H1Z2Z2-K TÜV SOLAR

DESIGN

Conductor
Twisted flexible tinned copper conductor.

Insulation
Low smoke Zero halogen LSZH

Outer Sheath
Low smoke Zero halogen LSZH

APPLICATIONS

The H1Z2Z2-K has been tested in accordance with the requirements of the harmonized standard EN 50618

- Use and type of installation for applications in photovoltaic (HD 60364-7-712).
- For fixed installation indoors and outdoors.
- For installation in conduits, pipes and similar systems.
- Direct burial, weather and water resistant
- The cables are suitable for use with Class II and earth fault proof acc.to HD 60364-5-52.

TECHNICAL DATA

Nominal Voltage Uo/U	1.0/1.0 kV AC – 1.5/1.5 kV DC
Maximum Permitted Voltage	1.8 kV DC
Test Voltage	6.5 kV AC
Operating Temperature	-40°C up to +90°C
Max. Core Temperature	+120°C (for 20.000 hrs.)
Min. Bending Radius	5 x cable diameter (fixed installation)
CPR	Dca-s2,d2,a1
Approval	TÜV Rheinland
Standards	EN 50618:2014, IEC 60228, EN 50395, EN 50396, EN 60332-1-2, EN 61034-1/2, EN 50525-1, EN 60216-1/2

DIMENSIONS

Section	Max. Wire Diameter of Conductor	Insulation Thickness 1st/2nd	Overall Diameter	Rame Stagnato Tinned Copper	Reactance at 50 Hz
(mm^2)	(mm)	(mm)	(mm)	(Ω/km)	(Ω/km)
1x4.00	0.31	0.70 / 0.80	5.40	5.09	0.143
1x6.00	0.31	0.70 / 0.80	6.20	3..39	0.135
1x10.0	0.41	0.70 / 0.80	7.40	1.5	0.119

** Outer Diameter tolerance are +/- 0.15mm

CURRENT CARRYING CAPACITY

Section	Single Cable Free in Air	Singel Cables on Surfaces	To Cables Adjacent on Surfaces
(mm^2)	(A)	(A)	(A)
1x4.00	55	52	44
1x6.00	70	67	57
1x10.0	98	93	79

PROPERTIES

The cable is able to satisfy the latest requirements fixed for PV systems in accordance to standards: EN50618 – EN 60216-1-2 – EN 61034.

The insulation has qualities of high abrasion resistance to high temperature and has property of flame retardant + ozone resistance.

CHEMICAL PROPERTIES

Halogen Free	Acc. To EN 50525-1 Annex B (EN 50267-2-1, EN 50267-2-2, IEC 60754-1, IEC 60754-2)
Low Smoke Emisison	Acc. to IEC 61034, EN 61034
Ozone Resistance	Acc. to EN 60811-403 Test Method A, EN 50396 clause 8.1.3 Test Method B
Weather/UV Resistance	AD8 Acc. to EN 50618 Annex E, EN 50289-4-17 (Method A), EN ISO 4892-1/2.
Acid and Alkaline Resistance	Acc. to EN 50618:2014 Annex B: EN 60811-404
Resistance to Fire	Flame acc. to EN 60332-1-2 (Single Cable Flame Test)

Tested according to CPR	EN 50399 common test methods for cables under fire conditions Heat release and smoke production measurement on cables during flame spread test, UNI EN 13501-6. Flammability class: **Dca** Smoke emission class: **s2** Drip particle: **d2** Fume acidity: **a1**

MECHANICAL PROPERTIES

Direct Burial	Impact test resistance of single conductor type USE and USE-2 cables (tested acc. to UL854)
Water resistance	AD8 category tested

THERMAL PROPERTIES

Lifetime	Acc. to EN 50618 : 25 years the cables are designed to operate at a normal max conductor temperature of 90°C, but for a maximum of 20.000 hours a max. conductor temperature of 120 °C at a max. ambient temperature of 90 °C is permitted. (test according to EN 60216-1 and EN 60216-2)
Max. Short Circuit Temperature	250°C (for 5 sec.)
Resistance to Cold	EN 50618, Table 2: Cold Bending Test at -40°C acc. to EN 60811-504; Cold Elongation Test at -40°C acc. to EN 60811-505; Cold Impact Test at -40°C acc. to EN 50618 Annex C and EN 60811-506. Damp-Heat Test Acc. to EN 50618, Table 2 (test acc. to EN 60068-2-78) : 90°C for 1.000h and min. 85% humidity

** There is no Fish oil used in the production of this solar cable **

** The product and information presented in this document are for calculation only and subject to technical progress. Outer diameters are approximately **