

# Current ratings (general) for flexible cables, for non-existing cable types in the previous tables

The indicated values stated in the following table considered as guiding values in an abbreviate form, extracted from DIN VDE 0298 part 4 and DIN VDE 0100 part 430. In critical situation the DIN VDE recommendations should be considered.

For industrial machines the DIN VDE 0113, part 1 (EN 60204 part 1/IEC 204-1) is valid; for telephone and information systems DIN VDE 0891 part 1; for telephone aerial cables DIN VDE 0891 part 8 and for flat cables DIN VDE 0891 part 10. General terms and recommended values are contained in DIN VDE 0298 part 2 and part 4.

Power rating values for 1,5–120 mm<sup>2</sup> (group 3 up to 35 mm<sup>2</sup>) according to DIN VDE 0100 part 430 at an ambient temperature up to 30°C

| Nominal cross-section<br>mm <sup>2</sup> | group 1      |                 | group 2      |                 | group 3      |                 |
|--|--------------|-----------------|--------------|-----------------|--------------|-----------------|
|  | power rating | protective fuse | power rating | protective fuse | power rating | protective fuse |
|  | A            | A               | A            | A               | A            | A               |
| 0,05                                     | 1            | –               | 1            | –               | 2            | –               |
| 0,14                                     | 2            | –               | 2            | –               | 3,5          | –               |
| 0,25                                     | 4            | –               | 4,5          | –               | 6            | –               |
| 0,34                                     | 6            | –               | 6            | –               | 9            | –               |
| 0,5                                      | 9            | –               | 9            | –               | 12           | –               |
| 0,75                                     | 12           | –               | 12           | 10              | 15           | 10              |
| 1  | 15           | 10              | 15           | 10              | 19           | 16              |
| 1,5                                      | 18           | 16              | 18           | 16              | 24           | 20              |
| 2,5                                      | 26           | 25              | 26           | 25              | 32           | 25              |
| 4  | 34           | 25              | 34           | 25              | 42           | 35              |
| 6  | 44           | 35              | 44           | 35              | 54           | 50              |
| 10                                       | 61           | 50              | 61           | 50              | 73           | 63              |
| 16                                       | 82           | 80              | 82           | 63              | 98           | 80              |
| 25                                       | 108          | 100             | 108          | 80              | 129          | 100             |
| 35                                       | 135          | 125             | 135          | 100             | 158          | 125             |
| 50                                       | 168          | 160             | 168          | 125             | 198          | 160             |
| 70                                       | 207          | 200             | 207          | 160             | 245          | 200             |
| 95                                       | 250          | 250             | 250          | 200             | 292          | 250             |
| 120                                      | 292          | 250             | 292          | 250             | 344          | 315             |
| 150                                      | 335          | 315             | 335          | 315             | 391          | 355             |
| 185                                      | 382          | 355             | 382          | 355             | 448          | 400             |
| 240                                      | –            | –               | 453          | 425             | 528          | 500             |
| 300                                      | –            | –               | 523          | 500             | 608          | 600             |
| 400                                      | –            | –               | –            | –               | 726          | 630             |

group 1 One or more single core cables and insulated wires laid in duct i.e. PVC-sheathed single cores H 03V./H 05V./H 07V. according to VDE 0281.

group 2 Multi core cables, i.e. light PVC-sheathed cables, flexible cables, metal-clad wiring cables in open or ventilated conduits.

group 3 Single core cables, laid open in air with a spacing at least equal to cable diameter, such as single core wirings for switch- and distribution cabinets and rail line distributors.

**Conversion factors\*)** for deviating ambient temperatures:

## Ambient temperature over 30°C

| Ambient temperature<br>°C | Conversion factors, applied to the above current ratings table                                 |   |
|---------------------------|--|---|
|                           | Rubber insulation<br>Permissible operating temp. at conductor<br>Conversion factors up to 60°C | PVC insulation<br>Permissible operating temp. at conductor<br>Conversion factors up to 70°C |
| over 30 to 35             | 0,91   | 0,94  |
| over 35 to 40             | 0,82   | 0,87  |
| over 40 to 45             | 0,71   | 0,79  |
| over 45 to 50             | 0,58   | 0,71  |
| over 50 to 55             | 0,41   | 0,61  |
| over 55 to 60             | –  | 0,50  |
| over 60 to 65             | –  | 0,35  |

## Ambient temperature over 50°C (heat-resistance)

| Conversion factors, applied to the above current ratings table                  |      |  |      |
|---|------|--|------|
| Permissible operating temperature at conductor<br>Conversion factors up to 90°C |      | Permissible operating temperature at conductor<br>Conversion factors up to 110°C |      |
| over 50 to 55   | 0,94 | over 50 to 55  | 1,00 |
| over 55 to 60   | 0,87 | over 55 to 60  | 1,00 |
| over 60 to 65   | 0,79 | over 60 to 65  | 1,00 |
| over 65 to 70   | 0,71 | over 65 to 70  | 1,00 |
| over 70 to 75   | 0,61 | over 70 to 75  | 1,00 |
| over 75 to 80   | 0,50 | over 75 to 80  | 1,00 |
| over 80 to 85   | 0,35 | over 80 to 85  | 0,91 |
| over 85 to 90   | –    | over 85 to 90  | 0,82 |
|   |      | over 90 to 95  | 0,71 |
|   |      | over 95 to 100   | 0,58 |
|   |      | over 100 to 105  | 0,41 |
|   |      | over 105 to 110  | –    |

\* Further informations see page T 32.