Mounting systems for solar technology







K2 SYSTEMS PRODUCTS

GB

Mutual trust is the basis of success.

As with mountain climbing, we take mutual trust very seriously. This trust holds true when dealing with our customers, as well as K2 employees. After all, only a trustful partnership leads to success.



As a manufacturer of mounting systems for solar technology, K2 Systems develops innovative system solutions for the international photovoltaic industry. Many years, longstanding expertise and commitment to service make K2 Systems the ideal partner. International customers appreciate the quality of our reliable framing systems for use on sloped roofs, flat roofs, as well as ground mounted and special projects.

K2 Systems, a medium-sized company with 100 employees, is one of the leading innovators in the photovoltaic industry.

> K2 SYSTEMS THE COMPANY

Mounting systems for solar technology have been designed in K2's Product Development department since 2004 and and are improved and updated. Motivation and team spirit shape our international workforce which provides excellence in our European subsidiaries and in the USA on a daily basis.





Please find our Quality and Product certifications at: http://www.k2-systems.uk.com/downloads/certificates.html

ISO 9001Certificate

K2 Systems has been certified by TÜV Rheinland AG with the testing standard ISO 9001:2008 in the sector of development, manufacture and distribution of solar mounting systems. Our quality management system (QM system) was thus validated by an independent body. Our endeavour to continuously improve in all our internal and external activities is now subject to ongoing external monitoring by the TÜV testing laboratory.



TÜVRheinland

CERT

ISO 9001

VDE Certificate

The VDE Prüf-und Zertifizierungsinstitut GmbH is a national and international testing and accreditation institute for the testing and certification of electronic equipment, components and systems. The safety, electromagnetic compatibility and further features of these products are tested.

K2 Systems has several quality certifications

K2 Systems stands for secure connections, high quality and precisely manufactured and exact fit components. Our customers and business partners have known that for a long time. Independent authorities have tested, confirmed and certified our competencies and components. the high quality standards of K2 Systems, which we achieve, in part, by almost completely implementing only "Made in Germany" or "Made in Europe". Our customers can rely on our high quality, and they appreciate that we offer a 12 year manufacturer's warranty on all our components.

However, we do not solely rely on external authorities. Our internal quality assurance standards ensure that all components manufactured all our components undergo an extensive testing process. This leads to



K2 SYSTEMS THE QUALITY









Huchenfeld, Germany Mounting system: K2 D-Dome System K2 SYSTEMS PRODUCTS

Range of products





K2 SYSTEMS MOUNTING RAILS

K2 SolidRail Ultra-Light 32



139 cm

32 mm

0.7 kg/m

Aluminium

(EN AW-6063 T66)



157 cm

37 mm

0.85 kg/m

Aluminium

(EN AW-6063 T66)

K2 SolidRail Light 37

Span width:*

Height:

Weight:

Material:



K2 SolidRail

Span width:* 187 cm 42 mm Heiaht: Weight: 1.3 kg/m Material: Aluminium (EN AW-6063 T66)

Span width:* 230 cm Height: 60 mm

Weight:

Material:

K2 SolidRail Alpin 60

1.7 kg/m Aluminium (EN AW-6063 T66) K2 CrossRail 36

Span width:*

Height:

Weight:

Material:

K2 CrossRail 48

K2 CrossRail 62



161 cm

36 mm

0.96 kg/m

Aluminium

(EN AW-6063 T66)





Span width:* 184 cm 48 mm Height: Weight: 1.24 kg/m Material Aluminium (EN AW-6063 T66)

Span width:* Height: Weight: Material:

K2 SolidRail LS 85

Span width:*

Height:

Weight

Material

Span width:*

Height:

Weight:

Material:



Aluminium

(EN AW-6063 T66)

445 cm Span width:* 85 mm Height: 2.95 kg/m Weight:

450 cm

85 mm

3.368 kg/m

Aluminium

(EN AW-6063 T66)

K2 SolidRail L 85



Height:

Weight:

Material:

K2 SolidRail XL 140

Span width:* 690 cm 140 mm 4.96 kg/m Aluminium (EN AW-6063 T66)

K2 SingleRail 36



135 cm Span width:* Height: 36 mm 0.76 kg/m Weight: Material: Aluminium (EN AW-6063 T66)

The K2 SolidRail range of rails is fixed to the relevant substructure with a T-Bolt/serrated collar nut to the underside of the rail.

Material:

The K2 CrossRail range of rails can be fixed or installed only from above with the K2 Climber (L-bracket) and an Allen bolt. Rail connector sets are available for all K2 rails.

Definition of axes: I = geometrical moment of inertia; W= axial section modulus | *Span width: The rail span follows from an 100 percent utilisation in the elastic-plastic calculation to K2 standard conditions. The K2 standard conditions for span calculations consist of: Height above sea level: 400 m | Roof pitch: 30 ° | max. Snow load 0.650 kN/m² (equiv. UK Snow Load Zone IV) | max. Wind Load 1.05 kN/m² (equiv. Wind Speed 22.7 m/s) | Distance to Shoreline: >10000 m | Terrain Category: Rural Area | Building height: max. 10 m | Rail as continuous beam (3 fields) | Central Roof Area | Weight of Solar Module: 20 kg | Solar module: 1650 x 810 mm. Regardless of the specified standard conditions, all K2 rails can generally be used in all snow and wind load zones. All aluminum profiles are made of AL EN AW 6063 T66.



K2 SYSTEMS MOUNTING RAILS



290 cm 62 mm 2.03 kg/m Aluminium (EN AW-6063 T66)

K2 CrossRail 90



Span width:* Heiaht: Weight: Material:

450 cm 90 mm 3.07 kg/m Aluminium (EN AW-6063 T66)



K2 SYSTEMS **MOUNTING RAILS**



20 mm 0.675 kg/Stück Aluminium (EN AW-6063 T66)

K2 MultiRail



(EN AW-6063 T66)

ALPES CONTROLES

The K2 SpeedRail family is mounted quickly only from above with K2 SpeedClip and K2 SpeedLock due to easy accessibility.

The K2 MiniRail system is the latest design for trapezoidal sheet metal roofs. The universal clamp is suitable for most module frame heights.





K2 SYSTEMS ROOF ATTACHMENTS

K2 SYSTEMS ROOF ATTACHMENTS

Roof Fastener for Pan Tile

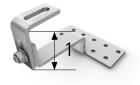


Base plate	Bracket	Height under bracket	Roof lath height*	Overall height approx
150 x 60 x 5 mm	30 x 6 mm	47 mm	30 mm	133 mm
180 x 80 x 4 mm	35 x 6 mm	38 mm	24 mm	124 mm
180 x 80 x 4 mm	30 x 6 mm	47 mm	30 mm	133 mm
180 x 80 x 4 mm	35 x 6 mm	47 mm	30 mm	150 mm
180 x 80 x 4 mm	30 x 6 mm	57 mm	40 mm	144 mm
180 x 80 x 5 mm	40 x 8 mm	47 mm	30 mm	121 mm

Vario 1

Vario 2

Material:



min. 55 max. 90 mm | 1. Bracket: Base plate: 150 x 60 x 5 mm Bracket: 30 x 6 mm Height under 43 mm bracket: Overall height: ca. 112-145 mm Material: Stainless Steel (1.4016)

min. 47 max. 59 mm 1. Bracket: 2. Bracket: min. 57 max. 97 mm Base plate: 140 x 55 x 5 mm Bracket: 30 x 6 mm Height under bracket: 47-59 mm Overall height: ca. 105-155 mm

Stainless Steel

(1.4016)

The rails are fixed to the roof fasteners with a T-Bolt/serrated collar nut to the underside of the rail.

*provided that the tile thickness is between 12 and 15mm; Material: Stainless Steel (1.4016), welded double-sided



Roof Fastener for Flat Roof Fastener Slate

Material: Stainless Steel (1.4016)

Spanish tile roof,

Coppo

purlins

Base plate:

Height under

Overall height:

Bracket[.]

bracket:

Material:



Tile (double roofing)

(1.4016)

Portoghese





or 30 mm timber batten (only usable 40 x 250 x 6 mm | Bracket for flat tile) Overall height: 70 mm Width: 150 mm Material Stainless Steel Height under (1.4301) bracket: 33 mm Overall height: ca. 103 mm Material thickness: 2 mm Material: Stainless Steel (1.4301)

1 Bracket Base plate Bracket: Height under bracket: Material:



Spanish tile roof,



201 x 50 x 5 mm 35 x 6 mm

100-129 mm ca. 180-210 mm Stainless Steel (1.4016)

Roof Fastener for Flat Tile



Bracket: Height under bracket: Overall height: Material:

40 x 6 mm

33 mm ca. 122 mm Stainless Steel (1.4301)

CrossHook 2 (flat concrete interlocking tiles)



min 106 max 136 mm | Base plate: 150 x 60 x 5 mm 30 x 5 mm

18 mm Overall height: ca. 137-167 mm Stainless Steel (1.4016)

Contact area: Height under bracket: Overall height: ca. 100 mm Material:

150 x 128 x 2 mm slotted hore hole 150 x 116 mm

44 mm Stainless Steel (1.4301)



K2 SYSTEMS ROOF ATTACHMENTS

Base plate:

Height under

Overall height

Bracket[.]

Bracket:

Weight:

Material:

Base plate:

Bracket[.]

K2 SYSTEMS ROOF ATTACHMENTS

K2 CrossHook 3S



124 x 100

35 x 9 mm

530 g

Aluminium

124 x 100

35 x 7-10 5 mm

40/47/54 mm

ca. 123/130/137 mm

(EN AW-6063 T 66)

Base plate:

Height under

Overall height:

Bracket:

bracket:

Weight:

Material:

00

Base plate:

Height under

Overall height:

Bracket:

bracket:

Weight:

Material:

K2 SingleHook 1.1



124 x 100 mm

40/47/54 mm

35 x 9 mm

553 g

K2 SingleHook 1.4

Aluminium

K2 CrossHook 4S





K2 CrossBoard +

CrossFinger

124 x 100 Base plate: Bracket[.] 35 x 5 mm Height under 44/51/58 mm bracket: 81.3 - 115 mm Overall height 520 g Weight: Material Aluminium (EN AW-6063 T 66)

K2 CrossHook 2G

(pre-assembled)

K2 Rafter Screw



For fastening of K2 System parts on trapezoidal and wave shape roofs.

M10 x 180, Hexagonal SW 7 mm M10 x 200, Hexagonal SW 7 mm M10 x 250, Hexagonal SW 7 mm M12 x 200, Hexagonal SW 9 mm M12 x 250, Hexagonal SW 9 mm M12 x 300, Hexagonal SW 9 mm M12 x 350, Hexagonal SW 9 mm M12 x 400, Hexagonal SW 9 mm

K2 Solar fastener for

M10 x 180, He M10 x 200, He M10 x 250, He M12 x 200, He

concrete slabs





Solar fastener (stainless steel) for mounting K2 system components on roofs with sheet metal, trapezoidal or wave shaped roofs (for steel substructure). Building authority certified.



timber

Solar fastener (stainless steel) for mounting K2 system components on roofs with sheet metal, trapezoidal or wave shaped roofs (for timber substructure). Building authority certified.



Height under 47.1 mm bracket: ca. 162.9 mm Overall height: Weight: 460 g Aluminium Material: (EN AW-6063 T 66)

34.9 mm 205.8 mm 679 g Aluminium (EN AW-6063 T 66) Stainless Steal

(1.4301)

106.5 x 100

35 x 5 mm

K2 SingleHook 2.2

71 x 100 Base plate: Bracket: 35 x 5 mm Height under bracket: 38.4 mm Overall height: 165.4 mm Weight: 616 g Material: Aluminium Stainless Steal (1.4301)



K2 SingleHook 2.3

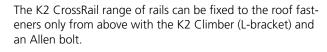
Base plate: Height under 38.4 mm Overall height: 165.4 mm 783 g (1.4301)















K2 Rafter Screw CR (pre-assembled)



For fastening K2 CrossRail family on trapezoidal and wave shape roofs.

exagonal SW 7 mm	M12 x 250, Hexagonal SW 9 mm
exagonal SW 7 mm	M12 x 300, Hexagonal SW 9 mm
exagonal SW 7 mm	M12 x 350, Hexagonal SW 9 mm
exagonal SW 9 mm	M12 x 400, Hexagonal SW 9 mm

K2 Solar fastener for



Solar fastener (stainless steel) for mounting K2 system components on roofs with sheet metal, trapezoidal or wave shaped roofs (for concrete substructure). Building authority certified.

K2 Standing Seem Claw



For fastening of K2 System parts on rounded standing seam metal roofs.





K2 SYSTEMS MOUNTING MODULE

K2 SYSTEMS SCREWS & NUTS

K2 Module Middle Clamp Standard Set K2 Module Middle Clamp XS Set





Standard Set



K2 Module End Clamp K2 Slideguard



| For mounting of modules with module | For mounting of modules with module | For mounting of modules with module | Slide guard for additional use in verframe depths of 35 - 50 mm. The set is frame depths of 35 - 50 mm. The set is frame depths of 35 - 50 mm. The set is tical assembly of laminated modules preassembled and can be easily mounpreassembled and can be easily mounpreassembled and can be easily mounwith glass ted with every K2 rail. ted with every K2 rail. ted with every K2 rail. thickness of 6 - 9 mm. Material: Aluminium, Stainless Steel, PA Material: Aluminium, Stainless Steel, PA Material: Aluminium, Stainless Steel, PA Material: Stainless Steel 1.4016, EPDM

M K2 slot nut with clip

Self-drilling wood screw



The Fast-installation M K2 slot nut can be inserted on any point on the K2 rail. The slot nut will adjust itself in the rail and can be readjusted to any part of the rail.

Material: Stainless Steel 1.4301, Aluminium, PA

K2 Multi Monti

fastener

Self-drilling wood screw, Heco. Building authority certified.

Material: Stainless Steel A2

K2 safety screw Deter

Material: Stainless Steel A2

under head

connections.





Bolt Free

loose!

'Multi Monti' - fastner (Heco) to fasten in concrete. Drilling depth: 55mm, Drive: T30, head size: 17 mm, Drilling measurement: 6mm; Steel surface: galvanised and blue passivated

Screw to prevent the theft of modules. The patented head can only be removed with the respective Deter Bolt Wrench.

Material: Stainless Steel A2

K2 Mid and End Clamps are available as pre-assembled sets for various module frame heights. This is only an excerpt from the variety of standard and laminate clamps available. All K2 standard clamps are also available anodized in black.







The cylinder head stud with hexagon socket is available in different sizes in coordination with all K2 system

K2 Self-tapping screw with mounted EPDM supported washer



Hexagon screws for the connection of mounting rails and rail connectors, as well as for the SpeedClip assembly.

Material: Stainless Steel A2, EPDM

Bolts with serrated



The combination of bolt head and serration prevents the bolt becoming





K2 SYSTEMS ACCESSORIES

K2 AddOn

K2 Pad Spacer PA

K2 Lightning protection clamp multi, half part

ng protec- WEEB Clip multi, half



The K2 AddOn mounting adapter enables grid mounting or insertion mounting without any additional rails or clamps. Fits with all K2 Systems mounting systems.

Material: glass fibre reinforced, PA

Omega Kabel-Clip

PA spacer shim to compensate height differences on mounting K2 threaded roof hooks and K2 rails (except Solid). Any number of spacer shims can be placed on top of each other for individual height compensation.

Material: glass fibre reinforced, PA

K2 Climber

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

Material: Aluminium

K2 Solar building

WEEB Clip – equipotential bonding between panel and rail, suitable for K2 SolidRail Ultralight, Light, SpeedRail 22 & 36, CrossRail 36 & 48 and FlatRails.

Material: Stainless Steel

K2 SpeedLock Set



External cable clip of solar cables for cable runs outside of K2 rails. Fixation in the C-chamber of the profile.

Material: Polypropylen with UV stabiliser, black



K2 Climber 36/48 and 62/90, aluminium brackets for fastening of the K2 CrossRails 36, 48, 62 and 90; or for direct mounting with K2 CrossHooks and Vario 25.



The K2 building protection mat pro-

tects the roof sealing from damage

by mounting system platforms.



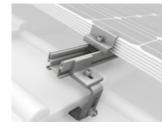
"SpeedLock" for securing the K2 SpeedRail in case of thermal expansion.





K2 SYSTEMS SYSTEM OVERVIEW

Pitched Roof Systems

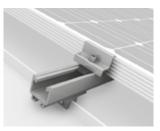


K2 CrossRail System Sloped roof system for roofs with tile roofing. Quick assembly with CrossRail and Climber. 00



K2 SolidRail System Sloped roof system for roofs with tile roofing. Assembly with SolidRail.

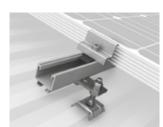
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K2 Seam Metal System Mounting system for tin joint roofs. Clamping beneath the fold.



K2 SingleRail System Sloped roof system for roofs with tile roofing. Quick assembly from the front with SingleRail



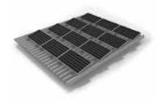
K2 Solar fastener For roofs with steel or aluminium profile or fibre cement roofing, even for large span widths with K2 Bridge.



mounting rail for direct installation on roof boarding, trapezoidal sheet metal or tin roofs independently from crest spacings. Minimized transport and storage costs.

ALPES CONTROLES

Flat roof Systems



K2 S-Dome small System For Trapezoidal sheet with low roof pitch (<5°). Basis is the K2 MultiRail. Available with 10 ° elevation angle. K2 S-Dome System 10 ° single elevation angle, complete installation from above, without module carrier rail. Tested in wind tunnel



in wind tunnel

Supplementary Systems



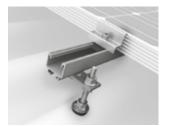
Cross Bracing with CrossRail CrossRail mounting system - Climber is ideal for assembly in cross bracing. Quick and easy assembly of horizontal modules.



K2 AddOn System Mounting adapter AddOn for grid assembly or insert assembly. Ideal for Landscape mounting.



assembly. Ballast option.



K2 MiniRail System

Sloped roof system for quick and

metal.

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easy mounting on trapezoidal sheet

K2 Rafter Screw System Sloped roof system for corrugated fibre cement roofing, also for large span widths with K2 Bridge.



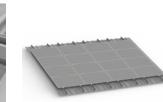
K2 Hanger bolt CR

For roofs with corrugated fibre ce-

ment roofing, easy connection by K2

System

K2 ClampRail System For roofs with different Standing seam roofing. Mounting by clamping below the fold, no roof penetration.



K2 SpeedRail System

easy mounting on trapezoidal sheet

Sloped roof system for quick and

metal. CSTB and CIEAB certified.

K2 KoverRail System Semi-integrated assembly system with CSTB certification for France (ATEC). Even distribution of loads across the substructure, and standardised components for simple planning and assembly.

ALPES CONTROLES



K2 SYSTEMS SYSTEM OVERVIEW



K2 D-Dome System Double-sided module layout 10 °, complete installation from above, without module support rail. Tested

K2 Triangle System Custom made sloped and flat roof system for lying and standing module





K2 SYSTEMS System overview

Ground Mounted Systems



K2 T-Rack System 3.0 Ground-mounted system with pile-driven foundation. Wind tunnel tested.



K2 Systems GmbH

Industriestraße 18 71272 Renningen Germany Tel. +49 (0) 7159 - 42059 - 0 Fax +49 (0) 7159 - 42059 - 179 info@k2-systems.com www.k2-systems.com

K2 Systems s.r.l.

Via Garofalo n.2 40124 Bologna Italy Tel. +39 338 5 28 16 60 Tel. +39 345 0 63 36 73 info@k2-systems.it www.k2-systems.it

K2 Solar Mounting Solutions Ltd.

Unit 46 Easter Park Benyon Road Aldermaston, Berkshire RG 7 2PQ United Kingdom Tel. +44 (0) 1189 701280 info@k2-systems.uk.com www.k2-systems.uk.com

Everest Solar Systems, LLC

3809 Ocean Ranch Blvd. Suite 111 Oceanside, CA 92056 USA Tel. +1.408.768.6004 info@everest-solarsystems.com www.everest-solarsystems.com

K2 Systems SARL

19 Avenue du Pré de Challes Parc des Glaisins 74940 Annecy le Vieux France Tel. +33 (0) 4 50 51 22 53 Fax +33 (0) 4 50 51 16 41 info@k2-systems.fr www.k2-systems.fr



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