

# Photovoltaic Solar H1Z2Z2-K Cable



Eland Product Group: **A6S**

## APPLICATION

Updated harmonised (H1Z2Z2-K) European standard solar cable intended for the interconnection within photovoltaic systems such as solar panel arrays. Suitable for fixed installations, internal and external, within conduit or systems, but not direct burial applications. Our solar cable is ozone-resistant according to BS EN 50396, UV resistant according to HD 605/A1, and is tested for durability according to EN 60216. For installations where fire, smoke emissions and toxic fumes create a potential risk to life and equipment.

## CONSTRUCTION

### Conductor

Class 5 flexible tinned copper conductor

### Insulation

Halogen-free cross-linked compound

### Sheath

Halogen-free cross-linked, flame retardant compound

## CABLE STANDARDS

EN 50618:2014, TÜV 2 PfG 1169/08.2007, IEC 60228/VDE 0295, HD 605/A1, BS EN 60811-401, BS EN 60811-404, BS EN 60811-501, BS EN 60811-503-508, BS EN 53505, ASTM D624, BS EN 50289-3-7, HD516, BS EN 50396, BS EN 60068-2-78, IEC/BS EN 60332-1-2, IEC/BS EN 60754-1, IEC/BS EN 61034-1, IEC/BS EN 60754-2, IEC/BS EN 60754-1, IEC/BS EN 60754-2, BS EN 50395 Clause 9



The electrical and dimensional properties of this product are measured by the Technical and Quality Assurance department at the Eland Cables laboratory. Cable performance in respect of conductor resistance, construction quality (workmanship), dimensional consistency, and other parameters are verified to published standards and approved product drawings. Conformance to RoHS (Restriction of the use of Hazardous Substances) is determined and confirmed.

## CHARACTERISTICS

### Voltage Rating (U<sub>o</sub>/U)

AC: 600/1000V

DC: 900/1800V

### Temperature Rating

Fixed: -40°C to +90°C

### Minimum Bending Radius

Fixed: 4 x overall diameter

Flexed: 5 x overall diameter

### Maximum Voltage (U<sub>max</sub>)

1.8kV DC (conductor/conductor, non earthed system, circuit not under load)

### Maximum Conductor Temperature

+120°C (for 20000h)

### Test Voltage

6.5kV AC according to BS EN 50395

### Sheath Colour

● Black

### Note

Other colours available on request

## DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	TENSILE STRENGTH IN OPERATION N
E6S10025BK000	1	2.5	4.9	40	37
E6S10040BK000	1	4	5.4	56	60
E6S10060BK000	1	6	5.9	73	90
E6S10100BK000	1	10	6.9	115	150
E6S10160BK000	1	16	8.0	170	240
E6S10250BK000	1	25	10.3	270	375
E6S10350BK000	1	35	11.8	365	525
E6S10500BK000	1	50	13.5	508	750
E6S10700BK000	1	70	16.0	729	1050
E6S10950BK000	1	95	17.8	923	1350
E6S11200BK000	1	120	19.8	1178	1800
E6S11500BK000	1	150	21.1	1460	2250
E6S11850BK000	1	185	24.4	1777	2775
E6S12400BK000	1	240	27.1	2252	3600

## CONDUCTORS

### Class 5 Flexible Copper Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C	
	Metal-Coated Wires ohms/km	
2.5	8.21	
4	5.09	
6	3.39	
10	1.95	
16	1.24	
25	0.795	
35	0.565	
50	0.393	
70	0.277	
95	0.21	
120	0.164	
150	0.132	
185	0.108	
240	0.0817	

The above table is in accordance with BS EN 60228 (previously BS 6360)

## ELECTRICAL CHARACTERISTICS

NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	CURRENT CARRYING CAPACITY
		In Air Amps
1	2.5	41
1	4	55
1	6	70
1	10	98
1	16	132
1	25	176
1	35	218
1	50	276
1	70	347
1	95	416
1	120	488
1	150	566
1	185	644
1	240	775

Based on a 60°C ambient temperature

## DE-RATING FACTORS

AIR TEMPERATURE	UP TO 60°C	70°C	80°C	90°C	100°C	110°C
DE-RATING FACTOR	1.00	0.91	0.82	0.71	0.58	0.41