



# Caledonian

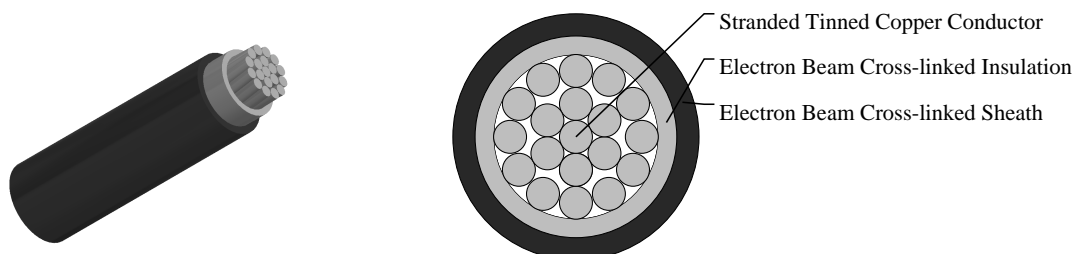
Photovoltaic Cables

[www.caledonian-cables.com](http://www.caledonian-cables.com)

[marketing@caledonian-cables.com](mailto:marketing@caledonian-cables.com)

## H1Z2Z2-K Photovoltaic Cables

PHOTOFLEX Photovoltaic Cable H1Z2Z2-K 1C50



## APPLICATIONS

These cables are designed for connecting photovoltaic system components inside and outside of buildings and equipment with high mechanical requirements and extreme weather conditions.

## STANDARDS

DIN EN 50618 (H1Z2Z2-K) (formerly PV-1F according to 2PfG 1169/08.2007)

Flame retardant according to EN 50265-2-1, IEC 60332-1, VDE 0482-332-1-2, DIN EN 60332-1-2

Low smoke emission according to EN 61034-2 (Light Transmittance  $\geq 60\%$ )

Halogen free according to EN 50525-1, Annex B

Low corrosivity of gases according to EN 50267-2-2, IEC 60754-2

## APPROVALS

TUV Certification (B 18 01 98200 015)

## CABLE CONSTRUCTION

Conductor: Stranded tinned copper conductor per DIN VDE 0295 and IEC 60228 Class 5.

Insulation: Electron beam cross-linked, halogen free and flame retardant compound.

Sheath: Electron beam cross-linked, LSZH and flame retardant compound, Black.

## PHYSICAL AND THERMAL PROPERTIES

Thermal Properties

Maximum Voltage: 1.2KV (AC), 1.8KV (DC)

Ambient Temperature:  $-40^{\circ}\text{C} \sim +90^{\circ}\text{C}$

Maximum Temperature At Conductor:  $120^{\circ}\text{C}$  (20000h) according to IEC/EN 60216-1

Short Circuit Temperature:  $250^{\circ}\text{C}/5 \text{ sec}$

Thermal Endurance Test: According to EN 60216-2 (temperature index  $+120^{\circ}\text{C}$ )

Damp-Heat Resistance: According to EN 50618, Table 2 with 85% humidity (test acc. to EN 60068-2-78)

## Electrical Properties

Rated Voltage  $U_0/U$ : 1/1 kV AC; 1.5/1.5 kV DC

Maximum Permitted DC Voltage: 1.8 kV DC (conductor/conductor, non earthed system, circuit not under load)

Insulation Resistance: 1000 M $\Omega$ -km



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Spark Test: 6000 Vac (8400 Vdc)

Voltage Withstand: 6500 Vac for 5 min

### MECHANICAL PROPERTIES

Minimum Bending Radius: 4×OD (fixed), 5×OD (flexing)

Dynamic Penetration: According to Acc. to EN 50618, Annex D, Meets requirements of EN 50618.

Tensile Strength And Elongation Of Insulation And Jacket: 250°C

Anticipated Period Of Use: 25 years

Ovality: ≤15%

### Chemical Properties

Ozone Resistance: According to EN 60811-403(25°C, 24h, (250 to 300) × 10<sup>-4</sup>%) ; Method B: EN 50396(40°C, 72h, 55%RH, (200 × 10<sup>-6</sup>%)

Weathering- UV Resistance( Resistance on sheath): tensile strength and elongation at break after 720h (360 Cycles) of exposure to UV lights (acc. to EN 50289-4-17, Method A According to HD 605/A1)

Ammoniac resistant

Very good resistance to oils and chemicals

High wear and robust, abrasion resistant

### DIMENSION AND PARAMETERS

No. of Cores × Cross-sectional Area	AWG Size	Conduct Strand in	Conduct Diameter	Nominal Insulation Thickness	Nominal Sheath Thickness	Approx. Overall Diameter	Approx. Weight	Max. Conduct Resistance at 20 °C	Max. Insulation Resistance at 20 °C	Max. Insulation Resistance at 90 °C	Current Carrying Capacity (Single cable free in air)	Current Carrying Capacity (Single cable on surfaces)	Current Carrying Capacity (2 loaded cables adjacent on surfaces)
No. × mm <sup>2</sup>			mm	mm	mm	mm	kg/km	MΩ × km	MΩ × km	MΩ × km	A	A	A
1 x 50	1/0	396/0.4	9	1	1.2	16.3	550	0.393	268	0.268	276	262	221