## 1. Application

H1Z2Z2-K cables are weather-, abrasion- and UV-resistant photovoltaic cables.

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 of solar panels among themselves and as extension cable between the individual module strings or the DC/AC inverter.

Acc. to EN 50618 applies:

The expected period of use under normal usage conditions as specified in EN 50618 is at least 25 years.

## 2. Cable design

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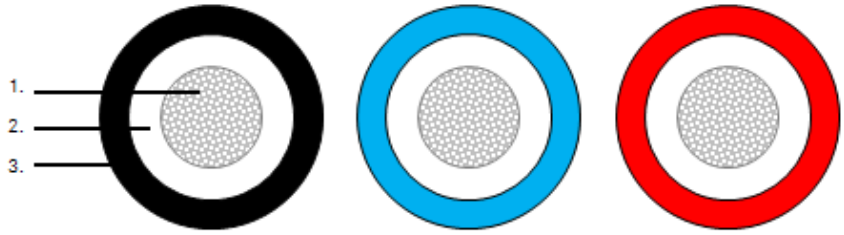
|---|---|
| **Design** | Double-insulated single core acc. to EN 50618 |
| **Certification** | Code designation H1Z2Z2-K, certified acc. to EN 50618<br>TÜV Rheinland certificate No. R 60109128 |




| | |
|---|---|
| 1. Conductor: | Fine wire strands of non-porous tinned copper wires acc. to IEC 60228 resp. EN 60228, Class 5 |
| 2. Core insulation: | Cross-linked polymer compound, halogen free<br>Colour: white |
| 3. Outer sheath: | Cross-linked Co-Polymer, halogen free<br>Outer sheath colour: black or red or blue |

## 3. Electrical properties

| | |
|---|---|
| Nominal voltage $U_0/U$ acc. to IEC | AC 1000/1000 V<br>DC 1500/1500 V |
| Max. permissible operating DC voltage | DC 1800 V (acc. to DIN EN 50618) |
| AC Test voltage | AC 6500 V |
| Current carrying capacity | acc. to EN 50618 |

## 4. Mechanical and thermal properties

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|---|---|
| Temperature range | fixed installation: -40°C up to +120°C<br>(acc. to IEC 60216-2) |
| Temperature range acc. | fixed installation: -40°C up to +90°C ambient temperature<br>(acc. to EN 50618) |
| Minimum temperature for installation | -25°C (acc. to EN 50618) |

| | |
|---|---|
| Minimum bending radius | occasional flexing: 15 x cable diameter<br>fixed installation: 5 x cable diameter |
| Weathering/UV-resistance | acc. to EN 50618 Annex E |
| Ozone resistance | acc. to EN 50396 |
| Halogen-free | acc. to IEC 60754-1 resp. EN 60754-1,<br>acc. to IEC 60754-2 resp. EN 60754-2 |
| Smoke density | acc. to IEC 61034-2 resp. EN, EN 61034-2 |
| Flame retardance | acc. to IEC 60332-1-2 resp. EN 60332-1-2 |
| Acid and alkaline resistance | acc. to EN 60811-404 (Oxal-acid and Sodium hydroxide) |
| EU directives | Conform to the EU Directive 2014/35/EU (Low Voltage Directive) |
| Environmental information | These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS). |

## 5. Installation

Acc. to EN 50618 applies:
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, free 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 devices and systems with protective insulation (protection class II).
They are inherently short-circuit and earth fault proof acc. to HD 60364-5-52.

Long-term, permanent storage or constant use of the cables in or underwater is not permitted.

Where underground routing is supposed to be accomplished, cables can only be routed underground in protective tubing suitable for burial. It has to be ensured that no long-term contact with water will occur and that any waterlogging is sure to be drawn away. For the burial of the protective tube/ conduit/ duct, professionally built cable trench shall be used, with ≥ 50 cm of back-fill soil (70 cm underneath roads), above indicating tape, above covering plastic slab, above ≥ 10 cm sand layer, above conduit/ duct/ tube laid on ≥ 10 cm sand bed layer.

## 6. Versions

| Part. no. | Insulation colour | Outer sheath colour | Nominal conductor cross section [mm²] | Outer diameter, approx. [mm] |
|---|---|---|---|---|
| 1023552 | white | black | 4 | 5.4 |
| 1023553 | white | black | 6 | 5.9 |
| 1023554 | white | black | 10 | 7.0 |
| 1023555 | white | black | 16 | 8.1 |
| 1023590 | white | black | 25 | 10.4 |
| 1023591 | white | black | 35 | 11.9 |
| 1023572 | white | red | 4 | 5.4 |
| 1023573 | white | red | 6 | 5.9 |
| 1023574 | white | red | 10 | 7.0 |
| 1023575 | white | red | 16 | 8.1 |
| 1023582 | white | blue | 4 | 5.4 |
| 1023583 | white | blue | 6 | 5.9 |
| 1023584 | white | blue | 10 | 7.0 |
| 1023585 | white | blue | 16 | 8.1 |