

POWERHARD® M RVhMVh-K

Galvanized steel wire armour cable.

ACCORDING TO: IEC 60502-1



Eca

APPLICATION

POWERHARD® M RVhMVh-K cable is highly recommended for petrol stations, petrochemical plants, etc. It can also be used in production plants, agricultural facilities, street lighting and installations where the cable is subject to high mechanical aggression.

This cable is also available in hydrocarbon resistant version.

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 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

Inner covering

PVC.

Armour

Galvanized steel wire armour.

Aluminium armour is used in single-core cables to avoid parasite currents that may overheat the cable.

Outer sheath

PVC type ST2 according to IEC 60502-1.

Black colour.

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: Eca according to EN 50575.

Reduced halogen emission. Chlorine < 15%.

Mechanical performance

Minimum bending radius during installation: 10x cable diameter.

Impact resistance: AG4 High severity.

Rodent proof.

Environmental performance

Chemical & Oil resistance: Good.

UV Resistant according to UNE 211605.

Water resistance: AD7 immersion.

Installation conditions

Open Air.

Buried.

In conduit.

STANDARDS / COMPLIANCE



According to
IEC 60502-1



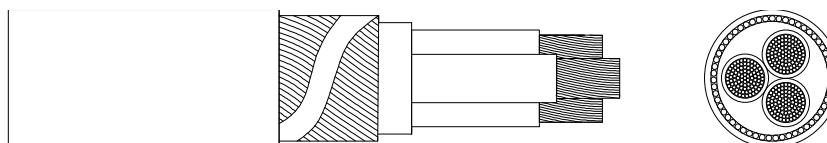
Standards and approvals
BUREAU VERITAS / RoHS / CE



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 16	14,8	375	124	100	3,08
1 x 25	16,5	495	161	129	1,98
1 x 35	17,4	600	200	155	1,41
1 x 50	19,2	770	242	183	0,984
1 x 70	21,0	985	310	225	0,693
1 x 95	22,7	1.220	377	270	0,525
1 x 120	24,5	1.480	437	306	0,410
1 x 150	26,2	1.775	504	343	0,328
1 x 185	28,5	2.110	575	387	0,270
1 x 240	31,6	2.690	679	448	0,204
1 x 300	34,3	3.330	783	502	0,163
1 x 400	39,2	4.320	940	563	0,123
1 x 500	45,2	5.710	1.083	637	0,0979
1 x 630	51,4	7.385	1.254	719	0,0731
2 x 1,5	11,3	250	26	27	33,9
2 x 2,5	12,3	300	36	35	20,3
2 x 4	13,4	365	49	46	12,6
2 x 6	14,4	430	63	58	8,41
2 x 10	17,0	660	86	77	4,87
2 x 16	18,7	770	115	100	3,08
2 x 25	23,6	1.350	149	129	1,98
2 x 35	25,7	1.650	185	155	1,41
2 x 50	29,6	2.165	225	183	0,984
2 x 70	33,5	2.790	289	225	0,639
3 x 1,5	12,0	280	26	27	33,9
3 x 2,5	12,9	335	36	35	20,3
3 x 4	14,1	410	49	46	12,6
3 x 6	15,3	500	63	58	8,41
3 x 10	17,8	695	86	77	4,87
3 x 16	20,2	1.080	115	100	3,08
3 x 25	24,4	1.565	149	129	1,98
3 x 35	27,4	1.970	185	155	1,41
3 x 50	31,2	2.595	225	183	0,984
3 x 70	36,6	4.020	289	225	0,639
3 x 95	41,8	5.005	352	270	0,525
3 x 120	45,1	5.980	410	306	0,410
3 x 150	50,3	7.215	473	343	0,328
3 x 185	55,1	8.510	542	387	0,270
3 x 240	61,5	10.640	641	448	0,204
3 x 16 + 1 x 10	22,9	1.345	115	100	3,08
3 x 25 + 1 x 16	25,5	1.750	149	129	1,98
3 x 35 + 1 x 16	28,0	2.165	185	155	1,41
3 x 50 + 1 x 25	32,4	2.885	225	183	0,984
3 x 70 + 1 x 35	39,4	4.560	289	225	0,639
3 x 95 + 1 x 50	43,2	5.575	352	270	0,525
4 x 1,5	12,8	315	26	27	33,9

Cross-section (mm ²)	Diameter (mm)	Weight (kg/km)	Open air (A) ¹	Buried (A) ²	Voltage drop (V/A · km) ³
4 x 2,5	13,6	375	36	35	20,3
4 x 4	15,3	480	49	46	12,6
4 x 6	16,6	590	63	58	8,41
4 x 10	19,1	815	86	77	4,87
4 x 16	23,8	1.415	115	100	3,08
4 x 25	26,7	1.885	149	129	1,98
4 x 35	29,0	2.340	185	155	1,41
4 x 50	34,1	3.155	225	183	0,984
4 x 70	40,9	4.930	289	225	0,639
4 x 95	45,0	6.020	352	270	0,525
4 x 120	50,4	7.365	410	306	0,410
4 x 150	55,3	8.895	473	343	0,328
4 x 185	60,3	10.460	542	387	0,270
4 x 240	68,0	13.285	641	448	0,204
5 G 1,5	13,5	350	26	27	33,9
5 G 2,5	14,6	435	36	35	20,3
5 G 4	16,5	555	49	46	12,6
5 G 6	17,9	680	63	58	8,41
5 G 10	22,8	1.265	86	77	4,87
5 G 16	25,7	1.665	115	100	3,08
5 G 25	28,9	2.215	149	129	1,98
5 G 35	32,0	2.810	185	155	1,41
5 G 50	37,7	3.790	225	183	0,984
5 G 70	44,7	5.830	289	225	0,639
6 G 1,5	14,2	385	26	27	33,9
6 G 2,5	15,7	490	36	35	20,3
7 G 1,5	14,2	400	26	27	33,9
7 G 2,5	15,7	510	36	35	20,3
10 G 1,5	16,3	510	26	27	33,9
10 G 2,5	17,7	640	36	35	20,3
12 G 1,5	17,4	575	26	27	33,9
12 G 2,5	20,9	1.000	36	35	20,3
14 G 1,5	18,1	620	26	27	33,9
14 G 2,5	22,3	1.105	36	35	20,3
16 G 1,5	21,2	965	26	27	33,9
16 G 2,5	23,2	1.205	36	35	20,3
18 G 2,5	24,1	1.285	36	35	20,3
19 G 1,5	21,9	1.035	26	27	33,9
19 G 2,5	24,1	1.305	36	35	20,3
24 G 1,5	23,8	1.145	26	27	33,9
24 G 2,5	26,1	1.500	36	35	20,3
27 G 1,5	25,0	1.295	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 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/mm ²	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.