

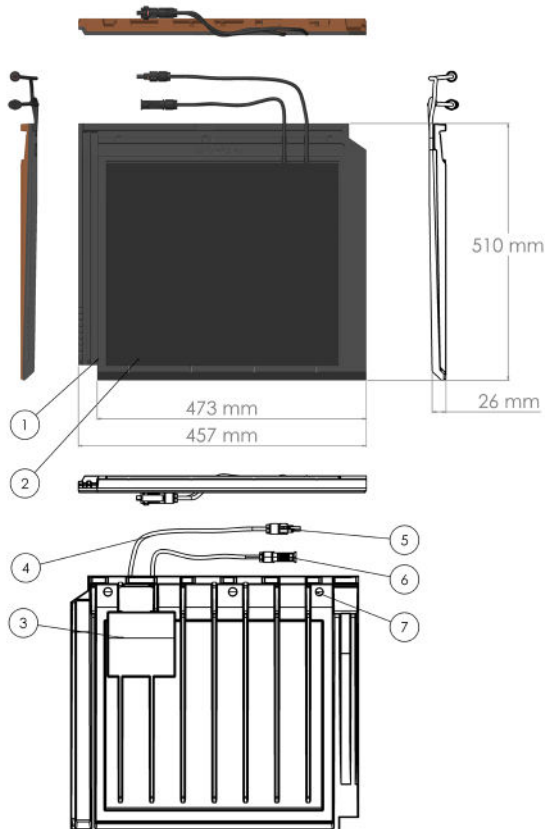


# Roof & Plug

## SOLAR FLAT-5XL Ceramic Roof Tile CIGS

**SOLAR Flat-5XL ceramic roof tiles** are the only large ceramic tiles with an **integrated solar energy system**. They are ideal for providing a reliable supply of solar energy. Thanks to the integration of the solar panel into the tile, the tiles provide all the benefits of a roof made from ceramic tiles in terms of watertightness, without any risk of deterioration or oxidation.

Durability and performance over time is reinforced by the structure of the product itself and the use of glass-glass panel (double tempered glass) that ensures a durable and watertight encapsulation.



### Key box:

- 1 - Flat-5XL ceramic support
- 2 - Photovoltaic panel
- 3 - Junction box ceramic housing
- 4 - Connection cables
- 5 - MC4 connector (+) positive terminal
- 6 - MC4 connector (-) negative terminal
- 7 - Holes for fixing to the batten\*

\* Requires 2 screws for fixing to the batten (per solar tile unit): diameter from 3,5 to 4,2 / thread length 45 - 55 mm, depending on the batten type.

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## Characteristics: SOLAR FLAT-5XL Ceramic Roof Tile - CIGS

Dimensions:	457 x 510 mm	Temperature coefficient of $P_{max}$ ( $\delta$ ):	-0,34 %/K
Individual weight:	7,50 kg.	Temperature coefficient $V_{oc}$ ( $\beta$ ):	-0,24 %/K
Finish:	LEON MATTE / CRISTAL FULL-BLACK	Temperature coefficient $I_{sc}$ ( $\alpha$ ):	+0,01 %/K
Cell type:	CIGS (free from Cd and Pb) <sup>(1)</sup>	Maximum system voltage:	1.000 V ( IEC)
Base:	Flat-5XL ceramic roof tile	Maximum series fuse rating ( $I_g$ ):	5 A
Fixing system:	3 pre-drilled holes (batten fixing – min. 2 places)	Operating temperature:	-40 °C a 85 °C.
Panel dimensions:	410 x 360 mm (320 x 360 mm useful area)	Standard**:	IEC 61646 - IEC 61730
Equivalence to ceramic tiles:	1 Flat-5XL roof tile	Front glass panel:	3,2 mm. tempered glass
Placing:	Depending on the Flat-5XL roof tile *	Backsheet:	1,8 mm. tempered glass
Connection:	Mixed (series – parallel)	Junction box:	IP 67
Maximum power ( $P_{max}$ ):	<b>17 Wp</b>	Connectors:	MC4 or compatible connectors
Maximum power tolerance:	-3% / +5 %	DC cable:	4,0 sq. mm., (12 AWG)
Maximum power current ( $I_{mpp}$ ):	0,54 A	DC cable length:	2 x 600 mm
Maximum power voltage ( $V_{mpp}$ ):	31,7 V	Units /sq. m.:	5,85 – 5,50 uds
Short circuit current ( $I_{sc}$ ):	0,61 A	Maximum power/sq. m.**:	<b>102 Wp/sq. m.</b>
Open circuit voltage ( $V_{oc}$ ):	40,2 V	sq. m. – 1 kWp:	<b>9,8 sq. m.</b>
		Units/kWp:	<b>58,82 units</b>

All measurements are approximate.

Note: The SOLAR FLAT-5XL roof tile has an entirely black (FULL-BLACK), anti-reflective finish, with none of the typically visible connections. It is entirely compatible with the FLAT-5XL ceramic tile (see available finishes on the Tejas Borja website).

\* SOLAR Flat-5XL Ceramic Tile must always be installed on ventilated roofs using a double batten system or equivalent.

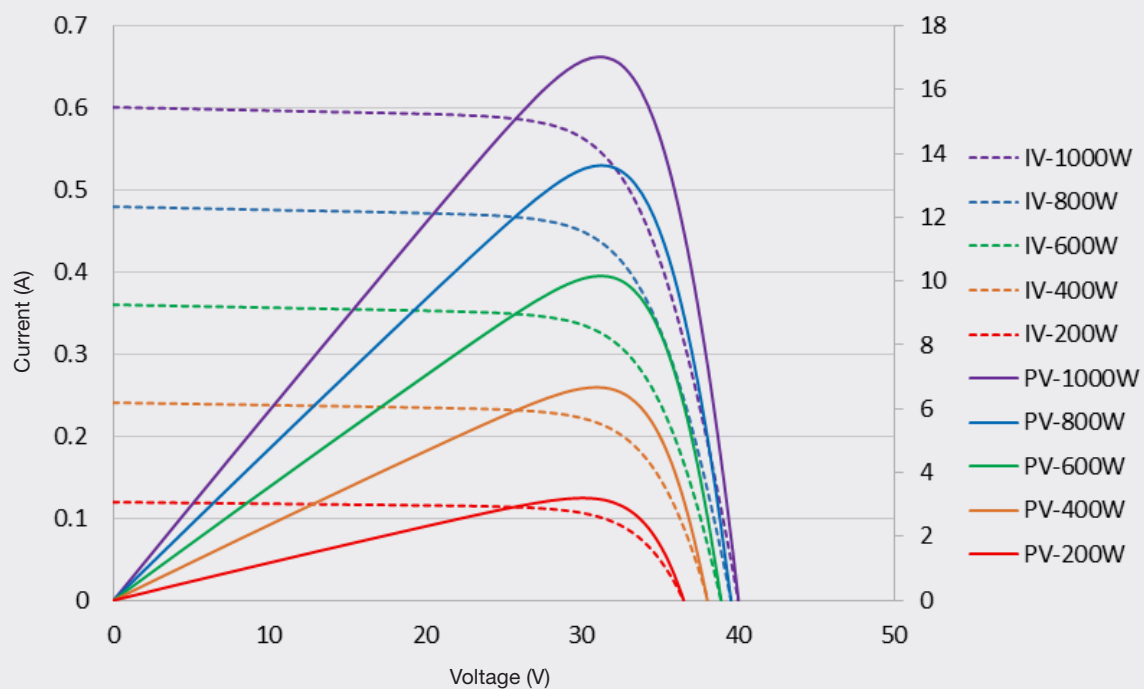
\*\* Depending on batten spacing.

\*\*\* The certification process is pending.

STC standard conditions: irradiance = 1,000 W/sq. m.; cell temperature = 25°C; AM = 1,5.

<sup>(1)</sup> CIGS (copper, indium, gallium and selenium) is an acronym which describes the latest development in high efficiency solar cell technology (this technology is the most effective in shady conditions) providing high performance while free from cadmium and lead.

### Voltage curve I-V and P-V curves at different irradiance levels.



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