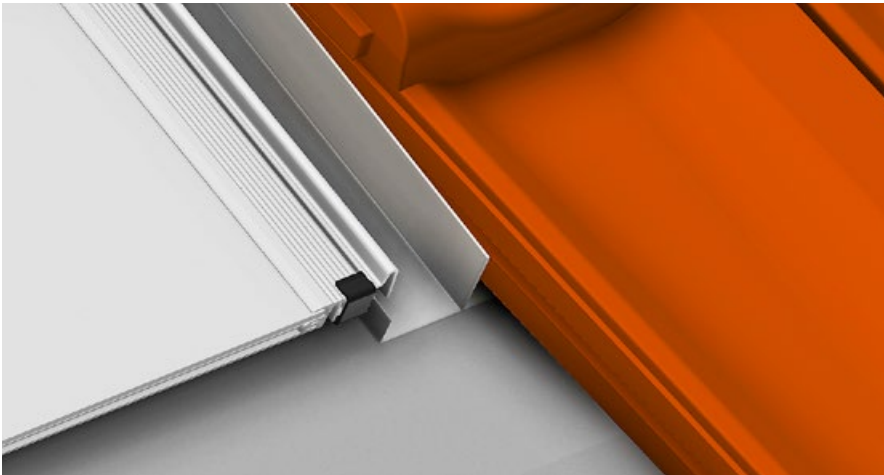


# Solrif<sup>®</sup> in-roof photovoltaic mounting system



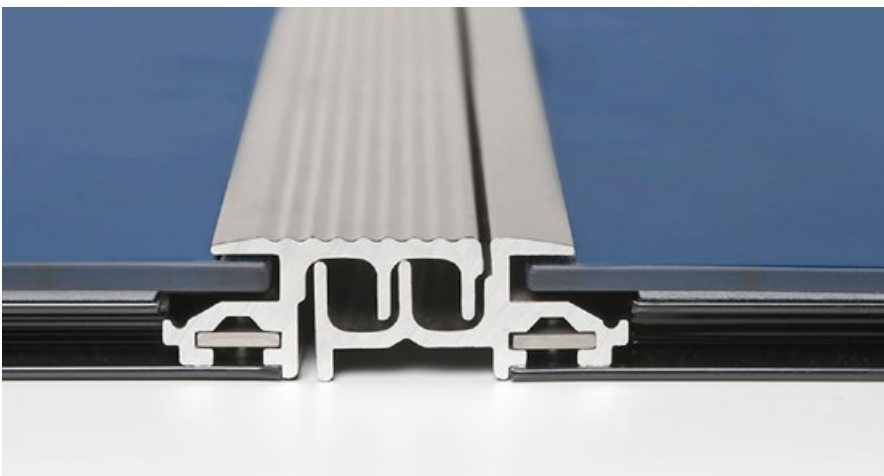
# Solrif® modules are a sustainable alternative to roof tiles

Solrif®, the patented in-roof photovoltaic mounting system from Schweizer, transforms a frameless standard module into a solar roof tile and thus replaces classic tile roofing on pitched roofs. Instead of tile battens, Solrif® battens measuring 120 × 30 mm are screwed into the substructure to hold the mounting clamps in place. Solrif® creates the basis for photovoltaic solutions of high aesthetic quality for new buildings as well as for renovations.



## Easy installation

Solrif modules are held in place by mounting clamps fixed to the roof battens.



## Optimum rain protection

Solrif frames of adjacent modules interlock on the left and right by means of a double fold and overlap from top to bottom – similar to roof tiles.

## Solrif® at a glance

Meeting the highest aesthetic standards:

- compelling design solutions, even for challenging projects and listed buildings.

Reliable and high-quality:

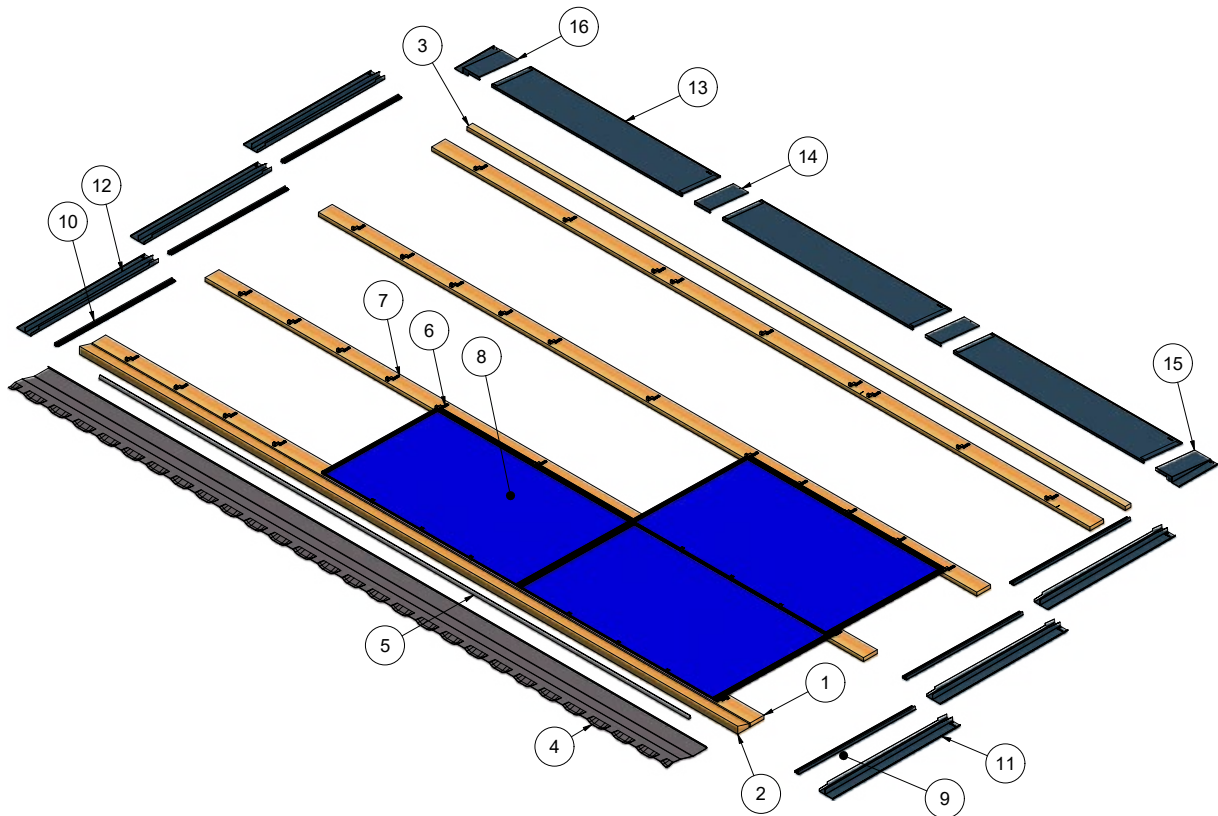
- optimum rain protection
- straightforward service: Modules individually replaceable
- modules laid floating, not clamped (this protects the modules)
- laid cables are weatherproofed
- Schweizer quality

Environmentally friendly and efficient:

- forms water-bearing layer on the roof membrane and thus replaces the usual roof covering
- no maintenance required and good self-cleaning properties due to the open glass edge on the module underside
- no accumulation of dirt under the modules (birds' nests, martens etc.)
- Good rear ventilation ensures high yield
- short payback period for energy and ecological factors
- lower CO<sub>2</sub> footprint compared to on-roof photovoltaic systems

Simple and quick installation:

- for roof surfaces from 10° to 70° pitch
- blind modules for tricky areas or sloping roof ends
- dedicated planning software (SPT)
- training, personal consultation and advice on mounting and installation on site



- |                                 |                               |                            |                              |
|---------------------------------|-------------------------------|----------------------------|------------------------------|
| ① Solrif® batten                | ⑤ Eave profile                | ⑨ Right-hand edge profile  | ⑬ Ridge flashing             |
| ② Adapter plank                 | ⑥ Mounting clamp profile      | ⑩ Left-hand edge profile   | ⑭ Protective plate           |
| ③ Support batten ridge flashing | ⑦ Mounting clamp glass        | ⑪ Right-hand side flashing | ⑮ Right-hand corner flashing |
| ④ Connecting sheet              | ⑧ Solrif® photovoltaic module | ⑫ Left-hand side flashing  | ⑯ Left-hand corner flashing  |

Solrif® modules are the optimum alternative to tiles, either for new buildings or for roof renovations. They combine many practical advantages with aesthetic appeal. The roof substructure design is similar to that of a conventional tiled roof. However, the tiles required for a conventional roof and complex, time-consuming installation can be dispensed with. In addition, there is a high degree of design freedom. The special design of the profiles also promotes self-cleaning by rainwater and helps snow to slide off. The solar cells can thus always produce a maximum yield.

# Planning made easy – with the Solar.Pro.Tool

The web-based Solar.Pro.Tool planning software records all project data and supports the entire planning process. For initial clarification, several simple building models are available. The use of GIS data makes it possible to map complex roofs, and CAD plans can also be imported. Either partial roofs in combination with tiled roofing or entire roofs can be automatically optimised and designed. The structural calculations and the checking of load limits are carried out automatically. Overloads are displayed in detail.

The software creates parts lists and comprehensive documentation including a structural stability verification of the system. An integrated tool based on Polysun is available for electrical design and yield simulation.

## Advantages of the Solar.Pro.Tool

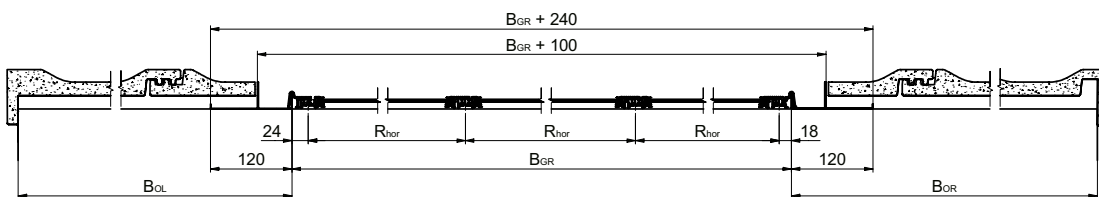
- User-friendly project planning with system design, structural assessment, electrics and possible alternatives
- Capture of building geometrics from Google, PDF, JPG or DXF
- Scalable to suit your requirements, unlimited number of planning projects and versions
- Planning with multiple module sizes possible
- Multiple roofs and houses in one design
- Cloud storage of the data enables convenient web-based access from any computer, even for entire teams
- Top-quality support from Schweizer specialists



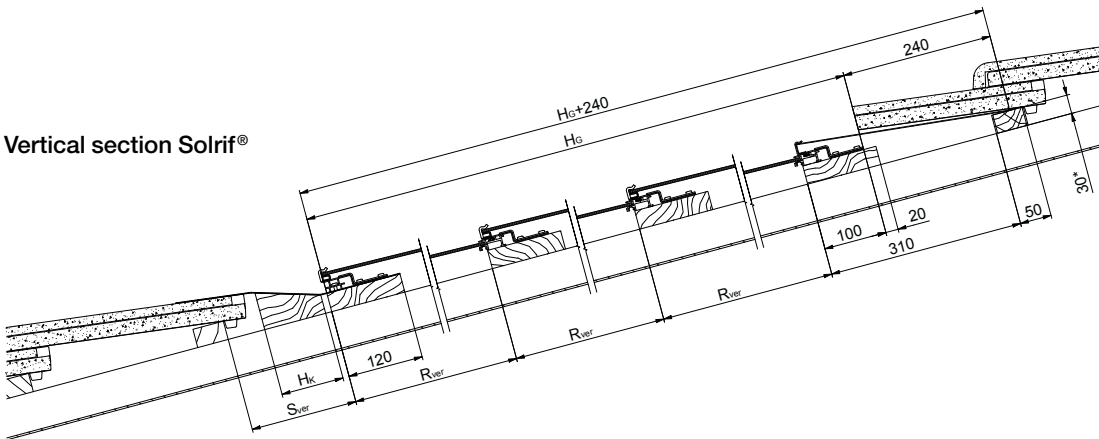
# Precise sectional drawings enable building-specific implementation

For precise implementation, the grid sizes and installation dimensions (horizontal and vertical) and the exact field measurements are required. Sectional drawings from the Quick Installation Guide supplement the information in the planning software.

## Horizontal section Solrif®



## Vertical section Solrif®



An individual license is required to use the Solar.Pro.Tool. planning software.

Get your licence at [www.prosolrif.solar](http://www.prosolrif.solar)

# The in-roof system for all pitched roofs

The Solrif® in-roof PV mounting system can be used on all pitched roofs. It is mounted from bottom to top and from right to left. Thanks to the high degree of flexibility and modularity, projects can be implemented to meet any requirements. Solutions are available for complete roof coverings, partial areas and roof penetrations (skylights, chimneys, etc.).



Mounting the lower connector and first row of brackets (see step 7).

Just a few steps to create a Solrif® roof:

- 1 Study planning report, parts list and site check list
- 2 Check delivery for completeness and conformity with the planning report
- 3 Measure the Solrif® field (left, right, top and bottom) and consider possible obstacles
- 4 Check Solrif® batten distances; if necessary mount additional battens, or correct positioning according to plan
- 5 Mount lower transition element with adapter plank and eave apron or inlet plate in the rain gutter
- 6 Place eave profile on the edging apron
- 7 Mount the bottom row of clamps using the mounting gauge
- 8 Attach the edge plates (if ordered) and edge profiles from the right and lay the modules including electrical connections (if necessary with earthing)
- 9 Place further rows of brackets and insert modules
- 10 For a partial roof, cover the remaining area with tiles – for a full roof, place the sheet metal flashing at verge and ridge



Insert the modules from right to left and from bottom to top (cf. steps 7, 8 and 9).



Attach another row of clamps using the mounting gauge (see step 9).



Insert modules

# Solrif® – tested and certified

## Technical Data

- Roof pitch: 10° to 70° (with foil subroof)
- Underlay, sarking membrane to prevent condensation and moisture in accordance with ZVDH/SIA 232/1
- Timber substructure: analogous to tiled roof or on vertical counter-battens

## Certifications

Requirements	Standard	Certificate no.
TÜV design certificate	TÜV 2PfG1794	R 60100560
Design suitability and approval	EN 61215	TÜV 21226580.002
Corrosion resistance (ammonia)	IEC 62716	TÜV 21220296a_AC
Corrosion resistance (salt mist)	IEC 61701	TÜV 21220296a_SMC
Rain impact resistance	CEN/TR 15601	TU Berlin AZ 130208
Fire properties Kl. E	EN 13501-1	MPA Stuttgart 230009602-2
Fire resistance BROOF(t1)	EN 13501-5	MPA Stuttgart 902 5821 000-2
Design certification	CSTB GS no 21	Avis Technique 21/12-22
Patent	Europe	EP 1 060 520 B1

## Our partners

The Solrif® in-roof mounting system is offered in combination with high-quality photovoltaic modules by the following module suppliers:



Aleo Solar GmbH  
[www.aleo-solar.de](http://www.aleo-solar.de)



AxSun Solar GmbH  
[www.axsun.de](http://www.axsun.de)



BISOL Proizvodnja d.o.o.  
[www.bisol.com](http://www.bisol.com)



CS-Wismar GmbH  
[www.sonnenstromfabrik.com](http://www.sonnenstromfabrik.com)



Soli Tek Industry OÜ  
[www.solitek.eu](http://www.solitek.eu)



Activ'Glass  
[www.activ-glass.com](http://www.activ-glass.com)

Ernst Schweizer AG  
Bahnhofplatz 11  
8908 Hedingen, Switzerland  
T +41 44 763 61 11  
[solrif@ernstschweizer.solar](mailto:solrif@ernstschweizer.solar)  
[www.ernstschweizer.ch](http://www.ernstschweizer.ch)  
[www.solrif.com](http://www.solrif.com)

## Other solutions from Schweizer: MSP photovoltaic mounting systems

MSP modular photovoltaic mounting systems are the ideal solution for every roof – from flat to pitched to trapezoidal sheet metal roofs. In terms of technology and structural stability, they are leading-edge and quick and easy to mount or install. Once installed, the quality of materials and durability of the systems are outstanding.  
[www.msp.solar](http://www.msp.solar)