

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 U_o/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 1 st /2 nd	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 Emision	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 **

H1Z1Z2-K AD8 Category compliance

Test according to EN 50525-2-21 "Annex E" (after immersed 100 days / 2.400 h at +50°C)

Object : H1Z2Z2-K - AD8 category compliance

- Resistance Test Voltage (2.5 kV AC): cable immersed in water at 50±2 °C for 24 hours

Conform - No breakdown

- The increase in weight after 100 days in water at 50±2 °C

Weight variation		
Initial	Final	Variation
1.283 g	1.298 g	+1.169 %

- Tensile strength and elongation at break after 100 days in water at 50±2 °C

Tensile strength (N/mm ²)		
Initial	Final	Variation
12.1	12.8	+5.45 %

Elongation at break (%)		
Initial	Final	Variation
280	240	-14.28 %

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