

# Leading Architecture Integrated photovoltaics

Designed Building Integrated Photovoltaics (BIPV)



red dot winner  
urban design

*me*gasol



# Building-integrated photovoltaics

<b>FAST</b>	<b>4</b>
<hr/>	
<p>The FAST system is a custom-made PV facade system. The color, shape, and size of the modules can be freely selected.</p>	
<b>MATCH Slate</b>	<b>8</b>
<hr/>	
<p>MATCH Slate is a high-quality PV roof integrated system that also looks good on facades and blends harmoniously into the architecture.</p>	
<b>MATCH Tile</b>	<b>14</b>
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<p>MATCH tile is a roof integrated system that mimics the classic appearance of tile roofs, enabling seamless integration into traditional roof designs.</p>	
<b>LEVEL Up</b>	<b>18</b>
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<p>LEVEL Up is a flush-mounted PV roof integrated system that impresses with its elegant and minimalist appearance.</p>	
<b>NICER X</b>	<b>22</b>
<hr/>	
<p>NICER X combines modern design with maximum energy yield and quick installation on facades and roofs.</p>	
<b>Design element: solar module</b>	<b>28</b>
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<p>Solar modules are becoming a design element in forward-looking buildings.</p>	
<b>Innovative technology</b>	<b>34</b>
<hr/>	
<p>Innovative technology increases the efficiency and thus the performance of integrated photovoltaics.</p>	
<b>Expert advice</b>	<b>39</b>
<hr/>	
<p>Individual consultation and planning support form the basis for the use of solar modules as design elements.</p>	
<b>Responsibility</b>	<b>40</b>
<hr/>	
<p>Shaping the future encompasses all areas of life. In our daily work, responsibility becomes the foundation of entrepreneurship.</p>	
<b>The company</b>	<b>43</b>
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<p>Our vision: Solar modules are naturally considered as a design material.</p>	

# FAST facade system

Substitution of all conventional facade elements with the most efficient solar facade in the world.

## Areas of application

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FAST is suitable for all areas where curtain wall systems are used. These include, for example, single-family homes, apartment buildings and high-rise buildings. Floor-high solar modules can be inserted into the FAST mounting system. It is used for particularly high static and aesthetic requirements.

## How it works

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The solar modules with backrails are placed into the horizontal profiles and folded up like a tilting window. They are fixed by a slide safety catch. Later dismantling is possible without restrictions.

## Flexibility

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Glass-glass modules used on the facade are usually custom made. Their shape, colour, size and surface can be individually designed. Price advantages can be achieved when using the standard measurements. Notes on the design process can be found on p. 28.

## Compatibility

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The FAST facade system is compatible with vertical structures in all standard materials (wood, aluminium, steel).

## High performance

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FAST modules achieve up to **230 Wp/m<sup>2</sup>**.



Video and technical documentation:  
[megasol.ch/en/fast](https://megasol.ch/en/fast)

## System interface

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The adhesion of the backrails on the rear side of the module takes place in-house. This reduces technical, administrative and logistical interfaces as well as expenses.

## Type of installation

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The mounting is concealed by means of backrails on the rear side.

## Installation time

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10 m<sup>2</sup> / man-hour (experienced installation personnel)

## Components

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- > Glass-glass solar modules with SSG adhered backrails and mechanical support
- > Horizontal rail, slide safety catch
- > Vertical structure as well as consoles/spacer screws are often provided on site. If required, they are part of the package.

## Technical specifications

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Solar module type: glass-glass (colours, shapes, thicknesses, surfaces can be freely defined)

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Vertical adjustment: +/- 4 mm, on the front  
also possible after mounting

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Typical span width of the horizontal profile: 800 mm

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Hail protection: Protection class 5 (hailstone size 50 mm)

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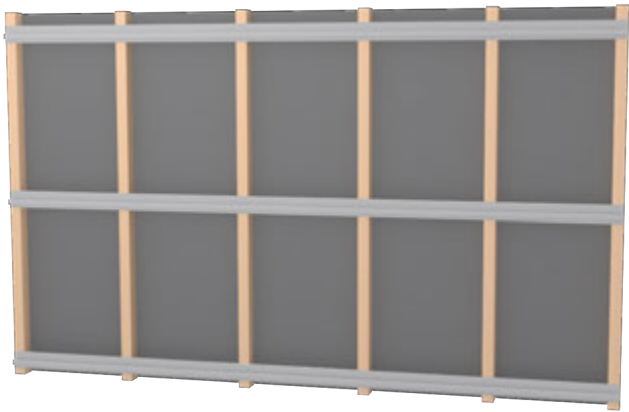
Fire safety classification: B - s1, d0 according to European fire protection standard EN 13501-1.  
The construction is made of aluminum.

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Vertical support: mechanical (lower edge of solar module)

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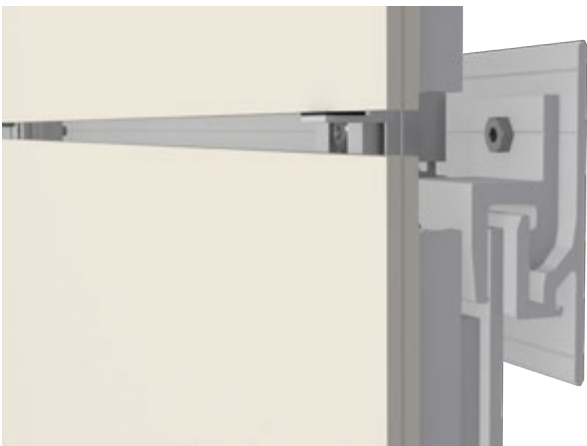
## Mounting procedure and options



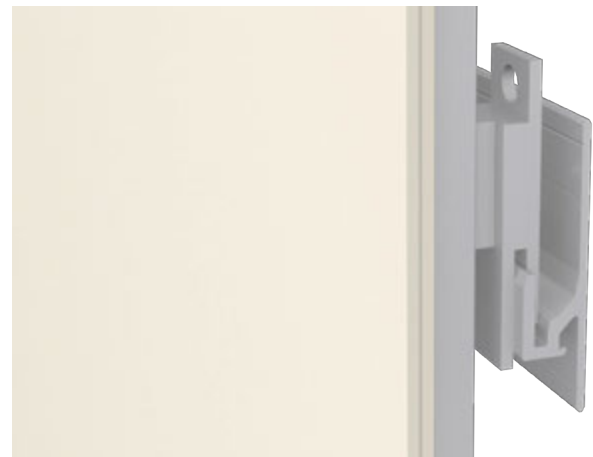
1 Apply transverse profiles to the vertical structure of the building.



2 Place module, inclination is possible for cabling.



3 Secure module temporarily and adjust, +/- 4mm also possible after mounting.



4 Suspension safety for hard-to-access areas



**Option:** Concealed mounting



Storey-high modules feasible without problems

# FAST







# MATCH Slate

Complete roof covering or in combination with shingle-like roof coverings.

## Areas of application

MATCH Slate is predestined for roof-integrated systems with high aesthetic requirements – especially for projects where the design of the roof is based on a classic brick look and/or demanding roof geometries exist.

## How it works

The system is built on a conventional roof battening. The solar modules are fixed to the roof with discreet MATCH hooks and form a seamless transition to the roof edges, whereby no on-site metal sheeting work is required.

MATCH Slate can also be perfectly integrated into an existing roof with tiles (e.g. aluminium composite panels, fibre cement, glass elements, etc.)

## Flexibility

Three standard formats give the system a high-degree of flexibility and enable full-surface integration for all roof and facade geometries. The formats can be combined in different laying types as required. The INSHAPE adaptation panel complements the Creek Granite PV modules. It can be cut to size on site using a jigsaw or similar tool. It impresses with its identical appearance.

## Installation type and time

MATCH Slate is used just like classic roof shingles. The installation time is also based on this.

## Design

MATCH Slate is available in the standard designs Fjord Totally Black and Creek Granite Satin.

Individual colours and glass surfaces can be freely designed according to SOLARCOLOR (solarcolor.ch). Design options are illustrated from page 28 onwards.

## Components

- > MATCH Slate module
- > MATCH Slate hook and stopper
- > Snow guard (optional)
- > *Anchoring device for personnel protection (optional)*

## Sub-roof requirements

- > Roof pitch above 25°: sub-roof for normal demands
- > 14° - 25°: for increased demands
- > 6° - 13°: for extraordinary demands

## High performance

MATCH Slate combines aesthetic integration with an output of up to **184 Wp/m<sup>2</sup>**.

## Technical specifications

Solar module type: Frameless glass-glass modules

Hail protection: Hail protection class 5 (grain size 50 mm)

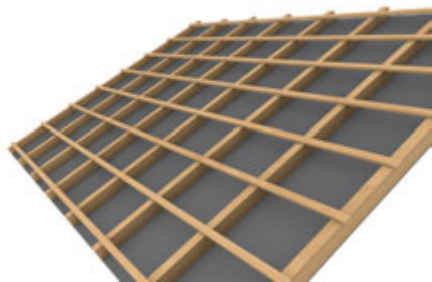
Fire protection:  $B_{ROOF}(t1)$ ,  $B_{ROOF}(t2)$  in accordance with DIN EN 13501-5 (hard roofing, abP), the top cover layer and the rear side are made of heat-resistant glass. The construction is made of aluminum.

Tightness against driving rain: according to CEN/TR 15601

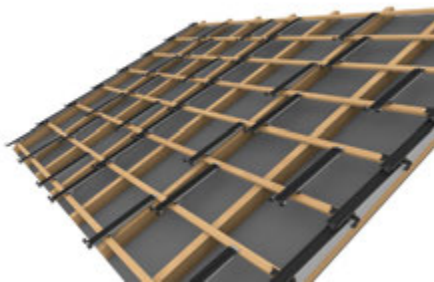


Video and technical documentation:  
[megasol.ch/en/match/slate](https://megasol.ch/en/match/slate)

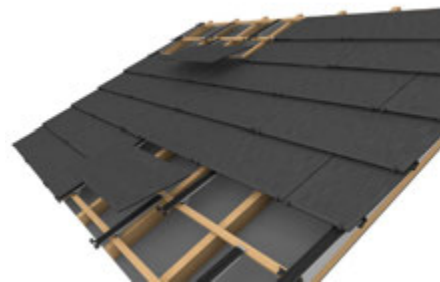
Order now directly on [store.megasol.ch/en\\_US/match-slate](https://store.megasol.ch/en_US/match-slate).



1 Preparing the roof battens



2 Install module hooks

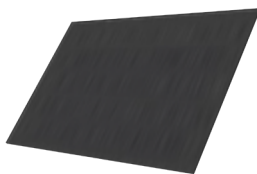


3 Insert MATCH Slate modules

### Module formats



Cellular matrix: 2 x 3 half cells  
Grid dimensions: 362 x 380 mm



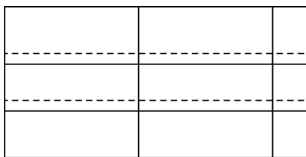
Cellular matrix: 2 x 7 half cells  
Grid dimensions: 724 x 380 mm



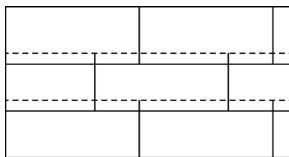
Cellular matrix: 2 x 12 half cells  
Grid dimensions: 1086 x 380 mm

### Examples of installation layouts

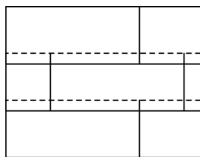
MATCH Slate can be freely combined with other individual installation layouts.



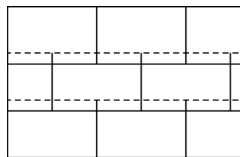
Normal 2 x 12



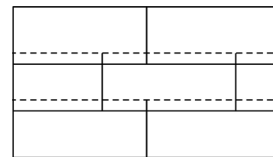
Offset 2 x 12 with 2 x 7



Offset 2 x 12 with 2 x 3

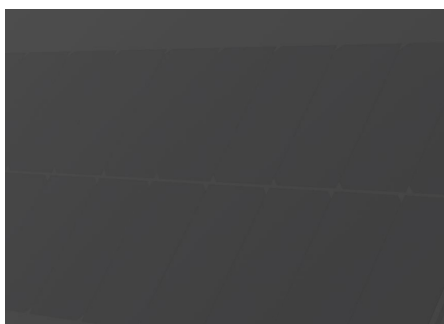


Offset 2 x 7 with 2 x 3

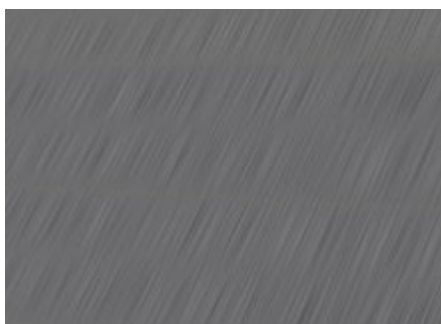


Combo 2 x 12 & 2 x 7 & 2 x 3

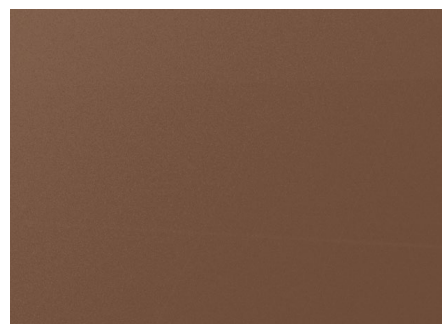
### Standard designs



Fjord Totally Black



Creek Granite



Fjord Terracotta

# MATCH Slate





# MATCH Slate



▲ Church Saas-Fee | MATCH Slate Creek Granite solar roof



# MATCH Tile

Solar roof covering in combination with roof tiles.

## Areas of application

MATCH Tile is predestined for roof-integrated systems with high aesthetic requirements – especially for projects where the design of the roof is based on a classic tile look and/or demanding roof geometries exist.

## How it works

The system is built on a conventional roof battening. The solar modules are fixed to the roof with discreet MATCH hooks and form a seamless transition to the roof tiles, whereby no on-site metal sheeting work is required.

## Compatibility

MATCH Tile is compatible with the following roof tiles:

- > Erlus Level RS type F
- > Creaton Cantus type A
- > Gasser FS03 & MS95 type A
- > ZZ Wancor Plano type B
- > Nelskamp G10 type C
- > AGZ Ziegeleien AG GS37 Glattschiebeziegel type D
- > Jacobi Walther Z10 type E

*(other manufacturers/tiles on request)*

## Installation type and time

MATCH Tile is used just like classic roof tiles. The installation time is also based on this.

## Design

Match tile is available as standard in the Fjord Totally Black and Fjord Terracotta designs.

Individual colors and glass surfaces can be freely designed according to SOLARCOLOR (solarcolor.ch). Design options are illustrated from page 28 onwards.

## Components

- > MATCH Tile module
- > MATCH Tile hook

## Sub-roof requirements

- > Roof pitch above 25°: sub-roof for normal demands
- > 14° - 25°: for increased demands
- > 8° - 13°: for extraordinary demands

## High performance

Optimized visual integration in combination with roof tiles with an output of up to **183 Wp/m<sup>2</sup>**.

## Technical specifications

Solar module type: Frameless glass-glass modules

Hail protection: Hail protection class 5 (grain size 50 mm)

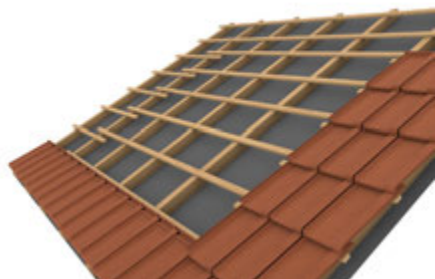
Fire protection:  $B_{ROOF}(t1)$ ,  $B_{ROOF}(t2)$  in accordance with DIN EN 13501-5 (hard roofing, abP), the top cover layer and the rear side are made of heat-resistant glass. The construction is made of aluminum.

Tightness against driving rain: according to CEN/TR 15601

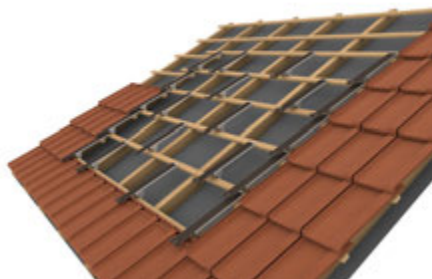


Video and technical documentation:  
[megasol.ch/en/match/tile](https://megasol.ch/en/match/tile)

Order now directly on [store.megasol.ch/en\\_US/match-tile](https://store.megasol.ch/en_US/match-tile).



1 Preparing the roof battens



2 Fitting module hooks



3 Insert MATCH tile modules

## Examples of module formats

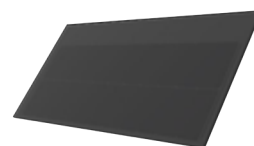
All current formats for all compatible tiles can be found at [megasol.ch/match/tile/](https://megasol.ch/match/tile/) "MATCH tile planning information".



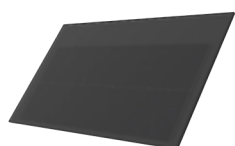
Cellular matrix: 2 x 12 half cells  
Cellular matrix: 1115 x 380 mm  
(Module type **A5**, replaces 5 tiles)



Cellular matrix: 2 x 11 half cells  
Cellular matrix: 1020 x 380 mm  
(Module type **B4**, replaces 4 tiles)



Cellular matrix: 2 x 11 half cells  
Cellular matrix: 1000 x 385 mm  
(Module type **C4**, replaces 4 tiles)



Cellular matrix: 2 x 9 half cells  
Cellular matrix: 848 x 370 mm  
(Module type **D4**, replaces 4 tiles)

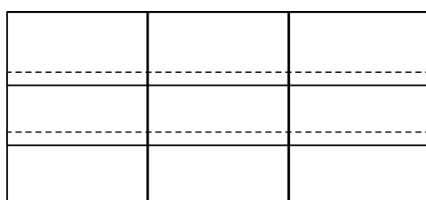


Cellular matrix: 2 x 11 half cells  
Cellular matrix: 1060 x 380 mm  
(Module type **E4**, replaces 4 tiles)

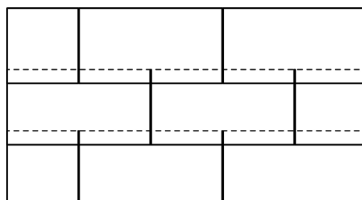


Cellular matrix: 2 x 5 half cells  
Cellular matrix: 920 x 390 mm  
(Module type **F4**, replaces 4 tiles)

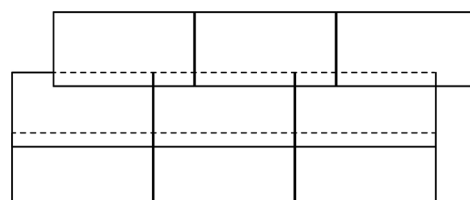
## Installation layouts



Standard mounting



Offset mounting

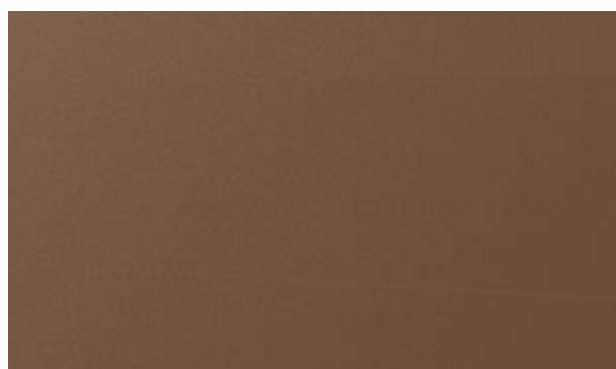


Customized

## Standard designs



Fjord Totally Black



Fjord Terracotta

# MATCH Tile





# LEVEL Up

Overlapping solar roofing for full-surface coverage.

## Areas of application

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LEVEL Up is ideal for solar roofs and solar facades with the highest aesthetic standards. It is perfect for completely replacing traditional roofing materials such as tiles or slate.

## How it works

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The system is based on simple, standardized roof battens. The LEVEL Up retaining hooks and support rails enable quick installation and form a rainproof, overlapping roof covering. Rainwater runs off cleanly and rear ventilation is guaranteed.

## Compatibility

---

Thanks to four module sizes, the LEVEL Up roof-integrated system can be seamlessly combined with all common roofing materials, such as roof tiles, shingles, or aluminum composite panels. Roof windows can also be integrated seamlessly. LEVEL Up can be equipped with integrated snow guards, lightning protection mounts, and safety anchor points for fall protection. Connections to the ridge and verge can also be easily realized using prefabricated profiles.

## Type of installation

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LEVEL Up has been consistently developed for simplified installation. The system is laid overlapping, whereby standard installation or offset installation can be used.

## Installation time

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12 m<sup>2</sup> / person hour (experienced installation personnel).

## Components

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- > LEVEL Up module
- > LEVEL Up rails and hooks
- > Anchorage devices for personal protection (optional)
- > Snow guard (optional)
- > Lightning protection hook (optional)
- > Velux & Wenger skylights (optional)
- > Aluminum composite plates (for fitting pieces)
- > Verge rail (optional)
- > Connection rail (optional)

## Roofing requirements

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- > Roof pitch over 25°: Subroof for normal exposure
  - > 14° - 25°: Subroof for increased exposure
  - > 6° - 13°: Subroof for extraordinary exposure
- 

## Technical specifications

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Solar module type: frameless glass-glass modules

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Hail protection: Hail protection class 5 (grain size 50 mm)

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Fire protection: B<sub>ROOF</sub>(t1), B<sub>ROOF</sub>(t2) in accordance with DIN EN 13501-5 (hard roofing, abP), modules made of heat-resistant glass and aluminum construction

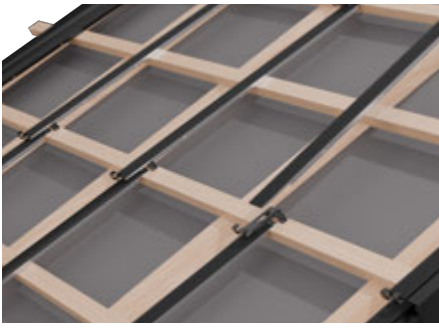
---

Rain resistance: according to CEN/TR 15601

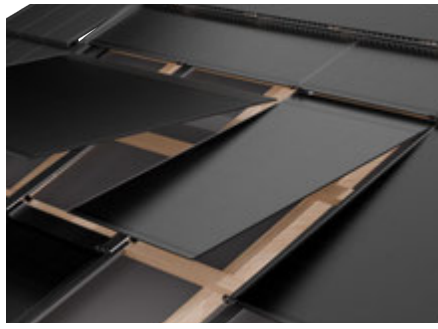
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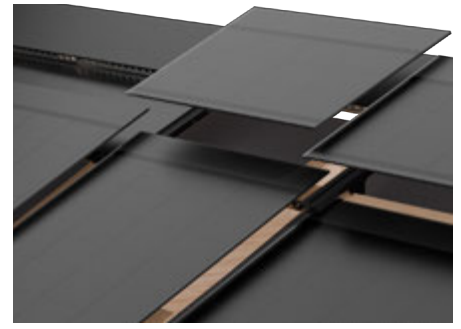
Technical documentation:  
[megasol.ch/en/level-up](https://megasol.ch/en/level-up)



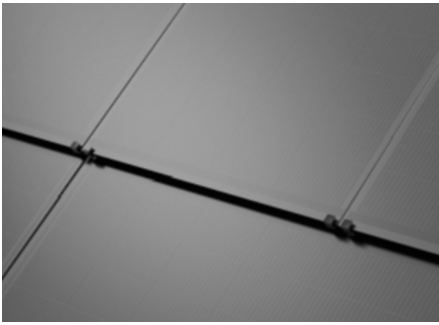
**1** The support rails and rail hooks are installed.



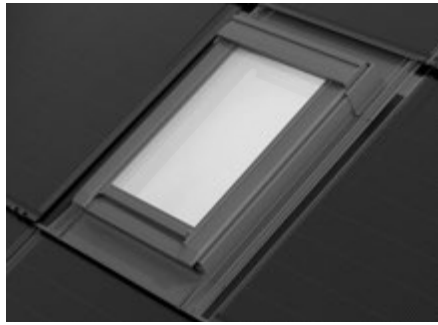
**2** The LEVEL Up modules are slid under the upper hooks and hooked in at the bottom.



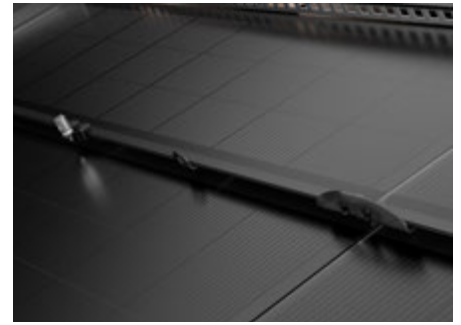
**3** Different module formats allow for individual installation patterns.



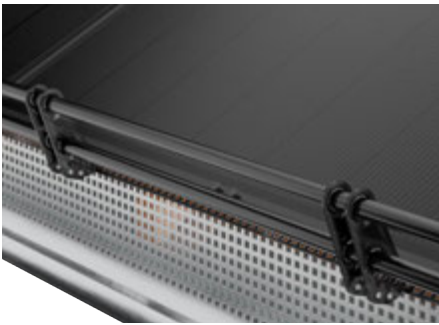
**Standard:** Glare-free optics (ZRM+)



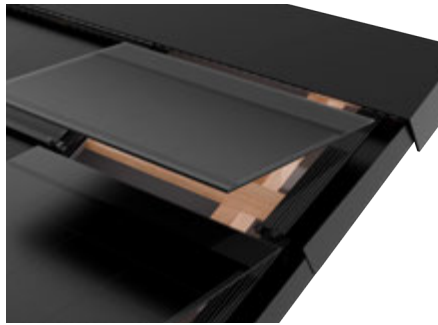
**Option:** Skylight



**Option:** Single anchor point (EAP), lightning hook, snow stopper



**Option:** snow guard

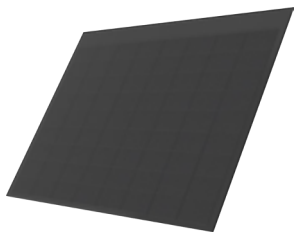


**Option:** verge rail



**Option:** Connection rail (to other roof coverings)

## Module formats



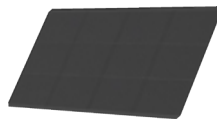
Cell matrix: 8 x 9 half-cells  
Grid dimension: 1541 x 1100 mm



Cell matrix: 4 x 9 half-cells  
Grid dimension: 770 x 1100 mm

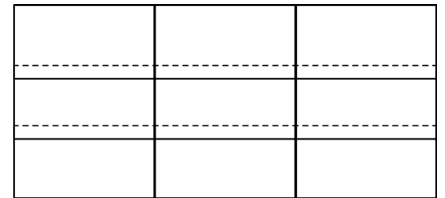


Cell matrix: 8 x 3 half-cells  
Grid dimension: 1541 x 465 mm

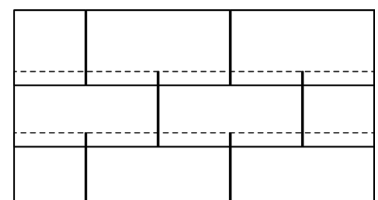


Cell matrix: 4 x 3 half-cells  
Grid dimension: 770 x 465 mm

## Laying types



Normal



Offset

# LEVEL Up





# NICER X solar roof

Elegant aesthetics are combined with minimal installation time, maximum durability, and superior performance.

## Maximum performance

As an integrated complete system, NICER X combines elegant aesthetics with an output of more than **217 Wp/m<sup>2</sup>**.

## Areas of application

NICER X can be used on rectangular pitched roofs and all common roofing types, especially timber and steel structures. Translucent NICER X systems are ideal for carports, hangars, stadium roofs, and pergolas, providing shading while allowing residual light transmission. Switzerland's most widely installed roof-integrated system is also suitable for slopes as low as 3°.

## How it works

Vertical supports are applied to the roofing battens. The modules are placed into the vertical supports and closed similarly to a car boot door. The modules are fixed with a snap lock. Dismantling is possible without restrictions.

## Flexibility

NICER X solar modules are available in black and translucent versions. Half and quarter modules with a similar appearance are among the standard components of the system.

## Compatibility

A roof window (Wenger window) specially developed for the NICER X roof integrated system enables seamless integration. NICER X can be equipped with an integrated snow guard.



Video and technical documentation:  
[megasol.ch/en/nicer](https://megasol.ch/en/nicer)

## Type of installation

NICER modules are installed flush-mounted and floating (horizontally and vertically).

## Installation time

20 m<sup>2</sup> / man-hour (experienced installation personnel)

## Components

- > NICER solar modules
- > Vertical rail
- > Roof ridge profile
- > Covering panel and ventilation grid
- > Snow guard (optional)
- > Wenger skylight (optional)
- > NICER X connection carrier (optional)
- > NICER X anchor point (optional)

## Sub-roof requirements

Canopy, carport, open warehouse, etc.  
(buildings that do not have to be completely water-proof in practice)

- > No sub-roof necessary

Residential buildings, office buildings, closed halls, etc.

- > Roof pitch above 13°: sub-roof for normal demands
- > 7° - 13°: sub-roof for increased demands
- > 3° - 6°: sub-roof for extraordinary demands
- > 0° - 3°: sub-roof with flat roof quality

Rail extensions and special modules can affect impermeability and must be verified individually.

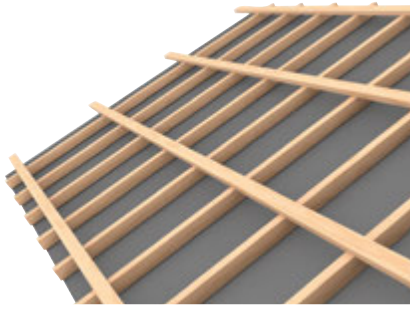
## Technical specifications

Solar module type: Framed glass-glass modules

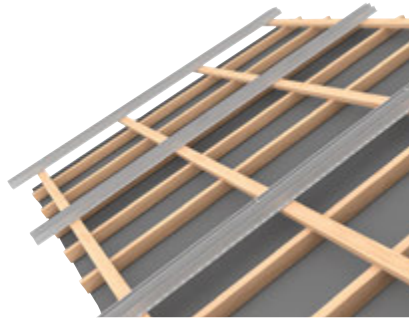
Grid dimension: 1740 x 1060 mm

Fire protection: B<sub>ROOF</sub>(t1) in accordance with DIN EN 13501-5 (hard roofing, abP), the top cover layer and the rear side are made of heat-resistant glass. The construction is made of aluminum.

Tightness against driving rain: according to CEN/TR 15601



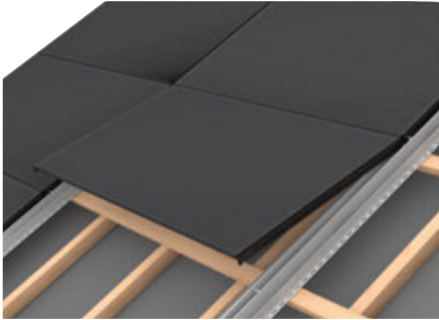
**1** A steel or wood construction serves as the basis.



**2** The NICER X rails are laid out and screwed onto the roof battens.



**3** The ridge profiles are then installed.



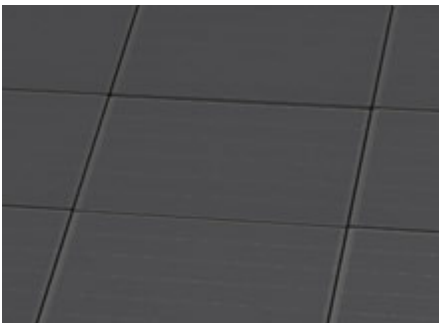
**4** The individual solar modules can simply be clicked in...



**5** ... and secure it using the snap lock.



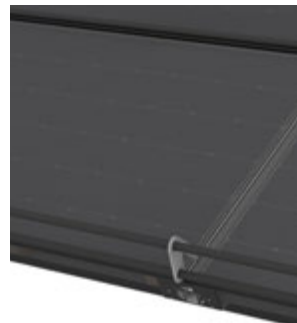
**6** Finally, the eaves cover plates and ventilation grids are installed.



**7** NICER X is watertight up to a 3° angle.



**Option:** Skylight



**Option:** Snow guard



**Option:** Anchor point (EAP)

### Standard designs

### Basic module

#### NICER X – special features

##### Appearance

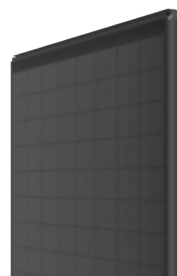
- > Totally Black is the standard design (no visible contacts thanks to RearCon module technology)

##### Snap-Lock mechanism

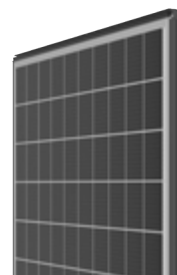
- > Visual feedback confirms that the solar modules are securely locked in place
- > The fastener can be opened and re-engaged several times

##### Compact system

- > Overall construction height of only 100 mm
- > Simplified handling
- > The 3 mm protruding frame protects the double-glass laminate during installation



Totally Black



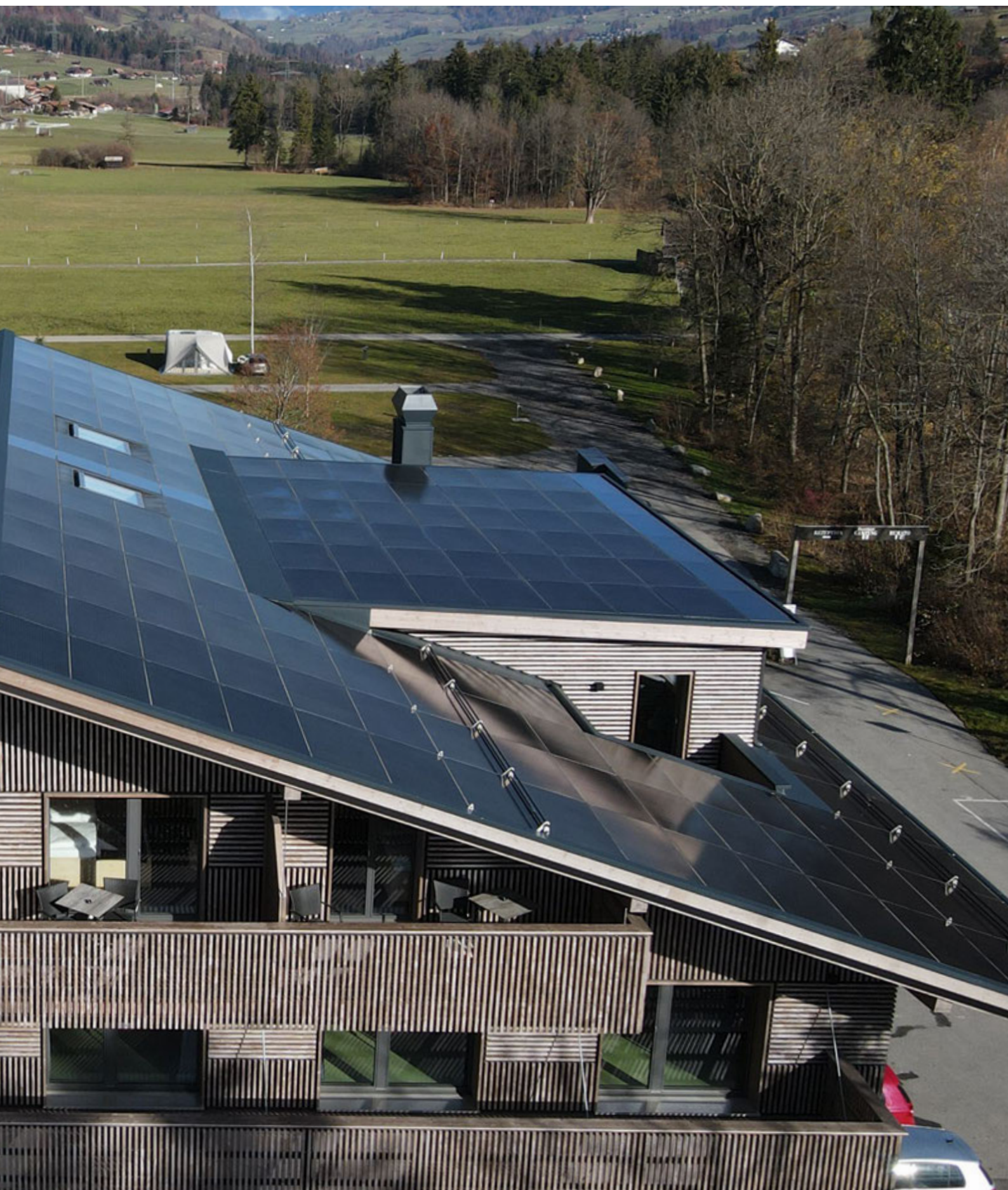
Translucent, increased cell spacing



6 x 10 cells

# NICER X





# NICER X





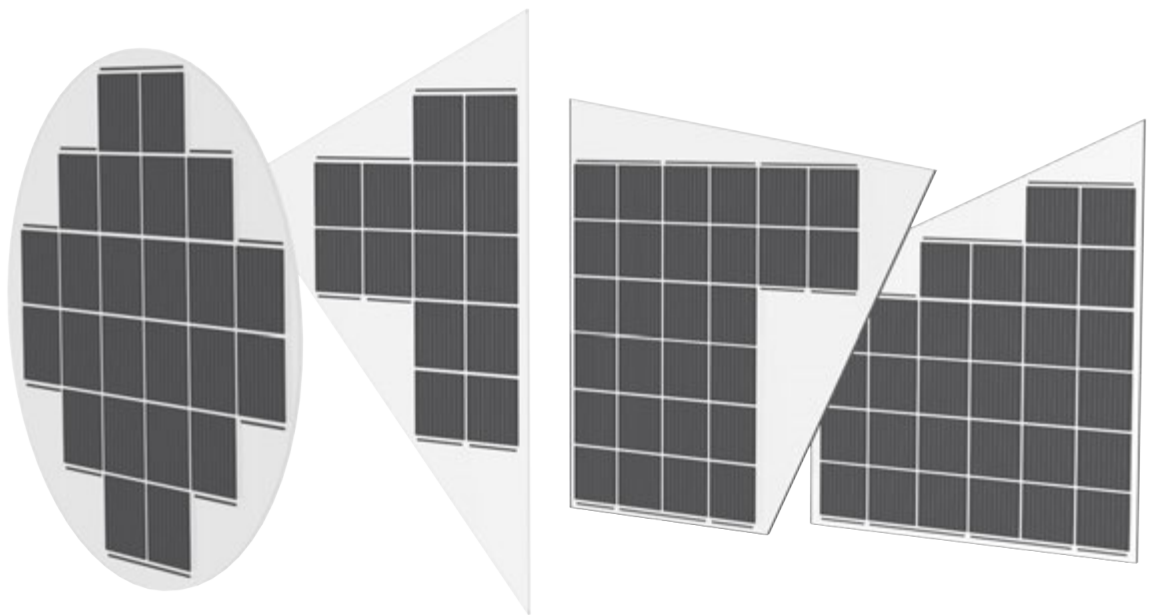
# Completed metamorphosis

Solar modules are concluding their development towards a freely designable building material. The design of this building material starts with the vision of the overall project. These steps lead from the central idea to the solar module.

## **The grid defines the shape, size and power of the solar modules**

---

Rectangles, triangles, polygons, circles, curves, cut-outs: the free choice of the solar modules' geometries is the starting point for the design. The measurements range from 200 x 300 mm to 2'300 x 4'100 mm. Glass thicknesses of 2 - 12 mm per pane can be processed. Cost advantages are achieved by using the standard size of 1'669 x 999 x 8 mm. The degree of hardening (TVG, ESG) can be chosen freely.



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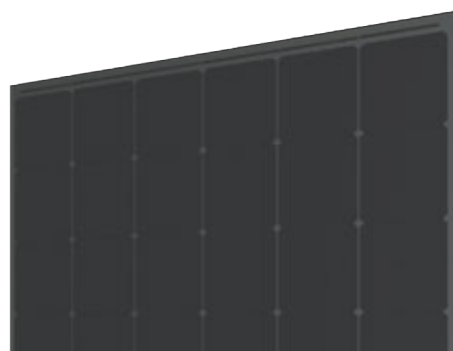
Special shapes

## The character results from the colours and their intensity

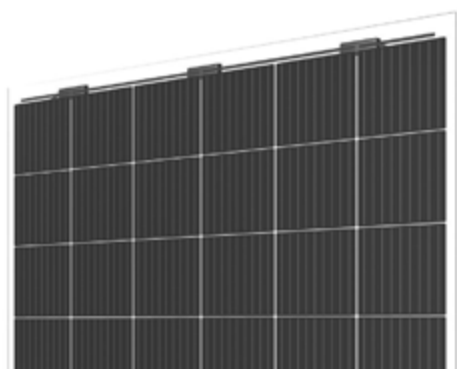
---



**Fine Line:** The classical pinstriped look allows accents with the help of technology. This design option is the most efficient both in terms of performance and costs.



**Totally Black:** By moving the busbars (cell contacts) to the backside, discretion can be increased, so that the technology is only visible at second glance.

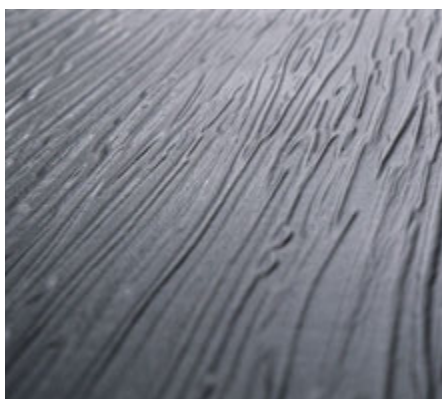


**Translucent:** Solar modules with translucent cell spacing for open structures. The degree of light transmission and output performance can be balanced by adapting the cell spacing.



**Fine Art:** The colour of the solar modules is open. It is possible to design with light pastel tones, as well as with rich earthy tones. Three sources can be used for the choice of colour:

- > SOLARCOLOR colour chart (time and cost-efficient)
- > NCS colour chart (wide colour spectrum)
- > Individual colour development (completely open)



«Creek Granite Satin» with ZeroReflect+

### Upgrade ZeroReflect+

---

The acceptance of solar installations among the population is very high. It is reinforced constantly with new types of designs and unrestricted individualisation options. ZeroReflect+ is a surface developed in the Megasol design laboratory that is glare- and reflection-free – regardless of the installation situation, angle or time of day.

It is used for particularly high demands in terms of «glare-free» solar modules. These include special installation situations, sensitive, subjective perception or regulatory restrictions (e.g. traffic junctions).

# SOLARCOLOR Classic

A wide range of colours with different intensities and structures allow for an individual, colourful design of the building envelope. Almost any colour is possible, either it already exists in the SOLARCOLOR colours chart or it is specially developed for a project according to customer requirements.

On [solarcolor.ch](http://solarcolor.ch), it is possible to create and order individual samples. The following glass color chart is also available on [solarcolor.ch](http://solarcolor.ch).



▲ SOLARCOLOR color chart



[solarcolor.ch/en](http://solarcolor.ch/en)

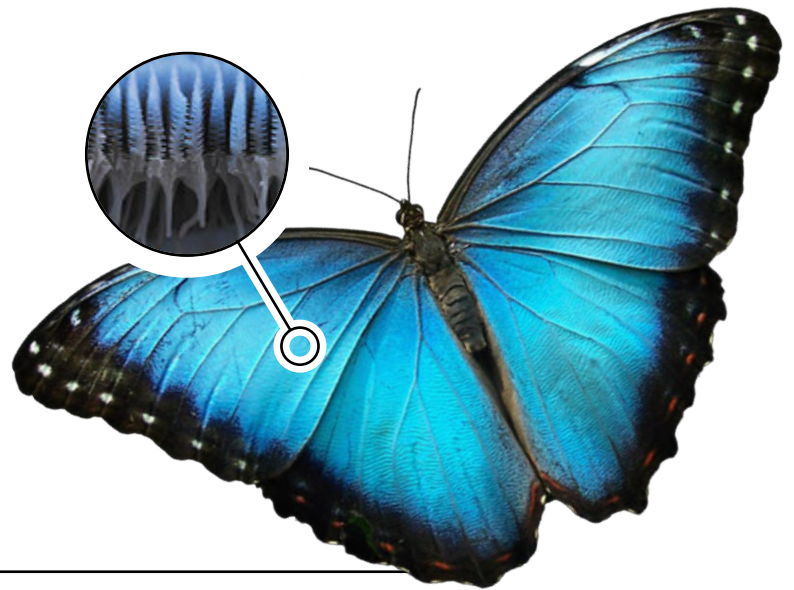
# SOLARCOLOR Morpho

## Intensive colouring without colour pigments

SOLARCOLOR Morpho enables intensive colouring with the help of a new type of coating without colour pigments. The coating ensures targeted light refraction, which only reflects a closely coordinated component of the light. This creates the desired colour impression. Most of the light reaches the surface of the solar cell unhindered. Thanks to this narrow band of reflection, a SOLARCOLOR Morpho solar module has up to 94% of the efficiency of a conventional black solar module.

## Guided by nature

The morpho butterfly served as inspiration for the coating. The coloration of its bright blue wings is based on the same principle: it is not color pigments, but narrow-band reflection that produces the color impression.



## A wide range of colors

**Colors:** Already available in a wide range of colors. Additional colors can be individually developed.

**Available lenses:** The choice of glass is up to you. Crystal, Fjord, and Frost glasses are particularly suitable.

**Full-surface application:** The color scheme is applied exclusively over the entire surface.

**Metallized:** It is possible to give the surface a special shine ("metallic").



The viewing angle and choice of glass influence the color effect of the surface. This effect can be deliberately used to create architectural accents.

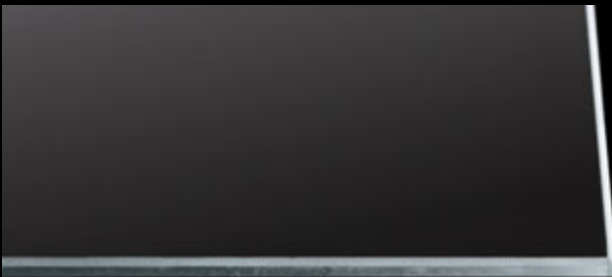


▲ SOLARCOLOR Morpho modules are available in a wide range of colors.

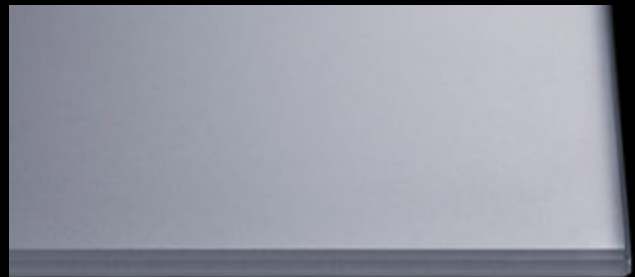


### The appearance determines the surface of the solar modules

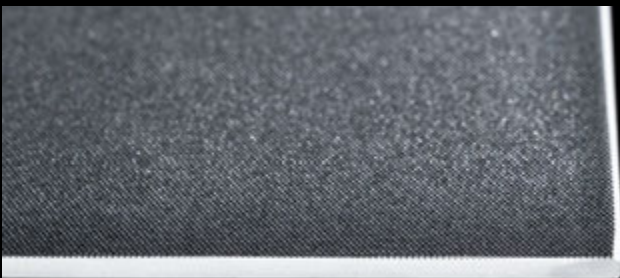
The full spectrum of the material «glass» is available for the design. Structures and finishes of surfaces are possible, along with the targeted use of reflections. The solar glasses «Fjord» and «Crystal» are the basis of most integrated solar modules, due to their subtle structuring and highest efficiency. This structuring ensures a high light transmission and minimal glare.



A Mountain Lake



B Frost



C Fjord



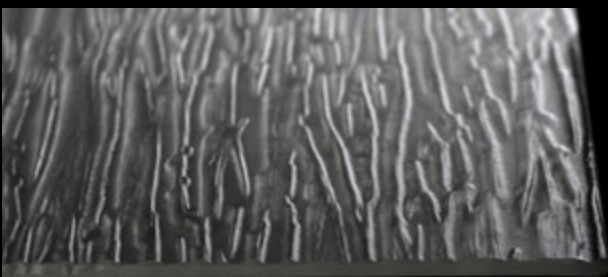
D Crystal



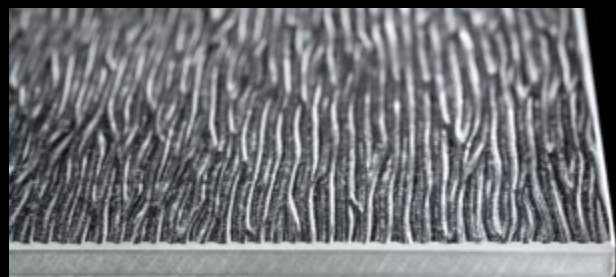
E Glacier



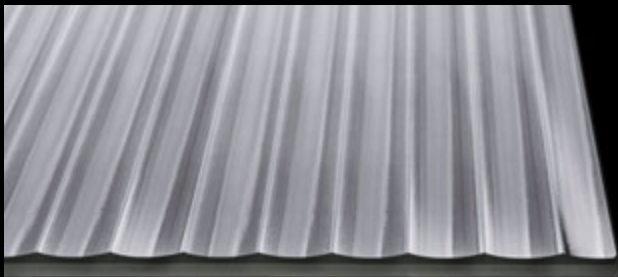
F Creek



Fs Creek Granite



G Stream



H Wave



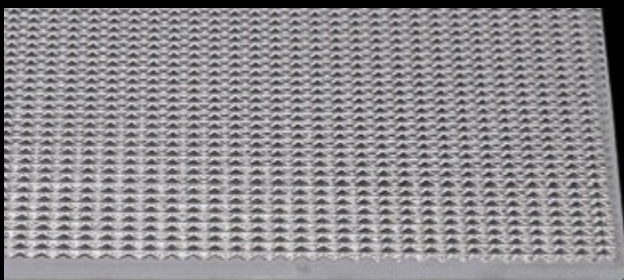
K Ice Diamond



L Ripple



Ls Ripple satin finish



M Ice Molecule



O Seaside



P Lagoon



# Glass-glass solar modules

Two glass panes are combined into one solar module. They become laminated safety glass and therefore have unique properties.

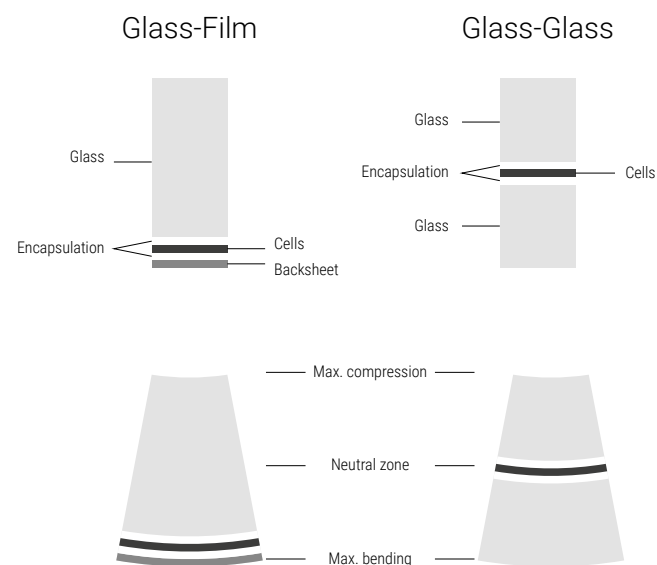
## Areas of application

Applications include facades, railings, in-roof and on-roof applications, infrastructure structures (for example, dams, noise barriers, etc.), open spaces, carports, alpine and desert applications.

## Properties

Front and back glass in combination with durable encapsulation material protect the components from vapour penetration. In the «neutral zone» between the panes, the cells remain stress-free (no compression or bending) which reduces the occurrence of so-called micro cracks. This results in a potential lifespan of over 50 years.

Freedom of design, high durability and stability characterize this solar building material.

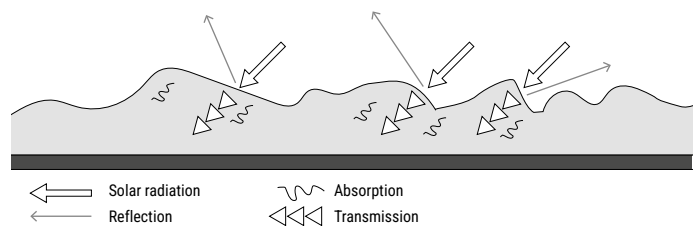


## Solar roof systems

The LEVEL, NICER X, MATCH slate and MATCH tile solar roof systems are based on glass-glass solar modules.

## Non-glare solar glass

Particularly low-glare surface structures are used. The solar modules can be provided with the ZeroReflect+ design for complete freedom from glare.



## Technical specifications

Megasol cell technologies: Mono HiR / Mono RearCon

Cell geometries: Full-square, Half-cut

Typical performance (Full Black)\*: 184-232 Wp/m<sup>2</sup>

Typical performance (color)\*: 150-210 Wp/ m<sup>2</sup>

Encapsulation material: PV encapsulant

Glass thicknesses per glass: 2 – 12 mm

Fire protection:  $B_{ROOF}(t1)$  in accordance with DIN EN 13501-5 (hard roofing, abP), the top cover layer and the rear side are made of heat-resistant glass. The construction is made of aluminum.

Tightness against driving rain: according to CEN/TR 15601

\*The square meter output of the solar module depends on the specific format



# Cell and module technology

Megasol develops its own solar technology for maximum efficiency and aesthetics.

## HiR cell technology for more durable and efficient modules

Megasol's HiR cell technology is based on n-type wafers and offers particularly high power stability. The phosphorus doping of the silicon, which reacts significantly more slowly with oxygen than boron, ensures that the cell remains stable. An ultra-thin tunnel oxide layer reduces recombination losses. Thanks to the multilayer antireflection coating, reflection losses on the cell surface are minimised.

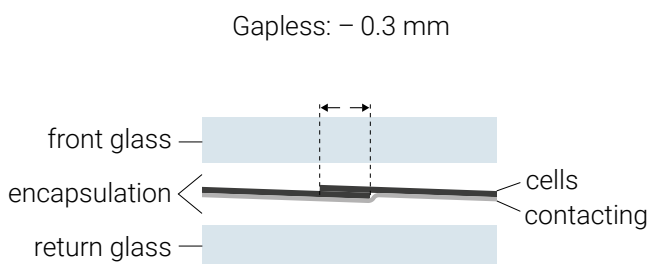
- > No potential-induced degradation (PID), which is caused by voltage differences between the cells and the earthing of the module.
- > No light-induced degradation (LID), which occurs when a module is first exposed to sunlight.
- > Higher cell efficiency and compact dimensions
- > Improved temperature coefficient and optimised low-light performance
- > Above-average bifacial factor of over 90%

## RearCon technology for maximum efficiency and aesthetic perfection

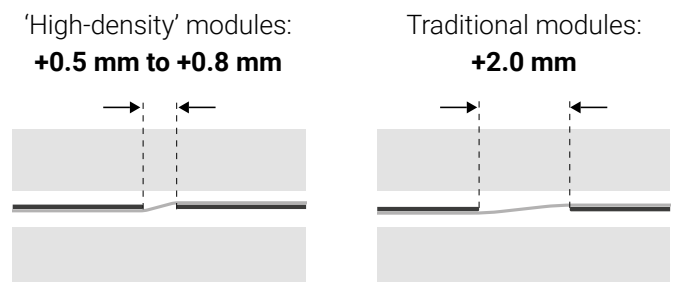
The RearCon technology ('Rear Contact') involves laying all electrical contacts on the back of the cells instead of the front. Furthermore, the cells have been rearranged. They are not arranged next to each other as usual, but on top of each other with an overlapping of 0.3 mm. This results in a more densely packed active cell surface, which enables higher module efficiency and a particularly harmonious, 'totally black' appearance.

- > Module efficiency of up to 23.2% and, in combination with HiR technology, even up to 26.5%
- > Smooth, homogeneous surface for an elegant, modern appearance.

### RearCon solar modules without cell spacing



### Conventional solar modules with cell spacing







# Expert consultation

Solar projects involve specific topics that required specific attention. A road map from the vision to implementation can contain the following milestones:

**1** **Gaining a shared understanding**

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The focus is on the vision and the planned appearance of the overall project. The first technical approaches are outlined. Preferences regarding interfaces and consultation services are discussed.

**2** **In-depth introduction**

---

The doors of Megasol are open for partners. A production tour in Deitingen CH shows how the company works and where the integrated solar modules come from.

**3** **Rough concept**

---

Guiding ideas flow into a rough concept and are formalized as system principles. It is possible to make substantiated statements about investment and profitability. The first samples follow.

**4** **Detailed concept**

---

The design and the systems are worked out in detail and specified. Developments and formalities are carried out. Further samples follow and are approved.

**5** **Implementation**

---

The solar modules are manufactured according to the agreed plans and designs. Support is ensured during the building phase and operation.

---

## Services

### Project support:

- > Consulting / training
- > Detailed design options
- > Grid layout
- > Connection details / interfaces
- > String / inverter dimensioning
- > Support during implementation

### Formalities:

- > EIV, ESTI, EEA

### Development:

- > Design / colour
- > Samples / mock-ups
- > Customized mounting solutions
- > Integration of storage solutions, energy management, charging infrastructure for e-mobility

# Values as a solid foundation

Responsible actions form the cornerstone of our company for 30 years. The aim is to create opportunities for others and therefore give back some of the success.

## Society

### **Social engagement**

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Megasol is committed to ecological and social sustainability projects in economically disadvantaged regions. The commitment includes material supplies for specific projects or financial support, which benefit local vocational training and build up competent young talent in the solar sector.

### **Corporate culture**

---

The corporate culture is based on a high degree of trust in the employees. Room for creativity and self-responsibility are the sources of its innovative strength and the continual development of the company. All employees are provided with further training and language courses. The implementation of Swiss safety and health standards is a question of entrepreneurial conscience.

## Environment

### **Material and manufacturing**

---

From the sourcing of raw materials to the completed solar module, manufacturing almost exclusively uses renewable energies. In Deitingen, the electricity necessary for the production is produced on site by means of a solar plant. The applied high-performance solar cells consist of high-purity silicon – free of cadmium, rare earths and heavy metals or other problematic substances.

### **Recycling**

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The involvement with the Swiss foundation SENS and the European PV Cycle enables the reuse of almost 100% of the material used for Megasol solar modules.

### **Electromobility**

---

An own fleet of electric vehicles and free solar charging stations at the Deitingen production site reinforces the investment in future-orientated environmental technologies.

# Quality

## Awards

---

Megasol is an award-winning company. Many Swiss and European solar prizes and architectural awards testify to the trust that is placed in Megasol.

## Certifications

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The manufacturing processes are TÜV-tested and run in accordance with EN/IEC and ANSI/UL standards.

## Traceability

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Based on the individual serial number, all materials used for each solar module can be traced back to the raw material batch without any gaps.

## Testing steps

---

Each individual solar module undergoes a multitude of test steps. These include electroluminescence tests, flash tests and visual controls. The company has its own test centre. Tests such as Damp Heat, Shockfreeze, UV Lifetime, Dynamic Load, Thermocycle and Overpressure ensure the durability of the solar modules.

# Cooperation

## Cooperation with Saint-Gobain

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Saint-Gobain, the world's largest manufacturer of building materials, invests in Megasol and holds a minority stake in the company. As part of the global distribution partnership with Saint-Gobain, Megasol is present in 76 countries.



## Manufacturing and research site

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Forward-looking and regular investments in the production site in Deitingen as well as close cooperations with universities and technology partners set the relevant signals and help to strengthen Switzerland as a centre of research and industry.

# Politics

## Involvement

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Despite enormous potential, photovoltaics require strong voices in politics. Through memberships in industry associations and interest groups, Megasol is involved in sustainable progress. The focus in everyday life is on concrete steps: appearances at conferences, provision of comprehensive information material for voting and guided tours for schools and political parties.



# Megasol Energy Ltd.

## **Vision**

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Solar modules by Megasol are intended as design material from which structures and pictures can be created. The integration of solar technology not only into buildings, but also into the living environment and consciousness of people, is the maxim.

## **Locations**

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The company consistently focuses on two locations. Development, administration and production are anchored in Deitingen, Switzerland. With a strong focus on customer proximity, individual design requirements can be met. Our factory in Ningbo, China, is specialized in large series and standard solutions.

## **Partnerships**

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The company has a wide network of architects, planning offices, investors, installers and operators. The company also fosters close partnerships with universities and both national and international research institutes.

## **Founder**

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Markus Gisler founded Megasol in 1993 in his youth. He directs the company as CEO and president of the administrative board. His vision led to the organic and continual development of Megasol Energy Ltd. The vision remains the driving force in everyday company life.



Markus Gisler, Founder and CEO

**Megasol Energy Ltd.**

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BIPV-EN-V11

Subject to errors and technical modifications

# Integrated Photovoltaics

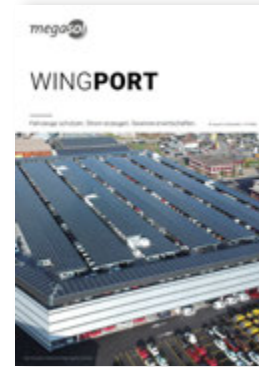
## Easy Installation

Rooftop Photovoltaics



## WingPort

The smart Carport



## SOLARCOLOR

Solar module design



▲ Brochures online

▲ All brochures are available in DE, EN, FR, IT.

▼ Megasol Energy Ltd. in Deitingen | Carport with NICER X modules

