POWERFLEX® PLUS
YMvKf 1,8/3 kV

100% Green Energy Cable Production

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

ACCORDING TO: IEC 60502-1

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 is the following:

1 x	Black

Outer sheath
Flexible PVC type ST2 according to IEC 60502-1.
Grey or black colour.

CHARACTERISTICS

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

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.
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
RoHS / CE

RoHS Compliant

CE

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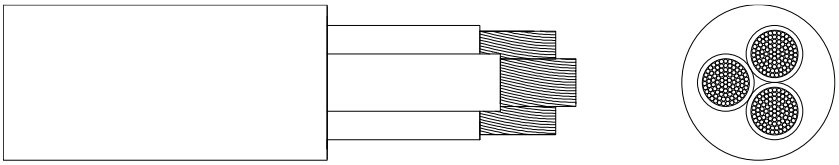
DIMENSIONS & ADMISSIBLE INTENSITIES



Cross-section (mm^2)	Diameter (mm)	Weight (kg/km)	Open air (A) [1]	Buried (A) [2]	Voltage drop (V/A · km) [3]
1 x 240	27,0	2.300	679	448	0,204
1 x 300	29,7	2.895	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

[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 cables 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. (ºC)	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. (ºC)	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.