

The universal cable for power transmission with improved fire proof properties.

ACCORDING TO: HD 604-4-D / IEC 60502-1



C_{ca}

APPLICATION

Powerflex® Plus YMvKf cable is suitable for all types of industrial low voltage connections, urban grids, building installations, etc. This cable is fire retardant and is recommended for use in public places and hazardous industries. Its flexibility makes installation substantially easier, making it highly suitable for difficult layouts. This cable can also be used in buried installations or in tubes or outdoors without requiring additional protection. This cable withstands damp conditions and even total submersion in water (AD7).

CONSTRUCTION

Conductor

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

Insulation

Cross-linked polyethylene insulation, type XLPE according to IEC 60502-1 and HD 604. The standard identification of insulated conductors, according to HD 308 is the following:

1 x	Black
2 x	Blue + Brown
3 x	Blue + Brown + Grey
4 G	Brown + Black + Grey + Green/Yellow
5 G	Brown + Black + Grey + Blue + Green/Yellow

Outer sheath

Flexible PVC/ST2 outer sheath, according to IEC 60502-1 and HD 604. Grey colour.

CHARACTERISTICS

⚡ Electrical performance

Low voltage 0,6/1kV.

🌡 Thermal performance

Maximum service temperature: 90°C.

Maximum short-circuit temperature: 250°C (max. 5 s).

Minimum service temperature: -40°C (fixed and prot. installations)

🔥 Fire performance

Flame non-propagation according to EN 60332-1 and IEC 60332-1.

Fire non-propagation according to EN 60332-3-24/IEC 60332-3-24.

Reaction to fire CPR: C_{ca}-s2,d2,a3 according to 50575.

Reduced halogen emission. Chlorine <15%.

⤵ Mechanical performance

Minimum bending radius: x5 cable diameter.

Impact resistance: AG2 Medium severity.

🌐 Environmental performance

Chemical & Oil resistance: Acceptable..

UV Resistant according to UNE 211605.

Water resistance AD7 immersion.

STANDARDS / COMPLIANCE

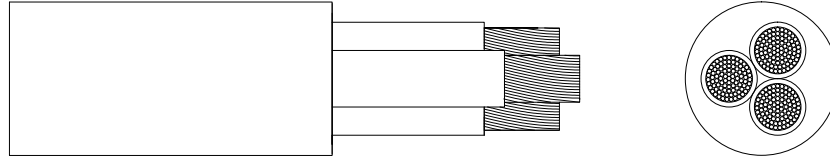
📄 **According to**
HD 604-4-D / IEC 60502-1

🌐 **Standards and approvals**
AENOR / BUREAU VERITAS / KEMA-KEUR / RoHS / CE.

🌐 **CPR (Construction Products Regulation)**
C_{ca}-s2,d2,a3.



DIMENSIONS & ADMISSIBLE INTENSITIES



Cross-section (mm ²)	Diameter (mm)	Weight (kg/km)	Open air ¹	Buried ²	Voltage drop (V/A · km) ³
1 x 10	8,2	145	93	77	4,87
1 x 16	9,2	200	124	100	3,08
1 x 25	10,9	295	161	129	1,98
1 x 35	11,8	385	200	155	1,41
1 x 50	13,6	525	242	183	0,984
1 x 70	15,4	715	310	225	0,693
1 x 95	17,5	925	377	270	0,525
1 x 120	19,1	1.160	437	306	0,410
1 x 150	21,3	1.440	504	343	0,328
1 x 185	23,4	1.735	575	387	0,270
1 x 240	26,2	2.260	679	448	0,204
1 x 300	29,1	2.860	783	502	0,163
1 x 400	33,8	3.765	940	563	0,123
1 x 500	37,5	4.805	1.083	637	0,097
1 x 630	43,7	6.340	1.254	719	0,073
2 x 10	15,4	410	86	77	4,87
2 x 16	17,1	555	115	100	3,08
2 x 25	20,6	815	149	129	1,98
2 x 35	22,9	1.070	185	155	1,41
3 G 10	16,1	495	86	77	4,87
3 x 16	18,1	690	115	100	3,08
3 x 25	21,4	1.015	149	129	1,98
3 x 35	23,8	1.340	185	155	1,41
3 x 50	27,6	1.840	225	183	0,984
3 x 70	30,3	2.460	289	225	0,693
3 x 95	35,6	3.245	352	270	0,525
3 x 120	39,8	4.105	410	306	0,410
3 x 150	43,9	5.080	473	343	0,328
3 x 185	48,6	6.160	542	387	0,270
3 x 240	54,7	8.020	641	448	0,204
3 x 16 + 1 x 10	19,1	795	115	100	3,08
3 x 25 + 1 x 16	23,9	1.165	149	129	1,98
3 x 35 + 1 x 25	25,3	1.580	185	155	1,41
3 x 50 + 1 x 25	28,8	2.060	225	183	0,984
3 x 70 + 1 x 35	32,9	2.810	289	225	0,693
3 x 95 + 1 x 50	37,1	3.675	352	270	0,525
4 G 10	17,5	660	86	77	4,87
4 G 16	19,7	850	115	100	3,08
4 G 25	23,2	1.250	149	129	1,98
4 G 35	25,4	1.655	185	155	1,41

Cross-section (mm ²)	Diameter (mm)	Weight (kg/km)	Open air ¹	Buried ²	Voltage drop (V/A · km) ³
4 G 50	30,8	2.310	225	183	0,984
4 G 70	35,4	3.175	289	225	0,693
4 G 95	39,2	4.095	352	270	0,525
4 G 120	44,4	5.215	410	306	0,410
4 G 150	48,7	6.460	473	343	0,328
4 G 185	54,2	7.860	542	387	0,270
4 G 240	61,5	10.265	641	448	0,204
4 x 35 + 1 G 25	28,2	1.940	185	155	1,41
4 x 50 + 1 G 25	32,6	2.575	225	183	0,984
4 x 70 + 1 G 35	37,6	3.545	289	225	0,693
4 x 95 + 1 G 50	42,2	4.620	352	270	0,525
5 G 10	19,0	720	86	77	4,87
5 G 16	21,6	1.030	115	100	3,08
5 G 25	25,9	1.540	149	129	1,98
5 G 35	28,3	2.035	185	155	1,41
5 G 50	34,0	2.830	225	183	0,984
5 G 70	38,6	3.880	289	225	0,693
5 G 95	44,2	5.070	352	270	0,525
5 G 120	48,7	6.395	410	306	0,410
5 G 150	53,9	7.930	473	343	0,328
5 G 185	60,5	9.660	542	387	0,270
5 G 240	68,6	12.635	641	448	0,204

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 service temperature and $\cos\phi=1$.

For all cables is 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	0,8	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.