Application

ÖLFLEX® SOLAR XLWP cables are weather-, abrasion-, UV-resistant photovoltaic cables. Thanks to optimized cable design, a constant, remarkable volume resistivity can be ensured even after long-term period in uncontaminated water. The cable is mechanically suitable for direct burial respecting the common VDE installation guide lines and acc. to Crushing Test as per UL 1277, Chapter 19, Impact Resistance Test as per UL 854, Chapter 23, and Crushing Resistance Test as per UL 854, Chapter 24.
These cross-linked, halogen-free and double-insulated solar cables are suitable for permanent outdoor use and especially for the interconnection of grounded and ungrounded photovoltaic power systems. They are applicable for the connection between solar panels and as extension cable between the individual module strings or the DC/AC inverter.

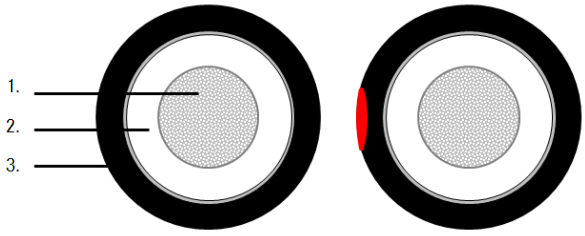
Installation details...
Acc. to EN 50618:
Intended for use in PV installations, e.g., acc. to HD 60364-7-712.
They are intended for permanent use outdoors and indoors, for freely movable, freely hanging and fixed installation.
Installation also in conduits and trunkings on, in, or under plaster as well as in appliances.
Suitable for the application in/at equipment with protective insulation (protection class II).
They are inherently short-circuit and earth fault proof acc. to HD 60364-5-52.
Based on UL's Crushing, Impact Resistance and Crushing Resistance Test, ÖLFLEX® SOLAR XLWP cables will be suitable for the direct installation underground if the cable is laid in a cable trench acc. to IEC 60364-5-52/VDE 0100-520, or comparable standards (see additional Lapp document "ÖLFLEX® SOLAR cable installation guidelines").
For direct burial installation, installation in conduits or for open wiring even in water, where the cables can be / are exposed to uncontaminated water (salt or fresh water), the use is only permitted under the following conditions:

Submersion depth, max.	1 m
Water temperature	5 °C up to 40 °C

Additional tensile force or shearing during installation and operation has to be ruled out.

Design

Design	Sheathed single core cable acc. to EN 50618
Certification	2.5 mm² up to 70 mm² H1Z2Z2-K acc. to EN 50618 TÜV Rheinland certificate with no. R50345247



1. Conductor	Fine-wired, tinned single copper strands acc. to IEC 60228, conductor class 5
2. Core insulation	Polyolefin copolymer crosslinked by electron beams, Colour: White
3. Outer sheath	Polyolefin copolymer crosslinked by electron beams Colour: Black, or Black with red stripe, or Black with blue stripe

Electrical properties

IEC nominal voltage U_0/U	AC: 1.0/1.0 kV DC: 1.5/1.5 kV
Maximum system voltage U_0/U	DC: 1.8/1.8 kV (acc. to EN 50618)
Test voltage	AC: 6.5 kV
Current carrying capacity	EN 50618, Table A.3 & A.4
DC voltage resistant in water after ageing	EN 50395, Section 9 (3 % NaCl), after water submersion @ 0.08 bar in pressure

Mechanical and thermal properties

Conductor temperature, stationary use	-40 °C up to 120 °C (acc. to IEC 60216-2)
Ambient temperature, stationary use	-40 °C up to 90 °C (acc. to EN 50618)
Minimum temperature, during installation	-25 °C (acc. to EN 50618)
Minimum bending radius, occasional flexing	15 x outer cable diameter
Minimum bending radius, stationary use	5 x outer cable diameter
Weather and UV resistance	EN 50618, Appendix E
Ozone resistance	EN 50396
Halogen-free	IEC 60754-1, IEC 60754-2
Smoke density	IEC 61034-2/EN 61034-2
Flame retardance	IEC 60332-1-2
Acid and alkaline resistance	EN 60811-404 (oxalic acid and sodium hydroxide)
Direct burial	UL 1277, Section 19 (Crushing Test) UL 854, Section 23 (Impact Resistance Test) UL 854, Section 24 (Crushing Resistance Test)
Presence of water	Permanent submersion AD8 in unmoved water up to 1 m maximum submersion depth, and within a water temperature range from 5 °C up to 40 °C
EU Directives	These cables are conform to the EU-Directive 2014/35/EU (Low-Voltage Directive)

Exemplary versions

(further versions on request)

Part. No.	Colour of Core insulation	Colour of Outer sheath with/without Outer stripe	Nominal Conductor Cross Section [mm²]	Nominal Outer diameter [mm]
1023600	white	black	2.5	5.4
1023601	white	black	4	5.8
1023602	white	black	6	6.4
1023603	white	black	10	7.6
1023604	white	black	16	9.1
1023605	white	black	25	11.2
1023606	white	black	35	12.8
1023612	white	black	185	26.0
1023613	white	black	240	29.2
1023620	white	black + red stripe	2.5	5.4
1023621	white	black + red stripe	4	5.8
1023622	white	black + red stripe	6	6.4
1023623	white	black + red stripe	10	7.6
1023624	white	black + red stripe	16	9.1
1023625	white	black + blue stripe	4	5.8
1023626	white	black + blue stripe	6	6.4