

solar
energy tiles



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solar energy tiles

...A new way to generate green energy with aesthetically pleasing



What is the Solar Energy Tile?

The Solar Energy roof tile is a unique technical form of integration between a high-quality solar cell processed to fit into an engineered clay roof tile.

Installation

The Solar Energy roof tiles are connected to each other by cables equipped with TÜV specially approved plugs. They are connected in groups of a maximum 33 roof tiles to an Optimizer and then towards an inverter. These quality systems are from the brand Solar Edge.



Solar Edge Inverter and Optimizer.



Why Solar Energy Tiles?

The ultimate energy solution for aesthetically pleasing buildings, our Solar Energy Tiles are unlike solar panels in that they are barely noticeable on the finished roof. This new and revolutionary Solar Energy Tile is ideal for both 'city and rural locations'.

The appearance of homes are more often than not improved by the application of these Solar Energy Tiles, especially when old concrete tiles or panels need to be replaced. The power production is comparable to modern, regular solar panels.

In addition to the roofs aesthetics there are the obvious cost saving benefits and green credentials to enhance your home. Each project will have it's own individual needs in terms of how many tiles are required or for what kind of energy output you are looking to achieve.

How does it work?

The Solar Energy Tile is a quality clay roof tile to which a solar energy cell has been integrated. The tiles are fixed on the roof in the traditional way on battens and can also be used with non-solar versions of the tile.

Blackline F10 Solar Tile



appearance to enhance your home now and in the future...



Silverline F10 Solar Tile

Simple 'Plug and play' connection

Each Solar Energy roof tile has two connecting cables with TÜV-approved plugs*. The Solar Energy Tiles are connected together on the rear side of the tile.

Inverter

The cabling is connected to the Inverter to absorb and convert the generated power in the form of 220 V into the mains. Depending on the power consumption, the power is directly used or supplied back to the grid.

Monitoring

A web-based portal (via Mac & Android App) offers enhanced PV performance by monitoring and yield assurance through immediate fault detection and alerts at module level, string level and system level.

No hardware or wiring is required to transmit data from the power optimizers to the inverter: the monitoring sensors and transmitters are built into the optimizer and solar inverter, and measurement data is transmitted via wi-fi to your chosen device.

The Solar Energy Tile' has a unique Patented 'plug and play' system which simply links each tile together and then delivers the solar energy to the Optimiser and Inverter



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TECHNICAL SPECIFICATIONS for 'BLACKLINE' MODEL

General data

Solar cell type:	mono-crystalline Silicon
Dimensions of cell:	156 x 156 mm
Shape of cell:	square
Number of cells:	2 series
Efficiency of cell:	≈ 20.22%

Technical specifications

Maximum power:	9 W
Output tolerance:	± 3%
Optimum voltage:	1 V
Optimum current:	9 A
Open circuit voltage:	1.2 V
Short circuit current:	9.4 A
Max' system voltage:	1000 VDC
Module efficiency:	≈ 20.22%
Temperature coefficient voltage:	-155 ± 10 mV/°C
Temperature coefficient current:	+0.06 ± 0.01%/°C
Temperature coefficient power:	-0.5 ± 0.05%/°C

Mechanical specifications for the F10 tile

Dimensions of roof tile:	487 x 296 mm
Dimensions panel:	L 172 x W 344 x D 17 mm
Covering width roof tile:	242 mm
Gauge/Batten distance:	419 - 428 mm
Weight per tile:	4.8 kg
Weight per m ² :	48 kg
Number per m ² :	10 tiles
Minimum roof pitch:	25°

STC data

AM-condition:	AM 1.5
Light intensity:	1000 W/m ²
Temperature:	25°C

Maximum values

Temperature resistance:	-40°C ~ +80°C
Storage temperature:	-40°C ~ +80°C
Maximum allowed voltage insulation:	1000 VDC
Maximum wind resistance:	60 m/s
Maximum surface load:	200 kg/m ²
Maximum hail load:	25 mm / 80 km

Packaging

Number per pallet:	168 pieces
Dimensions full pallet:	80 x 120 cm
Weight full pallet:	800 kg

Laminate data

Dimensions:	L344 x W172 x D3.5 mm
Weight:	≈ 1.7 kg
Material frame:	none
Surface glass:	hardened solar glass
Glass thickness:	3.2 mm
Material:	EVA
Material back sheet:	TPT

Guarantee provisions

Solar Energy Tiles come with extensive guarantee provisions:

- 10 years product guarantee (solar energy tile)
- 30 years product guarantee (roof tiles)
- 25 years output guarantee (min' 80% after 25 years)
- 10 years roof system guarantee

TÜV certification

*These Zep Solar Energy Tiles have been extensively tested by TÜV a world leader in product testing and certification and have passed all tests.



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Manufactured to comply with the requirements of EN1304 European Standard for Clay Roof Tiles