



Reference: 10189495
EAN 13: 3427640020217

FIRE PERFORMANCE CLASS



Dca-s2,d2,a1

CONTACT

Market information
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Energyflex® cables are designed to comply with the international standards of the solar plants.

They are dedicated to the photovoltaic system direct current (D.C.) side with a nominal D.C. voltage of 1.5 kV and a maximum D.C. voltage of 1.8 kV. These cables are suitable for permanent outdoor long-term use, under variable and harsh climate conditions. They are designed and tested to operate at a normal maximum conductor temperature of 90°C and for 20,000 hours up to 120°C. Therefore, the expected period use is 30 to 40 years under normal usage conditions (lifetime acc. to Arrhenius-Diagram).

STANDARDS

Product EN 50618; IEC 62930

DESIGN

Single core fire resistance solar cable with low smoke, halogen free, crosslinked insulation and sheath.

1. Conductor

Stranded tinned copper wires class 5 acc. IEC 60228

2. Insulation

Cross-linked halogen-free rubber
Colour: white

3. Sheath

Cross-linked halogen-free fire retardant rubber
Colour: black

Example of marking: ENERGYFLEX® USE < HAR > H1Z2Z2-K 62930 IEC 131 1 x S mm² 1.5/1.5 (1,8) kV DC lynx^{eo} 269 MADE IN FRANCE Dca

FEATURES

ENERGYFLEX® cables are dedicated to the photovoltaic system direct current (D.C.) side with a nominal D.C. voltage of 1.5 kV and a maximum D.C. voltage of 1.8 kV. Cable suitable to be used with Class II equipment.

These cables are suitable for permanent outdoor long-term use, under variable and harsh climate conditions. They are designed and tested to operate at a normal maximum conductor temperature of 90°C and for 20,000 hours up to 120°C. Therefore, the expected period use is 30 to 40 years under normal usage conditions (lifetime acc. to Arrhenius Diagram).

ENERGYFLEX® cables have a suitable behaviour in water : tests of Annexes D and E of H07RN8F AD8 cables (100 days at 50 °C under 1 kV AC without breakdown), and additional test of 1,5 year in hot water (85°C) under 1 kV DC without breakdown. They are suitable for submerged installations with a maximum cumulated immersion period of 6 months / year.



Conductor flexibility
Flexible class 5



Halogen free
IEC 60754-1; IEC 60754-2



Rated Voltage Uo/U (Um)
1.0/1.0 (1.2) kV AC
1.5/1.5 (1.8) kV DC



Mechanical resistance to impacts
Condition AG 2 (medium severity)
acc.to HD 60364-5-52



Operating temp.
-40 ... 90 °C



Gases corrosivity
IEC 60754-2



Smoke density
IEC 61034-1-2



Weather resistance
Excellent

CHARACTERISTICS**Construction characteristics**

Conductor material	Tin Coated Copper Class 5 acc. To EN 60228
Conductor flexibility	Flexible class 5
Insulation	Cross-linked halogen free rubber
Outer sheath	Cross-linked halogen free rubber
Sheath colour	Black (blue or red stripe on request)
Colour	Black
Halogen free	IEC 60754-1; IEC 60754-2
Conductor shape	Circular

Dimensional characteristics

Number of cores	1
Conductor cross-section	6 mm ²
Nominal outer diameter	6.0 mm
Approximate net weight	76 kg/km
Minimum outer diameter	5.8 mm
Maximum outer diameter	6.4 mm
Approximate weight	80 kg/km
Conductor diameter	2.9 mm
Nominal conductor diameter	2.9 mm
Nominal insulation thickness	0.7 mm
Nominal outer sheath thickness	0.8 mm
Outer Diameter	- mm

Electrical characteristics

Maximum permissible nominal current	50 A
Rated Voltage U ₀ /U (U _m)	1.0/1.0 (1.2) kV AC 1.5/1.5 (1.8) kV DC
Max. DC resistance of the conductor at 20°C	3.39 Ohm/km
Maximum DC resistance of the conductor at 90°C	3.930 Ohm/km
Perm current rating in air 30°C	- A
Permissible current rating in air 60°C	70 A
Permissible current rating on a tray 60°C	67 A
Permissible short circuit current conductor 1s	0.8 kA

Mechanical characteristics

Bending	100 000 cycles in reverse bending
Frequent torsion	100 000 cycles
Mechanical resistance to impacts	Condition AG 2 (medium severity) acc.to HD 60364-5-52
Tensile strength	90 N

Usage characteristics

Operating temperature, range	-40 ... 90 °C
Packaging	Drum
Short-circuit max. conductor temperature	250 °C
Gases corrosivity	IEC 60754-2
Smoke density	IEC 61034-1-2
Ozone resistance	EN 50396

Usage characteristics

Weather resistance		Excellent
Flame retardant		IEC 60332-1
Corrosive or Polluting Substances	Condition AF 3 (intermittent accidental) acc. to HD 60364-5-52	
Fire retardant		EN 50575
Length		- m
Maximum operating temperature		120 °C
Minimum Bend Radius - Installed		19.2 mm
Outdoor Use	Condition AN 3 (high solar radiation), permanent according to EN 50565-1:2014	
Resistance to vibrations	Condition AH 3 (sever industrial conditions) acc. to HD 60364-5-52	
RoHS conform		RoHS 2011/65/EU
Thermal endurance		IEC 60216-1-2
U.V resistance	EN 50289-4-17 method A, for 720h. Nexans prestige test 4000h	
Water proof		AD8

LIST OF CERTIFICATES

NF EN 50618: BUREAU VERITAS LCIE licence 662568
 IEC 62930: BUREAU VERITAS Certificate of conformity 158416-729944
 Construction Product Regulation (CPR) Performance: Dca-s2,d2,a1