

## **TABLE 4D5**

70°C thermoplastic insulated and sheathed flat cable with protective conductor (COPPER CONDUCTORS)

Reproduced from *BS7671:2018*Wiring Regulations

## CURRENT-CARRYING CAPACITY (amperes) and VOLTAGE DROP (per ampere per metre):

Cross-sectional area   Cabove a plasterboard ceiling covered by thermal insulation not exceeding 100mm in thickness)   Cabove a plasterboard ceiling covered by thermal insulation not exceeding 100mm in thickness)   Cabove a plasterboard ceiling covered by thermal insulation not exceeding 100mm in thickness)   Cabove a plasterboard ceiling covered by thermal insulation not exceeding 100mm in thickness)   Cabove a plasterboard ceiling covered by thermal insulation exceeding 100mm in thickness)   Cabove a plasterboard ceiling covered by thermal insulation with cable touching the inner wall surface)   Cabove a plasterboard ceiling covered by thermal insulation with cable touching the inner wall surface)   Cabove a plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface)   Cabove a plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface)   Cabove a plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface)   Cabove a plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface)   Cabove a plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface)   Cabove a plasterboard (ceiling covered by thermal insulation with cable not touching the inner wall surface)   Cabove a plasterboard (ceiling covered by thermal insulation with cable not touching the inner wall surface)   Cabove a plasterboard (ceiling covered by thermal insulation with cable not touching the inner wall surface)   Cabove a plasterboard (ceiling covered by thermal insulation with cable not touching the inner wall surface)   Cabove a plasterboard (ceiling covered by thermal insulation with cable not touching the inner wall surface)   Cabove a plasterboard (ceiling covered by thermal insulation with cable not touching the inner wall surface)   Cabove a plasterboard (ceiling covered by thermal insulation with cable not touching the inner wall surface)   Cabove			• •						
Sectional area   Plasterboard ceiling covered by thermal insulation not exceeding 100mm in thickness)   Plasterboard ceiling covered by thermal insulation not exceeding 100mm in thickness)   Plasterboard ceiling covered by thermal insulation exceeding 100mm in thickness   Plasterboard ceiling covered by thermal insulation exceeding 100mm in thickness   Plasterboard ceiling covered by thermal insulation exceeding 100mm in thickness   Plasterboard ceiling covered by thermal insulation exceeding 100mm in thickness   Plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface   Plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface   Plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface   Plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface   Plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface   Plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface   Plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface   Plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface   Plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface   Plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface   Plasterboard ceiling covered by thermal insulation with cable not touching the inner wall surface   Plasterboard ceiling covered by the inner wall surface   Plasterboard ceiling couching the inner wall surface   Plasterboard ceiling couching the inner wall surface   Plasterboard ceiling couching	Conductor	Method 100#	Method 101 #	Method 102#	Method 103#	Reference	Reference	Reference	Voltage
Ceiling covered by thermal insulation not exceeding 100mm in thickness)   Ceiling covered by thermal insulation not exceeding 100mm in thickness)   Ceiling covered by thermal insulation exceeding 100mm in thickness)   Ceiling covered by thermal insulation exceeding 100mm in thickness)   Ceiling covered by thermal insulation exceeding 100mm in thickness)   Ceiling covered by thermal insulation exceeding 100mm in thickness)   Conduit in an insulated wall)   Conduit in an in	cross-	(above a	(above a	(in a stud wall with	(in a stud wall with	Method A*	Method B*	Method C*	drop
thermal insulation not exceeding 100mm in thickness)  1 2 3 4 5 6 7 8 8 8 (mm2) (A) (A) (A) (A) (A) (A) (A) (A) (A) (A	sectional	plasterboard	plasterboard			(enclosed in	(enclosed in	(clipped direct)	(per ampere
not exceeding 100mm in thickness)         exceeding 100mm in thickness)         surface)         wall surface)         trunking etc           1         2         3         4         5         6         7         8         8           (mm2)         (A)         (A)         (A)         (A)         (A)         (A)         (A)         (A)         (A)         (MV/A)           1         13         10.5         13         8         11.5         13         16         44           1.5         16         13         16         10         14.5         16.5         20         29           2.5         21         17         21         13.5         20         23         27         18           4         27         22         27         18.5         26         30         37         11           6         34         27         35         23.5         32         38         47         7.3           10         45         36         47         32         44         52         64         4.4	area	,	,						per metre)
100mm in thickness)     in thickness)       1     2     3     4     5     6     7     8     8       (mm2)     (A)     (M)						insulated wall)			ĺ .
thickness)     4     5     6     7     8     8       (mm2)     (A)     (MV/A)       1     13     10.5     13     8     11.5     13     16     44       1.5     16     13     16     10     14.5     16.5     20     29       2.5     21     17     21     13.5     20     23     27     18       4     27     22     27     18.5     26     30     37     11       6     34     27     35     23.5     32     38     47     7.3       10     45     36     47     32     44     52     64     4.4				surface)	wall surface)		trunking etc		
1     2     3     4     5     6     7     8     8       (mm2)     (A)     (M)     (M) <td></td> <td></td> <td>in thickness)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>			in thickness)						
(mm2)         (A)         (M)         (M) </td <td></td> <td>thickness)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		thickness)							
1     13     10.5     13     8     11.5     13     16     44       1.5     16     13     16     10     14.5     16.5     20     29       2.5     21     17     21     13.5     20     23     27     18       4     27     22     27     18.5     26     30     37     11       6     34     27     35     23.5     32     38     47     7.3       10     45     36     47     32     44     52     64     4.4	1	2	3	4	5	6	7	8	8
1.5     16     13     16     10     14.5     16.5     20     29       2.5     21     17     21     13.5     20     23     27     18       4     27     22     27     18.5     26     30     37     11       6     34     27     35     23.5     32     38     47     7.3       10     45     36     47     32     44     52     64     4.4	(mm2)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(mV/A/m)
2.5         21         17         21         13.5         20         23         27         18           4         27         22         27         18.5         26         30         37         11           6         34         27         35         23.5         32         38         47         7.3           10         45         36         47         32         44         52         64         4.4	1	13	10.5	13	8	11.5	13	16	44
4     27     22     27     18.5     26     30     37     11       6     34     27     35     23.5     32     38     47     7.3       10     45     36     47     32     44     52     64     4.4	1.5	16	13	16	10	14.5	16.5	20	29
6     34     27     35     23.5     32     38     47     7.3       10     45     36     47     32     44     52     64     4.4	2.5	21	17	21	13.5	20	23	27	18
10   45   36   47   32   44   52   64   4.4	4	27	22	27	18.5	26	30	37	11
	6	34	27	35	23.5	32	38	47	7.3
16 57 46 63 425 57 69 85 28	10	45	36	47	32	44	52	64	4.4
10 37 40 03 42.5 37 03 03 2.6	16	57	46	63	42.5	57	69	85	2.8

Ambient temperature: 30°C

Conductor operating temperature: 70°C

Wherever practicable, a cable is to be fixed in a position such that it will not be covered with thermal insulation.

Regulation 523.9, BS 5803-5: Appendix C: Avoidance of overheating of electric cables.

Building Regulations Approved Document B and Thermal insulation: avoiding risks, BR 262, BRE, 2001 refer.

A\* - For full installation method refer to Table 4A2 Installation Method 2 but for flat twin and earth cable

C\* - For full installation method refer to Table 4A2 Installation Method 20 but for flat twin and earth cable

<sup>100# -</sup> For full installation method refer to Table 4A2 Installation Method 100

<sup>101# -</sup> For full installation method refer to Table 4A2 Installation Method 101

<sup>102# -</sup> For full installation method refer to Table 4A2 Installation Method 102

<sup>103# -</sup> For full installation method refer to Table 4A2 Installation Method 103