24	0.44	0.41	0.30	0.51
150	0.31	0.33	0.185	0.38	0.36	0.27	0.45	0.29	0.160	0.33	0.31	0.23	0.39	0.34	0.29	0.45
185	0.25	0.27	0.185	0.33	0.30	0.26	0.40	0.23	0.160	0.28	0.26	0.23	0.34	0.29	0.29	0.41
240	0.195	0.21	0.18	0.28	0.24	0.26	0.35	0.18	0.155	0.24	0.21	0.22	0.30	0.24	0.28	0.37
300	0.155	0.17	0.175	0.25	0.195	0.25	0.32	0.145	0.150	0.21	0.17	0.22	0.28	0.20	0.27	0.34
400	0.115	0.145	0.170	0.22	0.18	0.24	0.30	0.125	0.150	0.195	0.16	0.21	0.27	0.20	0.27	0.33
500	0.093	0.125	0.170	0.21	0.165	0.24	0.29	0.105	0.145	0.180	0.145	0.20	0.25	0.19	0.24	0.31
630	0.073	0.105	0.165	0.195	0.15	0.23	0.27	0.092	0.145	0.170	0.135	0.195	0.24	0.175	0.23	0.29
800	0.056	0.090	0.160	0.19	0.145	0.23	0.27	0.086	0.140	0.165	0.13	0.18	0.23	0.175	0.195	0.26
1000	0.045	0.092	0.155	0.18	0.14	0.21	0.25	0.080	0.135	0.155	0.125	0.17	0.21	0.165	0.180	0.24



TABLE (8) Multicore armoured XLPE insulated cables (COPPER CONDUCTORS)

BS5467 / BS6724 / BS7846 / GB/T12706.1 / IEC60502

Ambient temperature: 30°C

Conductor operating temperature:90°C

CURRENT CARRYING CAPACITY (Amperes):

Conductor cross-sectional area	Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated horizontal or vertical cable tray), or Reference Method 13 (free air)	
	1 two-core cable, single-phase a.c. or d.c.	1 three or four-core cable, three-phase a.c.	1 two-core cable, single-phase a.c. or d.c.	1 three or four-core cable, three-phase a.c.
mm ²	A	A	A	A
1.5	27	23	29	25
2.5	36	31	39	33
4	49	42	52	44
6	62	53	66	56
10	85	73	90	78
16	110	94	115	99
25	146	124	152	131
35	180	154	188	162
50	219	187	228	197
70	279	238	291	251
95	338	289	354	304
120	392	335	410	353
150	451	386	472	406
185	515	441	539	463
240	607	520	636	546
300	698	599	732	628
400	787	673	847	728



Table (8) (Cont.)

VOLTAGE DROP (per ampere per metre):

Conductor operating temperature:90°C

Conductor cross-sectional area	Two-core cable d.c.	Two-core cable single phase a.c.			Three-or four-core cable three phase a.c.		
		mm ²	mV	mV	mV	r	x
1.5	31	31					
2.5	19	19					
4	12	12					
6	7.9	7.9					
10	4.7	4.7					
16	2.9	2.9					
		r	x	z	r	x	Z
25	1.85	1.85	0.16	1.90	1.60	0.140	1.65
35	1.35	1.35	0.155	1.35	1.15	0.135	1.15
50	0.98	0.99	0.155	1.00	0.86	0.135	0.87
70	0.67	0.67	0.150	0.69	0.59	0.130	0.60
95	0.49	0.50	0.150	0.52	0.43	0.130	0.45
120	0.39	0.40	0.145	0.42	0.34	0.130	0.37
150	0.31	0.32	0.145	0.35	0.28	0.125	0.30
185	0.25	0.26	0.145	0.29	0.22	0.125	0.26
240	0.195	0.20	0.140	0.24	0.175	0.125	0.21
300	0.155	0.16	0.140	0.21	0.140	0.120	0.185
400	0.12	0.13	0.140	0.19	0.115	0.120	0.165

