



Photovoltaic Solar Cable PV1-F

Eland Product Group **A6S**



The electrical and physical properties of this cable are rigorously tested by Eland Cables Technical and Quality Assurance Department using specialist testing equipment in our in-house cable laboratory. This cable is certified by TÜV Rheinland (Technischer Überwachungs-Verein). TÜV Rheinland's PV laboratory is accredited in compliance with the DIN/EN/ISO/IEC 17025 norm and listed as a certification test laboratory by the worldwide certification system of the IECCE in the photovoltaics category. This product is RoHS (Restriction of the use of Hazardous Substances) compliant and conforms to the listed IEC (International Electrotechnical Commission) and EN Standards.

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 2 PFG 1169/08.2007
TÜV Approval for 2.5mm² to 35mm²
CEI 20-91
UV: HD 605/A1
LSZH: IEC 61034, EN 52067-2, IEC 60754
Ozone: EN 50396

Flame: IEC 60332-1-2
Thermal Endurance: IEC 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 U₀/U

0.6/1 kV AC - 0.9/1.8 kV DC

Max. Voltage U_{max}

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 ²	Nominal Overall Diameter mm	Nominal Weight kg/Km
A6S10025	1 x 2.5	4.50	39
A6S10040	1 x 4.0	5.20	57
A6S10060	1 x 6.0	5.90	79
A6S1010	1 x 10.0	6.90	122
A6S1016	1 x 16.0	8.30	181
A6S1025	1 x 25.0	9.70	273
A6S1035	1 x 35.0	11.00	364
A6S1050	1 x 50.0	13.20	520
A6S1070	1 x 70.0	15.40	713
A6S1095	1 x 95.0	17.40	930
A6S1120	1 x 120.0	20.10	1191
A6S1150	1 x 150.0	22.50	1514
A6S1185	1 x 185.0	26.00	1828
A6S1240	1 x 240.0	26.80	2324

Electrical Characteristics

Nominal Cross Sectional Area mm ²	Current Carrying Capacity in Air Amps	mV/A/m
2.5	41	19.00
4.0	55	12.00
6.0	70	7.90
10.0	98	4.70
16.0	132	2.90
25.0	176	1.85
35.0	218	1.35
50.0	276	1.00
70.0	347	0.73
95.0	416	0.56
120.0	488	0.47
150.0	566	0.41
185.0	644	0.36
240.0	775	0.31

Based on 90°C operating temperature.
Spaced by 1D at 60°C ambient

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.