

POWERFLEX® RV-K 1,8/3 kV

Industrial flexible cable for power transmission.

ACCORDING TO: IEC 60502-1



Eca

APPLICATION

Powerflex® RV-K 1,8/3 kV cable is suitable for all types of low voltage industrial-type connections, in urban grids, building installations, etc. Its high flexibility makes the installation process substantially easier and, as a result, is particularly suitable for use in difficult layouts. It can be buried or installed in a tube as well as outdoors without requiring additional protection. This cable can withstand damp conditions including total submersion in water (AD8).

- Industrial use.
- Urban grids.

CONSTRUCTION

Conductor

Electrolytic annealed copper, class 5 (flexible) according to EN 60228 and IEC 60228.

Insulation

Cross-linked polyethylene type XLPE according to IEC 60502-1. The standard identification of insulated conductors according to HD 308 is the following:


- 1 x Natural
- 3 x Brown + Black + Grey
- 3 x + 1 x Brown + Black + Grey + Blue (reduced cross-section)


Outer sheath


Flexible PVC type ST2 according to IEC 60502-1. Black colour.


CHARACTERISTICS


 **Electrical performance**
Low voltage: 1,8/3 kV.

 **Thermal performance**
Maximum conductor temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).
Minimum installation and handling temperature: 0°C (on cable surface).

 **Fire performance**
Flame non-propagation according to EN 60332-1 / IEC 60332-1.
Reaction to fire CPR: Eca according to EN 50575.
Reduced halogen emission. Chlorine < 15%.


 **Mechanical performance**
Minimum bending radius: 5x cable diameter.
Impact resistance: AG2 Medium severity.

 **Environmental performance**
Chemical & Oil resistance: Good.
UV Resistant according to UNE 211605.
Water resistance: AD8 Submersion.

 **Installation conditions**
Open Air.
Buried.
In conduit.
In tray.

STANDARDS / COMPLIANCE

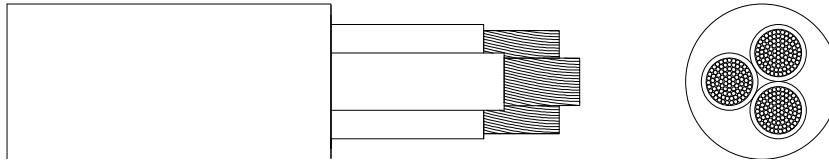
 **According to**
IEC 60502-1

 **Standards and approvals**
RoHS / CE

 **CPR (Construction Products Regulation)**
Eca



DIMENSIONS & ADMISSIBLE INTENSITIES



| Cross-section (mm ²) | Diameter (mm) | Weight (kg/km) | Open air (A) ¹ | Buried (A) ² | Voltage drop (V/A · km) ³ |
|----------------------------------|---------------|----------------|---------------------------|-------------------------|--------------------------------------|
| 1 x 10 | 10,4 | 175 | 93 | 77 | 4,87 |
| 1 x 16 | 11,4 | 235 | 124 | 100 | 3,08 |
| 1 x 25 | 12,7 | 320 | 161 | 129 | 1,98 |
| 1 x 35 | 13,6 | 415 | 200 | 155 | 1,41 |
| 1 x 50 | 15,2 | 555 | 242 | 183 | 0,984 |
| 1 x 70 | 17,0 | 750 | 310 | 225 | 0,693 |
| 1 x 95 | 18,8 | 970 | 377 | 270 | 0,525 |
| 1 x 120 | 20,5 | 1.205 | 437 | 306 | 0,410 |
| 1 x 150 | 22,0 | 1.475 | 504 | 343 | 0,328 |
| 1 x 185 | 24,0 | 1.760 | 575 | 387 | 0,270 |
| 1 x 240 | 26,4 | 2.270 | 679 | 448 | 0,204 |
| 1 x 300 | 28,9 | 2.855 | 783 | 502 | 0,163 |
| 1 x 400 | 33,6 | 3.760 | 940 | 592 | 0,123 |
| 1 x 500 | 37,3 | 4.810 | 1.083 | 670 | 0,097 |
| 1 x 630 | 43,3 | 6.330 | 1.254 | 762 | 0,073 |
| 1 x 800 | 51,5 | 8.285 | 1.454 | 870 | 0,056 |
| 3 x 35 * | 28,3 | 1.535 | 185 | 155 | 1,41 |
| 3 x 50 * | 32,0 | 2.040 | 225 | 183 | 0,984 |
| 3 x 70 * | 36,2 | 2.765 | 289 | 225 | 0,693 |
| 3 x 95 * | 39,7 | 3.510 | 352 | 270 | 0,525 |
| 3 x 120 * | 42,7 | 4.230 | 410 | 306 | 0,410 |
| 3 x 95 + 1 x 50 * | 42,6 | 4.005 | 352 | 270 | 0,525 |
| 3 x 120 + 1 x 70 * | 44,6 | 4.950 | 410 | 306 | 0,410 |
| 3 x 150 + 1 x 70 * | 48,5 | 5.915 | 473 | 343 | 0,328 |
| 3 x 185 + 1 x 95 * | 56,2 | 7.255 | 542 | 387 | 0,270 |

*Cable based on IEC 60502-1

¹Reference method F for single-core and method E for multicore cables according to IEC 60364-5-52 in open air at 30°C ambient temperature.

²Reference method D2 according to IEC 60364-5-52. Directly buried at 0,7 m depth with soil thermal resistivity of 2,5 K·m/W and 20°C of ground temperature.

³At maximum conductor temperature and cosφ=1.

In all cases are supposed a single-phase circuit.

SHORT-CIRCUIT CURRENT-CARRYING CAPACITIES

| | | | | | | | | | |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Time (s) | 0,1 | 0,2 | 0,3 | 0,5 | 1 | 1,5 | 2 | 2,5 | 3 |
| A/mm² | 452 | 320 | 261 | 202 | 143 | 117 | 101 | 90 | 83 |

CORRECTION FACTORS FOR AIR TEMPERATURE

| | | | | | | | | | |
|--------------------|------|------|----|------|------|------|------|------|------|
| Air T. (°C) | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| Factor | 1,08 | 1,04 | 1 | 0,96 | 0,91 | 0,87 | 0,82 | 0,76 | 0,71 |

CORRECTION FACTORS FOR GROUND TEMPERATURE

| | | | | | | | | | |
|-----------------------|------|------|----|------|------|------|------|------|------|
| Ground T. (°C) | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| Factor | 1,07 | 1,04 | 1 | 0,96 | 0,93 | 0,89 | 0,85 | 0,80 | 0,76 |

CORRECTION FACTORS FOR SOIL THERMAL RESISTIVITY

| | | | | | |
|--------------------------------|-----------|---------------|--------------|-----|----------|
| Moisture degree of soil | Very damp | Slightly damp | Slightly dry | Dry | Very dry |
| Thermal Resist. (K·m/W) | 1 | 1,5 | 2 | 2,5 | 3 |
| Factor | 1,50 | 1,28 | 1,12 | 1 | 0,90 |

Other correction factors (for grouping cables, for harmonic currents), that are not in this specification, can be applied. Further information can be found in IEC 60364-5-52.