

TOP CABLE TOPSOLAR® PV LSZH Al 1500 V

APPLICATION

TOPSOLAR® PV LSZH DC Feeder Aluminium cable is suitable for all types of underground and open air solar installations. This cable is recommended for connections between string boxes and photovoltaic inverters in large scale rooftops or ground farms.

- Solar PV installations.
- Heavy impact and armoured versions also available.

CONSTRUCTION

Conductor

Aluminium class 2 according to EN 60228 and IEC 60228.

Insulation

Cross-linked polyethylene type XLPE according to IEC 60502-1. Natural colour.

Outer sheath

Polyethylene halogen free and UV resistant, type ST7 according to IEC 60502-1. Black colour.

CHARACTERISTICS



Electrical performance

Low voltage: 1,5/1,5 (1,8) kV DC according to EN 50618.
1,8/3 (3,6) kV AC according to IEC 60502-1.



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.
Halogen free according to EN 60754-1 / IEC 60754-1.
Low corrosive gases emission according to EN 60754-2 / IEC 60754-2.



Mechanical performance

Minimum bending radius: 5x cable diameter.
Impact resistance: AG2 Medium severity.



Environmental performance

UV Resistant according to EN 50618.
Water resistance: AD8 Submersion.

STANDARDS / COMPLIANCE



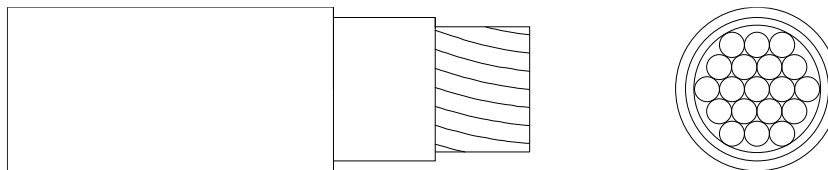
According to
IEC 60502-1



Standards and approvals
CE / RoHS



DIMENSIONS & ADMISSIBLE INTENSITIES



Cross-section (mm ²)	Diameter (mm)	Weight (Kg/km)	R _{20°C} (Ω/km)	Open air (A) ¹	Buried (A) ²	Voltage drop (V/A · km) ³
1 x 95	18,1	410	0,320	289	204	0,820
1 x 120	19,9	525	0,253	337	233	0,648
1 x 150	21,1	590	0,206	389	261	0,528
1 x 185	23,4	745	0,164	447	296	0,420
1 x 240	25,6	910	0,125	530	343	0,320
1 x 300	27,8	1.085	0,100	613	386	0,256
1 x 400	30,9	1.365	0,0778	740	445	0,199
1 x 500	34,9	1.695	0,0605	856	505	0,155

¹ Reference method F 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	299	211	173	134	94	77	67	60	55

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

Direct buried cables							
	0,5 K·m/W	0,7 K·m/W	1 K·m/W	1,5 K·m/W	2 K·m/W	2,5 K·m/W	3 K·m/W
	1,88	1,62	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.