

PVC INSULATED CABLE

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA	REFERENCE METHOD A (ENCLOSED IN CONDUIT IN THERMALLY INSULATING WALL ETC)		REFERENCE METHOD B (ENCLOSED IN CONDUIT ON A WALL OR IN A TRUNKING ETC)		REFERENCE METHOD C (CLIPPED DIRECT)		REFERENCE METHOD F (IN FREE AIR OR ON A PERFORATED CABLE TRAY ETC HORIZONTAL OR VERTICAL ETC)				
	Amps		Amps		Amps		Amps				
	Touching		Touching		Touching		Touching			Spaced by one diameter	
										2 Cables Single-Phase AC or DC or 3 Cables Three-Phase AC flat	
mm ²	2 Cables Single-Phase AC or DC	3 or 4 Cables Three-Phase AC	2 Cables Single-Phase AC or DC	3 or 4 Cables Three-Phase AC	2 Cables Single-Phase AC or DC flat or touching	3 or 4 Cables Three-Phase AC flat and touching or trefoil	2 Cables Single-Phase AC or DC flat	3 Cables Three-Phase AC flat	3 Cables Three-Phase AC trefoil	Horizontal	Vertical
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	110	146	130
35	99	89	125	110	141	129	162	143	137	181	162
50	119	108	151	134	182	167	196	174	167	219	197
70	151	136	192	171	234	214	251	225	216	281	254
95	182	164	232	207	284	261	304	275	264	341	311
120	210	188	269	239	330	303	352	321	308	396	362
150	240	216	300	262	381	349	406	372	356	456	419
185	273	245	341	296	436	400	463	427	409	521	480
240	321	286	400	346	515	472	546	507	485	615	569
300	367	328	458	394	594	545	529	587	561	709	659
400			546	467	694	634	754	689	656	852	795
500			626	533	792	723	868	789	749	982	930
630			720	611	904	826	1005	905	855	1138	1070

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

The above table is based on Table 4D1A of the 17th Edition of IEE Wiring Regulations.

Voltage Drop

NOMINAL CROSS SECTIONAL AREA	2 CABLES DC mV/A/m	2 CABLES SINGLE-PHASE AC									Reference Methods C, F (clipped direct, on tray or in free air)											
		mV/A/m									Reference Methods A and B (enclosed in conduit or trunking)	Reference Methods C, F (clipped direct, on tray or in free air)										
		Reference Methods A and B (enclosed in conduit or trunking)			Reference Methods C, F (clipped direct, on tray or in free air)			Reference Methods C, F (clipped direct, on tray or in free air)				Reference Methods A and B (enclosed in conduit or trunking)	Reference Methods C, F (clipped direct, on tray or in free air)									
mm ²													Cable Touching Trefoil			Cable Touching Flat			Cable Spaced* Flat			
1.5	28	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	1.80	1.75	0.20	1.75	1.75	0.29	1.80	1.50	0.29	1.55	1.50	0.18	1.50	1.50	0.25	1.55	1.50	0.32	1.55
35	1.25	1.30	0.31	1.30	1.25	0.20	1.25	1.25	0.28	1.30	1.10	0.27	1.10	1.10	0.17	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	0.19	0.95	0.93	0.28	0.97	0.81	0.26	0.85	0.80	0.17	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	0.19	0.66	0.63	0.27	0.69	0.56	0.25	0.61	0.55	0.16	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	0.18	0.50	0.47	0.27	0.54	0.42	0.24	0.48	0.41	0.16	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	0.18	0.41	0.37	0.26	0.45	0.33	0.23	0.41	0.32	0.15	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	0.18	0.34	0.29	0.26	0.39	0.27	0.23	0.36	0.26	0.15	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	0.17	0.29	0.24	0.26	0.35	0.22	0.23	0.32	0.21	0.15	0.26	0.21	0.22	0.31	0.21	0.30	0.36
240	0.18	0.20	0.26	0.33	0.19	0.17	0.25	0.19	0.25	0.31	0.17	0.23	0.29	0.16	0.15	0.22	0.16	0.22	0.27	0.16	0.29	0.34
300	0.15	0.16	0.26	0.31	0.15	0.17	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	0.11	0.13	0.26	0.29	0.12	0.16	0.20	0.12	0.25	0.27	0.12	0.22	0.25	0.11	0.14	0.18	0.11	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	0.10	0.22	0.25	0.086	0.135	0.16	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	0.15	0.072	0.21	0.22	0.066	0.28	0.29

Conductor operating temperature: 70°C

r = Resistive Component

x = Reactive Component

z = Impedance Value

*Spacings larger than one cable diameter will result in a larger voltage drop.

The above table is based on Table 4D1B of the 17th Edition of IEE Wiring Regulations.

For cables having conductors of 16mm² or less cross sectional area their inductances can be ignored and (mV/A/m)r values only are tabulated. For cables having conductors greater than 16mm², cross sectional area the impedance values are given as (mV/A/m)z, together with the resistive component (mV/A/m)r and the reactive component (mV/A/m)x.

The above paragraph is based on Appendix 4 of the 17th Edition of IEE Wiring Regulations.

DE-RATING FACTORS

For Ambient Air Temperatures other than 30°C

AMBIENT TEMPERATURE	25°C	30°C	35°C	40°C	45°C	50°C	55°C
DE-RATING FACTOR	1.06	1.00	0.94	0.87	0.79	0.71	0.61