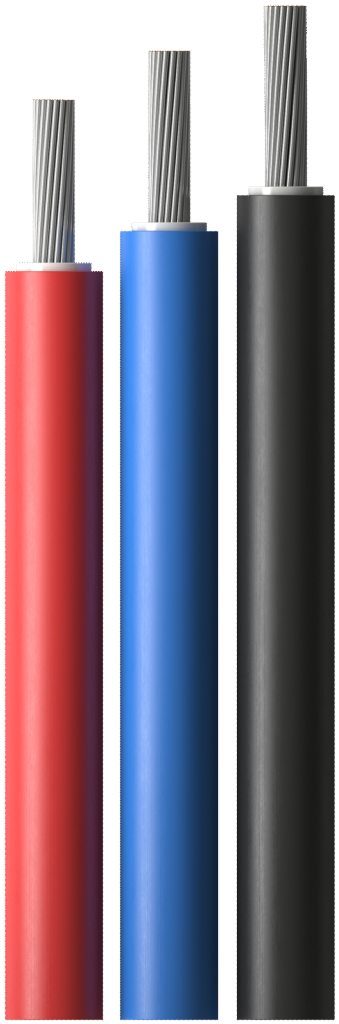
DATA SHEET
SOLAR CABLES FOR PHOTOVOLTAIC SYSTEMS

Flexible single core photovoltaic cable halogen free

H1Z2Z2-K

(formerly PV1-F acc. to 2 Pfg 1169/08.2007)



DESCRIPTION

Cables are designed for use in photovoltaic power supply systems: indoor and/or outdoor.
The special insulation has qualities of high abrasion resistance to high temperature.
Special insulation has property of flame retardant and ozone resistance.
Cables are resistant to climatic influences, UV radiation, oils and chemicals.

STANDARDS

DSTU EN 50618
DSTU IEC 60332-1-2
DSTU EN 60228
DSTU 4809
DSTU EN 60811

CONSTRUCTION

Conductor: electrolytic tinned copper, class 5 acc. to DSTU EN 60228
Insulation: halogen free cross-linked polyolefin
Insulation color: natural
Outer sheath: halogen free cross-linked polyolefin
Sheath color: black (red, blue - upon a request)

CHARACTERISTICS

Electrical parameters:

Rated voltage U0/U	1,0/1,0 kV AC; 1,5/1,5 kV DC
Max. voltage:	1,2 kV AC;
	1,8 kV DC (conductor/conductor, non-earthed system, circuit not under load)
Test voltage	6,5kV AC; 15kV DC

Thermal parameters:

Ambient temperature in operation, °C	-40…+90
Ambient temperature for installation, °C	-25…+40
Max. conductor temperature, °C	90

(Max. conductor temp 120°C and at a max. amb. temp of 90 °C is limited to 20 000 h.)
Max. short-circuit temperature on conductor, °C 250 (5 sec)

Fire performance:
Flame retardant acc. to IEC 60332-1-2;
Halogen free acc. to EN 50525-1, Annex B;
Low smoke emission acc. to EN 61034-2.

Mechanical parameters:

Tensile rating in operation, N/ mm2	15
Min bending radius:	4 diam. cable (fixed); 5 diam. cable (flexing)

Anticipated period of use: 25 years

Table 1. Dimensions and Weight

No. of cores X Nominal cross section	Min outer diameter	Nominal outer diameter	Max outer diameter acc. to EN 50618, table 1 (upper limit of diam.)	Nominal weight
(No X mm2)	(mm)	(mm)	(mm)	(kg/km)
1 x 4	5,1	5,6	6,6	56
1 x 6	5,6	6,1	7,4	75
1 x 10	6,6	7,1	8,8	115

Table 2. Current carrying capacity

No. of cores X Nominal cross section	Current carrying capacity at +60°C amb. temp. acc. to the method of installation			Short Circuit current (1 sec. 90-250°C)	Electric resistant of conductor at +20°C
	Single cable free in air	Single cable on a surface	Two loaded cables touching, on a surface		
(No X mm2)	(A)	(A)	(A)	(kA)	(Ω/km)
1 x 4	55	52	44	0,57	5,09
1 x 6	70	67	57	0,86	3,39
1 x 10	98	93	79	1,43	1,95

Table 3. Current rating conversion factors for deviating temperatures

Ambient temperature	Conversion factor
(°C)	
Up to 60	1.00
70	0.92
80	0.84
90	0.75