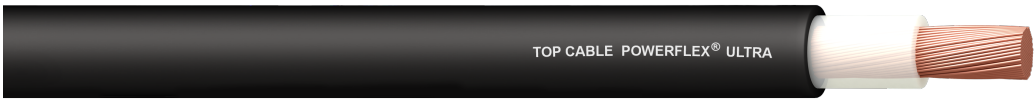
POWERFLEX® ULTRA 0,6/1kV AC

Extra flexible power cable for BESS

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

100% Green Energy Cable Production



E_{ca}

APPLICATION

Powerflex® Ultra is designed and manufactured for the most demanding and stringent battery energy storage systems and grids installations.

Its high flexibility makes the installation process substantially easier and, as a result, it is particularly suitable for use in difficult layouts, having a direct impact in installation costs reduction.

It can be buried or installed in a tube as well as outdoors without requiring additional protection. This cable can withstand in damp conditions including total submersion in water (AD8).

CONSTRUCTION

Conductor

Electrolytic annealed copper, class 5 (flexible) up to 150 mm^2 and class 6 from 185 mm^2 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. Neutral color.

Outer sheath

Special flexible PVC, type DMV-18 according to HD 603-1 and type ST2 according to IEC 60502-1.

Black colour.

CHARACTERISTICS

Electrical performance

Low voltage: 0,6/1 (1,2) kV AC

0,9/1,5 (1,8) kV DC

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: 5x cable diameter.

Impact resistance: AG2 Medium severity.

Environmental performance

Chemical & Oil resistance: Good.

UV Resistant according to EN50618.

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)

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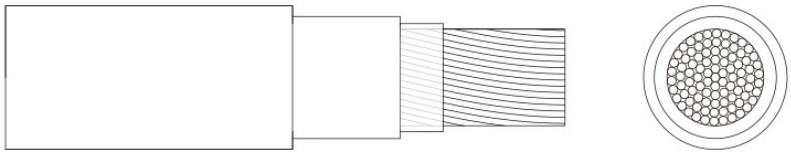
sales@topcable.com | www.topcable.com

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POWERFLEX® ULTRA 0,6/1kV AC

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 50	13,8	520	242	183	0,984
1 x 70	15,7	715	310	225	0,693
1 x 95	17,6	925	377	270	0,525
1 x 120	19,2	1.165	437	306	0,410
1 x 150	21,5	1.450	504	343	0,328
1 x 185	23,9	1.750	575	387	0,270
1 x 240	26,9	2.280	679	448	0,204
1 x 300	29,6	2.830	783	502	0,163
1 x 400	33,8	3.735	940	592	0,123
1 x 500	37,4	4.780	1.083	670	0,097
1 x 630	42,7	6.280	1.254	762	0,073
1 x 800	51,5	8.235	1.454	870	0,056
1 x 1000	59,9	10.410	1.670	988	0,044

[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 service 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.

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