



STANDARD PRODUCT

CUSTOM PRODUCT



PROTOTYPE

## SUNNY TILE

### STAR UNITY AG

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### SYSTEM DESCRIPTION

Form and colour make this photovoltaic tile developed by STAR UNITY AG very similar to an ordinary roofing tile. It is made of PMMA-acrylic glass like the transparent tiles used for daylighting, is 44 cm long, 26 wide, 3,5 cm thick and weighs about one kilogram. 13 tiles cover one square meter.

There are two tile variants: one equipped with amorphous cells (2W) and the other with monocrystalline cells (6W).

The crystalline module comprises 27 cells in series which produce 12,5 V. It is therefore possible to load a standard battery with a single tile.



## APPLICATION FIELD

Building type	20° to 50° tilt standard roof
Building elements	Acrylic glass tile (PMMA)
Mounting technology	Like standard tile
PV Module	Small rectangular monocrystalline cells, resin encapsulated (not EVA)

## AT DEMOSITE

PV Area	11 m <sup>2</sup>
PV Module	Sunny tile
Power, voltage	6.0 W, 12.5 V (standard conditions)
Size	440 x 260 x 35 mm
Connection	3 parts of 6 x 8 tiles in series (total: 144 tiles) use of connectors

## SUNNY TILE

STAR UNITY is a manufacturing company that produces and sells electrical appliances:

- electric heating systems
- heating cables - heating mats
- flexible heating films
- warming wires
- electrical convectors (Elcalor)
- electrical radiators
- antifreezing devices
- Elcalor boilers

Solar applications constitute its second product line:

- Naps-Neste products representation
- Sunny Tile production and marketing
- Solar boilers

## SYSTEM TECHNOLOGY

The 'Sunny Tiles' of STAR UNITY consist of

- a top of transparent plastic moulded exactly like a traditional tile
- a PV laminated module with 27 cells that fits into the plastic mould
- a black plastic backing, which forms a case for the PV module with the upper plastic part.

Every tile is equipped with a by-pass diode and an electroluminescent diode (LED) for the control of the electricity production of each photovoltaic unit.

