TECHNICAL SPECIFICATIONS

SOLARIS™
VDIAMOND TERRACOTTA-M1/A1





Freesuns Solar Roof tiles are powerful, beautiful and sustainable.

Every Freesuns roof generates carbon-emission-free solar power creating a return on investment for building owners and a stunning roof for their building.

Suitable for new buildings or the renovation of listed roofs.

Powerful

Freesuns Solar Roof tiles contain photovoltaic cells that convert sunlight into clean energy. Our solar tiles provide maximum photovoltaic coverage for optimal energy production on all types of roofs.

Beautiful

Freesuns Solar Roof tiles are available in a wide range of colours and finishes, suitable for both modern and traditional architecture. This allows the production of solar energy without compromising the aesthetics of the building.

Flexible

Our small format tiles, pre-cut in different shapes, allow you to accommodate roof obstacles such as windows and chimneys, adapt to complex roof shapes and thus guarantee maximum coverage of photovoltaic cells.

Safe

The design of our tiles significantly reduces the risk of fire thanks to a diode present in each tile, a high thermal mass, and monitoring by power optimizers.

Return on Investment

By generating a portion of your energy needs for free, the Freesuns Solar Roof has a positive return on investment and will pay for itself over its lifetime - unlike a traditional roof.

Designed in Switzerland

Freesuns Solar Roof tiles are designed and developed in Switzerland.



Easy to install

The tiles are installed by traditional roofers on existing roof structures with existing fixtures.

Detailed Engineering

With its state-of-the-art software, Freesuns provides a detailed layout of each roof, showing how to install each tile with precision.

FREESUNS SA | Chemin de la Séverire 6 | CH-1114 Colombier-sur-Morges (VD)
info@freesuns.ch | +41 79 693 66 20 | www.freesuns.ch

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Physical specifications

Dimension of the tile (L x H mm)	–	730 x 400 mm
Surface of the visible area (L x H mm)	–	730 x 140 mm
Thickness of the tile	–	7 mm
Number of cells per tile	–	3
Number of tiles per m^2	–	9.65
Power per m^2	–	104.3 Wp (M1) / 97.5 Wp (A1)
Unit weight	–	4.75 kg
Weight per m^2	–	45.84 kg
Cell Type	–	Monocristallin PERC 5BB 156.75 x 156.75 mm
Connector type	–	MC4-Evo 2
Type of glass	–	Tempered solar glass, front/back
Hail resistance	–	HW4
Max. test load (Incl. safety factor of 1.5)	–	5400 Pa

Electrical specifications

		M1	A1
Bypass diode per tile	–	1	1
Power per tile (Pmpp)	–	10.8 Wp	10.1 Wp
Voltage (Umpp)	–	1.58 V	1.59 V
(Impp)	–	6.81 A	6.34 A
Open Circuit Voltage (Voc)	–	2.02 V	2.03 V
Short Circuit Current (Isc)	–	7.24 A	6.75 A
Tile efficiency	–	10.41 %	9.78 %
Electrical measures	–	+/- 5%	
Max. system voltage*	–	1000 VDC	
Max. reverse current	–	20 A	
Temperature coefficient (Voc)*	–	-0.36%/K	
Temperature coefficient (Isc)*	–	+0.06 %/K	
Temperature coefficient (Pmpp)*	–	-0.36 %/K	

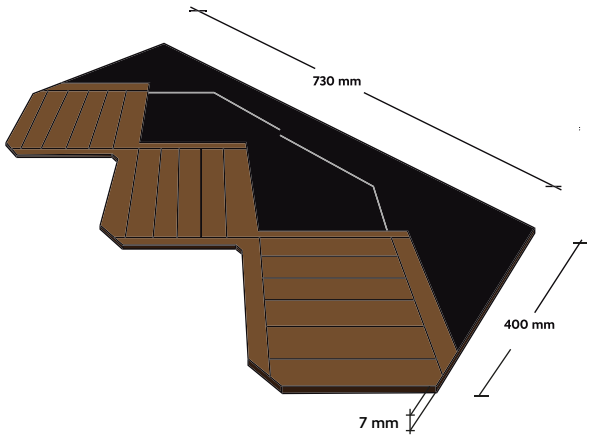
*Measured coefficients for the cells. Electrical performance characteristics under STC conditions (1000 W/m2 , 25° C, AM 1.5).

Appearance

- Earth tone color - terracotta, brown, red

Warranty

- 10 years on the tiles
- Minimum power guarantee: 90% after 10 years
- Weather resistance guarantee: 40 years



Data subject to change without prior notice. Tile color may vary.

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