



25 years innovation in power

Easy Installation

Rooftop Photovoltaics

Rooftop Photovoltaic Systems

▼ Pilatus Aircraft Factory | 1.05 MWp | Swiss and European Solar Prize 2018





Vision and vigour

Founder

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 and remains the driving force in everyday company life.



Markus Gisler, Founder and CEO

Vision

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.

Sites

The company consistently focuses on two locations. Development, administration and production are anchored in Deitingen SO, Switzerland. With a strong focus on customer proximity, individual design requirements can be met. 70 employees work in Deitingen. 120 employees work at the site in Ningbo, China, which specializes in large series and standard solutions.

Partnerships

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.

The Megasol principle

Successful as a team

We managed to retain the start-up spirit: We are young, fast, and incredibly innovative. Today, we are Europe's most successful manufacturer of solar modules. In this context, our customers are the decisive factor because close cooperation and team efforts are what makes the difference for success. We know and appreciate each other. With many of our customers, we are on first-name terms, and lots of them have become our friends. We appreciate frank and open feedback. Many of our product innovations result from exactly suchlike feedback. Our doors and hearts are open to our clients – whether we meet on-site, have raclette together at our Deitingen headquarters or enjoy a drink at one of our tradeshow appearances.

These are our principles:

1 Close contact to our customers, partners and friends

- > Direct contact to all stakeholders
- > Support for layout, sales, and implementation/realisation
- > Installation plans, ballasting plans, string plans
- > Formalities (EIV, ESTI, EEA)
- > On-site installation coaching
- > System trainings, e.g. for inverters

2 Fast and powerful systems

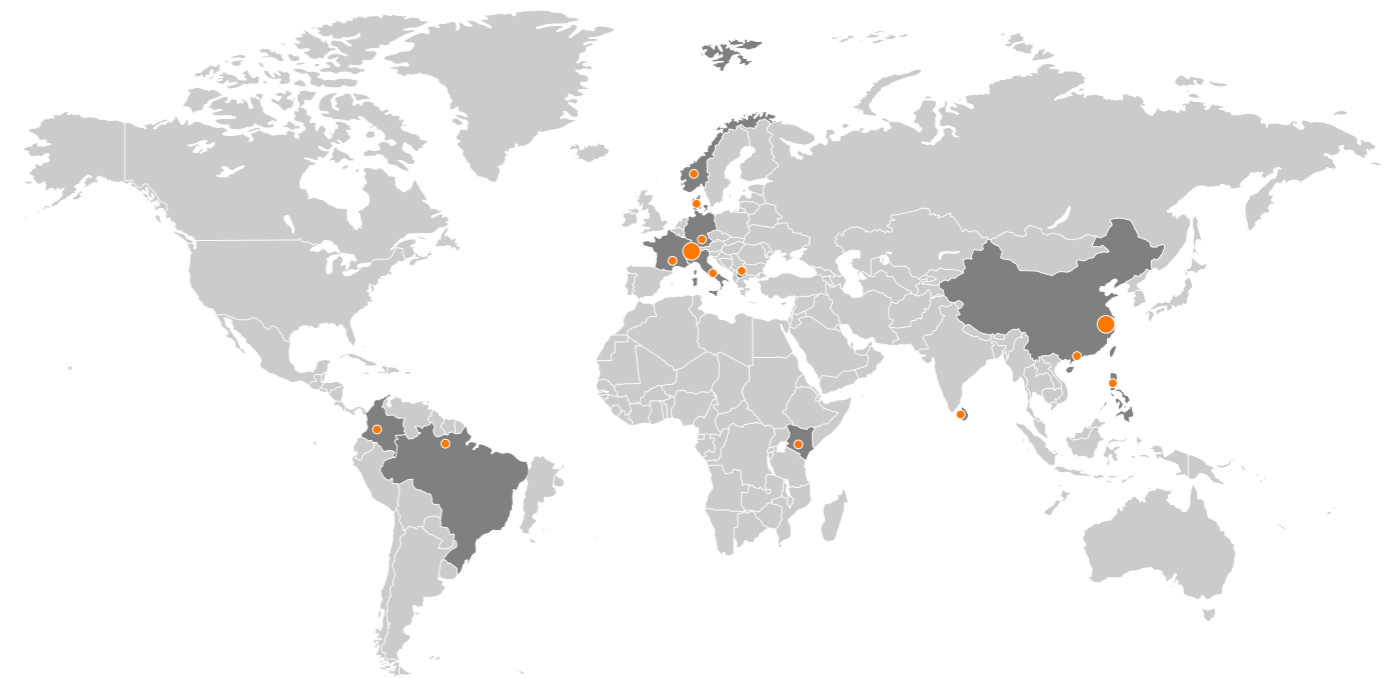
- > Systems with few components that are smartly designed
- > In-house developments focused on short installation times and maximum performance

3 Everything from a single source

- > Solar modules (glass-film / glass-glass), mounting structures, inverters, generator connection boxes, electric materials
- > Quick provision through our in-house logistics and processing centre
- > Turn-key delivery to the construction site



Think big, start small



Factory in Deitingen, Switzerland

Development, production, sales, logistics and administration are located at our Deitingen headquarters. The heart of the site is the high-tech production facility, which specializes in medium-sized series and custom-made products. Our logistics centre is the largest warehouse for solar modules in Switzerland.

- > Annual capacity of 80 megawatts
- > 70 employees
- > Fully automatic production line for glass-glass solar modules
- > Industrial production of special modules in individual sizes and colours
- > Customized mounting solutions

Sustainable production

From raw material extraction to the finished solar module, only renewable energies are used in the production process.

In Deitingen, the electricity required for production is generated on site using our own solar plant. Excess energy is fed into the grid more than 250 days a year.

- > 1'000 MWh power consumption
- > 1.2 MWp PV plant capacity
- > 114% net self-sufficiency

Worldwide distribution network

Megasol can count on reliable partners and distributors worldwide: Germany, France, Italy, Denmark, Norway, Kosovo, Kenya, Brazil, Colombia, Sri Lanka, Hong Kong, Philippines.

Smart logistics

From individual spare parts to complete solar systems – hundreds of modules and components leave our Deitingen site every day. Thanks to our storage capacities that provide for up to 40'000 modules and 3'500 different items that are permanently available, we are highly flexible. Our partly-automated processing centre is responsible for customization and assembly processes. These are followed by commissioned delivery to the respective site. Our efficient logistics include warehouses in Ningbo (CN), Rotterdam (NL), and Deitingen (CH) and enables us to serve international markets as well.

Factory in Ningbo, China

Our second plant is located in Ningbo, a coastal city in the eastern Chinese province of Zhejiang.

- > Annual capacity of 130 megawatts
- > 120 employees, including 25 in research, development and quality assurance
- > Fully automatic production line for standard high-performance modules
- > Seamless material traceability and quality assurance
- > Swiss warranty conditions

Solar modules

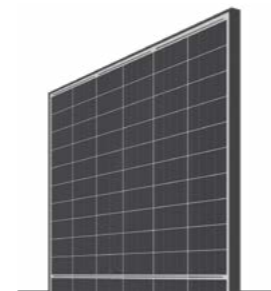
Framed high performance modules 10

Properties

- > Best price-performance ratio
- > Glass-film / glass-glass
- > Monofacial / bifacial
- > U40 / U30 frame
- > Swiss warranty
- > Ex stock Deitingen

Structure

Module types	12
LOCKUP module fixation	14
LOCKUP components	16



Mono PERC verre-film



Heterojunction bi-verre

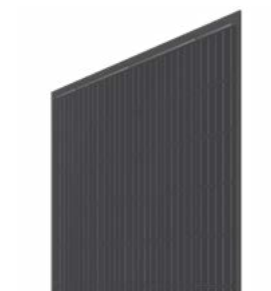
Frameless glass-glass modules 20

Properties

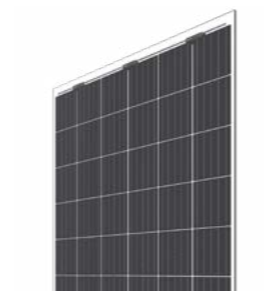
- > *Swiss Made*
- > Highest longevity
- > Strongest performance
- > High static load resistance
- > Bifacial / monofacial
- > Frameless

Structure

Module types	22
LAYUP module fixation	24
LAYUP components	26



Glass-glass black



Bifacial glass-glass translucent

Roof connection

Pitched roof 28

Recommendation

- > Solid and proven systems
- > Simple and efficient installation
- > All roof coverings: tile, sheet metal, fibre cement etc.



Seam metal roof



Fibre cement roof

Flat roof 30

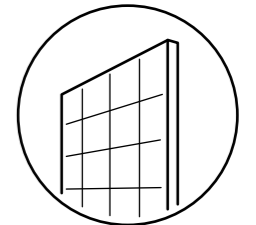
Recommendation

- > High-speed installation
- > Flatport Advanced: only 3 components
- > Prevents roof membrane from damage
- > Simple ballasting
- > Ballasting plans

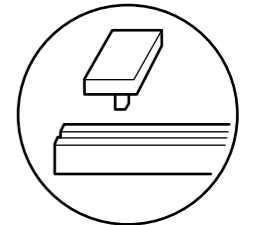


Flatport tray

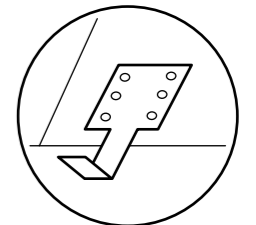
Structure



Module



Fixation



Roof connection

High performance modules

Quick to install, budget-friendly, and highly profitable: our glass-film modules are extraordinarily durable "workaholics".

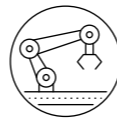
Low investment

- > Best market prices
- > Project prices on request



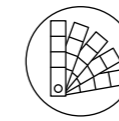
Latest technology

- > Highest efficiency levels
- > Nano-coated solar glass
- > Optimized low-light performance



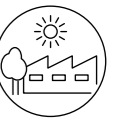
Wide product range

- > Power classes (up to 445 Wp)
- > Optics (black / white / translucent)
- > Cells (Full-square / Half-cut)



Environmentally friendly

- > Made with renewable power
- > Energetic amortisation under 2 years
- > Seamless traceability of all materials



Secure fixation

- > LOCKUP module fixation

14

Wide range of applications

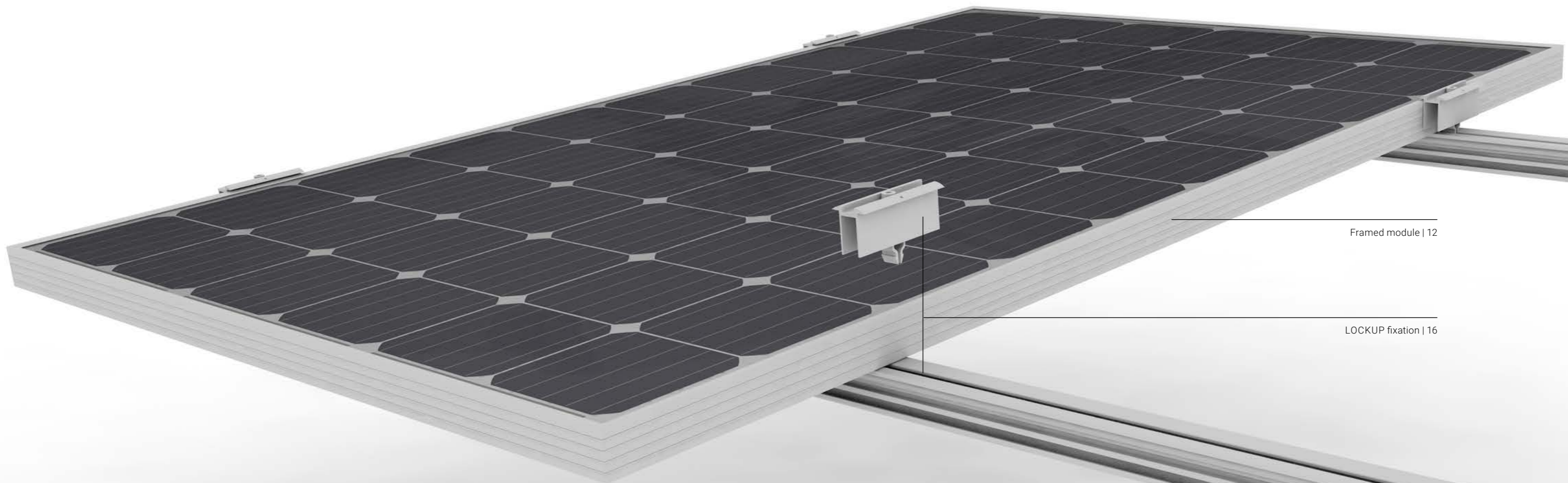
- > Glass-film (monofacial)
- > Glass-glass (monofacial/bifacial)

12

13

Swiss warranty

- > 25/30 years linear performance warranty
- > 10/15 years product warranty
- > Produced at the Megasol plant in Ningbo

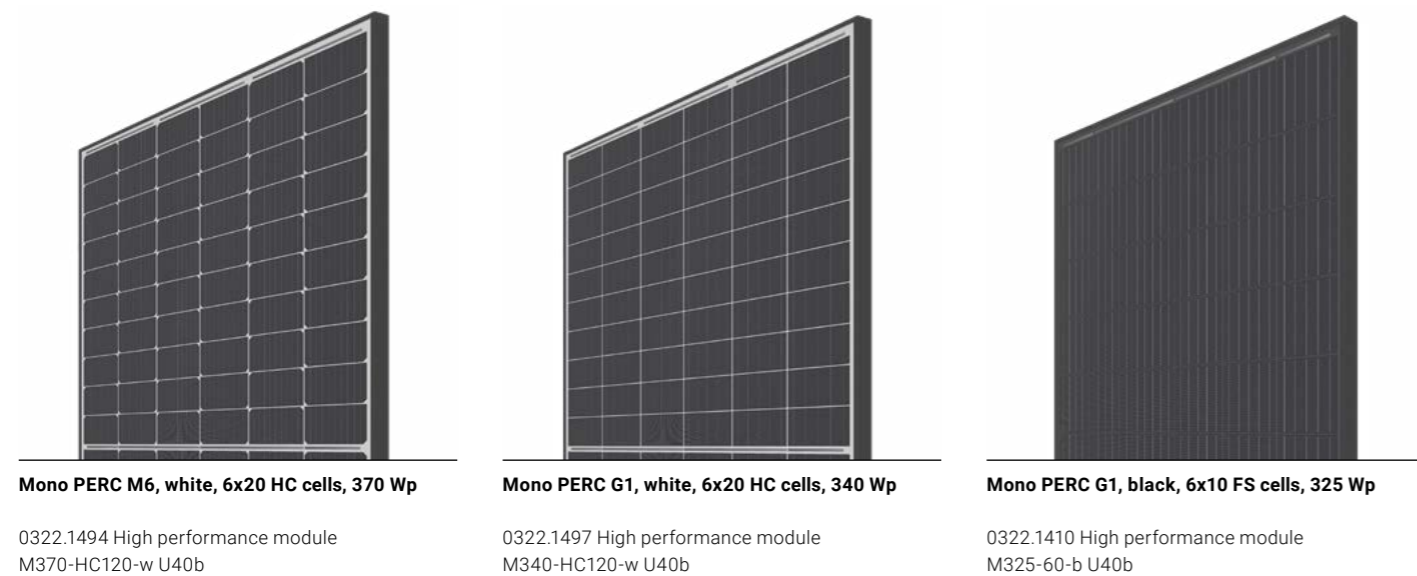


Framed module | 12

LOCKUP fixation | 16

Module types

Glass-film U40



Technical specifications

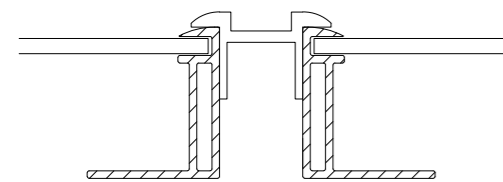
Laminate structure: Glass-film
Cell type: Mono PERC (monofacial)
Cell size: 158.75 mm (G1) / 166 mm (M6)
Cell geometry: Full-square / Half-cut
Frame: U-frame 40 mm, aluminium, anodized natural or black
Front side: 3.2 mm solar glass, high-transmission, tempered / toughened, nano-finished / antireflective surface
Back side: Three-layer build-up (polyester / PET / tedlar)

Swiss warranty

Product warranty: 10 years
Linear performance warranty: 25 years

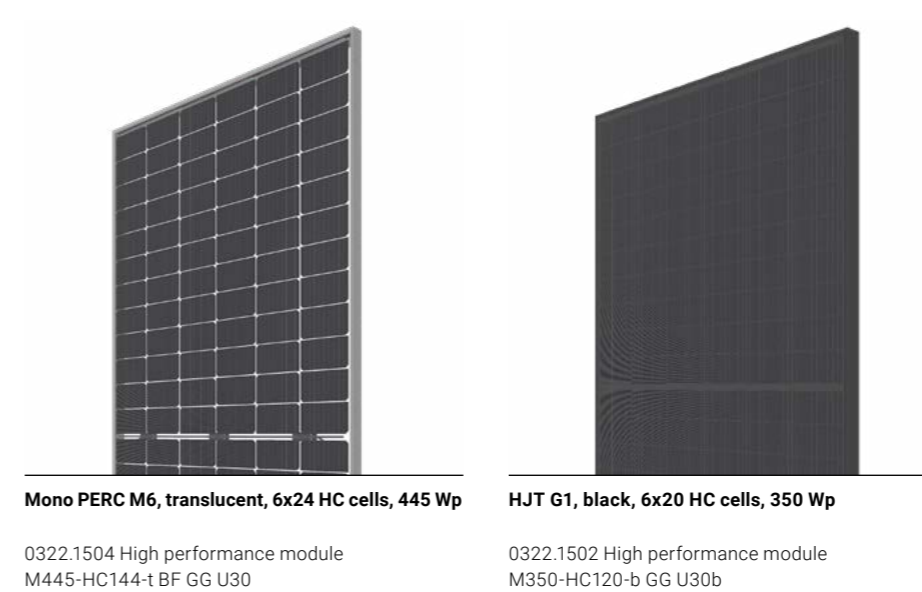
Suitable mounting systems

> LOCKUP Roof (pitched roof)	14/28
> LOCKUP Flatport (flat roof)	14/30



Cross section of the U40 module with standard module clamp

Glass-glass U30



Technical specifications

Laminate structure: Glass-glass
Cell type: Mono PERC / Heterojunction (bifacial)
Cell size: 166 mm (M6) / 158.75 mm (G1)
Cell geometry: Half-cut
Frame: U-frame 30 mm, aluminium, anodized natural or black
Front side: 2 mm TVG, high-transmission, nano-finished, antireflective
Back side: 2 mm TVG

Swiss warranty

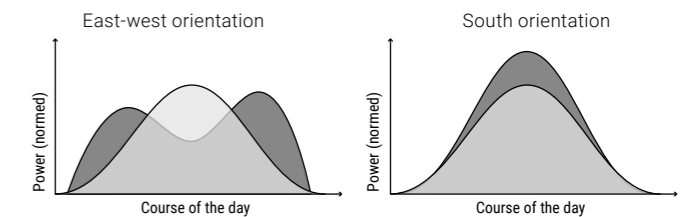
Product warranty: 15 years
Linear performance warranty: 30 years

Suitable mounting systems

> LAYUP Roof (pitched roof)	24/28
> LAYUP Flatport (flat roof)	24/30

Bifacial: power from reflections

- > Double sided active cells
- > Additional yields depend on the installation situation and the albedo (reflectivity) of the substrate



In east-west orientations, the rear produces most when the sun is flat. South facing bifacial plants generate their additional yield classically during the midday hours.

Potential bifacial gain

Low reflecting surface (e.g. grass, brick)	5-15%
Well reflecting surface (e.g. sand, bright gravel or paint)	15-25%
Highly reflecting surface (e.g. ice, snow)	25-35%

LOCKUP module fixation

The fixation system for framed high-performance modules that is fully compatible with components of leading manufacturers.

Two components

- > Clamp
- > Rail

Simple connection

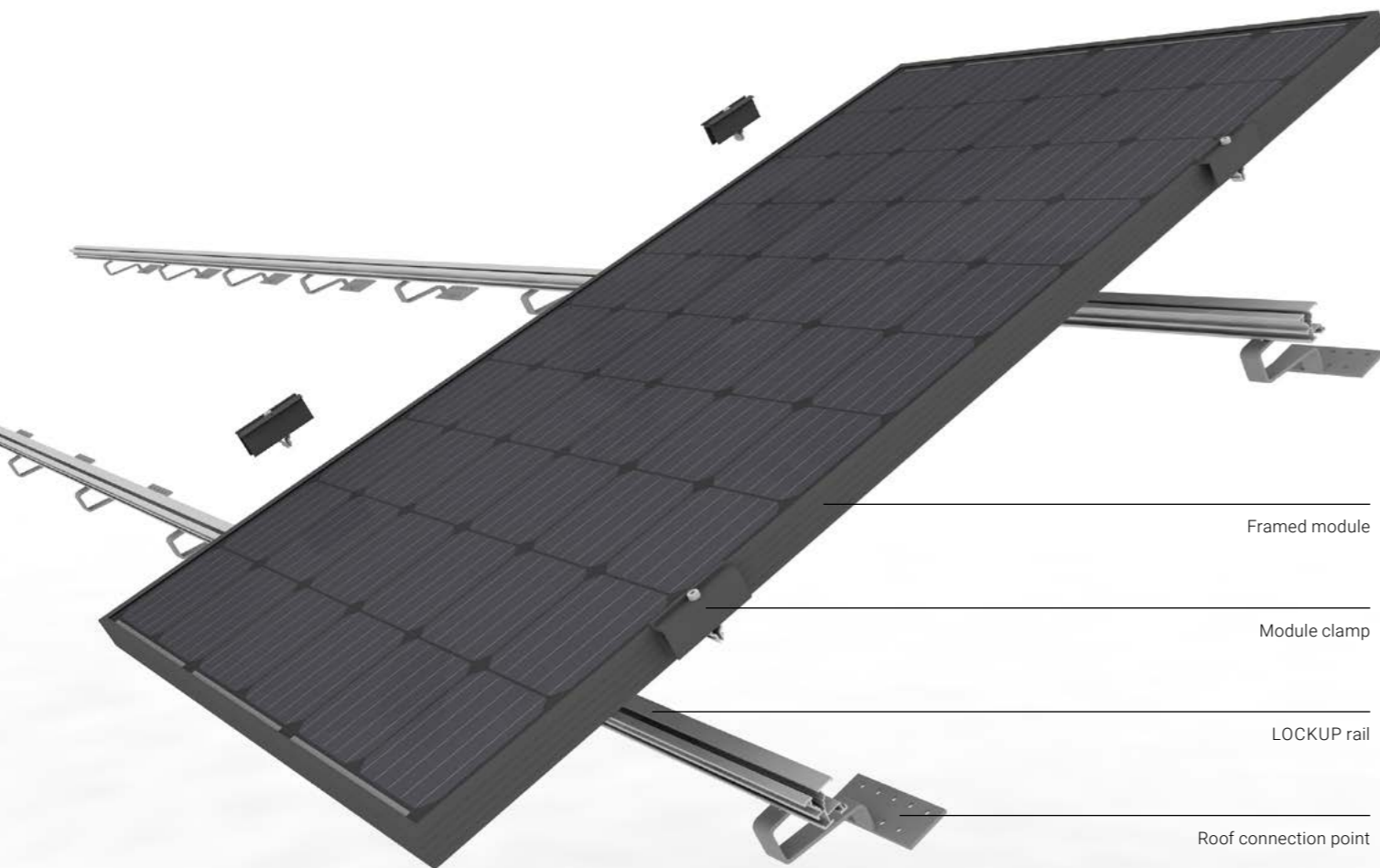
- > Fastening to roof connection by means of screws or cross connectors

Secure fixation

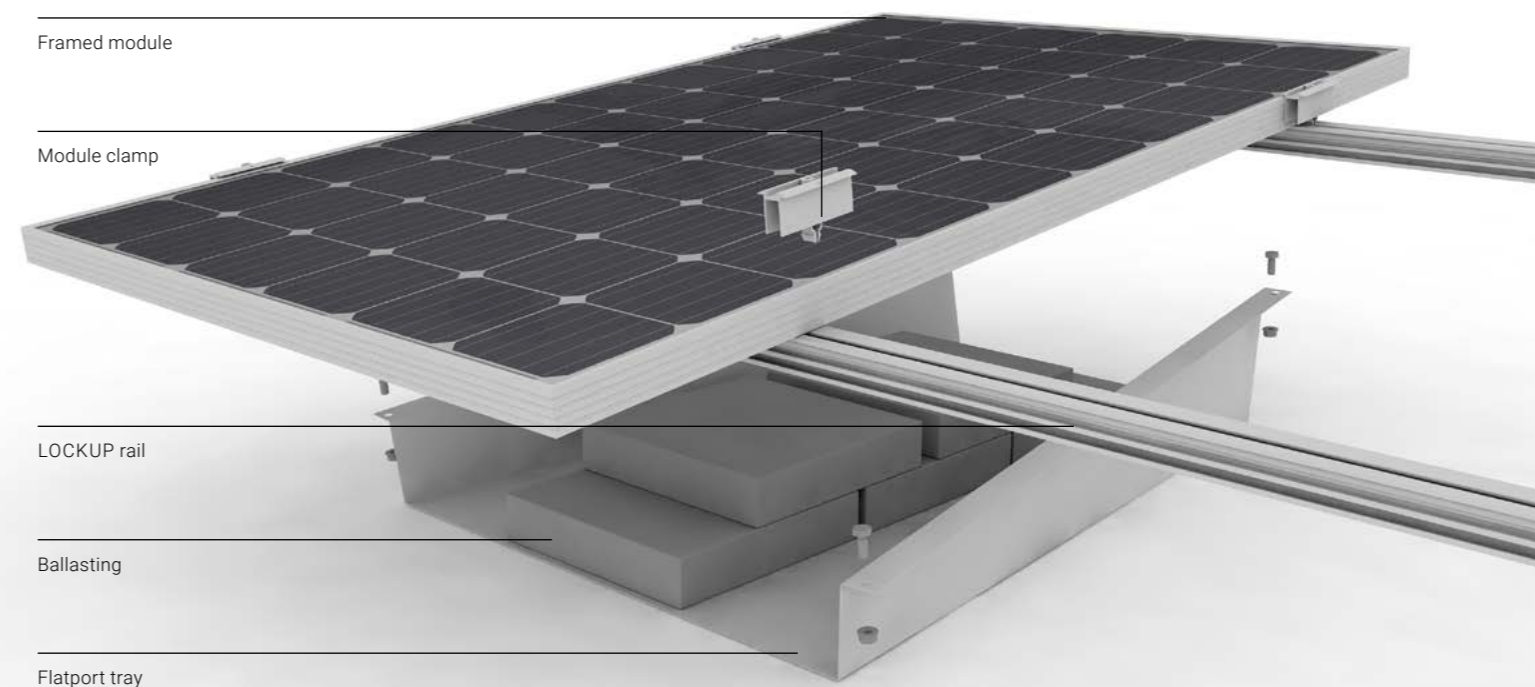
- > Click in
- > Tighten with screwdriver

High compatibility

- > All frames 30-40 mm
- > Pitched roof and flat roof
- > Compatible with all roof connections from Megasol, Schletter and K2



Pitched roof fixation



Flat roof fixation

LOCKUP components

Rails



3337.0330
LOCKUP rail



3337.0331
LOCKUP connector



3231.0225
Solo Light rail 6.2m



3231.0113
Solo / Profi
connector kit



3231.0115
Pre-assembled
E connector

Clamps



3231.0216
Module end clamp
Rapid16, 30-40mm
silver



3231.0217
Module end clamp
Rapid16, 30-40 mm
black



3231.0211
Module middle clamp
Rapid16, 30-40mm
silver



3231.0212
Module middle clamp
Rapid16, 30-40 mm
black



3231.0128
Rapid cross connector





▲ Riverside Business Park Zuchwil | 36'000 m² | 5.76 MWp | Swiss Solar Prize 2016

Swiss Premium glass-glass

They generate up to 425 Wp. With a service life of over 50 years our *Swiss Made* glass-glass solar modules are particularly interesting for institutional investors.

Swiss quality

- > 35 years linear performance warranty
- > 15 years product warranty
- > Made in Deitingen, Switzerland



Profitable investments

- > Service life of more than 50 years
- > Highest yields
- > Lowest watt price per warranty year



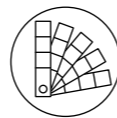
Sustainable production

- > Made with renewable power sources
- > Energetic amortisation under 2 years
- > Seamless traceability of all materials



Wide range of applications

- > Monofacial and bifacial cells
- > Power classes: up to 425 Wp
- > Optics: black / white / translucent



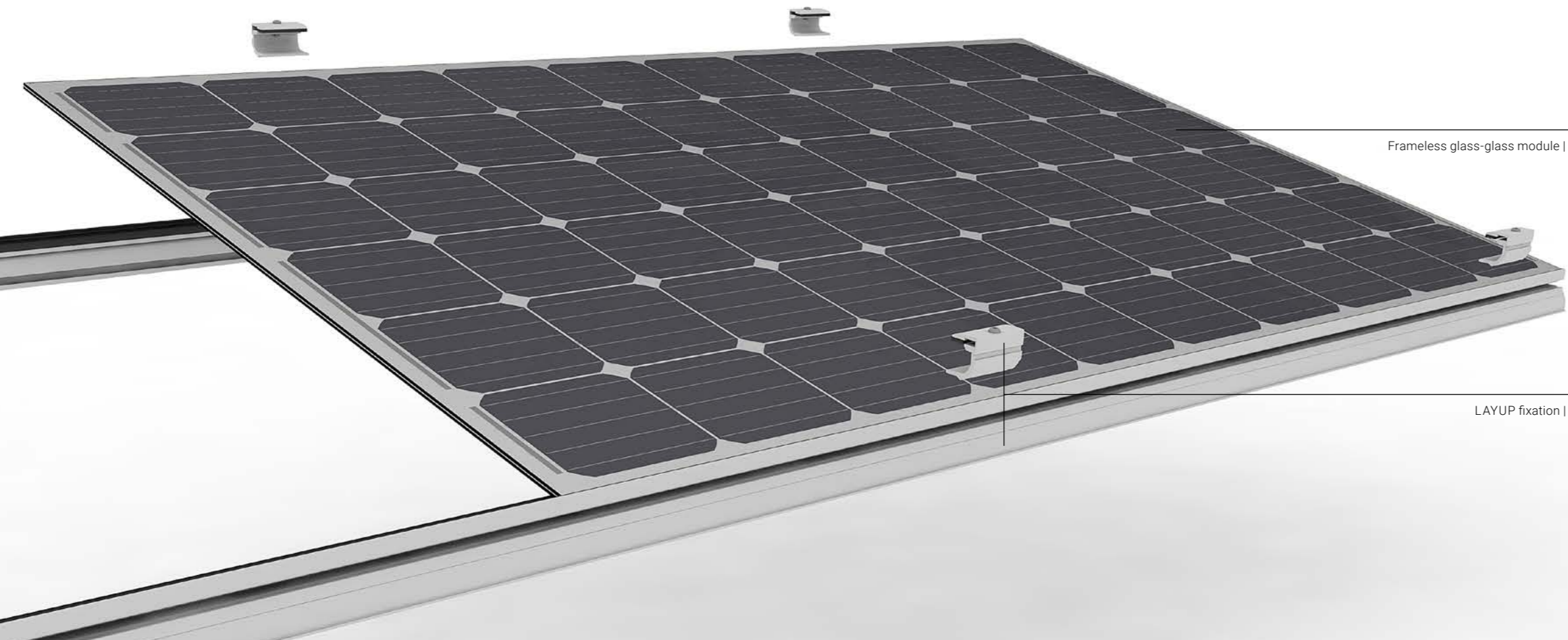
LAYUP fixation

- > Fast and easy
- > CleanFrame effect
- > Module clamps do not cover cells
- > Extremely robust thanks to large contact surface



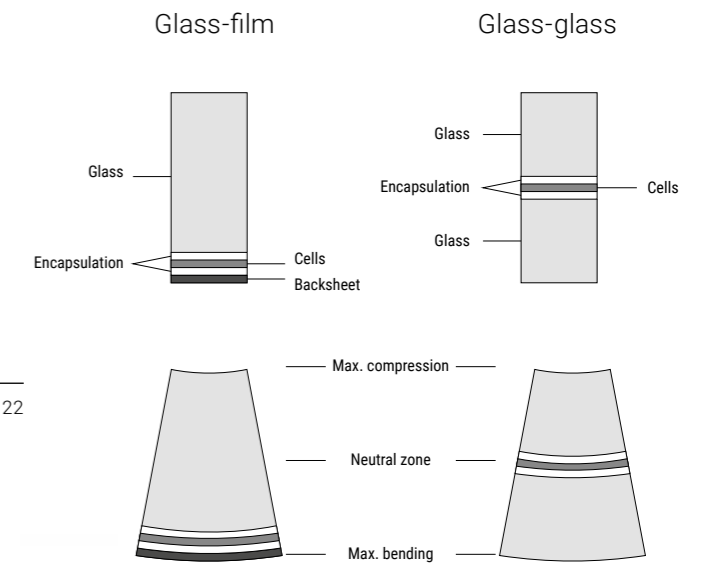
Outstanding stability

- > Laminated safety glass (two laminated glasses)
- > "Neutral zone" protects against microcracks
- > Front and rear glass prevent steam penetration

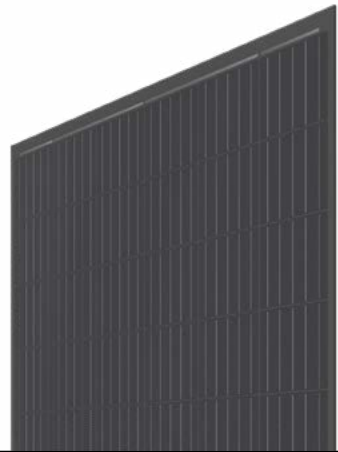


Frameless glass-glass module | 22

LAYUP fixation | 24

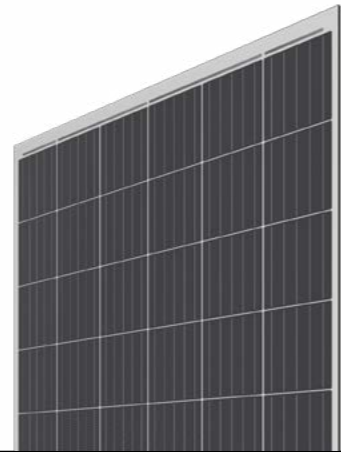


Module types



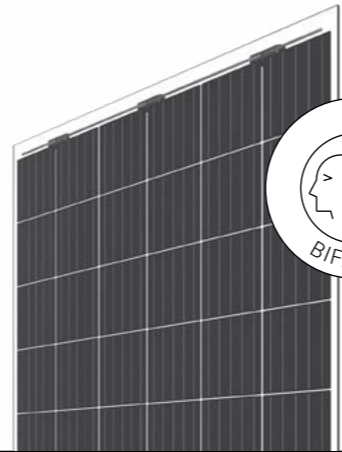
Black, 2x 3.2mm solar glass, 325 Wp

0322.1414 Swiss Premium
M325-60-b GG3



White, 2x 3.2mm solar glass, 330 Wp

0322.1413 Swiss Premium
M330-60-w GG3



Bifacial translucent, 2x 3.2mm solar glass, 425 Wp

0322.1416 Swiss Premium
M425-60-t BF GG3



Technical specifications

Laminate structure: Glass-film

Cell type: Mono PERC (monofacial/bifacial)

Cell size: 158.75 mm (G1)

Cell geometry: Full-square

Frame: Frameless

Encapsulation material: EVA / PVB / POE

Glass thickness per pane: 1 - 12 mm

Hail resistance: Hail protection class 4 or 5

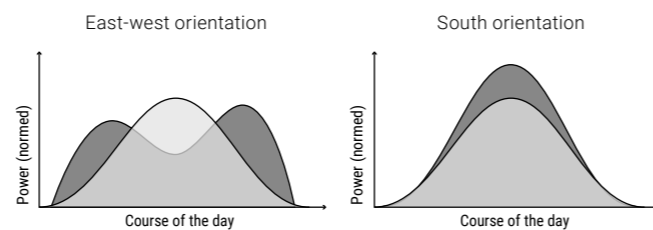
Fire protection: Top and back layer are made of heat-resistant glass. The component is considered to be non-combustible material as defined by the Cantonal Fire Insurances.

Suitable mounting systems

- > LAYUP Roof (pitched roof) 24/28
- > LAYUP Flatport (flat roof) 24/30

Bifacial: power from reflections

- > Double sided active cells
- > Additional yields depend on the installation situation and the albedo (reflectivity) of the substrate



In east-west orientations, the rear produces most when the sun is flat. South facing bifacial plants generate their additional yield classically during the midday hours.

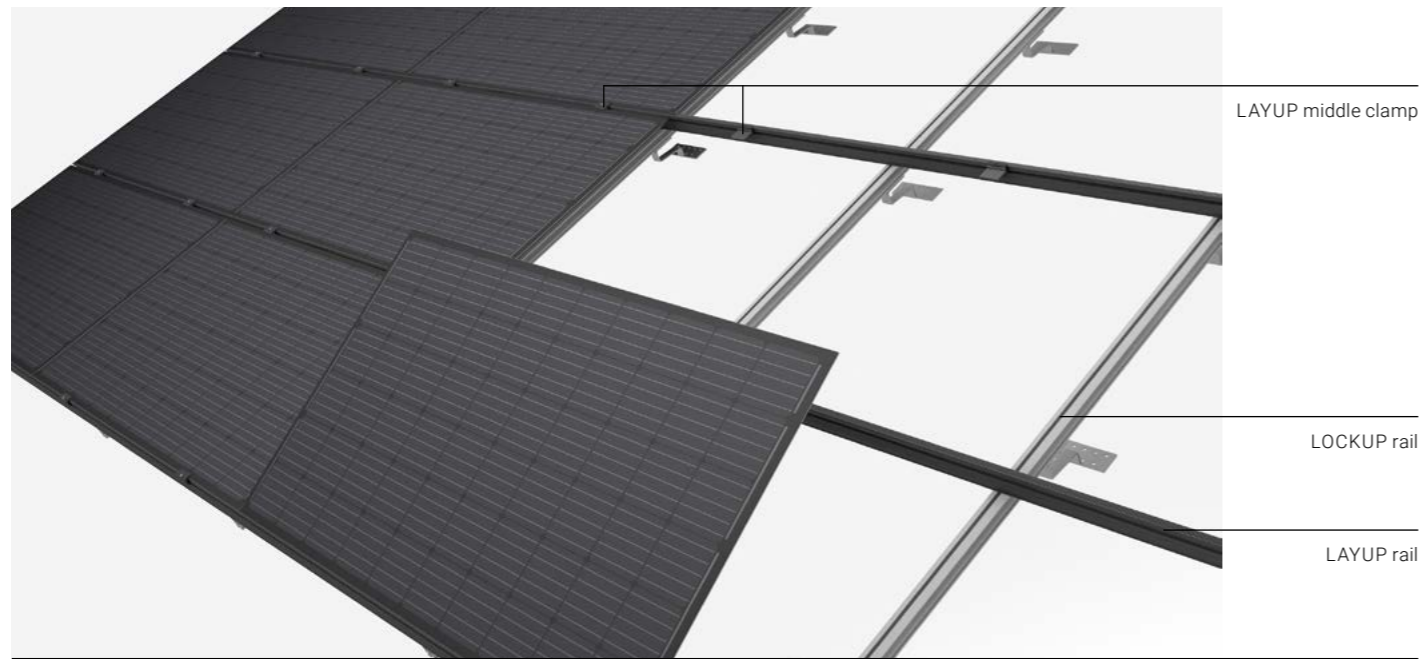
Potential bifacial gain

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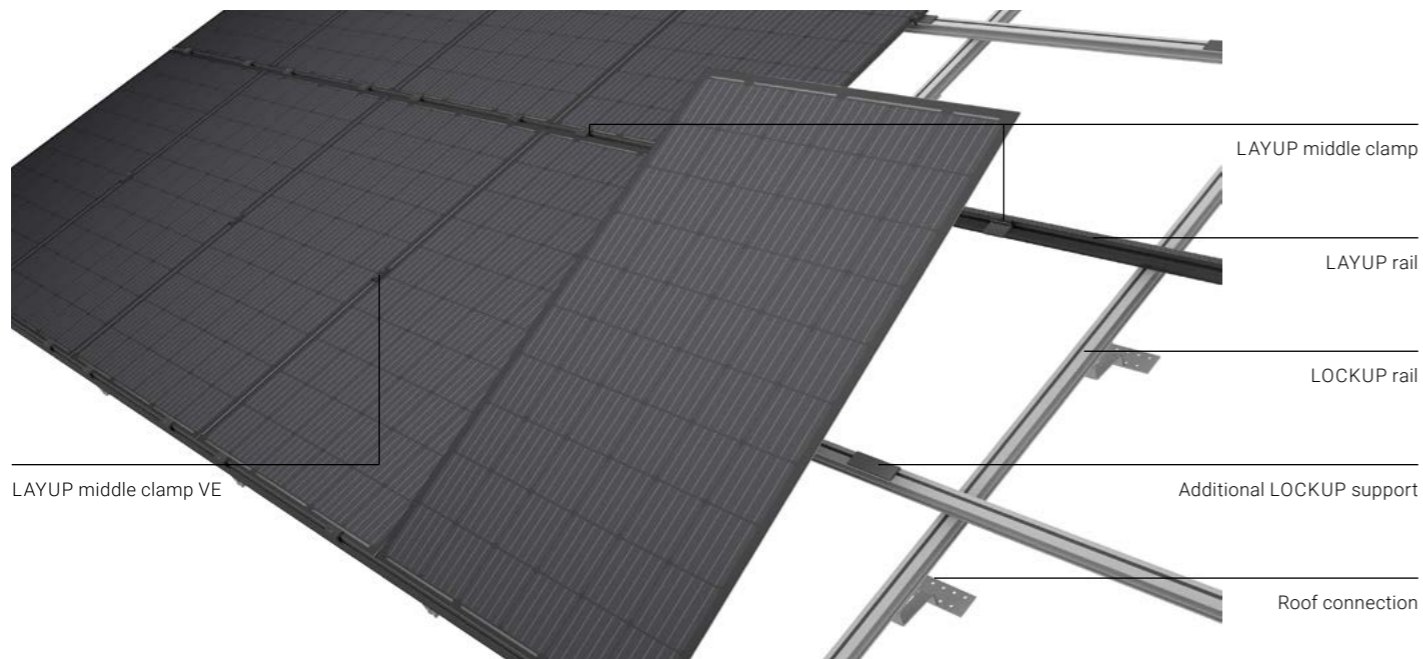


LAYUP fixation

The mounting system for glass-glass modules (monofacial or bifacial) that is fully compatible with components of leading manufacturers.



Landscape: horizontal installation



Portrait: vertical installation

Versatile application

- > Monofacial or bifacial glass-glass modules
- > Pitched roof, flat roof and facade
- > Compatible with all roof connection points from Megasol, Schletter and K2

Elegant look

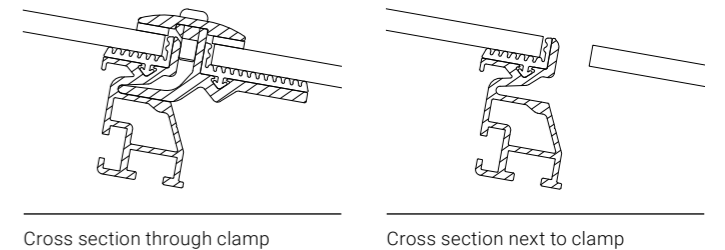
- > Flush-mounted installation
- > Without protruding frames (CleanFrame effect)

Three components

- > LAYUP rail (black / classic aluminium)
- > LAYUP clamps (black / classic aluminium)
- > Cross connector or screw

Secure fixation

- > Connection with screws or cross connectors
- > Placed on the rail and secured with clamps
- > High stability thanks to large contact surface



LAYUP components

Rails



3337.0319
LAYUP rail
6700mm silver



3337.0318
LAYUP rail
6700mm black



3337.0310
LAYUP rail connector
kit with screws

Clamps



3337.0379
LAYUP middle clamp
kit silver



3337.0378
LAYUP middle clamp
kit black



3337.0309
LAYUP end clamp
silver



3337.0301
LAYUP end clamp
black

Additional components (for portrait installation)



3337.0330
LOCKUP rail



3337.0332
LOCKUP support



3337.0341
LAYUP middle clamp
VE silver



3337.0342
LAYUP middle clamp
VE black



Pitched roofs

The well-elaborate connection points for pitched roofs can be perfectly combined with LOCKUP and LAYUP module fixations.

Wide range of applications

- > The right solution for every roof covering
- > For different static load requirements

Simple combination

- > Compatible with LOCKUP and LAYUP module fixations
- > Cross connectors or screws



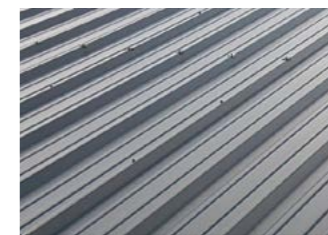
Components



Classic tile



Seam metal



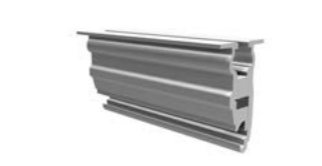
Trapezoidal sheet



Corrugated roof



3231.0029
Roof hook Rapid2+ Max



3333.0046
Clamp 504 AL KK for seam metal



3337.0345
Sheet adapter kit



3231.0179
Fixation kit for corrugated roof
M12x300 KlickTop



3231.0036
Roof hook Rapid2+ MaxV



3337.0329
Stopper



Plain tile



Fibre cement



Prefa



3231.0024
Fixation kit for plain tile



3231.0010
Roof hook for fibre cement/Prefa

Flat roof

The easy-to-mount *Flatport* trays for flat roofs are the ideal base for LOCKUP and LAYUP module fixations.

Quick and gentle installation

- > Upside-down procedure
- > No punctual load on the roof membrane

Simple ballasting

- > Gravel or slabs
- > Ballasting plan on request

All flat roof coverings

- > Gravel / granulate
- > Vegetated / bitumen

High longevity

- > Corrosion resistant alloy
- > 10 years material warranty

Simple combination

- > Compatible with LOCKUP and LAYUP module fixations
- > Quick fastening with screws

Components



3337.0175
Flatport Advanced 6° 997.5



3231.0130
Hexagon screw M10x25



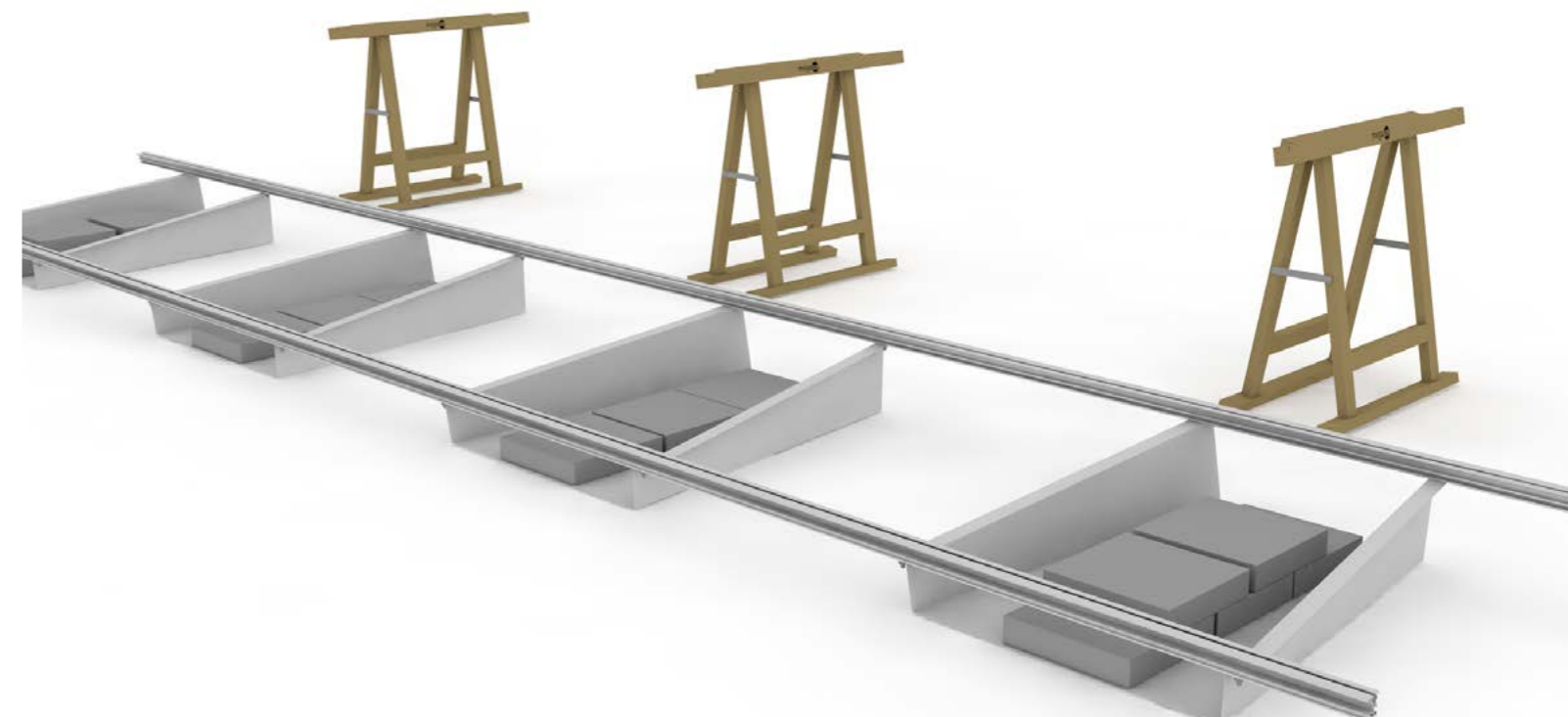
3231.0040 Flange nut M10
with locking teeth



1 Place the LOCKUP rail on Megasol trestles and insert M10x25 hexagon screws into the rail.



2 Place the Flatport trays upside down on the rails and tighten them with M10 flange nuts.



3 Turn the trays over with the rails, align them on the surface and ballast them.

Made in Deitingen



Development

We are committed to technological leadership in the field of all-in-one systems. Following this principle, we continuously drive the development forward. Megasol solar modules and mounting systems as well as our production processes are constantly analyzed and optimized. Our engineers, programmers and electrotechnicians closely cooperate to design and develop new products and the processes required to manufacture them.

Our test and research centre in Deitingen, Switzerland pools the entire expertise from planners and installers and shapes the development and advancement of new and existing products.

Optimizing performance

The nano-coated antireflective solar glass used for all products conducts the maximum amount of sunlight to the solar cells. Thanks to state-of-the-art spectral optimization, Megasol solar modules perform up to 15% better than customary modules under cloudy conditions and during dusk or dawn.

In-house test centre

Especially in high alpine environments, extreme heat or cold and the impact of snow and wind are particularly challenging for solar modules. The standard IEC test procedures do not account for these conditions.

Our test procedures are different – they exceed industry standards by far. An example: The IEC requires damp heat test procedures to cover 1'000 hours. Megasol increases this value by a factor of 10 to 10'000 hours.

At our Deitingen production site, we test: Damp-heat, shock freeze, UV lifetime, dynamic load and thermal cycle. Only top-quality materials that pass all tests without reservation are used to produce Megasol modules.

In-line testing

One production line is designed for medium-sized series, while the other is used to manufacture modules in a customer-specific design. Starting with precise controls of all semi-finished products, each step in the manufacturing process is subject to several controls. Electroluminescence tests (3 times) as well as technical and optical controls accompany the entire manufacturing process up to the final flash test.

Traceability

All data from production can be viewed electronically at any time. This also includes information on the materials used, which can be traced back seamlessly to the raw material batch. Our high-performance solar cells consist of high-purity silicon – free of cadmium, rare earths and heavy metals.

Recycling

Our commitment with the Swiss foundation SENS and the European PV Cycle enables the reuse of almost 100% of the used material.

Certifications and awards

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

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

Support services

Consultation

- > Detailed design options
- > Grid layout
- > Connection details / interfaces
- > String / inverter dimensioning
- > Tenders

Formalities

- > EIV, ESTI, EEA

Development

- > Colour development
- > Samples / mock-ups
- > Product development (special solar modules / substructures)

Values and cornerstones

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

Social commitment

Megasol is committed to ecological and social sustainability projects in economically disadvantaged regions – for example Solafrica's *Solar Learning* initiative and the Women's Solar Project in Nicaragua. 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.

Manufacturing and research site

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.

Corporate culture

Our 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. In China, the remuneration exceeds the local standard in terms of benefit-oriented promotion. All employees are provided with further training and language courses. The implementation of Swiss safety and health standards at both sites is a question of entrepreneurial conscience.

Political commitment

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 – also for those who are traditionally critical of environmental issues.



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