

Photovoltaic Solar PV1-F Cable



Eland Product Group: **A6S**

APPLICATION

TÜV approved 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. The cable is designed to last at least 25 years. Being flame protected with a halogen free fire retardant system with low smoke properties these cables are designed for safety in case of fire.

CONSTRUCTION

Conductor

Class 5 flexible tinned copper conductor according to DIN VDE 0295, BS EN/IEC 60228

Insulation

Halogen-free cross-linked compound

Sheath

Halogen-free cross-linked, flame retardant compound

CHARACTERISTICS

Voltage Rating (U_o/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_{max})

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

Maximum Conductor Temperature

+120°C (for 20000h)

CABLE STANDARDS

TÜV listed as PV1-F

TÜV 2 PfG 1169/08.2007

IEC 60228/VDE 0295: Conductors of insulated cables

UV Resistant

HD 605/A1

Low Smoke Halogen Free

BS EN 50267-2-1, BS EN 60684-2, BS EN 61034,

BS EN 50267-2-2

Ozone Resistant

BS EN 50396

Flame Retardant

BS EN/IEC 60332-1-2

Thermal Endurance

BS EN/IEC 60216-1



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.

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 ²	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A6S10025	1	2.5	4.5	39
A6S10040	1	4	5.2	57
A6S10060	1	6	5.9	79
A6S1010	1	10	6.9	122
A6S1016	1	16	8.3	181
A6S1025	1	25	9.7	273
A6S1035	1	35	11	364
A6S1050	1	50	13.2	520
A6S1070	1	70	15.4	713
A6S1095	1	95	17.4	930
A6S1120	1	120	20.1	1191
A6S1150	1	150	22.5	1514
A6S1185	1	185	26	1828
A6S1240	1	240	26.8	2324

CONDUCTORS

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

NOMINAL CROSS SECTIONAL AREA mm ²	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 ²	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

The information contained within this datasheet is for guidance only and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances.