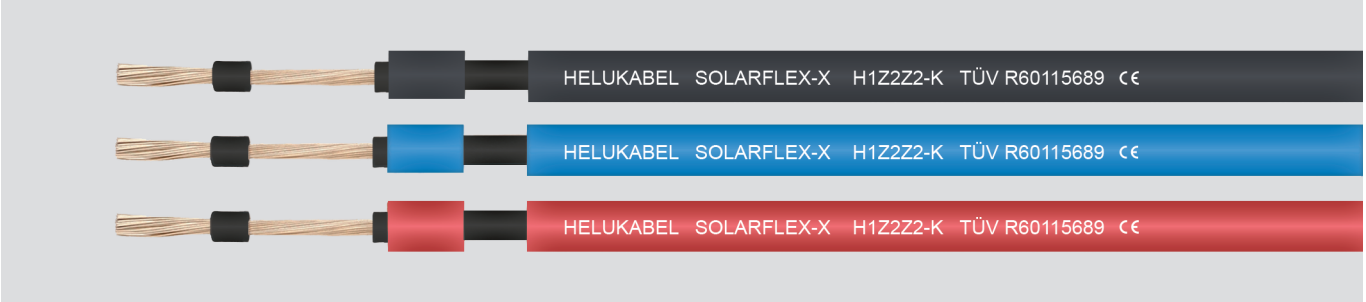
SOLARFLEX ® -X H1Z2Z2-K

1500 V DC, EN 50618



Technical data

- Temperature range
  -40°C to +90°C
  max. temperature at conductor +120°C
- Nominal voltage
  AC 1,0/1,0 kV
  DC 1,5/1,5 kV
- Maximum permitted voltage
  1,8 kV DC
- Test voltage
  AC 6,5 kV
- Minimum bending radius
  fixed installation 5x cable Ø

Cable structure

- Tinned copper conductor, to DIN VDE 0295 cl.5, fine wire, IEC 60228 cl.5
- 1. Core insulation of special cross-linked compound
  2. Core insulation of special cross-linked compound
- Sheath colour: see table below

Notes

- Termite / Rodent resistant version available on special request.

Properties

- The special outer sheath compound offers high abrasion resistance. It is UV stable, Flame retardant and ozone resistant.

Tests

- Halogen-free acc. to EN 50267, IEC 60754
- Flame retardant to IEC 60332-1-2
- Smoke density to IEC 61034

Approvals

- EN 50618: 2014
  TÜV Rheinland 2 PfG 1990/05.12
  TÜV R60115689
  EN 60228 - EN 50395 - EN 50396
  EN 60332-1-2 - EN 61034-1; -2
  EN 50525-1 - EN 60216-1; -2

Application

The SOLARFLEX ® -X is used for cabling solar modules (HD 60364-7-712). Suitable for use in fixed installations both indoors and outdoors, in walls, pipes, conduits, direct burial and similar systems. Complies with class II protection is short-circuit and earth fault proof in accordance with HD 60364-5-52.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Sheath colour	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
713529	1 x 2,5	black	5,0	24,0	41,0	14
713544	1 x 2,5	blue	5,0	24,0	41,0	14
713543	1 x 2,5	red	5,0	24,0	41,0	14
713530	1 x 4	black	5,4	38,4	55,0	12
713546	1 x 4	blue	5,4	38,4	55,0	12
713545	1 x 4	red	5,4	38,4	55,0	12
713531	1 x 6	black	6,2	57,6	82,0	10
713570	1 x 6	blue	6,2	57,6	82,0	10
713569	1 x 6	red	6,2	57,6	82,0	10
713532	1 x 10	black	7,4	96,0	123,0	8
713572	1 x 10	blue	7,4	96,0	123,0	8
713571	1 x 10	red	7,4	96,0	123,0	8

Diameter tolerance according to TÜV standards

Electrical Charateristics

No.cores x cross-sec. mm²	Current rating in open air (A)	Current rating surface installation (A)	Current rating surface installation in parallel (A)	Maximum Resistance at 20°C (Ω/km)	Reactance at 50 Hz (Ω/km)
1 x 2,5	41	39	33	8.21	
1 x 4	55	52	44	5.09	0.143
1 x 6	70	67	57	3.39	0.135
1 x 10	98	93	79	1.95	0.119

Dimensions and specifications may be changed without prior notice.

SOLARFLEX® -X H1Z2Z2-K (continued)

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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 Emission	acc. to IEC 61034, EN 61034 (Light Transmittance > 60%)
Weather resistance	Ozone resistance: acc. to EN 60811-403 Test Method A, EN 50396 clause 8.1.3 Test Method B Weathering/UV resistance: acc. to EN 50618 Annex E, EN 50289-4-17 (Method A), EN ISO 4892-1 /-2 tensile strength and elongation at break after 720h (360 Cycles) of exposure to UV lights
Acid and alkaline resistance	acc. to EN 50618:2014 Annex B: 7 days, 23° C (N-Oxalic Acid, N-Sodium Hydroxide) as for EN 60811-404
Resistance to fire	Flame propagation 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 class: d2

Mechanical Properties

Of sheath before ageing acc. to EN 50618 Annex B (test acc. To EN 60811-501)
tensile strength ≥ 8 N/mm²
elongation at break for insulation and sheath ≥ 125 %

Shrinkage test on sheath	acc. to EN 50618, Table 2: <2% (test acc. to EN 60811-503).
Dynamic Penetration Test	acc. to EN 50618
Durability of Print	acc. to EN 50618 (test acc. to EN 50396)
Direct Burial	Impact test resistance of single conductor type USE and USE-2 cables (tested acc. to UL854) Rodent resistance safety can be optimized by utilizing protective hoses and cables with a metallic braid
Water resistance	AD8 category Successfully tested acc. to EN 50525-2-21 "Annex E" (after immersion for 100 days / 2.400 h to 50°C): · Voltage at 1 kV AC on cable in water at 50°C during 100 days without any breakdown · Mechanical properties on sheath after immersion 100 days at 50°C · Minimum tensile strength after immersion 100 days at 50°C > 7 MPa · Minimum elongation at breack after immersion 100 days at 50°C > 200% · Water absorption on sheath after immersion 100 days at 50°C less than 40% · Insulation resistance tests with a minimum resistivity of 1011 Ω.cm measured after 14 days in water at 50°C
Long term resistance of insulation to d.c	acc. to EN 50618, Table 2 test acc. to EN 50395 clause 9: Cable immersed in water containing 1% NaCl for 240h ; water temperature: 85°C ± 5; Voltage applied: 1.8 kV D.C.

Thermal Properties

Lifetime	acc. to EN 50618 : 25 years 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