

## 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

<b>Nominal Voltage U<sub>o</sub>/U</b>	1.0/1.0 kV AC – 1.5/1.5 kV DC
<b>Maximum Permitted Voltage</b>	1.8 kV DC
<b>Test Voltage</b>	6.5 kV AC
<b>Operating Temperature</b>	-40°C up to +90°C
<b>Max. Core Temperature</b>	+120°C (for 20.000 hrs.)
<b>Min. Bending Radius</b>	5 x cable diameter (fixed installation)
<b>CPR</b>	Dca-s2,d2,a1
<b>Approval</b>	TÜV Rheinland
<b>Standards</b>	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 1 <sup>st</sup> /2 <sup>nd</sup>	Overall Diameter	Rame Stagnato Tinned Copper	Reactance at 50 Hz
(mm <sup>2</sup> )	(mm)	(mm)	(mm)	(Ω/km)	(Ω/km)
<b>1x4.00</b>	0.31	0.70 / 0.80	5.40	5.09	0.143
<b>1x6.00</b>	0.31	0.70 / 0.80	6.20	3.39	0.135
<b>1x10.0</b>	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 <sup>2</sup> )	(A)	(A)	(A)
<b>1x4.00</b>	55	52	44
<b>1x6.00</b>	70	67	57
<b>1x10.0</b>	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

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

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**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

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**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 \*\*