

# Photovoltaic Solar Cable PV1-F

Eland Product Group **A6S**



## Application

TÜV approved Solar cable, intended for the interconnection of the various elements of photovoltaic systems such as solar panel arrays. Suitable for fixed installations internal and external, within unprotected pipes, or in similar closed systems. The cable is ozone-resistant according to EN50396, UV-resistant according to UNE-HD 605:2008 (HD605/A1), and is tested for durability according to EN 60216. The cable is tested to last 25 years.

These cables are especially designed for use in photovoltaic applications. They provide the optimal cable connection between the solar cells and from the solar cells to the inverter or DC main cable. These cables are suitable for outdoor ground and roof mounted systems – though not suitable for direct laying under the earth. They are also suitable laying indoors and in fixed pipe installation. Thanks to its halogen free, flame retardant and low smoke properties, these cables are also safe to care the health of inhabitants in case of fire.

## Standards

TÜV Approval Nr. TÜV 2 PFG 1169/08.2007  
(Sizes 2.5mm-35mm only)

VDE E PV 01:2008-02

Ozone Resistant according to EN 50396

Flame Retardant according to IEC/EN 60332-1-2

UV Resistant according to HD 605/A1

Halogen Free according to EN 50267-2-1, EN 60684-2

Cold Resistant according to IEC/EN 60811-1-4

Low Smoke according to IEC/EN 61034

Acid and Alkaline Resistant according to IEC/EN 60811-2-1

Low Corrosivity of gases according to EN 50267-2-2

Weather Resistant according to HD 605/A1

Low toxicity of gases according to EN 50267-2-1

Expected Life-Time > 25 years according to IEC/EN 60216-1

## Technical Data

### Conductor

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

### Insulation

Halogen free cross-linked compound

### Sheath

Halogen free cross-linked compound

### Sheath Colour

Black, Red, Blue, Brown and Grey available on request.

### Voltage Rating

AC: 600/1000V

DC: 900/1800V

### Temperature Rating

-40°C to +90°C.

### Minimum Bending Radius

Fixed: 4 x Overall Diameter

Flexing: 5 x Overall Diameter

### Rated voltage U<sub>0</sub>/U

0.6/1 kV AC - 0.9/1.8 kV DC

### Max. Voltage U<sub>max</sub>

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

### Max. temperature at conductor

+120 °C (for 20000 h)

### Test voltage

6.5 kV AC according To EN 50395

## Dimensions

Eland Part Number	No of Cores x Nominal Cross Sectional Area # x mm <sup>2</sup>	Nominal Overall Diameter mm	Nominal Weight kg/Km
A6S10025	1 x 2.5	4.50	8.2100
A6S10040	1 x 4.0	5.20	5.0900
A6S10060	1 x 6.0	5.90	3.3900
A6S1010	1 x 10.0	6.90	1.9500
A6S1016	1 x 16.0	8.30	1.2400
A6S1025	1 x 25.0	9.70	0.7950
A6S1035	1 x 35.0	11.00	0.5650
A6S1050	1 x 50.0	13.20	0.3630
A6S1070	1 x 70.0	15.40	0.2770
A6S1095	1 x 95.0	17.40	0.2100
A6S1120	1 x 120.0	20.10	0.1640
A6S1150	1 x 150.0	22.50	0.1320
A6S1185	1 x 185.0	26.00	0.1080
A6S1240	1 x 240.0	26.80	0.0817

## Electrical Characteristics

Nominal Cross Sectional Area mm <sup>2</sup>	Current Carrying Capacity in Air Amps
2.5	41
4.0	55
6.0	70
10.0	98
16.0	132
25.0	176
35.0	218
50.0	276
70.0	347
95.0	416
120.0	488
150.0	566
185.0	644
240.0	775

Maximum conductor temperature: +120°C

Maximum short circuit temperature: +200°C

## Conversion Factors

Ambient Temperature °C	Conversion Factor
Up to 60	1.00
70	0.91
80	0.82
90	0.72
100	0.58
110	0.41

The information contained within this datasheet is for guidance only. When selecting accessories such as cleats, glands, etc please note that actual cable dimensions may vary due to manufacturing tolerances.