

TABLE 4F1A

Ambient temperature: 30°C
Conductor operating temperature: 60°C

CURRENT-CARRYING CAPACITY (amperes)

60°C thermosetting insulated flexible cables with sheath, non-armoured (COPPER CONDUCTORS)

Reproduced from BS7671:2018 Wiring Regulations

NOTES:

1. The current ratings tabulated are for cables in free air but may also be used for cables resting on a surface. If the cable is to be wound on a drum on load the ratings should be reduced in accordance with NOTE 2 below and for cables which may be covered, NOTE 3 below.

2. Flexible cables wound on reeling drums:
The current ratings of cables used on reeling drums are to be reduced by the following factors:

- a) Radial type drum ventilated: 85%
unventilated: 75%
- b) Ventilated cylindrical type drum
1 layer of cable: 85%
2 layers of cable: 65%
3 layers of cable: 45%
4 layers of cable: 35%

A radial type drum is one where spiral layers of cable are accommodated between closely spaced flanges; if fitted with solid flanges the ratings given above should be reduced and the drum is described as non-ventilated. If the flanges have suitable apertures the drum is described as ventilated.

A ventilated cylindrical cable drum is one where layers of cable are accommodated between widely spaced flanges and the drum and end flanges have suitable ventilating apertures.

3. Where cable may be covered over or coiled up whilst on load, or the air movement over the cable restricted, the current rating should be reduced.

It is not possible to specify the amount of reduction but the table of rating factors for reeling drums can be used as a guide.

Conductor cross-sectional area	Single-phase AC or DC	Three-phase AC	Single-phase AC or DC
	1 two-core cable with or without protective conductor	1 three-core, four-core or five-core cable	2 single-core cables, touching
1	2	3	4
mm ²	(A)	(A)	(A)
4	30	26	-
6	39	34	-
10	51	47	-
16	73	63	-
25	97	83	-
35	-	102	140
50	-	124	175
70	-	158	216
95	-	192	258
120	-	222	302
150	-	255	347
185	-	291	394
240	-	343	471
300	-	394	541
400	-	-	644
500	-	-	738
630	-	-	861

TABLE 4F1B

VOLTAGE DROP (per ampere per metre)

Conductor operating temperature: 60°C

60°C thermosetting insulated flexible cables with sheath, non-armoured (COPPER CONDUCTORS)

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Conductor cross-sectional area	Two-core cable DC	Two-core cable, single-phase AC		1 three-core, four-core or five-core cable, three-phase AC		2 single-core cables, touching					
						DC		Single-phase AC*			
1	2	3		4		5		6			
(mm ²)	(mV/A/m)	(mV/A/m)		(mV/A/m)		(mV/A/m)		(mV/A/m)			
4	12	12		10		-		-			
6	7.8	7.8		6.7		-		-			
10	4.6	4.6		4.0		-		-			
16	2.9	2.9		2.5		-		-			
		R	X	Z	R	X	Z		R	X	Z
25	1.80	1.80	0.175	1.85	1.55	0.150	1.55	-	-	-	-
35	-	-	-	-	1.10	0.150	1.15	1.31	1.31	0.21	1.32
50	-	-	-	-	0.83	0.145	0.84	0.91	0.91	0.21	0.93
70	-	-	-	-	0.57	0.140	0.58	0.64	0.64	0.20	0.67
95	-	-	-	-	0.42	0.135	0.44	0.49	0.49	0.195	0.53
120	-	-	-	-	0.33	0.135	0.36	0.38	0.38	0.190	0.43
150	-	-	-	-	0.27	0.130	0.30	0.31	0.31	0.190	0.36
185	-	-	-	-	0.22	0.130	0.26	0.25	0.25	0.190	0.32
240	-	-	-	-	0.170	0.130	0.21	0.190	0.195	0.185	0.27
300	-	-	-	-	0.135	0.125	0.185	0.150	0.155	0.180	0.24
400	-	-	-	-	-	-	-	0.115	0.120	0.175	0.21
500	-	-	-	-	-	-	-	0.090	0.099	0.170	0.20
630	-	-	-	-	-	-	-	0.068	0.079	0.170	0.185

Note: *A larger voltage drop will result if the cables are spaced.