POWERFLEX® RV-K

Industrial flexible cable for power transmission.

ACCORDING TO: IEC 60502-1 / UNE 21123-2

Eca

APPLICATION

Powerflex® RV-K 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).

CONSTRUCTION

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

Insulation
Cross-linked polyethylene, type DIX-3 according to HD 603-1 and type XLPE according to IEC 60502-1.
The standard identification of insulated conductors according to HD 308 is the following:

1 x	Natural
2 x	Blue + Brown
3 G	Blue + Brown + Green/Yellow
3 x	Brown + Black + Grey
3 x + 1 x	Brown + Black + Grey + Blue (reduced cross-section)
4 G	Brown + Black + Grey + Green/Yellow
4 x	Brown + Black + Grey + Blue
5 G	Brown + Black + Grey + Blue + Green/Yellow
6 or more	Black numbered + Green/Yellow

Outer sheath
Flexible PVC, type DMV-18 according to HD 603-1 and type ST2 according to IEC 60502-1.
Black colour.
Other colors are available on request.

CHARACTERISTICS

Electrical performance
Low voltage: 0,6/1 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: E_{ca} according to EN 50575.
Reduced halogen emission. Chlorine < 15%.

Mechanical performance
Minimum bending radius during installation: 5x cable diameter (diameter cable ≤ 50 mm).
Minimum bending radius during installation: 6x cable diameter (diameter cable > 50 mm).
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 / UNE 21123-2

Standards and approvals
AENOR / BUREAU VERITAS /RETIE / KEMA-KEUR /RoHS / CE

CPR (Construction Products Regulation)
E_{ca}

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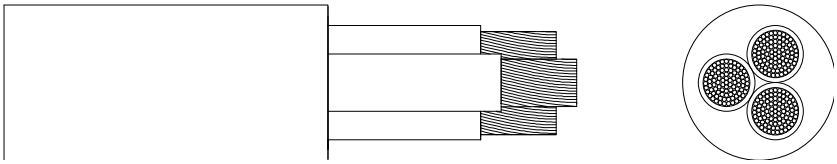
DIMENSIONS & ADMISSIBLE INTENSITIES



Cross-section (mm^2)	Diameter (mm)	Weight (kg/km)	Open air (A) [1]	Buried (A) [2]	Voltage drop (V/A · km) [3]
1 x 1,5	5,7	45	28	27	33,9
1 x 2,5	6,2	55	39	35	20,3
1 x 4	6,7	70	53	46	12,6
1 x 6	7,3	90	68	58	8,41
1 x 10	8,2	135	93	77	4,87
1 x 16	8,8	185	124	100	3,08
1 x 25	10,1	270	161	129	1,98
1 x 35	11,2	360	200	155	1,41
1 x 50	13,0	500	242	183	0,984
1 x 70	14,8	690	310	225	0,693
1 x 95	16,8	895	377	270	0,525
1 x 120	18,7	1.130	437	306	0,410
1 x 150	20,9	1.405	504	343	0,328
1 x 185	23,0	1.650	575	387	0,270
1 x 240	25,7	2.210	679	448	0,204
1 x 300	28,5	2.745	783	502	0,163
1 x 400	32,6	3.670	940	592	0,123
1 x 500	36,9	4.625	1.083	670	0,097
1 x 630	43,1	6.270	1.254	762	0,073
1 x 800	48,0	8.155	1.454	870	0,056
1 x 1000	59,9	10.410	1.670	988	0,044
2 x 1,5	8,1	90	26	27	33,9
2 x 2,5	9,1	120	36	35	20,3
2 x 4	10,2	165	49	46	12,6
2 x 6	11,2	215	63	58	8,41
2 x 10	13,1	320	86	77	4,87
2 x 16	14,9	450	115	100	3,08
2 x 25	19,5	750	149	129	1,98
2 x 35	21,6	985	185	155	1,41
2 x 50	25,3	1.370	225	183	0,984
2 x 70	29,4	1.890	289	225	0,693
2 x 95	33,1	2.440	352	270	0,525
3 G 1,5	8,9	110	26	27	33,9
3 G 2,5	9,8	145	36	35	20,3
3 G 4	11,0	200	49	46	12,6
3 G 6	12,1	265	63	58	8,41
3 G 10	14,3	405	86	77	4,87
3 x 16	16,4	595	115	100	3,08
3 x 25	20,3	945	149	129	1,98
3 x 35	23,0	1.270	185	155	1,41
3 x 50	26,7	1.760	225	183	0,984
3 x 70	30,0	2.415	289	225	0,693
3 x 95	34,7	3.155	352	270	0,525

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Cross-section (mm^2)	Diameter (mm)	Weight (kg/km)	Open air (A) [1]	Buried (A) [2]	Voltage drop (V/A · km) [3]
3 x 120	38,7	3.995	410	306	0,41
3 x 150	44,7	5.130	473	343	0,328
3 x 185	48,9	6.115	542	387	0,270
3 x 240	54,1	7.875	641	448	0,204
3 x 300	60,7	9.840	741	502	0,163
3 x 400	72,1	13.435	886	592	0,123
3x16+1x10	17,6	700	115	100	3,08
3x25+1x16	21,3	1.095	149	129	1,98
3x35+1x16	23,7	1.405	185	155	1,41
3x50+1x25	27,9	1.980	225	183	0,984
3x70+1x35	32,8	2.770	289	225	0,693
3x95+1x50	36,8	3.610	352	270	0,525
3x120+1x70	40,3	4.605	410	306	0,410
3x150+1x70	45,6	5.640	473	343	0,328
3x185+1x95	51,0	6.915	542	387	0,270
3x240+1x120	58,3	9.000	641	448	0,204
3x1x240	55,3	6.690	597	336	0,204
4 G 1,5	9,7	130	26	27	33,9
4 G 2,5	10,7	175	36	35	20,3
4 G 4	12,0	245	49	46	12,6
4 G 6	13,4	330	63	58	8,41
4 G 10	15,7	505	86	77	4,87
4 x 16	18,2	750	115	100	3,08
4 x 25	21,9	1.170	149	129	1,98
4 x 35	24,6	1.575	185	155	1,41
4 x 50	29,4	2.210	225	183	0,984
4 x 70	33,9	3.080	289	225	0,693
4 x 95	38,6	4.000	352	270	0,525
4 x 120	43,9	5.115	410	306	0,410
4 x 150	49,8	6.575	473	343	0,328
4 x 185	54,3	7.785	542	387	0,270
4 x 240	64.5	10.695	641	448	0,204
4 x 300	67,6	12.550	741	502	0,163
5 G 1,5	10,4	155	26	27	33,9
5 G 2,5	11,6	215	36	35	20,3
5 G 4	13,2	300	49	46	12,6
5 G 6	14,7	405	63	58	8,41
5 G 10	17,1	625	86	77	4,87
5 G 16	20,2	935	115	100	3,08
5 G 25	24,5	1.445	149	129	1,98
5 G 35	27,7	1.955	185	155	1,41
5 G 50	33,0	2.730	225	183	0,984
5 G 70	38,2	3.805	289	225	0,693
5 G 95	43,1	4.950	352	270	0,525
5 G 120	48,7	6.285	410	306	0,410
5 G 150	55,6	8.145	473	343	0,328
5 G 185	60,6	9.560	542	387	0,270
5 G 240	71,8	13.210	641	448	0,204
7 G 1,5	11,2	190	26	27	33,9
7 G 2,5	12,4	265	36	35	20,3
10 G 1,5	13,2	260	26	27	33,9

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Cross-section (mm^2)	Diameter (mm)	Weight (kg/km)	Open air (A) [1]	Buried (A) [2]	Voltage drop (V/A · km) [3]
10 G 2,5	16,3	380	36	35	20,3
12 G 1,5	14,2	295	26	27	33,9
12 G 2,5	15,7	420	36	35	20,3
14 G 1,5	14,9	315	26	27	33,9
24 G 1,5	20,4	550	26	27	33,9

[1] Reference 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.
[2] Reference 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.
[3] At maximum conductor temperature and $\cos\varphi=1$.
In all cases are supposed a single-phase circuit.

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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.