

# HIKRA® PLUS (EN50618)



This cable is intended for use in PV installations e.g. acc. IEC 60364-7-712 and suitable for the application in/at equipment with protective insulation (protection class II). Our double insulated HIKRA®PLUS EN50618 solar cable is intended for permanent use outdoor and indoor, for free movable, free hanging and fixed installation. Robust materials defy the long-term influences of nature and offer a maximum quality and safety. In case of proper use the expected lifetime of this product will be at least 25 years.

Thanks to its good resistance to atmospheric conditions, the cable has a specifically water repellency and can be laid underground. Please refer to our laying instructions.

## Approbation:

H1Z2Z2-K acc.EN50618  
RoHS & REACH conform



Type Approved  
Safety  
Regular Production  
Surveillance



www.tuv.com  
ID 1111208827

## Construction

Strand construction	Tin-plated copper strand (electrolytic copper), fine wire acc. IEC 60228 Class 5
Insulation	Cross-linked Polyolefin; Shore hardness D 32; Minimum wall thickness acc. EN 50618 table 1
Outer Sheath	Cross-linked special compound XLPO; Shore hardness D 36; Minimum wall thickness acc. EN 50618 table 1
Colour	Sheath: black/red/blue; Insulation: clear – naturally colored
Marking	HIKRA PLUS EN 50618 H1Z2Z2-K 6,0mm <sup>2</sup> R 60108819



## Technical characteristics

Nominal voltage [U <sub>0</sub> /U]	1,5kV DC and 1,0/1,0kV AC
Maximum permitted operating voltage	1,8kV DC (Internal examination 2,0kV DC)
Voltage test on complete cable	6,5kV AC / 15kV DC (5 minutes water bath, 20±5°C)
Current carrying capacity	See document „Current rating – HIKRA® Solar Cable“ November 2013
Max. resistance of conductor	EN 50395 Clause 5
Short-circuit-temperature	250° C/5s

## Material properties

UV stability	Tensile strength and ultimate-elongation after 720 h (360 cycles) ≥ 70% of initial values; EN 50289-4-17 acc. Method A; EN ISO 4892-1 (2000) and EN ISO 4892-2 (2006)
Ozone resistance	72h, relative humidity 55±5%, Temperature 40±2°C (EN 50396 Method B; Ozone concentration (200±50)x10 <sup>-6</sup> )
Insulation resistance	Insulation resistance in water bath, each 2h at +90°C and 2h at 20°C (Limit values acc. EN 50618 Table 1)
Surface resistance of sheath	≥10 <sup>9</sup> Ω (applied voltage 100-500V DC, 1 minute) acc. EN 50395 Clause 11
Dynamic penetration test	Spring-steel-needle through insulation or sheath (EN50618 Annex D)
Specifically water repellency	UL2566 (internal examination) Long-term insulation resistance test in water bath at 90°C >3GΩ·m (internal examination)
Crushing- and impact-resistance	Impact-Resistance UL 854.23 and Crushing-Resistance UL 854.24 (internal examination)
Sheath resistance against acid and alkaline solution	168h at 23°C in N-Oxal acid and N-Sodium hydroxide (EN 60811-404); ammoniac-resistant
Behaviour in case of fire	Flame-retardant acc. EN 60332-1-2 Annex A, low smoke emission (EN 61034,-2)
CPR-Performance	Eca; Fire behaviour acc. to no. 305/2011/EU; DoP 1743
Halogen-free	EN 50525-1, Annex B
Cold impact test	EN 60811-506, EN 50618 Annex C.1 at -40°C
Cold bending test	-40°C;16h (EN 60811-504)
Cold elongation test	Max. 30% elongation at -40±2°C, 16h (EN 60811-505)
Damp heat test	Duration 1000h at 90°C and min. 85% relative humidity (EN 60068-2-78)
Minimum bending radius flexible / fixed	10x cable diameter   4x cable diameter

## Range of temperature

Temperature	Ambient temperature: -40° C to +90°C; Maximum conductor temperature: +120° C
Maximum storage temperature	+40°C
Minimum temperature for installation and handling	-25°C

Order No.	Cross-section			Conductor construction n x max-Ø (mm)	Max. resistance of Conductor (Ω/km)	Cable OD (+/- 0.2 mm)	Copper kg/km	Approx. Weight kg/km
	black	red	blue					
728379	728380	728381	1 x 2.5	50 x 0.26	8.21	5.0	24.0	45.0
728370	728371	728372	1 x 4.0	56 x 0.31	5.09	5.4	38.4	55.0
728373	728374	728375	1 x 6.0	80 x 0.31	3.39	6.0	57.6	75.0
728376	728377	728378	1 x 10.0	80 x 0.41	1.95	7.1	96.0	115.0
737860	-	-	1 x 16.0	120 x 0.41	1.24	8.1	153.6	170.0
737863	-	-	1 x 25.0	196 x 0.41	0.795	10.3	240.0	270.0
737864	-	-	1 x 35.0	280 x 0.41	0.565	11.8	336.0	370.0