

POWERFLEX[®] PLUS YMvKf 0,6/1 kV

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

ACCORDING TO: IEC 60502-1



Cca

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, 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	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 type ST2 according to IEC 60502-1.
Grey colour.

CHARACTERISTICS



Electrical performance

Low voltage 0,6/1kV.



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).



Fire performance

Flame non-propagation according to EN 60332-1 / IEC 60332-1.
Fire non-propagation according to EN 60332-3-24 / IEC 60332-3-24 and EN 50399.
Reaction to fire CPR: C_{ca}-s2,d2,a3 according to EN 50575.
Reduced halogen emission. Chlorine < 15%.



Mechanical performance

Minimum bending radius during installation: 5x cable diameter.
Minimum bending radius, fixed: 3x 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
IEC 60502-1



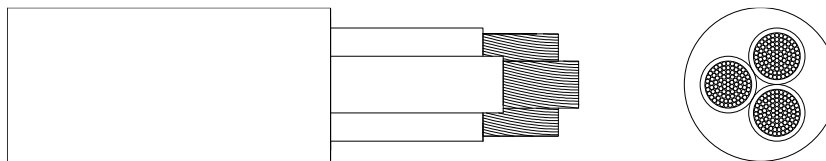
Standards and approvals
AENOR / BUREAU VERITAS / KEMA-KEUR / RoHS / CE



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



DIMENSIONS & ADMISSIBLE INTENSITIES



Cross-section (mm ²)	Diameter (mm)	Weight (kg/km)	Open air (A) ¹	Buried (A) ²	Voltage drop (V/A · km) ³
1 x 10	8,1	140	93	77	4,87
1 x 16	9,2	200	124	100	3,08
1 x 25	10,6	285	161	129	1,98
1 x 35	11,7	380	200	155	1,41
1 x 50	13,5	525	242	183	0,984
1 x 70	15,3	710	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	15,2	405	86	77	4,87
2 x 16	17,0	550	115	100	3,08
2 x 25	19,9	785	149	129	1,98
2 x 35	22,0	1.025	185	155	1,41
3 G 10	15,9	490	86	77	4,87
3 x 16	18,0	690	115	100	3,08
3 x 25	20,7	985	149	129	1,98
3 x 35	23,5	1.315	185	155	1,41
3 x 50	27,3	1.825	225	183	0,984
3 x 70	30,6	2.485	289	225	0,693
3 x 95	35,7	3.255	352	270	0,525
3 x 120	40,0	4.120	410	306	0,410
3 x 150	44,9	5.185	473	343	0,328
3 x 185	49,5	6.245	542	387	0,270
3 x 240	55,5	8.100	641	448	0,204
3 x 16 + 1 x 10	19,1	795	115	100	3,08
3 x 25 + 1 x 16	21,8	1.135	149	129	1,98
3 x 35 + 1 x 25	25,0	1.550	185	155	1,41
3 x 50 + 1 x 25	28,5	2.045	225	183	0,984
3 x 70 + 1 x 35	33,2	2.830	289	225	0,693
3 x 95 + 1 x 50	37,2	3.685	352	270	0,525
4 G 10	17,3	595	86	77	4,87
4 G 16	19,7	850	115	100	3,08
4 G 25	22,4	1.215	149	129	1,98
4 G 35	25,4	1.655	185	155	1,41
4 G 50	30,5	2.300	225	183	0,984
4 G 70	35,6	3.200	289	225	0,693
4 G 95	39,2	4.095	352	270	0,525

Cross-section (mm ²)	Diameter (mm)	Weight (kg/km)	Open air (A) ¹	Buried (A) ²	Voltage drop (V/A · km) ³
4 G 120	44,5	5.230	410	306	0,410
4 G 150	49,7	6.530	473	343	0,328
4 G 185	55,1	7.940	542	387	0,270
4 G 240	62,2	10.300	641	448	0,204
4 x 35 + 1 G 25	27,8	1.900	185	155	1,41
4 x 50 + 1 G 25	32,2	2.550	225	183	0,984
4 x 70 + 1 G 35	37,8	3.565	289	225	0,693
4 x 95 + 1 G 50	42,1	4.620	352	270	0,525
5 G 10	18,8	710	86	77	4,87
5 G 16	21,5	1.025	115	100	3,08
5 G 25	25,0	1.490	149	129	1,98
5 G 35	27,9	1.995	185	155	1,41
5 G 50	33,6	2.810	225	183	0,984
5 G 70	38,8	3.900	289	225	0,693
5 G 95	44,2	5.075	352	270	0,525
5 G 120	48,8	6.395	410	306	0,410
5 G 150	54,9	8.000	473	343	0,328
5 G 185	61,3	9.735	542	387	0,270
5 G 240	69,3	12.655	641	448	0,204

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	0,8	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.