

TABLE 4H1A 60°C rubber-insulated flexible cables, non armoured (Copper Conductors).BS6007, BS7919

CURRENT-CARRYING CAPACITY (amperes):

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

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 3 below and for cables which may be covered, NOTE 4 below.

2. Where the conductor is to be protected by a semi-enclosed fuse to BS3036, see item 6.2 of the preface to this appendix in 16th edition regs.

3. Flexible cables wound on reeling drums

The current ratings of cables on reeling drums are reduced by the following factors.

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

A radial drum is one where the 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 and if the flanges have suitable apertures 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.

4. Where cable may be covered over or coiled up whilst on load, or the air movement over the cable is restricted, the current ratings 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 a.c. or d.c.	Three-phase a.c.	Single-phase a.c. or d.c.
	1 two-core cable with or without protective conductor	1 three-core, four-core or five core cable	2 single-core cables
(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

VOLTAGE DROP (per ampere per metre)

TABLE 4H1B

Conductor operating temperature:60°C

Conductor cross-sectional area	Two-core cable, d.c.	Two-core cable, single-phase a.c.			1 three-core, four-core or five-core cable, three-phase a.c.			2 single-core cables, touching				
								d.c.	Single-phase a.c.*			
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	1.32
50	-	-	-	-	0.83	0.145	0.84	0.91	0.91	0.21	0.93	0.93
70	-	-	-	-	0.57	0.140	0.58	0.64	0.34	0.20	0.67	0.67
95	-	-	-	-	0.42	0.135	0.44	0.49	0.49	0.195	0.53	0.53
120	-	-	-	-	0.33	0.135	0.36	0.38	0.38	0.190	0.43	0.43
150	-	-	-	-	0.27	0.130	0.30	0.31	0.31	0.190	0.36	0.36
185	-	-	-	-	0.22	0.130	0.26	0.25	0.25	0.190	0.32	0.32
240	-	-	-	-	0.170	0.130	0.21	0.190	0.195	0.185	0.27	0.27
300	-	-	-	-	0.135	0.125	0.185	0.150	0.155	0.180	0.24	0.24
400	-	-	-	-	-	-	-	0.115	0.120	0.175	0.21	0.21
500	-	-	-	-	-	-	-	0.090	0.099	0.170	0.20	0.20
630	-	-	-	-	-	-	-	0.068	0.079	0.170	0.185	0.185

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

Tables 4H1A & 4H1B are extracted from IEE Regs, 16th Edition