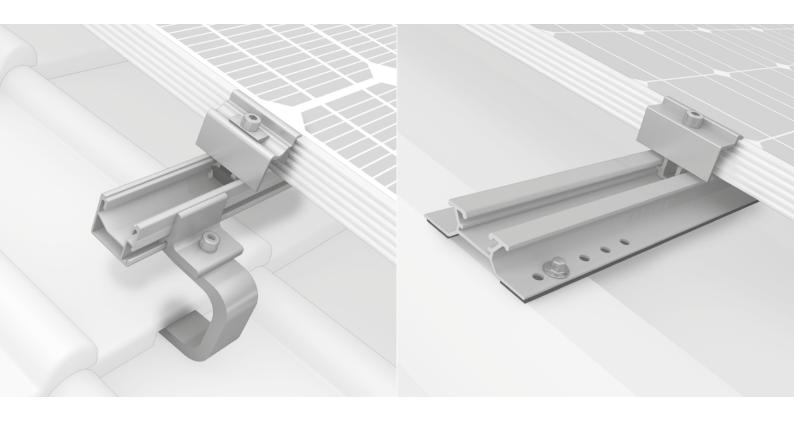
### Mounting systems for solar technology





## Pitched roof systems









## Content



	Pantiks Plain tile			reperiodel sheet metal state of the standing standing state of the standing state of the standing state of the standing state of the st				Stending Sec	Seath foor	
			EE					$\langle \rangle$		
SingleRail System	4	•	0	0	0	0	•	•	•	
<ul> <li>SolidRail System</li> </ul>	6	٠	٠	٠	٠	0	٠	٠	٠	
Insertion System	8	٠	0	0	0	0	٠	٠	0	
<ul> <li>MiniRail System</li> </ul>	10	0	0	0	٠	٠	0	0	0	
SpeedRail System	12	0	0	0	٠	٠	0	0	0	
• MultiRail System	14	0	0	0	٠	٠	0	0	0	
S-Dome Small System	16	0	0	0	٠	0	0	0	0	
• Overview of roof fastenings	18									
<ul> <li>Accessories</li> </ul>	22									

• Suitable • Unsuitable

### Warranty

We offer a 12-year warranty on all K2 system components. k2-systems.com/en/guarantee

### Statics and design loads

K2 mounting systems fulfil the calculation principles in accordance with Eurocode 1 and 9.

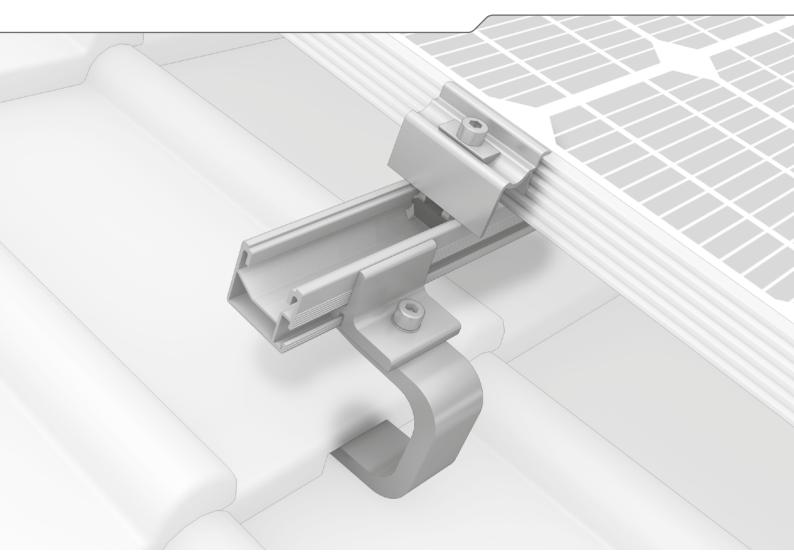
### Pallet delivery

Many mounting systems are delivered in pallets to save space and costs.



3

## SingleRail System



- Quick and low-cost with direct lateral connections to the rail without additional components including customised height adjustment
- Secure snap-in assembly without needing to be screwed into the base plate
- The SingleRail in combination with CrossHook roof hooks is very durable and versatile







### **Roof fastenings**



#### SingleHook 1.1

- For pantiles
- Easy height adjustment with slotted bore hole
- Also suitable for narrow rafters
- Connects directly to SingleRail



SingleHook Vario

• For flat tiles and pantiles

• Height-adjustable at rail

Connects directly to

SingleRail

connection and battens

#### SingleHook FT

- For flat tiles and pantiles Applicable on small
- rafters and independent from rafters
- Connects directly to SingleRail



- L-Adapter SR
- Adapter for special applications
- Compatible with SingleRail



#### CrossHook 3S

- For pantiles
- 3 height adjustments in the base plate
- Also suitable for narrow rafters



#### **CrossHook 4S**

- For pantiles
- 3 height adjustments in the base plate
- Further height adjustment at the bracket itself.
- Also suitable for narrow rafters



#### CrossBoard

- The easy solution for nogging, skylights etc.
- Complements CrossHook 3S and 4S

#### Hanger bolts SR

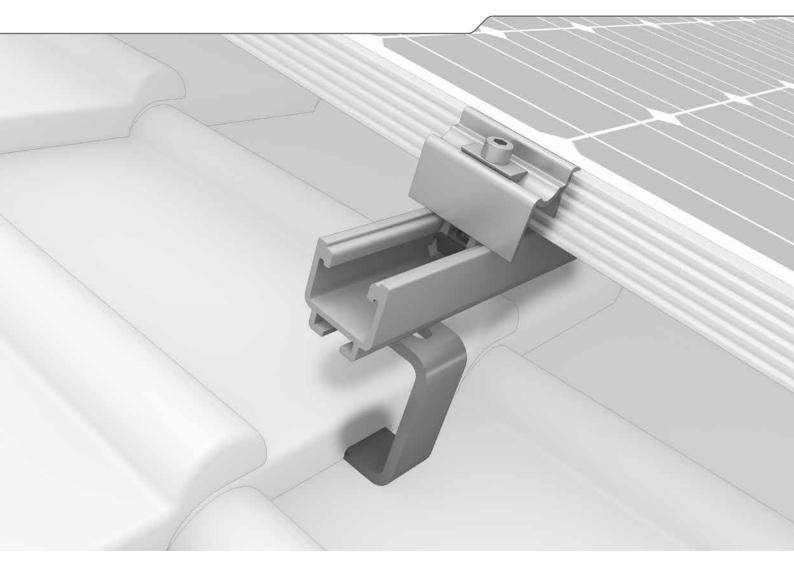
- For corrugated fibre cement roofing with wooden substructures
- With building approval

### **Technical data**

	SingleRail 36	SingleRail 50	SingleRail 63	Roof
Figure		2/		You w on ou on pa
Material	Alum	ninium (EN AW-6063	T66)	
W = width [mm]	39.4	39	47	
H = height [mm]	36	50	63	
Lengths [m]	2.10/3.15/4.15/ 6.10	6.10	6.10	
Weight [kg/m]	0.76	1.0	1.51	
Cross-bracing with	S	ingleRail or SolidRa	il	
H			or heavy loads arge spans!	and

#### fastenings will find detailed technical data ur roof fastenings starting age 18.

## SolidRail System



- Comprehensive range of mounting rails for varying load profiles
- Robust and structurally proven
- High flexibility for a diverse range of widths





### **Roof fastenings**



#### **Roof hook for pantiles**

- Various sizes
- Solid stainless steel design



Vario 1 and 2 roof hooksFor pantilesHeight-adjustable under

bracket and at battens



**Roof hook for plain tile roofing** Also for double roofing



Roof hook for slate roofing

Three boreholes for a secure fit



### Roof hook for Coppo roofing

- Height-adjustable under bracket
- Flexible placement on rafters



Hanger boltsFor corrugated fibre

- cement or corrugated sheet roofing with wooden substructure
- Custom height adjustment



#### Solar fastener

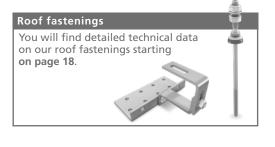
- For trapezoidal sheet metal, corrugated sheet metal, or corrugated fibre cement roofing
- For steel, timber or concrete



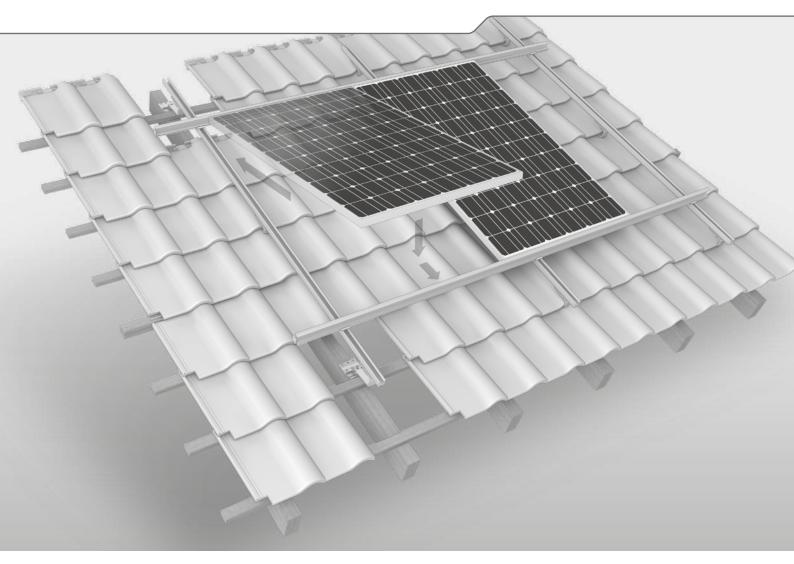
**Standing seam clamps** Seam metal clamps for popular standing seam roofs such as Kalzip or Rib-Roof

### **Technical data**

	UltraLight 32	Light 37	Medium 42	Alpine 60
Figure				INI
Material		Aluminium (EN	I AW-6063 T66)	
W = width [mm]	39	39	41	41
H = height [mm]	32	37	42	60
Lengths [m]		2.10/3.15	/4.15/6.10	
Weight [kg/m]	0.7	0.85	1.3	1.7
Cross-bracing with	SingleRail			
	SingleRail SolidRail LS85 and XL140: For heavy loads across large widths!			



## **Insertion System**



- Without having to apply clamps eliminates the need for assistance ensuring lightning-fast installation
- Easy to assemble with few components and without special tools
- Sleek design with continuous closed surface adds further robustness
- Insertion profile provides additional frame reinforcement



## In cooperation with solarteam • •



### Components



- Insertion rails
   Intelligent solution for efficient module installation
- Seals surface
- Available in black



Cross connector • Fixation for insertion rail on SolidRail

Simple mounting



#### SolidRail

- Robust mounting rail
- Different load conditions
- For large spans
- Available in black



#### **Cable management**

- Quick cable connection
- beneath the insertion rail
- Up to 5 cables



#### CrossHook 3S+/4S+

- Height-adjustable and laterally adjustable
- Also suitable for narrow rafters





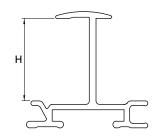


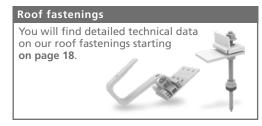
#### Accessories

- Connector insertion rail
- Side stopper
- Horizontal end bracket

### **Technical data**

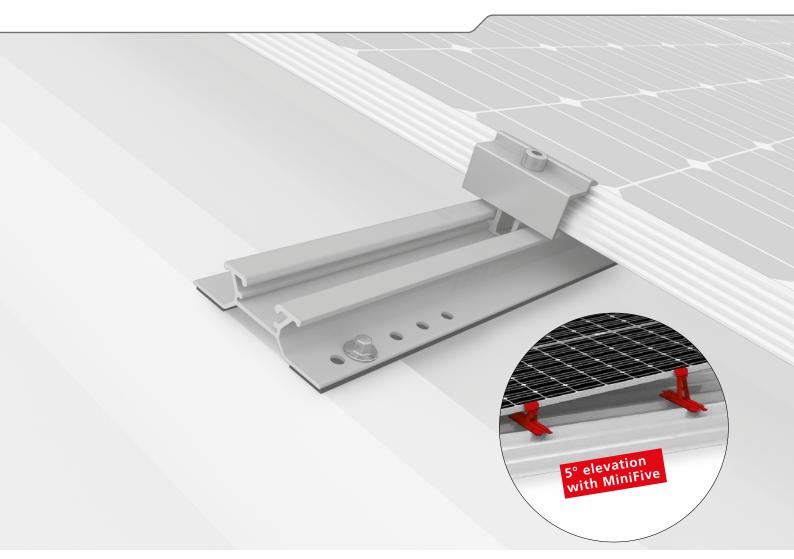
	Insertion system	
Scope of application	Pitched roofs with pan tiles or corru- gated fibre cement	
Fastening type / roof connection	Roof hooks or hanger bolts	
Module frame heights (H)	<ul> <li>&gt; 35 mm</li> <li>&gt; 40 mm</li> <li>&gt; More heights on request</li> </ul>	
Requirements	7 mm spacing between insertion rails	
Module orientation	Landscape and portrait	
Material	<ul> <li>Mounting rails and cross connector: Aluminium EN AW-6063 T66</li> <li>Components: stainless steel (1.4301) A2-70</li> </ul>	
SolidRail lengths [m]	Aluminium mill finish:4.15 and 6.10Black anodised:6.10	
Insertion rail lengths [m]	Aluminium mill finish: 5.10 Black anodised: 5.10	





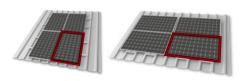
Pitched roofs Insertion System

## MiniRail System



- Innovative and statically optimised short rail system that is quick and easy to mount
- Universal module clamps and suitable for portrait and landscape orientation
- ▶ 5° elevation with MiniFive: significantly more output thanks to improved ventilation and optimised module angle
- Optimised for storage and transport





The MiniRail System allows portrait and landscape mounting in the form of grid mounting thanks to the universal module clamps, which are rotatable by 90°.



### Components



MiniRail Landscape and portrait mounting with MiniClamp MC/EC



MiniClamp MC/EC 30-50 mm • Universal module clamp

Clamp is rotatable







**Self-tapping screws** Included in MiniRail

- MC/EC set
- With sealing washers

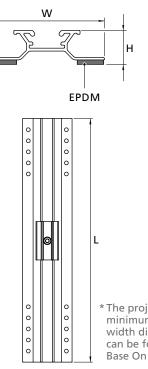


#### MiniFive front and end

- Single-sided easy elevation with insertable supporting elementImproved ventilation and higher yield
- Optimised module angle

### Technical data

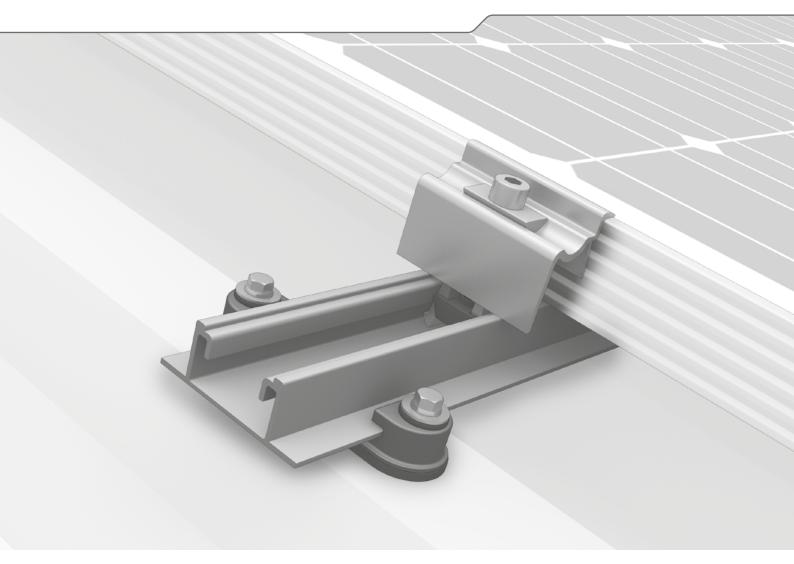
	MiniRail System
Scope of application	Pitched roofs with trapezoidal sheet metal or sandwich panels Roof inclination: 5-75°
Fastening type / roof fixture	Screws in roofing with self-tapping thin sheet screws
Requirements	<ul> <li>Sheet thickness: ≥ 0.5 mm (steel and aluminium)</li> <li>Sandwich panel: Approval from manufacturer required</li> <li>Crest width: At least 22 mm *</li> <li>Crest spacing: 101-350 mm depending on crest width</li> <li>Flush area surrounding the bore hole: Ø ≥ 20 mm</li> <li>Module frame height: 30-50 mm</li> </ul>
Module orientation	Vertical or horizontal
Material	Aluminium (EN AW-6063 T66/ EN AW-6082 T6); EPDM
Dimensions MiniRail W × H × L [mm]	78.2×23×385
Elevation with MiniFive	approx. 5°



\* The project-specific minimum high crest width dimension can be found in the Base On report.

**Pitched roofs** MiniRail System

## SpeedRail System



- The proven long rail system for trapezoidal sheet applications as well as floating suspension with controlled thermal linear expansion
- Our most popular system over 1 GW installed worldwide
- All-rounder with only 4 installation steps also suitable for high loads





### Components



#### SpeedRail

- Mounting rail with easy insertion mounting into SpeedClips
- Various lengths available



#### SpeedClip

- Mounting brackets for SpeedRail
- Simple insertion feature
- Glass fibre reinforced polyamide with EPDM seals





#### SpeedLock

- Mounting lock for SpeedRail in case of thermal expansion
- In a set with MK2 slot nut and stainless steel screw



#### SpeedConnector

- Rail connector for SpeedRail
- Three boreholes for flexible mounting
- In a set with countersunk screws

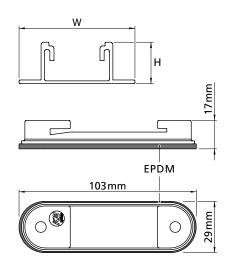


Technical data

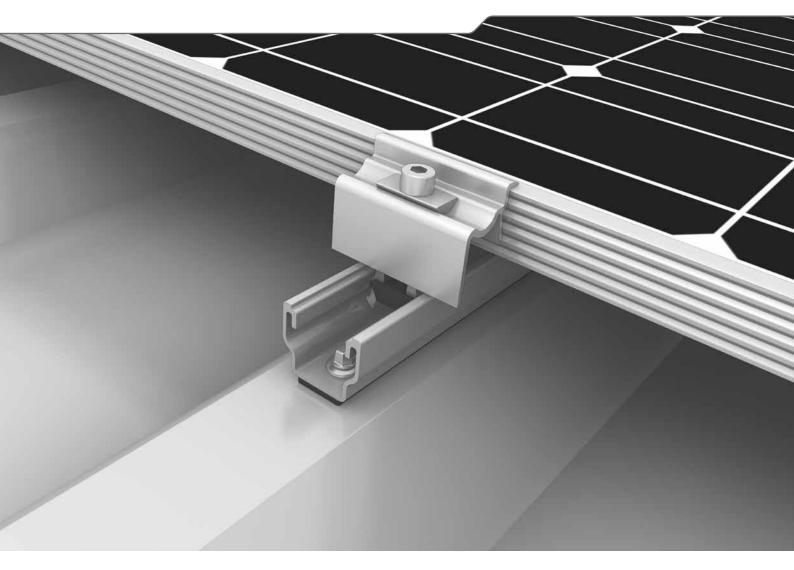
#### AddOn

- For grid mounting and ensures easy shared-rail mounting
- Glass fibre reinforced polyamide

	SpeedRail / SpeedClip
Scope of application	Trapezoidal sheet roof
Fastening type / roof fixture	Insertion mounting into SpeedClips and screws in the roofing
Material	<ul> <li>SpeedRail: Aluminium (EN AW-6063 T66; 0.64kg/m)</li> <li>SpeedClip: Glass fibre reinforced polyamide with EPDM</li> </ul>
SpeedRail dimensions W = width [mm] H = height [mm] L = lengths [m]	63 22.5, 2.1 / 3.15 / 4.15 / 6.1
SpeedClip dimensions	See drawing
Cross-bracing with	SingleRail or SolidRail



## MultiRail System



- Easy and proven as a short rail or a flexible component in various lengths
- Quick planning with less material and greater effectiveness
- Compact shipping dimensions and entirely palletised





### **MultiRail Versions**



MultiRail 10 Length 100 mm
Horizontal module orientation



MultiRail 25/4 Length 250 mm
For more flexibility and high load demands at horizontal module orientation

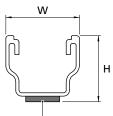


#### MultiRail 4.20

- Length 4200 mm
  Long rail for cutting to customised sizes
- Without EPDM seal; to be fastened manually with adhesive

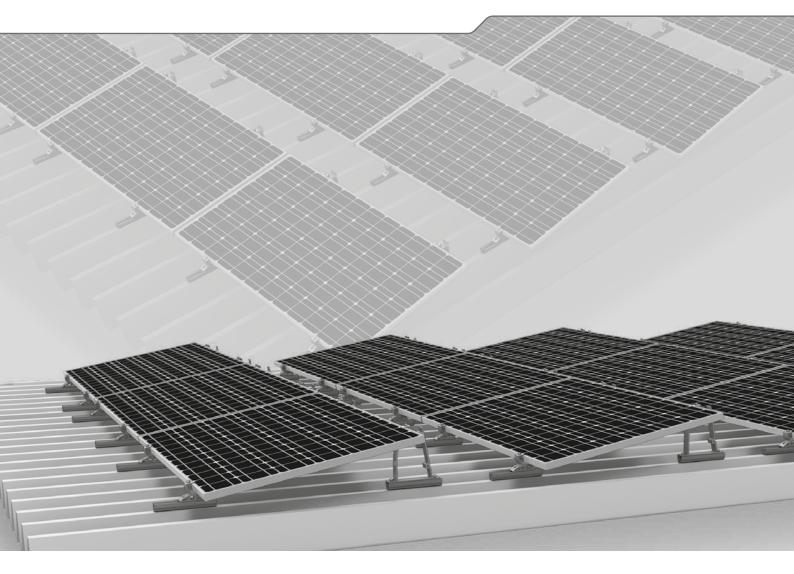
### Technical data

	MultiRail 10, 25/4, 4.20	
Scope of application	Pitched roofs, 5-75°, with trapezoidal sheet metal or sandwich panel	
Fastening type / roof fixture	Fastened with self-tapping sheet screws	
Requirements	<ul> <li>&gt; Sheet thickness: ≥0.5 mm (steel and aluminium)</li> <li>&gt; Sandwich panel: approval from manufacturer required</li> <li>&gt; Crest width: at least 22 mm</li> <li>&gt; Maximum crest width: independent of crest distance</li> </ul>	
Material	Aluminium (EN AW-6063 T66); EPDM	
W = width [mm]	39	
H = height [mm]	35	
L=rail length [mm]	<ul> <li>MultiRail 10: 100</li> <li>MultiRail 25/4: 250</li> <li>MultiRail 4.20: 4200</li> </ul>	
Cross-bracing with	SingleRail	



EPDM

## S-Dome Small System



- For a roof inclination of up to 15° on trapezoidal sheet metal
- Economical in terms of materials and transportation; clever connections and strong holding power
- The perfect combination of the all-round MultiRail component and load-optimised, slim elevations





### Components





**Dome S1000 Small** Narrow elevation module support element

**Dome SD Small** Narrow module support element

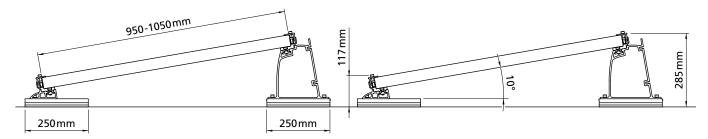


MultiRail 25/4
Length 250 mm
With four boreholes for roofs with up to 15° inclination



FlexClamp Small
For clamping on the long side of module

Height adjustable



### Technical data

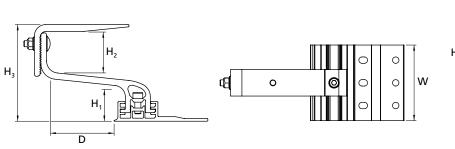
	S-Dome Small
Scope of application	Flat or pitched roofs $\leq$ 15° with trapezoidal sheet metal roofing
Fastening type/roof fixture	Attached with drilling screws in trapezoidal sheets, parallel to raised crests
Requirements	<ul> <li>Sheet thickness for aluminium/steel: min. 0.5 mm</li> <li>Tensile strength for aluminium: 165 N/mm<sup>2</sup></li> <li>Tensile strength for steel: acc. to approval min. S235 in acc. with DIN EN 10025-1</li> <li>Crest width: min. 22 mm</li> <li>Crest spacing: independent of crest distance</li> </ul>
Inclination angle	10°
Material	<ul> <li>Mounting rails, Dome SD Small, Dome S1000 Small, FlexClamp Small: Aluminium (EN AW-6063 T66/ EN AW-6082 T6); EPDM</li> <li>Small parts: Stainless steel (1.4301) A2</li> </ul>

## Overview of roof fastenings

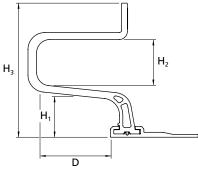
# CrossHooks and SingleHooks for CrossRail and SingleRail

Type / image	Base plate width [W]	Height under bracket [H1] Bracket height [H2] Total height [H3]	Bracket depth [D]	ltem no.
CrossHook 35/35+	100 mm	<ul> <li>▶ 40/47/54 mm</li> <li>▶ 56 mm</li> <li>▶ approx. 123/130/137 mm</li> </ul>	83 mm	2000133
CrossHook 45/45+	100 mm	<ul> <li>▶ 40/47/54 mm</li> <li>▶ 55-85 mm</li> <li>▶ 120.5-165 mm</li> </ul>	83 mm	2000466
SingleHook 1.1*	100 mm	<ul> <li>▶ 47.1 mm</li> <li>▶ 56 mm</li> <li>▶ 162.9 mm</li> </ul>	83 mm	2001928
CrossBoard für CrossHook 35/45	2 100 mm	<ul> <li>40/47/54 mm</li> <li>56/55-85 mm</li> <li>approx. 123/130/137/ 120.5-165 mm</li> </ul>	83 mm	2001972
CrossHook 2G	100 mm	<ul> <li>▶ 40/47/54 mm</li> <li>▶ No spacing</li> <li>▶ 89.2 mm</li> </ul>	-	2000636
CrossHook 2 (BS EN 490)	150 mm	<ul> <li>▶ 44 mm</li> <li>▶ 46 mm</li> <li>▶ 100 mm</li> </ul>	116 mm	1004900
SingleHook FT	30 mm	<ul> <li>▶ 16 mm</li> <li>▶ 68 mm</li> <li>▶ 141 mm</li> </ul>	120 mm	2002568
SingleHook Vario	100 mm	<ul> <li>◆ 45 - 65 mm</li> <li>◆ 68 mm</li> <li>◆ 172 - 192 mm</li> </ul>	110 mm	2002651

#### Dimension drawing for CrossHook



#### Dimension drawing for SingleHook



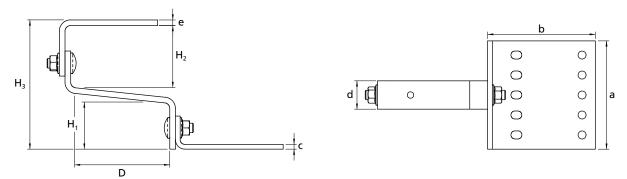
\* Suitable exclusively for SingleRail



### Stainless steel roof hooks for SolidRail

Type /Figure	Base plate [a x b x c]	Bracket [d x e]	Bracket [H <sub>1</sub> ]/[H <sub>2</sub> ]	Total height approx. [H₃]	Bracket depth [D]	ltem no.
Pantiles 🥏	150 × 60 × 5 mm	30 × 6 mm	47/65 mm	134 mm	98 mm	1000001
And I was	180×80×4mm	35×6mm	38/69 mm	124mm	91 mm	1000096
Hill	180×80×4mm	35×6mm	38/89 mm	150 mm	91 mm	1000653
$\bigcirc$	180 × 80 × 5 mm	40 × 8 mm	47/55 mm	121 mm	87 mm	1000764
Vario 1	150 × 60 × 5 mm	30 × 6 mm	43/41-71mm	112-145 mm	95 mm	1000125
Vario 2	140 × 55 × 5 mm	30 × 6 mm	49 - 57 / 41 - 69 mm	108-137 mm	94 mm	1000107
Plain tile	40 × 50 mm	40 × 6 mm	33/62 mm	122 mm	189mm	1000214
Plain tile, double roofing	150 × 45 mm	150×60mm	33/66 mm	103 mm	235 mm	1000074
Slate roofing	40 × 250 mm	40 × 65 mm	-/60 mm	72 mm	72 mm	1000373
Coppo	150 × 60 × 5 mm	30 × 5 mm	18/88-118 mm	123-153 mm	120 mm	1001068

**Dimension drawing** 



## Overview of roof fastenings

### Hanger bolts

For timber substructures

For fastening the K2 SolidRail, SingleRail and CrossRail mounting rails on roofs with corrugated fibre cement or sheet metal on timber substructures. The K2 hanger bolts are equipped with an extra-long metric thread for installation height adjustment. Hanger bolts are outfitted with a pre-mounted adapter plate.



#### CrossRail/SingleRail Hanger Bolts

Туре	Item number
M10×180, hexagonal SW 7 mm	1006166
M10×200, hexagonal SW 7 mm	1006167
M10×250, hexagonal SW 7 mm	1006168
M12×200, hexagonal SW 9mm	1006169
M12×250, hexagonal SW 9mm	1006170
M12×300, hexagonal SW 9mm	1006171
M12×350, hexagonal SW 9mm	1006172
M12×400, hexagonal SW 9mm	1006173

#### SolidRail Hanger Bolt

Туре	Item number
M10×180, hexagonal SW 7 mm	2000120
M10×200, hexagonal SW 7 mm	2000121
M10×250, hexagonal SW 7 mm	2000122
M12×200, hexagonal SW 9mm	2000123
M12×250, hexagonal SW 9mm	2000124
M12×300, hexagonal SW 9 mm	2000125
M12×350, hexagonal SW 9mm	2000126
M12×400, hexagonal SW 9 mm	2000127

### Solar fastener

#### For steel, timber and concrete substructures

Solar fasteners (stainless steel) for attaching the K2 mounting rails on roofs with trapezoidal sheet metal, corrugated fibre cement or corrugated sheet metal. Matching M10/M12 adapter plates are available separately.



Steel: Solar fastener Ø 8.0 with M10×50 screw thread, E16 dome

Туре	Item number	
8×64 / 50, length 114mm	1001491	1
8×80 / 50, length 130 mm	1002586	- 7
8×100 / 50, length 150mm	1001636	
8×125 / 50, length 175mm	1001412	
8×150 / 50, length 200mm	1001134	
8×160 / 50, length 210mm	1000666	
8×200 / 50, length 250mm	1001751	

**Steel:** Solar fastener Ø 8.0 with M10×50 screw thread, FZD

Туре	ltem number
8×64 / 50, length 114mm	1002218
8×80 / 50, length 130 mm	1001435
8×100 / 50, length 150 mm	1001400
8×125 / 50, length 175 mm	1001459
8×150 / 50, length 200mm	1000985
8×160 / 50, length 210 mm	1004095
8×200 / 50, length 250mm	1001838



Timber: Solar fastener Ø 8,0 mm M10×50/70 mm, metric thread E14 calotte or FZD sealing made of EPDM On request

Concrete/aerated concrete: Solar fastener Ø 8,0 mm M10×50/70 mm, metric thread E14 calotte or FZD sealing made of EPDM On request



### Standing seam clamps



roofs

Screw: M10

Clamping screw: M8

Item no. 2001712

Sheet thickness: 2.5 mm

Material: Stainless steel

Our seam clamps are used to fasten the K2 mounting rails onto standing seam roofs or rounded seams. We offer seam clamps for steel or aluminium roofs.

#### **K2 Round Seam Clamp**

For Kalzip roofs with rounded seam ends Screw: M10 Clamping screw: M8 Sheet thickness: 3 mm Material: Stainless steel Item no. 2001853



S-5! Z-Mini-FL Round Seam

For Kalzip roofs with rounded seam ends Slot: 11×22 Clamp: Grub screw Material: Aluminium Item no. 1000888



#### **Rib-Roof Evolution Round Seam**

For Rib-Roof Evolution seam metal roofs with rounded seams

Screw: M10 Clamping screw: M8 Material: Aluminium Item no. 2002226



#### **Rib-Roof Speed 500 Standing Seam**

For Rib-Roof Speed 500 standing seam metal roofs Screw: M10 Clamping screw: M8 Material: Aluminium Item no. 2002225



#### **Rib-Roof 465 Standing** Seam

For Rib-Roof 465 standing seam metal roofs Screw: M10 Clamping screw: M8 Material: Aluminium Item no. 2002118



#### K2 Standing Seam Clamp Seam For standing seam metal

Slot: 11×22 Clamp: Set screw Item no. 1001052



## S-5! E-Mini-FL Standing

For Kalzip standing seam metal roofs

Material: Aluminium



**Pitched roofs Overview of roof fastenings** 

## Accessories

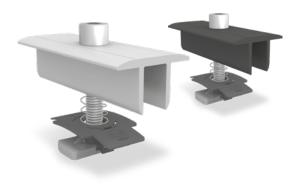
Module clamps	22
<ul> <li>Self-drilling wood screw, flange head</li> </ul>	24
<ul> <li>Self-tapping hexagon screw with sealing washer</li> </ul>	24
<ul> <li>T-bolt and flange nuts with serration</li> </ul>	24
<ul> <li>MK2 slot nuts with assembly clip</li> </ul>	24
<ul> <li>Self-drilling wood screw, flange head, underhead secondary thread</li> </ul>	25
<ul> <li>Self-drilling wood screw, countersunk head</li> </ul>	25
<ul> <li>Screw anchor, Multi Monti</li> </ul>	25
CrossRail/SingleRail End Caps	26
<ul> <li>SolidRail End Caps</li> </ul>	26
<ul> <li>Lightning protection clamp Multi Sets</li> </ul>	26
<ul> <li>TerraGrif equipotential bonding</li> </ul>	26
Pad spacer	27
<ul> <li>Height Compensator for aluminium roof hooks</li> </ul>	27
Cable clips	27

### Module clamps

Our module clamps can be easily mounted to any K2 rail. The MK2 slot nut automatically locks in place and can be moved in the rail by pressing lightly on the Allen bolt.

#### Module middle clamps XS

Module frame height / description	ltem number
30-33 mm/M8×50, aluminium mill finish	1005156
30-33 mm/M8×50, black anodised	1005157
39-44 mm/M8×60, aluminium mill finish	1004908
39-44 mm/M8×60, black anodised	1005159
45-48mm/M8×65, aluminium mill finish	1005143
45-48 mm/M8×65, black anodised	1005160
49-50mm/M8×70, aluminium mill finish	1004407
49-50 mm/M8×70, black anodised	1005161



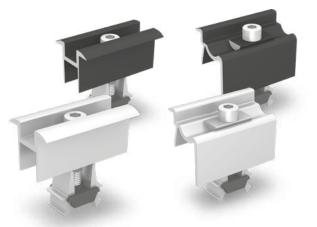


#### Universal module clamps OneMid and OneEnd

These module clamps are suitable for the most common module frame heights of 32-42 mm.

Compatible with SingleRail, CrossRail, SpeedRail, MultiRail, SolidRail plus S- and D-Dome.

Description	Item number
OneMid, mid clamp, aluminium mill finish	2002515
OneMid, mid clamp, black anodised	2002588
OneEnd, end clamp, aluminium mill finish	2002514
OneEnd, end clamp, black anodised	2002589



OneMid

OneEnd

#### Module end clamps

Module frame height / description	Item number
30-31 mm/M8×30, aluminium mill finish	1005345
30-31 mm/M8×30, black anodised	1005347
42-44 mm/M8×35, aluminium mill finish	1005291
42-44 mm/M8×35, black anodised	1005295
45-47 mm/M8×40, aluminium mill finish	1005171
45-47 mm/M8×40, black anodised	1005270
48mm/M8×40, aluminium mill finish	1005292
48mm/M8×40, black anodised	1005296
49-50mm/M8×45, aluminium mill finish	1005172
49-50 mm/M8×45, black anodised	1005271

#### Module clamps for laminate modules

Module middle clamps for fastening laminate modules; approved for First Solar and Calyxo thinfilm modules; small module spacing. Material: Aluminium mill finish, EPDM

Please note: For additional anti-slip protection the K2 Slideguard is suitable for vertical mounting of laminate modules with a glass thickness of 6-9 mm. Material: Stainless steel 1.4016, EPDM

Type / accessory	ltem number
Module middle clamp	1003157
Module end clamp	1003158
Slideguard	1005828



Pitched roofs Accessories

### Self-drilling wood screw, flange head

Self-drilling wood screw with flange head (Topix) and star socket (Torx) from Heco. With European Technical Assessment (ETA) approval. Material: Stainless steel A2, matches TX 25/40 screwdrivers

Туре	ltem number
6×80	1005837
6×100	1004978
8×80	1000642
8×100	1000656
8×120	1001525
8×160	1002366
8×180	1002367



### Self-tapping hexagon screw with sealing washer

Approved for steel sheets with a minimum thickness of 0.5 mm and aluminium sheets with a minimum thickness of 0.7 mm (MiniRail 0.5 mm). Material: Stainless steel A2, EPDM

Туре	Item number
Drilling screw, SW 8, sealing washer Ø 16mm 6×25mm 6×36mm	1000212 1001622
Thin sheet screw, virtually chip-free, SW 8, sealing washer Ø 16mm 6×25mm 6×38mm	1005207 1005193



### T-bolt and flange nuts with serration

T-bolt for use in the lower chamber of K2 SolidRail rails. Head form: 28/15; head dimensions: 22.5 × 10.5 × 4 mm Material: Stainless steel A2 1.4301

Туре	Item number
M10×20	1000637
M10×30	1000041
M8×20/30	1000614/1000368



### MK2 slot nuts with assembly clip

The MK2 slot nuts can be used at any point on the K2 rails. They automatically lock in place. Subsequently, they can easily be moved about in the rail by pressing them lightly.

The flanged nut with serration (similar to ISO 4161) prevents it from loosening.

Material: Stainless steel A2

Туре	Item number
M8	1000043
M10	1000042

Material: Stainless steel 1.4301 + PA or aluminium + PA; Item number: 1001643 (stainl. steel) 2000034 (aluminium)



# Self-drilling wood screw, flange head, underhead secondary thread

Self-drilling wood screw (Heco) with flange head (Topix) and star socket (Torx). With building approval. For mounting with over-rafter insulation. Fixes the counterbattens in place using a second screw thread under screw head. Material: Stainless steel A2; matches TX 40 screwdrivers



Туре	Item number
8×240	1003437
8×300	1003438
8×360	1003439

### Self-drilling wood screw, countersunk head

Self-drilling wood screw with countersunk head (Heco). With building approval. Material: Stainless steel A2; matches TX 25 screwdrivers

Туре	ltem number
6×120	1004443
6×160	1001607

### Screw anchor, Multi Monti

Multi Monti screw anchor (Heco) for fastening to concrete; min. borehole depth 40 mm. Steel surface: galvanised and blue passivated, head diameter 17 mm, nominal bore diameter 6 mm Material: galvanised steel Drive: TX 30





### CrossRail/SingleRail End Caps

End caps for K2 CrossRail and SingleRail. Material: Glass fibre reinforced polyamide

Туре	Item number
CrossRail/SingleRail 36	1004767
CrossRail 48	1004768

### SolidRail End Caps

End caps for K2 SolidRail. Material: Glass fibre reinforced polyamide

Туре	Item number
Light	1004765
Medium	1004766
Alpine	1005053





### Lightning protection clamp Multi Sets

Lightning protection clamp for clamping lightning protection cables with Ø 8 mm. For universal use as a T cross, parallel and impact clamps. Material: aluminium

Image	Туре	Components	ltem number
	Lightning protection clamp Multi Alu 8 mm Set	<ul> <li>Lightning protection clamp Multi (1003151), aluminium</li> <li>Slot nut (1001643), stainless steel, PA</li> <li>Washer (8,4 × 20 × 1.2 mm), stainless steel A2</li> <li>Allen Bolt (M8×30), stainless steel A2</li> </ul>	2002473
	Lightning protection clamp 8mm Double Set	<ul> <li>2× lightning protection clamps Multi (1003151), Aluminium</li> <li>Hexagon flange nut with serration M8 (100043); stainless steel A2</li> <li>2× washers (8.4×20×1.2 mm), stainl. steel A2</li> <li>Allen Bolt (M8×40), stainless steel A2</li> </ul>	2002474

### TerraGrif equipotential bonding

Equipotential bonding between module and rail. Material: Stainless steel

Туре	Item number
TerraGrif K2MI Landscape/Portrait	2002649
TerraGrif K2PA 32 Landscape	2000055
TerraGrif U17 Portrait	2000056
TerraGrif K2SZ Landscape/Portrait	2001881







K2PA





### Pad spacer

PA spacer shim to compensate for height differences when mounting K2 roof hooks with screw threads and K2 rails (except SolidRail). Any number of spacer shims can be stacked to provide customised height. Material: Glass fibre reinforced PA Material thickness: 2 mm Item no.: 1002361



# Height Compensator for aluminium roof hooks

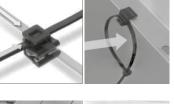
To compensate for batten differences so that the bracket height of each roof hook can be individually adjusted. Material: Aluminium Material thickness: 4mm Item no.: 2002332

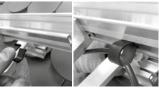


### Cable clips

Туре	Item number
<b>Cable Manager</b> Solar Cable Manager with connecting possibility for outdoor-installation L×W: 200×4.6 mm	2002870
<b>Omega Cable Clip</b> Suitable for CrossRail, SingleRail, SolidRail, S-Rock 4 cables with Ø 6 mm Material: Polypropylene with UV stabiliser	1005394
<b>Cable Routing Clip</b> Suitable for clamping in module frames with a thickness of 1.5-2.5 mm and S-Rock 4 cables with Ø 6 mm Material: Spring steel	2002322





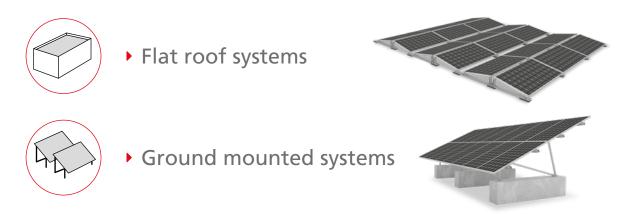




Mounting systems for solar technology



### Other K2 systems



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