



Green energy trading

The source is Yours.

MOUNTING SYSTEM

iFIX

voestalpine

ONE STEP AHEAD.



THE COMPANY



voestalpine Automotive Components Schwäbisch Gmünd GmbH & Co. KG has stood for quality and service in forming technology for decades now. We, as a supplier to the automotive industry, have achieved a high level of technical innovation, and we are now channelling our investments into the solar industry. We develop system solutions for photovoltaics (PV), including a variety of products that are perfectly coordinated, seamlessly integrated, and can be customised to meet various needs. This is precisely what the patented iFIX system solution has stood for since 2012.



ISO 9001



ISO 14001



ISO 16949



COMPANY FACTS

- » On the photovoltaics market since 2012
- » Production in Germany
- » Quality management system certified to ISO 9001
- » Quality management system of the automotive industry certified to IATF 16949
- » Environmental management system certified to DIN EN ISO 14001

PRODUCT FACTS

- » 12-year warranty period
- » 100 % greentec steel with reduced carbon footprint from Austria (made by voestalpine Steel)
- » We work according to the current state of the art and comply with the standardised regulations of the Eurocode (EN 1991-1-3, EN 1991-1-4, EN 1993-1-4, DIN 55634-1-2)
- » Testing of required load cases by an accredited testing institute
- » Expert opinion on the determination of the static design limits
- » Wind tunnel expertise to determine the positional stability
- » Internal tests accompanied by a structural engineer on the cubicle joint effect in accordance with the guideline of the BSW (the trade association of the German solar energy industry)



ADVANTAGES OF iFIX

It couldn't be simpler! iFIX is the smart substructure for photovoltaic systems, and consists of one component instead of many different ones. With iFIX, photovoltaic modules with cables and inverters/optimisers are mounted quickly and easily on flat roofs.

Simply smart: The smart click solution enables quick mounting without tools. All necessary fixing points are already integrated. iFIX is ready to mount and does not need to be processed or cut to size. Customers confirm that iFIX can be mounted up to 50 % faster.

50%
faster

Smart cost-effectiveness: The innovative component design saves on logistics and distribution. Benefit from:

- » **Reduction in storage areas**
- » **Reduction in transport costs** thanks to high packing density and low weight
- » **Accurate order picking without leaving residual material on the roof** thanks to pre-cut individual parts

Smart sustainability: The innovative iFIX system is made of corrosion-resistant coated steel. The primary material and precision production are in line with voestalpine's high sustainability criteria.

EVERYTHING FIXED WITH ONE CLICK



SMART

The photovoltaic substructure consists of just one component instead of many individual parts. Mounting with a smart click solution does not require tools.



FAST

There is no need to spend time cutting to size, as everything is delivered ready for mounting. The handy parts can be quickly transported to the place of use with little effort.



VERSATILE

iFIX has a particularly large contact area, which reduces the surface loads. This also makes iFIX ideal for roofs with soft insulation material.



EASY

Attachment is so straightforward that nothing can go wrong. Simply watch the mounting video and get started. Integrated fixing points point the way, standardised module clamps make the process even easier.



ECONOMICAL

Short mounting times. Reduced logistics costs. The stackable individual parts require minimal storage space and enable precise order picking without leaving residual quantities on the roof.



MODULAR

The use of identical parts greatly simplifies the complexity and stockkeeping. At the same time, iFIX EAST-WEST is the basis for the iFIX SOUTH system.

iFIX variant EAST-WEST

No need to worry about many different individual parts or time-consuming installation. iFIX is mounted in just a few steps. The component has all the fixing points needed for screw connection of the module. The additional parts required can be selected specifically depending on the photovoltaic module installed. All framed PV modules can be easily mounted on iFIX substructures.



iFIX variant SOUTH

iFIX S is the latest iFIX product for south orientation to maximise yield on flat roofs. It builds on the iFIX EAST-WEST click system. The familiar PV carrier plate from iFIX EAST-WEST is clicked into the new S Connector as usual. The iFIX Deflector is simply pushed in. It closes the north side and thus reduces the ballast.

- 1 Photovoltaic module
- 2 iFIX Protect / Alu-Protect
- 3 Ballast area
- 4 End and centre clamps
- 5 Protector
- 6 iFIX S Connector
- 7 iFIX S Deflector



Product overview

iFIX SUBSTRUCTURE EAST-WEST SOUTH



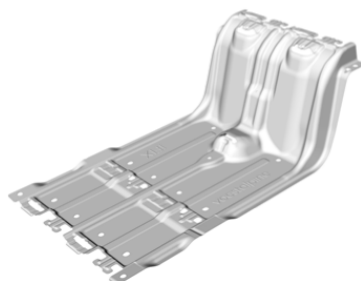
	iFIX Base	iFIX Protect	iFIX Alu-Protect
Description	Without pre-glued strips of building protection mat	With pre-glued strips of building protection mat, for roofs with solid insulation	With pre-glued, aluminium-backed strips of building protection mat, for roofs with solid insulation
Usage	iFIX OW and S	iFIX OW and S	iFIX OW and S
Product number	102211	102221	102222
Pcs. / packaging unit	150	150	150

iFIX EAST-WEST building protection mats



	Base Protect	Base Alu-Protect	Protector
Description	For roofs with soft insulation 1.015 × 430 × 6 mm	Aluminium-backed, for roofs with soft insulation 1.015 × 430 × 6 mm	Aluminium-backed, for sheet metal row ends 155 × 430 × 6 mm
Usage	iFIX OW and S	iFIX OW and S	iFIX OW and S
Product number	102131	102132	102138
Pcs. / packaging unit	300	300	100

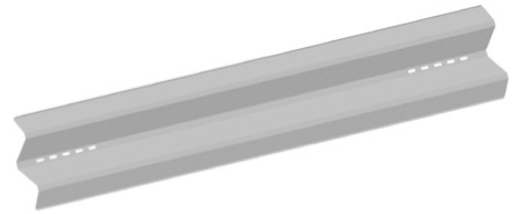
iFIX SUBSTRUCTURE SOUTH



	iFIX S Connector Extended	iFIX S Connector Compact
Description	With pre-glued, aluminium-backed strips of building protection mat	With pre-glued, aluminium-backed strips of building protection mat
Usage	Shading angle 16°	Shading angle 22°
Product number	202222	202224
Pcs. / packaging unit	150	150

Product overview

IFIX SUBSTRUCTURE SOUTH



iFIX S Deflector 1780

iFIX S Deflector 2100

Description	Wind deflector for ballast reduction	Wind deflector for ballast reduction
Usage	PV module length up to 1.780 mm	PV module length up to 2.100 mm
Product number	202205	202206
Pcs. / packaging unit	150	150

IFIX centre clamp



iFIX centre clamp

Description	For clamping between PV modules, with screw, for frame height 30–40 mm
Usage	iFIX OW and S
Product number	102152
Pcs. / packaging unit	150

IFIX end clamps



end clamp 30

end clamp 32

end clamp 35

end clamp 38

end clamp 40

For clamping PV modules at row ends, incl. screw

Description	Width: 50 mm Height: 30 mm	Width: 50 mm Height: 32 mm	Width: 50 mm Height: 35 mm	Width: 50 mm Height: 38 mm	Width: 50 mm Height: 40 mm
Usage	iFIX OW & S	iFIX OW & S	iFIX OW & S	iFIX OW & S	iFIX OW & S
Product number	102153	102154	102155	102156	102157
Pcs. / packaging unit	150	150	150	150	150

Product overview

iFIX lightning protection / earthing



	Lightning protection connector	Lightning protection screw	Lightning protection nut	Earthing connector
Description	For connection of iFIX to the lightning conductor suitably for carrying the lightning current	Hexagonal, M10 × 12, for lightning current-carrying connections in the field	Hexagonal, M10, for lightning current-carrying connections in the field	For iFIX S Deflector
Usage	iFIX OW and S	iFIX OW and S	iFIX OW and S	iFIX S
Product number	102161	102162	102163	202211
Pcs. / packaging unit	100	200	100	150

iFIX Spacer

iFIX Spacer

Description	Distance gauge suitable for PV modules from 1,640 to 2,100 mm in length
Usage	iFIX OW and S
Product number	102141
Pcs. / packaging unit	10



Technical data

iFIX VARIANT EAST-WEST

iFIX OW is the latest iFIX product for east-west orientation to maximise yield on flat roofs throughout the day.

	iFIX Protect / Alu-Protect (with pre-glued strips of building protection mat)	iFIX Base with separate building protection mat
iFIX OW contact surface	0,084 m ²	0,280 m ²
iFIX OW weight	3,71 kg	5,04 kg
iFIX OW dimensions	1.271 × 376 × 227 mm	1.271 × 376 × 227 mm

Features	Characteristic values
Area of application	Flat roofs with max. 3° roof pitch; With and without parapet Surface: Foil or bitumen covering, concrete, gravel or green roof No permanently standing water Wind zones 1 to 3 (at least 3 km from the sea) Peak velocity pressure up to 1.400 N/m ² * Snow load up to 3,8 kN/m ² *; Building height up to 25 m Minimum distance from the edge of the building 0,5 m
Surface pressure	Contact surface per mounting: max. 0,28 m ² Therefore very low surface pressure
Module orientation	Horizontal
Module installation angle	10°
Mountable PV modules with a frame	Frame dimensions: Width: min. 990 mm, max. 1,145 mm; Length: min. 1,650 mm, max. 2,100 mm The maximum area of 2.17 m ² is the determining factor Height 30 to 40 mm
Grid dimension in the row	PV module length +20 mm Field separation after max. 14,5 m
Grid dimension row-to-row	1,210 mm No field separation required
Overall height without PV module	227 mm
Material	Sheet metal: corrosion-protected zinc-magnesium-coated sheet steel; Module clamps: Stainless steel
Structural engineering	Structural engineering according to Eurocode and wind tunnel reports
Authorisation	General technical authorisation/general type approval no. Z-14.4-928 CE22



Technical data

iFIX VARIANTA SOUTH

Only two parts are added to the familiar iFIX OW carrier plate. The iFIX S Connector and the iFIX S Deflector turn it into a south-facing system.

	iFIX S Connector Extended (with pre-glued aluminiumbacked strips of building protection mat)	iFIX S Connector Compact (with pre-glued aluminiumbacked strips of building protection mat)	iFIX S Deflector 1780	iFIX S Deflector 2100
iFIX S contact surface	0.072 m ²	0.056 m ²		
iFIX S weight	2,22 kg	1,95 kg	3,67 kg	4,24 kg
iFIX S dimensions	643 × 376 × 227 mm	453 × 376 × 227 mm	2.070 × 240 × 44 mm	2.390 × 24 × 44 mm

Features	Characteristic values
Area of application	Flat roofs with max. 3° roof pitch; With and without parapet Surface: Foil or bitumen covering, concrete, gravel or green roof No permanently standing water Wind zones 1 to 3 (at least 3 km from the sea) Building height up to 25 m Minimum distance from the edge of the building 0,5 m
Surface pressure	Contact surface per mounting: max. 0,316 m ² ; Therefore very low surface pressure
Module orientation	Horizontal
Module installation angle	10°
Mountable PV modules with a frame	Frame dimensions: Width: min. 990 mm, max. 1,145 mm; Length: min. 1,650 mm, max. 2,100 mm The maximum area of 2.17 m ² is the determining factor; Height 30 to 40 mm
Grid dimension in the row	PV module length +20 mm; Field separation after max. 14.5 m
Grid dimension row-to-row	1,810 mm (with iFIX S Connector Extended); 1,620 mm (with iFIX S Connector Compact); No field separation required
Overall height without PV module	227 mm
Material	Sheet metal: corrosion-protected zinc-magnesium-coated; sheet steel; Module clamps: Stainless steel
Structural engineering	Structural engineering according to Eurocode and wind tunnel reports
Authorisation	General technical authorisation/general type approval applied for CE24



INSTALLATION STEPS

STEP 1

First iFIX EW sheet rows

At the specified distance from the roof edge and beginning from the roof edges in the south and west, lay the sheets and connect them at the high and low sections.

Material: Tape measure, snap line, iFIX EW sheet

Position next to the first row. Sheet edge to sheet edge: $L1 = \text{PV module length} + 20 \text{ mm}$

Material: Tape measure, snap line, iFIX EW sheet

Accessories: Installation simplified by the iFIX Spacer

Practical tip: When using iFIX EW Base Protect, mount the structure protection mat simultaneously (see Page 5).



STEP 2

Spread ballast

Spread the ballast once the sheet rows have been placed at the correct distance from each other. Always place the ballast near the higher sheet section.

Material: Ballast

Practical tip: Any lightning-current-carrying connections must be installed before the PV modules are mounted.



STEP 3

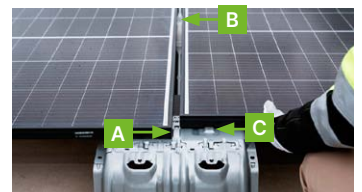
Mounting the PV modules

Place the PV modules on the top and bottom positioning aids (A and B), and push them with the top frame against the stop (C). Connect the cables and cover the entire surface with the PV module.

Positioning aids (A and B) aid in the spacing of the PV modules.

Material: PV-Modules, cable binder

Practical tip 1: Cables can be fastened using cable ties at the C-shaped cutouts provided for this purpose on the steel sheets.



STEP 4

Cable connections

Connect the cable connections between the PV modules and fix them.

Tip: The cables can be fixed in the C-shaped cut-outs in the sheet metal using cable ties.



STEP 5

Set clamps

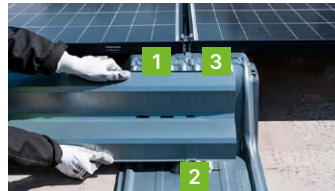
Using a torque-controlled screwdriver (12 Nm tightening torque), always set the terminals immediately after mounting each PV module. This ensures fine alignment of the iFIX EW sheet rows.
Material: PV modules, end clamps, middle clamps



STEP 6

iFIX S Deflector

Insert one end of the iFIX S Deflector into the first upper fixing point (1), then into the other end in the same way. Then push the iFIX S Deflector slightly through and in the same sequence insert it into the three fixing points on the other end in the same way.
The second iFIX S Deflector is inserted into the fixing points overlapping the first in the same order.
Material: iFIX S Deflector



Slide the iFIX S Deflector products so that they end 40 to 60 mm from the edge of the iFIX S Coupling at the end of the row.
The overlap (X) of the iFIX S Deflector pieces is based on the length of the PV modules and the length of the pieces selected iFIX S Deflector.



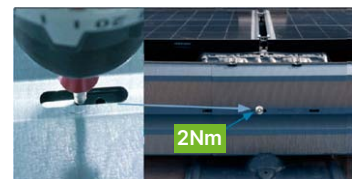
Tip: iFIX S Deflector 1780 for PV module lengths up to 1,780 mm. iFIX S Deflector 2100 for PV modules up to 2,100 mm in length.



STEP 7

Potential compensation/grounding

Screw the iFIX S grounding connector through the elongated deflector holes next to the iFIX connector hole with a maximum tightening torque of 2 Nm.
Material: iFIX earthing connector, screwdriver, torque wrench with bit



STEP 8

iFIX Connector element load

Place the load on the iFIX S Connector according to the load plan from the project report.



Software for planning

The intuitive software allows you to plan your PV project professionally in just a few simple and clear steps on your own PC or Mac. The iFIX tool is based on the well known Solar.Pro. Tool software solution from Levasoft GmbH.

It supports you in planning your PV project with the iFIX mounting system for optimised module assignment and mounting system design:

- » Simple dashboard for efficient project management
- » Google and Bing Maps integration for quick and detailed recording of building dimensions
- » Versatile graphic drawing tools and export options
- » Project-specific structural engineering verification
- » Detailed results report with parts list of the required components
- » Web-based application – no need to install on your PC or Mac



iFIX Tool login

voestalpine.solarprotocol.com



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