

## CERTIFICATE OF CONFORMANCE

**Cable type:** TOPSOLAR PV H1Z2Z2-K

**Top Cable, S.A. certifies**

Cables of the type described supplied by Top Cable, are designed, manufactured and tested according to the latest revisions to the following standards:

- EN 50618

The materials used in the construction of these cables exceed the thermal endurance test specified in the standard EN 60216 for +120 °C (temperature index). Compliance with this test provides that, with proper installation, operation and maintenance, the estimated life of the cable at 90 °C is at least 30 years.

Life expectancy estimated of the cable under others temperatures:

90 °C	100 °C	110 °C	120 °C	130 °C	140 °C	150 °C	160 °C
270.000 h	120.000 h	50.000 h	24.000 h	12.000 h	6.000 h	3.000 h	1.500 h

These cables are suitable for use in safety **class II** (EN 50618:2014) because they have a double layer of insulation (two layers of thermoset polyolefine).

These cables are suitable to be installed in underground pipes and for direct burial.

These cables have the next main features and comply with the following standards:

- Voltage\* : 1,8 kV DC
- Maximum Voltage in PV systems (DC) : 2 kV (class II acc. NF C15-100)
- Tinned copper conductor class 5 : EN 60228; IEC 60228
- Range temperature ambient : -40 to +90 °C
- Max. temperature at conductor : + 120 °C
- No flame propagation : EN 60332-1-2; IEC 60332-1-2
- Halogen free, < 0,5% HCl : EN 50267-2-1; IEC 60754
- Low smoke and fumes emission : EN 61034-2
- Resist. to ozone : EN 50396 clause 8.1.3 (Method B)
- Weathering-UV resistance : EN 50618 Annex E
- Resist. against acid and alkaline solution : EN 60811-404

\* In relation to use in DC circuits, and as in any electric cable, the voltage  $U_0/U(U_m)$  of the photovoltaic cables is 1.5 times the AC voltage.

- Topsolar PV H1Z2Z2-K for DC: 1,5/1,5 /(1,8) kV
- Topsolar PV H1Z2Z2-K for AC: 1/1 kV

$U_0$  = is the r.m.s. value between any insulated conductor and earth,

$U$  = is the r.m.s. value between any two phases.

All the tests carried-out on these cables ensure their perfect performance once in service, provided that the conditions of installation and operation are adequate in accordance with the service for which they were manufactured.

Rubí, April 12th, 2017



Felipe Díaz  
Technical Manager