Current Rating and Voltage Drop

Single Core Cables having PVC Insulation, Unarmoured, With or Without Sheath (Copper Conductor) 450/750V or 600/1000V

Current-Carrying Capacities (Amp) PVC & PVC/PVC Cables

		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)		
										Horizontal flat spaced	Vertical flat spaced	Trefoil
Conductor cross-sectional area (mm²)		2 cables single-phase ac or dc (Amp)	3 or 4 cables 3-phase ac (Amp)	2 cables single-phase ac or dc (Amp)	3 or 4 cables 3-phase ac (Amp)	2 cables single-phase ac or dc (Amp)	3 or 4 cables 3-phase ac (Amp)	2 cables single-phase ac or dc flat and touching (Amp)	3 cables 3-phase ac flat and touching (Amp)	2 cables single-phase ac or dc or 3 cables 3-phase ac (Amp)	2 cables single-phase ac or dc or 3 cables 3-phase ac (Amp)	3 cables trefoil 3-phase ac (Amp)
BS 6004	1	11	10.5	13.5	12	15.5	14	-	-	-	-	-
	1.5	14.5	13.5	17.5	15.5	20	18	-	-	-	-	-
	2.5	19.5	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	126	112	146	130	110
	35	99	89	125	110	141	129	156	141	181	162	137
BS 6346	50	119	108	151	134	182	167	191	172	219	197	167
	70	151	136	192	171	234	214	246	223	281	254	216
	95	182	164	232	207	284	261	300	273	341	311	264
	120	210	188	269	239	330	303	349	318	396	362	308
	150	240	216	300	262	381	349	404	369	456	419	356
	185	273	245	341	296	436	400	463	424	521	480	409
	240	320	286	400	346	515	472	549	504	615	569	485
	300	367	328	458	394	594	545	635	584	709	659	561
	400	-	-	546	467	694	634	732	679	852	795	656
	500	-	-	626	533	792	723	835	778	982	920	749
	630	-	-	720	611	904	826	953	892	1138	1070	855
	800	-	-	-	-	1030	943	1086	1020	1265	1188	971
	1000	-	-	-	-	1154	1058	1216	1149	1420	1337	1079

*With or without protective conductor

Note: Rating factors for ambient temperature other than 30℃ please refer Table A

Group Rating Factor please refer to Table G

Voltage Drop (Per Amp Per Meter) PVC & PVC/PVC Cables

Conductor cross-sectional area (mm²)	2 cables dc (mV/A/m)	2 cables-single-phase ac									3 or 4 cables-three-phase ac											
		Reference Methods 3 &4 (Enclosed in conduit etc in or on a wall) (mV/A/m)			Reference Methods 1 & 11 (Clipped direct or on trays, touching) (mV/A/m)			Reference Methods 12 (space*) (mV/A/m)			Reference Methods 3 &4 (Enclosed in conduit etc in or on a wall) (mV/A/m)			Reference Methods 1, 11 & 12 (in trefoil) (mV/A/m)			Reference Methods 1 & 11 (Flat touching) (mV/A/m)			Reference Methods 12 (Flat spaced*) (mV/A/m)		
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	1.80	0.33	1.8	1.75	0.20	1.75	1.75	0.29	1.80	1.50	0.29	1.55	1.50	0.175	1.50	1.50	0.25	1.55	1.50	0.32	1.55
35	1.25	1.30	0.31	1.3	1.25	0.195	1.25	1.25	0.28	1.30	1.10	0.27	1.10	1.10	0.170	1.10	1.10	0.24	1.10	1.10	0.32	1.15
50	0.93	0.95	0.30	1.00	0.93	0.190	0.95	0.93	0.28	0.97	0.81	0.26	0.85	0.80	0.165	0.82	0.80	0.24	0.84	0.80	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	0.60	0.55	0.31	0.63
95	0.46	0.49	0.28	0.56	0.47	0.180	0.50	0.47	0.27	0.54	0.42	0.24	0.48	0.41	0.155	0.43	0.41	0.23	0.47	0.40	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	0.40	0.32	0.30	0.44
150	0.29	0.31	0.27	0.41	0.30	0.175	0.34	0.29	0.26	0.39	0.27	0.23	0.36	0.26	0.150	0.30	0.26	0.23	0.34	0.26	0.30	0.40
185	0.23	0.25	0.27	0.37	0.24	0.170	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	0.30	0.36
240	0.180	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	0.160	0.22	0.27	0.160	0.29	0.34
300	0.145	0.160	0.26	0.31	0.150	0.165	0.22	0.150	0.25	0.29	0.14	0.23	0.27	0.130	0.140	0.190	0.130	0.22	0.25	0.130	0.29	0.32
400	0.105	0.130	0.26	0.29	0.120	0.160	0.20	0.115	0.25	0.27	0.12	0.22	0.25	0.105	0.140	0.175	0.105	0.21	0.24	0.100	0.29	0.31
500	0.086	0.110	0.26	0.28	0.098	0.155	0.185	0.093	0.24	0.26	0.10	0.22	0.25	0.086	0.135	0.160	0.086	0.21	0.23	0.081	0.29	0.30
630	0.068	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	0.150	0.165	0.061	0.24	0.25	-	-	-	0.060	0.130	0.145	0.060	0.21	0.22	0.053	0.28	0.29
1000	0.042	-	-	-	0.059	0.150	0.160	0.050	0.24	0.24	-	-	-	0.052	0.130	0.140	0.052	0.20	0.21	0.044	0.28	0.28

Note: r=conductor resistance at operating temperature

Z=impedance, x=reactance

Current Rating and Voltage Drop

Multi-Core Cables having PVC Insulation, Unarmoured (Copper Conductor) 600/1000V

Current-Carrying Capacities (Amp) PVC/PVC Cables

Conductor cross-sectional area (mm^2)	Reference Method 4 (Enclosed in an insulated wall etc)		Reference Method 3 (Enclosed in conduit on a wall or cell, or in trunking)		Reference Method 1 (Clipped direct)		Reference Method 11 (on perforated cable tray) or Reference Method 13 (free air)	
	1 2-core cable* single-phase ac or dc (Amp)	1 3-core cable* or 1 4-core cable 3-phase ac (Amp)	1 2-core cable* single-phase ac or dc (Amp)	1 3-core cable* or 1 4-core cable 3-phase ac (Amp)	1 2-core cable* single-phase ac or dc (Amp)	1 3-core cable* or 1 4-core cable 3-phase ac (Amp)	1 2-core cable* single-phase ac or dc (Amp)	1 3-core cable* or 1 4-core cable 3-phase ac (Amp)
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

*With or without protective conductor

Note: Rating factors for ambient temperature other than 30℃ please refer Table A

Group Rating Factor please refer to Table G

Voltage Drop (Per Amp Per Meter) PVC/PVC Cables

Conductor cross-sectional area (mm^2)	2-core cable dc (mV/A/m)	2-core cable single-phase ac (mV/A/m)			3 or 4-core cable 3-phase ac (mV/A/m)		
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	0.170	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	0.80	0.140	0.81
70	0.63	0.63	0.160	0.65	0.55	0.140	0.57
95	0.46	0.47	0.155	0.50	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	0.130	0.29
185	0.23	0.25	0.150	0.29	0.21	0.130	0.25
240	0.180	0.190	0.150	0.24	0.165	0.130	0.21
300	0.145	0.155	0.145	0.21	0.135	0.130	0.185
400	0.105	0.115	0.145	0.185	0.100	0.125	0.160

Note: r=conductor resistance at operating temperature

Z=impedance, x=reactance

Single Core Cables having PVC Insulation, Armoured (Copper Conductor) 600/1000V

Current-Carrying Capacities (Amp) PVC /AWA/PVC Cables

Conductor cross-sectional area (mm²)	Reference Method 1 (Clipped direct)		Reference Method 11 (on perforated cable tray)		Reference Method 12 (free air)					Direct in Ground		In Single Way Ducts	
					3 or 4 cables 3-phase ac			2 cables dc spaced					
	2 cables single-phase ac or dc (Amp)	3 or 4 cables 3-phase ac (Amp)	2 cables single-phase ac flat & touching (Amp)	3 or 4 cables 3-phase ac flat & touching (Amp)	Horizontal flat spaced (Amp)	Vertical flat spaced (Amp)	3 cables trefoils (Amp)	Horizontal (Amp)	Vertical (Amp)	2 cables flat touching (Amp)	3 cables trefoil touching (Amp)	2 cables duct touching (Amp)	3 cables trefoil touching (Amp)
50	193	179	205	189	230	212	181	229	216	238	203	216	199
70	245	225	259	238	286	263	231	294	279	292	248	262	241
95	296	269	313	285	338	313	280	357	340	349	297	308	282
120	342	309	360	327	385	357	324	415	396	396	337	341	311
150	393	352	413	373	436	405	373	479	458	443	376	375	342
185	447	399	469	422	490	456	425	548	525	497	423	414	375
240	525	465	550	492	566	528	501	648	622	571	485	463	419
300	594	515	624	547	616	578	567	748	719	640	542	509	459
400	687	575	723	618	674	632	657	885	851	708	600	545	489
500	763	622	805	673	721	676	731	1035	997	780	660	585	523
630	843	669	891	728	771	723	809	1218	1174	856	721	632	563
800	919	710	976	777	824	772	886	1441	1390	895	756	662	587
1000	975	737	1041	808	872	816	945	1685	1627	939	797	703	621

Note: Rating factors for ambient temperature other than 30℃ please refer Table A

Rating factors for ground temperature other than 15℃ please refer Table B

Group Rating Factor please refer to Table F & Table G

Voltage Drop (Per Amp Per Meter) PVC/AWA/PVC Cables

Conductor cross-sectional area (mm²)	2 cables dc (mV/A/m)	2 cables-single-phase ac						3 or 4 cables-three-phase ac									Direct in Ground		Single Way Ducts	
		Reference Methods 1 & 11 (Touching) (mV/A/m)			Reference Methods 12 (space*) (mV/A/m)			Reference Methods 1, 11 & 12 (in trefoil touching) (mV/A/m)			Reference Methods 1 & 11 (Flat touching) (mV/A/m)			Reference Methods 12 (Flat spaced*) (mV/A/m)			2 cables flat touching (mV/A/m)	3 cables trefoil touching (mV/A/m)	2 cables flat touching (mV/A/m)	3 cables trefoil touching (mV/A/m)
		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	0.30	0.97	0.80	0.19	0.82	0.79	0.26	0.84	0.79	0.34	0.86	0.97	0.82	1.00	0.88
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	0.67	0.58	0.76	0.66
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	0.50	0.44	0.61	0.53
120	0.36	0.39	0.195	0.43	0.42	0.28	0.50	0.33	0.17	0.37	0.36	0.24	0.43	0.40	0.30	0.50	0.42	0.36	0.54	0.47
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	0.36	0.31	0.48	0.42
185	0.23	0.26	0.19	0.32	0.29	0.27	0.39	0.22	0.16	0.27	0.25	0.23	0.34	0.29	0.29	0.41	0.31	0.27	0.44	0.38
240	0.180	0.20	0.180	0.27	0.23	0.26	0.35	0.175	0.160	0.23	0.20	0.23	0.30	0.24	0.28	0.37	0.26	0.23	0.40	0.34
300	0.145	0.160	0.180	0.24	0.190	0.26	0.32	0.140	0.155	0.21	0.165	0.22	0.28	0.20	0.28	0.34	0.23	0.20	0.37	0.32
400	0.105	0.140	0.175	0.22	0.180	0.24	0.30	0.120	0.130	0.195	0.160	0.21	0.26	0.21	0.25	0.32	0.22	0.19	0.34	0.30
500	0.086	0.120	0.170	0.21	0.165	0.23	0.29	0.105	0.145	0.180	0.145	0.20	0.25	0.190	0.24	0.30	0.20	0.18	0.32	0.28
630	0.068	0.105	0.165	0.195	0.150	0.22	0.27	0.091	0.145	0.170	0.135	0.195	0.23	0.175	0.22	0.28	0.19	0.16	0.30	0.26
800	0.053	0.094	0.160	0.185	0.145	0.21	0.25	0.082	0.140	0.160	0.125	0.180	0.22	0.170	0.195	0.26	-	-	-	-
1000	0.042	0.095	0.155	0.185	0.140	0.190	0.24	0.079	0.135	0.155	0.125	0.165	0.21	0.165	0.170	0.24	-	-	-	-

Note: r=conductor resistance at operating temperature

Z=impedance, x=reactance

Current Rating and Voltage Drop

Multi-Core Cables having PVC Insulation, Armoured (Copper Conductor) 600/1000V

Current-Carrying Capacities (Amp) PVC/SWA/PVC Cables

Conductor cross-sectional area (mm²)	Reference Method 1 (Clipped direct)		Reference Method 11 (on a perforated horizontal cable tray) or Reference Method 13 (free air)		Direct in Ground		In Single Way Ducts	
	1 2-core cables single-phase ac or dc (Amp)	1 3- or 4-core cables 3-phase ac or dc (Amp)	1 2-core cable single-phase ac or dc (Amp)	1 3- or 4-core cable 3-phase ac or dc (Amp)	2 cores (Amp)	3 or 4 cores (Amp)	2 cores (Amp)	3 or 4 cores (Amp)
1.5	21	18	22	19	32	27	26	22
2.5	28	25	31	26	41	35	34	29
4	38	33	41	35	55	47	45	38
6	49	42	53	45	69	59	57	48
10	67	58	72	62	92	78	76	64
16	89	77	97	83	119	101	98	83
25	118	102	128	110	158	132	129	107
35	145	125	157	135	190	159	154	126
50	175	151	190	163	225	188	183	153
70	222	192	241	207	277	233	225	190
95	269	231	291	251	332	279	271	228
120	310	267	336	290	377	317	309	260
150	356	306	386	332	422	355	346	292
185	405	348	439	378	478	401	393	331
240	476	409	516	445	551	462	455	382
300	547	469	592	510	616	517	510	428
400	621	540	683	590	693	580	574	490

Note: Rating factors for ambient temperature other than 30℃ please refer Table A

Rating factors for ground temperature other than 15℃ please refer Table B

Group Rating Factor please refer to Table F & Table G

Voltage Drop (Per Amp Per Meter) PVC/SWA/PVC Cables

Con-ductor cross-sectional area (mm²)	2-core cable dc (mV/A/m)	2-core cable single-phase ac (mV/A/m)			3- or 4-core cable 3-phase ac (mV/A/m)			Direct in Ground		In Single Way Ducts	
								2-cores (mV/A/m)	3- or 4-cores (mV/A/m)	2-cores (mV/A/m)	3- or 4-cores (mV/A/m)
1.5	29	29			25			29	25	29	25
2.5	18	18			15			17	15	17	15
4	11	11			9.5			11	9.5	11	9.5
6	7.3	7.3			6.4			7.4	6.4	7.4	6.4
10	4.4	4.4			3.8			4.4	3.8	4.4	3.8
16	2.8	2.8			2.4			2.8	2.4	2.8	2.4
		r	x	z	r	x	z				
25	1.75	1.75	0.170	1.75	1.50	0.145	1.50	1.7	1.5	1.7	1.5
35	1.25	1.25	0.165	1.25	1.10	0.145	1.10	1.3	1.1	1.3	1.1
50	0.93	0.93	0.165	0.94	0.80	0.140	0.81	0.94	0.82	0.94	0.82
70	0.63	0.63	0.160	0.65	0.55	0.140	0.57	0.66	0.57	0.66	0.57
95	0.46	0.47	0.155	0.50	0.41	0.135	0.43	0.49	0.42	0.49	0.42
120	0.36	0.38	0.155	0.41	0.33	0.135	0.35	0.40	0.35	0.40	0.35
150	0.29	0.30	0.155	0.34	0.26	0.130	0.29	0.34	0.29	0.34	0.29
185	0.23	0.25	0.150	0.29	0.21	0.130	0.25	0.29	0.25	0.29	0.25
240	0.180	0.190	0.150	0.24	0.165	0.130	0.21	0.24	0.21	0.24	0.21
300	0.145	0.155	0.145	0.21	0.135	0.130	0.185	0.21	0.18	0.21	0.18
400	0.105	0.115	0.145	0.185	0.100	0.125	0.160	0.19	0.17	0.19	0.17

Note: r=conductor resistance at operating temperature

Z=impedance, x=reactance

Single Core Cables having XLPE Insulation, Unarmoured (Copper Conductor) 600/1000V

Current-Carrying Capacities (Amp) XLPE/PVC Cables

Size of Conductor	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 1-phase ac or dc	3 or 4 cables 3-phase ac	2 cables 1-phase ac or dc	3 or 4 cables 3-phase ac	2 cables 1-phase ac or dc flat & touching	3 or 4 cables 3-phase ac flat & touching or trefoil	2 cables 1-phase ac or dc or flat & touching	3 or 4 cables 3-phase ac flat & touching trefoil	3 cables trefoil 3-phase ac
1 mm²	2 A	3 A	4 A	5 A	6 A	7 A	8 A	9 A	10 A
1.5	18	17	22	19	25	23	-	-	-
2.5	24	23	30	26	34	31	-	-	-
4	33	30	40	35	46	41	-	-	-
6	43	39	51	45	59	54	-	-	-
10	58	53	71	63	81	74	-	-	-
16	76	70	95	85	109	99	-	-	-
25	100	91	126	111	143	130	158	140	138
35	124	111	156	138	176	161	195	176	171
50	149	135	189	168	228	209	293	215	209
70	189	170	240	214	293	268	308	279	270
95	228	205	290	259	355	326	375	341	330
120	263	235	336	299	413	379	436	398	385
150	300	270	375	328	476	436	505	461	445
185	341	306	426	370	545	500	579	530	511
240	400	358	500	433	644	590	686	630	606
300	459	410	573	493	743	681	794	730	901
400	-	-	683	584	868	793	915	849	820
500	-	-	783	666	990	904	1044	973	936
630	-	-	900	764	1130	1033	1191	1115	1069
800	-	-	-	-	1288	1179	1358	1275	1214
1000	-	-	-	-	1443	1323	1520	1436	1349

Note: Rating factors for ambient temperature other than 30℃ please refer Table C

Rating factors for ground temperature other than 15℃ please refer Table D

Group Rating Factor please refer to Table F & Table G

Voltage Drop (Per Amp Per Meter) XLPE/PVC Cables

Size of Con-ductor	2 cables dc	2 cables 1-phase ac						3 or 4 cables 3-phase ac								
		Reference Methods 3 & 4 (Enclosed in conduit etc, in or on a wall)			Reference Methods 1 & 11 (Clipped direct or on trays touching)			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)		
1 mm²	2 mV/A/m	3 mV/A/m			4 mV/A/m			5 mV/A/m			6 mV/A/m			7 mV/A/m		
1.5	31	31			31			27			27			27		
2.5	19	19			19			16			16			16		
4	12	12			12			10			10			10		
6	7.9	7.9			7.9			6.8			6.8			6.8		
10	4.7	4.7			4.7			4.0			4.0			4.0		
16	2.9	2.9			2.9			2.5			2.5			2.5		
		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	1.60	0.27	1.65	1.60	0.165	1.60	1.60	0.19	1.60
35	1.35	1.35	0.29	1.35	1.35	0.18	1.35	1.15	0.25	1.15	1.15	0.155	1.15	1.15	0.18	1.15
50	0.99	1.00	0.29	1.05	0.99	0.18	1.00	0.87	0.25	0.90	0.86	0.155	0.87	0.86	0.18	0.87
70	0.68	0.70	0.28	0.75	0.68	0.175	0.71	0.60	0.24	0.65	0.59	0.150	0.61	0.59	0.175	0.62
95	0.49	0.51	0.27	0.58	0.49	0.170	0.52	0.44	0.23	0.50	0.43	0.145	0.45	0.43	0.170	0.46
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.35	0.23	0.42	0.34	0.140	0.37	0.34	0.165	0.38
150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.29	0.23	0.37	0.28	0.140	0.31	0.28	0.165	0.32
185	0.25	0.27	0.26	0.37	0.26	0.165	0.30	0.23	0.23	0.32	0.22	0.140	0.26	0.22	0.165	0.28
240	0.19	0.21	0.26	0.33	0.20	0.160	0.25	0.185	0.22	0.29	0.17	0.140	0.22	0.17	0.165	0.24
300	0.155	0.175	0.25	0.31	0.16	0.160	0.22	0.15	0.22	0.27	0.14	0.140	0.195	0.135	0.160	0.21
400	0.12	0.14	0.25	0.29	0.13	0.155	0.20	0.125	0.22	0.25	0.11	0.135	0.175	0.110	0.160	0.195
500	0.093	0.12	0.25	0.28	0.105	0.155	0.185	0.100	0.22	0.24	0.09	0.135	0.160	0.088	0.160	0.180
630	0.072	0.10	0.25	0.27	0.086	0.155	0.175	0.088	0.21	0.23	0.074	0.135	0.150	0.071	0.160	0.170
800	0.056	-	-	-	0.072	0.150	0.170	-	-	-	0.062	0.130	0.145	0.059	0.155	0.165
1000	0.045	-	-	-	0.063	0.150	0.165	-	-	-	0.055	0.130	0.140	0.050	0.155	0.165

Note: r=conductor resistance at operating temperature

Z=impedance, x=reactance

Current Rating and Voltage Drop

Multi-Core Cables having XLPE Insulation, Unarmoured (Copper Conductor) 600/1000V

Current-Carrying Capacities (Amp) XLPE/PVC Cables

Size of Conductor	Reference Method 4 (Enclosed in conduit and insulated wall etc)		Reference Method 3 (Enclosed in conduit on a wall or cell, or in trunking)		Reference Method 1 (Clipped direct)		Reference Method 11 (on a perforated cable tray) or Reference Method 13 (free air)	
	1 2-core cable 1-phase ac or dc	1 3- or 4-core cable 3-phase ac	1 2-core cable 1-phase ac or dc	1 3- or 4-core cable 3-phase ac	1 2-core cable 1-phase ac or dc	1 3- or 4-core cable 3-phase ac	1 2-core cable 1-phase ac or dc	1 3- or 4-core cable 3-phase ac
1 mm²	2 A	3 A	4 A	5 A	6 A	7 A	8 A	9 A
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

Note: Rating factors for ambient temperature other than 30℃ please refer Table C

Rating factors for ground temperature other than 15℃ please refer Table D

Group Rating Factor please refer to Table F & Table G

Voltage Drop (Per Amp Per Meter) XLPE/PVC Cables

Size of Conductor	2-core cable dc	2-core cable 1-phase ac			3- or 4-core cable 3-phase ac		
1 mm²	2 mV/A/m	3 mV/A/m			4 mV/A/m		
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	1.9	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	0.19	0.115	0.120	0.165

Note: r=conductor resistance at operating temperature

Z=impedance, x=reactance

Single Core Cables having XLPE Insulation, Armoured (Copper Conductor) 600/1000V

Current-Carrying Capacities (Amp) XLPE /AWA/PVC Cables

Size of Conductor	Reference Method 1 (Clipped direct)		Reference Method 11 (on perforated cable tray)		Reference Method 12 (free air)	In Single Way Ducts		Laid Direct in Ground	
	2 cables 1-phase ac or dc flat & touching	3 or 4 cables 3-phase ac flat & touching	2 cables 1-phase ac or dc flat & touching	3 or 4 cables 3-phase ac flat & touching	3 or 4 cables 3-phase ac trefoil touching	2 cables 1-phase ac or dc ducts touching	3 or 4 cables 3-phase ac trefoil ducts touching	2 cables 1-phase ac or dc touching	3 or 4 cables 3-phase ac trefoil touching
1	2	3	4	5	6	7	8	9	10
mm²	A	A	A	A	A	A	A	A	A
50	237	220	253	232	222	255	235	275	235
70	303	277	322	293	285	310	280	340	290
95	367	333	389	352	346	365	330	405	345
120	425	383	449	405	402	410	370	460	390
150	488	437	516	462	463	445	405	510	435
185	557	496	587	524	529	485	440	580	490
240	656	579	689	612	625	550	500	670	560
300	755	662	792	700	720	610	550	750	630
400	853	717	899	767	815	640	580	830	700
500	962	791	1016	851	918	690	620	910	770
630	1082	861	1146	935	1027	750	670	1000	840
800	1170	904	1246	987	1119	828	735	1117	931
1000	1261	961	1345	1055	1214	919	811	1254	1038

Note: Rating factors for ambient temperature other than 30℃ please refer Table C

Rating factors for ground temperature other than 15℃ please refer Table D

Group Rating Factor please refer to Table F & Table G

Voltage Drop (Per Amp Per Meter) XLPE/AWA/PVC Cables

Size of Con-ductor	2 Cables dc	2 Cables 1-phase ac			3 or 4 cables 3-phase ac						2 cables 1-phase ac		3 or 4 cables 3-phase ac touching	
		Reference Methods 1 & 11 (touching)			Reference Methods 1, 11 & 12 (in trefoil touching)			Reference Methods 1 & 11 (flat & touching)			In ducts	In ground	In ducts	In ground
1	2	3			4			5			6	7	8	9
mm²	mV/A/m	mV/A/m			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				
50	0.98	0.99	0.21	1.00	0.86	0.18	0.87	0.84	0.25	0.88	1.10	0.99	0.93	0.86
70	0.67	0.68	0.20	0.71	0.59	0.17	0.62	0.60	0.25	0.65	0.80	0.70	0.70	0.61
95	0.49	0.51	0.195	0.55	0.44	0.17	0.47	0.46	0.24	0.52	0.65	0.53	0.56	0.46
120	0.39	0.41	0.190	0.45	0.35	0.165	0.39	0.38	0.24	0.44	0.55	0.43	0.48	0.37
150	0.31	0.33	0.185	0.38	0.29	0.160	0.33	0.31	0.23	0.39	0.50	0.37	0.43	0.32
185	0.25	0.27	0.185	0.33	0.23	0.160	0.28	0.26	0.23	0.34	0.45	0.31	0.39	0.27
240	0.195	0.21	0.180	0.28	0.18	0.155	0.24	0.21	0.22	0.30	0.40	0.26	0.35	0.23
300	0.155	0.17	0.175	0.25	0.145	0.150	0.21	0.17	0.22	0.28	0.37	0.24	0.32	0.21
400	0.115	0.145	0.170	0.22	0.125	0.150	0.195	0.160	0.21	0.27	0.35	0.21	0.30	0.19
500	0.093	0.125	0.170	0.21	0.105	0.145	0.180	0.145	0.20	0.25	0.33	0.20	0.28	0.18
630	0.073	0.105	0.165	0.195	0.092	0.145	0.170	0.135	0.195	0.24	0.30	0.19	0.26	0.17
800	0.056	0.09	0.160	0.190	0.086	0.140	0.165	0.130	0.180	0.23	0.28	0.18	0.24	0.16
1000	0.045	0.092	0.155	0.180	0.080	0.135	0.155	0.125	0.17	0.21	0.26	0.17	0.22	0.15

Note: r=conductor resistance at operating temperature

Z=impedance, x=reactance

Current Rating and Voltage Drop

Multi-Core Cables having XLPE Insulation, Armoured (Copper Conductor) 600/1000V

Current-Carrying Capacities (Amp) XLPE /SWA/PVC Cables

Size of Conductor	Reference Method 1 (Clipped direct)		Reference Method 11 (on perforated cable tray) or Reference Method 13 (free air)		In Single Way Ducts		Laid Direct in Ground	
	1 2-core cable 1-phase ac or dc	1 3- or 4-core cable 3-phase ac	1 2-core cable 1-phase ac or dc	1 3- or 4-core cable 3-phase ac	1 2-core cable 1-phase ac or dc	1 3- or 4-core cable 3-phase ac	1 2-core cable 1-phase ac or dc	1 3- or 4-core cable 3-phase ac
1 mm²	2 A	3 A	4 A	5 A	6 A	7 A	8 A	9 A
1.5	27	23	29	25	-	23	-	28
2.5	36	31	39	33	-	30	-	36
4	49	42	52	44	-	40	-	48
6	62	53	66	56	-	50	-	60
10	85	73	90	78	-	65	-	80
16	110	94	115	99	115	94	140	115
25	146	124	152	131	145	125	180	150
35	180	154	188	162	175	150	215	180
50	219	187	228	197	210	175	255	215
70	279	238	291	251	260	215	315	265
95	338	289	354	304	310	260	380	315
120	392	335	410	353	355	300	430	360
150	451	386	472	406	400	335	480	405
185	515	441	539	463	455	380	540	460
240	607	520	636	546	520	440	630	530
300	698	599	732	628	590	495	700	590
400	787	673	847	728	660	560	790	670

Note: Rating factors for ambient temperature other than 30℃ please refer Table C

Rating factors for ground temperature other than 15℃ please refer Table D

Group Rating Factor please refer to Table F & Table G

Voltage Drop (Per Amp Per Meter) XLPE/SWA/PVC Cables

Size of Conductor	2-core cable dc	2-core cables 1-phase ac			3- & 4-core cables 3-phase ac			2-core cables 1-phase ac		3- or 4-core cables 3-phase ac	
								In ducts	In ground	In ducts	In ground
1 mm²	2 mV/A/m	3 mV/A/m			4 mV/A/m			5 mV/A/m	6 mV/A/m	7 mV/A/m	8 mV/A/m
1.5	31	31			27			31	31	25	25
2.5	19	19			16			19	19	15	15
4	12	12			10			12	12	9.7	9.7
6	7.9	7.9			6.8			7.9	7.9	6.5	6.5
10	4.7	4.7			4.0			4.7	4.7	3.9	3.9
16	2.9	2.9			2.5			2.9	2.9	2.6	2.6
		r	x	z	r	x	z				
25	1.85	1.85	0.16	1.9	1.6	0.14	1.65	1.9	1.9	1.6	1.6
35	1.35	1.35	0.155	1.35	1.15	0.135	1.15	1.35	1.35	1.2	1.2
50	0.98	0.99	0.155	1.00	0.86	0.135	0.87	1.00	1.00	0.87	0.87
70	0.67	0.67	0.150	0.69	0.59	0.130	0.60	0.69	0.69	0.61	0.61
95	0.49	0.50	0.150	0.52	0.43	0.130	0.45	0.52	0.52	0.45	0.45
120	0.39	0.40	0.145	0.42	0.34	0.130	0.37	0.42	0.42	0.36	0.36
150	0.31	0.32	0.145	0.35	0.28	0.125	0.30	0.35	0.35	0.30	0.30
185	0.25	0.26	0.145	0.29	0.22	0.125	0.26	0.29	0.29	0.25	0.25
240	0.195	0.20	0.140	0.24	0.175	0.125	0.21	0.24	0.24	0.21	0.21
300	0.155	0.16	0.140	0.21	0.140	0.120	0.185	0.21	0.21	0.19	0.19
400	0.120	0.13	0.140	0.19	0.115	0.120	0.165	0.19	0.19	0.18	0.18

Note: r=conductor resistance at operating temperature

Z=impedance, x=reactance

Single Core PVC Insulated Flexible Cables

Technical Data Flexible Cord, Imperial Sizes

Conductor		Current Rating	Volt Drop per 100FT		Maximum Weight supportable by twin flexible cord (lb)
Nominal Area (in²)	Construction (no./ in)	1 or 3 phase ac or dc (Amp)	dc or 1 phase ac (V)	3 phase ac (V)	
0.0006	14/0.0076	3	8.9	7.7	3
0.0010	23/0.0076	6	11	9.4	5
0.0017	40/0.0076	13	14	12	10
0.0030	70/0.0076	18	12	10	10
0.0048	110/0.0076	24	9.6	8.3	10
0.0070	162/0.0076	31	8.4	7.3	10

Note: Rating factors for ambient temperature other than 30℃ please refer Table E

Technical Data Flexible Cord, Metric Sizes

Conductor		Current Rating	Volt Drop per 100FT		Maximum Weight supportable by twin flexible cord (kg)
Nominal Area (mm²)	Construction (no./ mm)	1 or 3 phase ac or dc (Amp)	dc or 1 phase ac (mV/A/m)	3 phase ac (mV/A/ m)	
0.50	16/0.2	3	83	72	2
0.75	24/0.2	6	56	48	3
1.00	32/0.2	10	43	37	5
1.25	40/0.2	13	35	29	5
1.50	30/0.25	15	31	26	5
2.50	50/0.25	20	18	16	5
4.0	56/0.3	25	11	9.6	5

Note: Rating factors for ambient temperature other than 30℃ please refer Table E

Current Rating and Voltage Drop

Correction Factors

Technical Data Rating Factors for Other Temperature Conditions

Table A: Rating Factors for Other Ambient Air Temperatures (PVC Insulated)

Ambient Temperature	25℃	30℃	35℃	40℃	45℃	50℃	55℃	60℃	65℃	70℃
Rating Factor	1.03	1.00	0.94	0.87	0.79	0.71	0.61	0.50	0.35	-

Table B: Rating Factors for Other Ground Temperatures (PVC Insulated)

Ground Temperature	10℃	15℃	20℃	25℃	30℃	35℃	40℃	45℃	50℃
Rating Factor	1.04	1.00	0.95	0.90	0.85	0.80	0.73	0.67	0.60

Table C: Rating Factors for Other Ambient Air Temperatures (XLPE Insulated)

Ambient Temperature	25℃	30℃	35℃	40℃	45℃	50℃	55℃	60℃	65℃	70℃	75℃	80℃	85℃
Rating Factor	1.02	1.00	0.96	0.91	0.87	0.82	0.76	0.71	0.65	0.58	0.50	0.41	0.29

Table D: Rating Factors for Other Ground Temperatures (XLPE Insulated)

Ground Temperature	15℃	20℃	25℃	30℃	35℃	40℃	45℃	50℃
Rating Factor	1.00	0.97	0.93	0.89	0.86	0.82	0.77	0.73

Table E: Rating Factors for Other Ambient Air Temperatures (PVC Insulated)

Ambient Air Temperature	30℃	35℃	40℃	45℃	50℃	55℃	60℃	65℃	70℃
PVC cords, non-heat resisting	1.00	0.96	0.92	0.87	0.71	0.50	-	-	-
PVC cords, heat resisting	1.00	-	-	-	1.00	0.96	0.83	0.67	0.47

Table F: Group Rating Factors for Cables Installation

Group Rating Factors			Number of Circuits										
			2	3	4	5	6	7	8	9	10	11	12
1	For circuits of 2 Single core cables laid flat touching horizontal formation, laid direct in ground		0.79	0.68	0.62	0.57	0.54	0.52	0.50	0.48	0.47	0.46	0.45
2	For circuits of 3 Single core cables in trefoil touching, laid direct in ground		0.78	0.66	0.61	0.56	0.53	0.50	0.49	0.47	0.46	0.44	0.43
			Number of Cables in a Group										
			2	3	4	5	6	7	8	9	10	11	12
3	For twin or multi-cores cables in horizontal formation, laid direct in ground	Spaced 0.15m	0.87	0.78	0.74	0.70	0.68	0.66	0.64	0.63	0.62	0.61	0.60
		Spaced 0.30m	0.91	0.84	0.81	0.78	0.77	0.75	0.75	0.74	0.73	0.73	0.72
			Number of Ducts in a Group										
			2	3	4	5	6	7	8	9	10	11	12
4	For twin or multi-cores cables in single-way ducts horizontal formation spaced 0.30m apart		0.93	0.88	0.85	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.78

Table G Correction Factors for Groups of More than One Circuit of Single Core Cables, or More than One Multi-Cores Cable

Reference Methods of Installation		Correction Factor (C_g)													
		Number of Circuits or Multi-cores Cables													
		2	3	4	5	6	7	8	9	10	12	14	16	18	20
Enclosed (Method 3 or 4) or bunched and clipped direct to a non-metallic surface (Method 1)		0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50	0.48	0.45	0.43	0.41	0.39	0.38
Single layer clipped to a non-metallic surface (Method 1)	Touching	0.85	0.79	0.75	0.73	0.72	0.72	0.71	0.70	-	-	-	-	-	-
	Spaced*	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Single layer multi-cores on a perforated metal cable tray, vertical or horizontal (Method 11)	Touching	0.86	0.81	0.77	0.75	0.74	0.73	0.73	0.72	0.71	0.70	-	-	-	-
	Spaced*	0.91	0.89	0.88	0.87	0.87	-	-	-	-	-	-	-	-	-
Single layer single core on a perforated metal cable tray, touching (Method 11)	Horizontal	0.90	0.85	-	-	-	-	-	-	-	-	-	-	-	-
	Vertical	0.85	-	-	-	-	-	-	-	-	-	-	-	-	-
Single layer multi-cores touching on ladder supports (Method 13)		0.86	0.82	0.80	0.79	0.78	0.78	0.78	0.77	-	-	-	-	-	-

*Space means a clearance between adjacent surfaces of at least one cable diameter (D_e). Where the horizontal clearance between adjacent cables exceeds 2 D_e, no correction factor need be applied.

Note:

1)The factors in the table are applicable to group of cables all of one size. The value of current derived from application of the appropriate factors is the maximum continuous current to be carried by any of the cables in the group.

2)If, due to known operating conditions, a cable is expected to carry not more than 30% of it's grouped rating, it may be ignored for the purpose of obtaining the rating factor for the rest of the group.

For example, a group of N loaded cables would normally require a group reduction factor of C_g applied to the tabulated I_t. However, if M cables in the group carry loads which are not greater than $0.3C_gI_t$ amperes, the other cables can be sized by using the group rating factor corresponding to (N-M) cables.

3)Factors are given for single layer of cables do not apply when cables are installed in more than one layer touching each other.

4)For circuits having more than one cable in parallel per phase, each set of three conductors should be considered as a circuit for the purpose of this table.