



**Reference:** 10189494  
**EAN 13:** 3427640020200

### 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.

### 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 mm<sup>2</sup> 1.5/1.5 (1,8) kV DC lynxéo 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	4 mm <sup>2</sup>
Nominal outer diameter	5.6 mm
Approximate net weight	61 kg/km
Minimum outer diameter	5.3 mm
Maximum outer diameter	5.9 mm
Approximate weight	62 kg/km
Conductor diameter	2.5 mm
Nominal conductor diameter	2.5 mm
Nominal insulation thickness	0.7 mm
Nominal outer sheath thickness	0.8 mm
Outer Diameter	- mm

### Electrical characteristics

Maximum permissible nominal current	39 A
Rated Voltage U <sub>0</sub> /U (U <sub>m</sub> )	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	5.09 Ohm/km
Maximum DC resistance of the conductor at 90°C	5.880 Ohm/km
Perm current rating in air 30°C	- A
Permissible current rating in air 60°C	55 A
Permissible current rating on a tray 60°C	52 A
Permissible short circuit current conductor 1s	0.5 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	60 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	17.7 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

**SELLING AND DELIVERY INFORMATION**

"Want to know more about the environmental impact of the product during its life cycle ?

Please contact:: [sustainable.development@nexans.com](mailto:sustainable.development@nexans.com) and discover the PEPecopassport® declaration available with all the details"