

P.V.C., non-armoured single-core (1.0 mm² to 35 mm²) (COPPER)

TABLE 1M

Single-circuit current ratings and associated volt drops for single-core p.v.c.-insulated cables, non-armoured, with or without sheath (B.S.6004) (copper conductors)

1.0 mm² (1/1.13 mm) to 35 mm² (19/1.53 mm)

The ratings tabulated apply where the cable is provided with coarse excess-current protection (see Item 2(b) of the Preface on page 119). For close excess-current protection, see rating factor below.

Conductor		Bunched and enclosed in conduit or trunking†				Clipped direct to a surface or on a cable tray, bunched and unenclosed			
Nominal cross-sectional area	No. and dia. (mm) of wires	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.	
		Current rating	Volt drop per ampere per metre*	Current rating	Volt drop per ampere per metre*	Current rating	Volt drop per ampere per metre*	Current rating	Volt drop per ampere per metre*
1	2	3	4	5	6	7	8	9	10
mm ²		A	mV	A	mV	A	mV	A	mV
1.0	1/1.13	11	40	9	35	13	40	12	35
1.5	1/1.38	13	27	11	23	16	27	15	23
2.5	1/1.78	18	16	16	14	23	16	20	14
4	7/0.85	24	10	22	8.8	30	10	27	8.8
6	7/1.04	31	6.8	28	5.9	38	6.8	34	5.9
10	7/1.35	42	4.0	39	3.5	51	4.0	46	3.5
16	7/1.70	56	2.6	50	2.2	68	2.6	61	2.2
25	7/2.14	73	1.6	66	1.4	89	1.6	80	1.4
35	19/1.53	90	1.2	80	1.0	109	1.2	98	1.0

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* Total volt drop between the consumer's terminals and any other point in the installation must not exceed 2.5% of the nominal voltage (see Regulation R.23 and Item 1 of the Preface on page 118).

† The ratings in columns 3 and 5 relate to cables in metal or non-metallic conduit and trunking. For cables in underground pipes and ducts, see Item 4(g) of the Preface to the Table.

RATING FACTORS

FOR CLASS OF EXCESS-CURRENT PROTECTION

The ratings tabulated may be multiplied by 1.33 where close excess-current protection can be assured (see Item 2(b) on page 119).

FOR AMBIENT TEMPERATURE

Ambient temperature	25°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C
Rating factor for cables having coarse excess-current protection	1.02	0.97	0.94	0.91	0.88	0.77	0.63	0.44
Rating factor for cables having close excess-current protection	1.06	0.94	0.87	0.79	0.71	0.61	0.5	0.35

FOR GROUPS

For groups of circuits unenclosed, the single-circuit ratings apply provided that—

- (1) the horizontal clearance between circuits is:
 - (a) not less than 6 times the overall diameter of an individual cable, and
 - (b) not less than the overall width of an individual circuit, —except that the horizontal clearance need not in any case exceed 150 mm, and
- (2) the vertical clearance between circuits is not less than 150 mm, and
- (3) if the number of circuits exceeds 4, they are installed in a horizontal plane.

In all other cases, unless a more precise evaluation of current rating has been made based on experimental work or calculated data, the following factors are applicable:

No. of circuits (pairs of cables, single-phase a.c., or d.c.; 3 cables per circuit, or 4 where one is the neutral, 3-phase a.c.)	2	3	4	5	6	8	10	12	14	16‡	18‡	20‡
Rating factor	0.80	0.69	0.62	0.59	0.55	0.51	0.48	0.43	0.41	0.39	0.38	0.36

‡ Not applicable to 3-phase.

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