



Nexans Ref.: 10206375
EAN 13: 3427640026318

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

Test EN 60332-1-2; EN 61034-2

APPLICATION

Nexans PV H1Z2Z2-K SUN PLUS Cable (1.5kV DC)



Conductor flexibility
Flexible class 5



Rated Voltage U₀/U_m
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



Max. conductor temp. in service
120 °C



Weather resistance
Excellent



U.V resistance
EN 50289-4-17
method A, for 720h. Nexans prestige test 4000h



Water proof
Passed 100 days
50°C water immersion test of EN 50525-2-21 annex D and E

CHARACTERISTICS

Construction characteristics

Conductor material	Tin Coated Copper Class 5 acc. To EN 60228
Conductor flexibility	Flexible class 5
Insulation	-
Outer sheath	-
Sheath colour	Black with red stripe
Colour	Black
Conductor shape	Circular

Dimensional characteristics

Number of cores	1
Conductor cross-section	6 mm ²
Nominal outer diameter	6.1 mm
Approximate net weight	76 kg/km
Minimum outer diameter	5.8 mm
Maximum outer diameter	6.4 mm
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	- N

Usage characteristics

Operating temperature, range	-40 ... 90 °C
Max. conductor temperature in service	120 °C
Packaging	Drum
Short-circuit max. conductor temperature	250 °C
Ozone resistance	EN 50396:2005
Weather resistance	Excellent
Corrosive or Polluting Substances	Condition AF 3 (intermittent accidental) acc. to HD 60364-5-52
Length	- m
Minimum Bend Radius - Installed	19.2 mm

Usage characteristics		
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	Passed 100 days 50°C water immersion test of EN 50525-2-21 annex D and E	
Fire safety characteristics		
Gases corrosivity	IEC 60754-2	
Smoke density	-	
Flame retardant	-	
Halogen free	IEC 60754-1; IEC 60754-2	

PV

