

# Solar – Installations

## with S-5!® Clamps and Accessories



- ✓ The original S-5!® Clamps for stable installation of a wide variety of applications.
- ✓ S-5!® E- & Z – clamps approved by the building authorities: DIBt abZ aBG Z-14.4-719.
- ✓ S-5!® PV-Kit 2.0 for PV-mounting without rails.
- ✓ BirdBlocker for protection against nesting birds under the solar installation.
- ✓ Caddy Tool-Free feet for professional laying of cable ducts on flat roofs.
- ✓ Solarud Waterdrain Clip against soiling on solar modules.
- ✓ Multi-Trapezoidal Bracket MTH for flexible mounting on many trapezoidal shapes.



# The original S-5!® Clamps for Metal Roofs

RoofTech – The S-5!® Master Distributor in Europe

**RoofTech has been the exclusive distributor of the S-5!® product range in Europe since 2008.**

**The original S-5!® clamps** are known all over the world for providing a professional and permanently stable fastening for additional structures on a wide variety of metal roof profiles. More than 5.8 GW of solar systems installed worldwide with S-5!® products are the best proof of the high quality and satisfaction of installers and system manufacturers.



- ✓ S-5!® clamps for stable installations of a wide variety of applications.
- ✓ Simple, fast and penetration-free mounting.
- ✓ High holding strength in all load directions.
- ✓ S-5!® E and Z clamps are approved by the building authorities: DIBt No. Z-14.4-719 - 05/2027.
- ✓ S-5!® Production in the USA - ISO 9001 certified.
- ✓ S-5!® 25-year manufacturer's warranty.





# Rail Systems perfect installed with S-5!® Clamps

Professional photovoltaic installation with S-5!®

**In contrast to plagiarism and conventional seam clamps, only the original S-5!® Clamps are all multiple tested by third-party accredited test-labs.** The S-5!® E- and Z-Clamps families have in addition the official technical approval by the DIBt: abZ aBG Z-14.4-719

**The S-5!® Mini clamps** with their high holding forces are usually best suited for fastening PV modules with rail systems. Many well-known manufacturers and distributors of mounting systems have been successfully using the S-5!® clamps with their rail systems worldwide for years.

The **S-5!® Mini clamps with M8 thread** can be used for C-rails or combined with different adapter plates for mounting rail systems with bottom or side screw channel.

The **E-Mini-FL** for double folded standing seam and **Z-Mini-FL** for round bulb seams are the right choice for mounting rail systems with screw channel on the underside. They are fastened with hammerhead screws through the slotted hole in the flange.



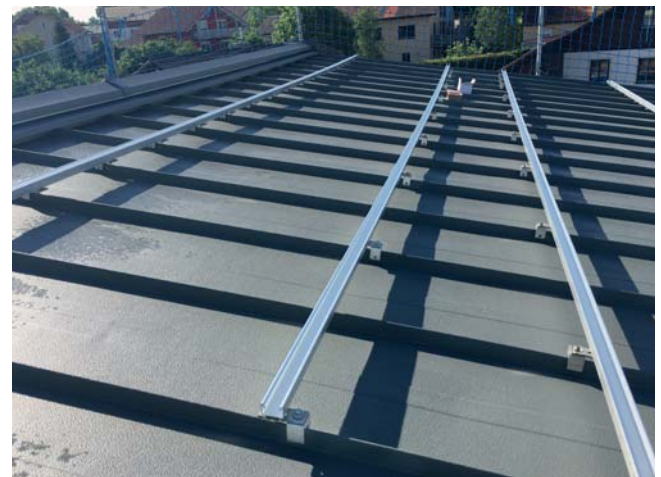
Rail with screw channel underneath stable mounted on S-5!® E-Mini-FL clamp.



S-5!® Z-Mini for round bulb seams mounted under a C-rail.



Rail with side screw channel mounted with angle adapter on S-5!® E-Mini.



# The Economic Photovoltaic Mounting Solution

## S-5!® PV-Kit 2.0 for Direct Mounting without Rails

With the S-5!® PVKIT® 2.0 and the S-5!® Mini clamps (with M8 thread), framed PV modules with frame heights of 30mm to 46mm can be mounted directly on standing seam roofs without complex and heavy rail systems.

Das S-5!® PVKIT® 2.0 MidGrab consists a module clamp made of aluminium, pre-assembled on the stainless steel mounting bar and a module support disc made of stainless steel.

### Advantages:

- ✓ Easy transport, no cuttings or unusable remains.
- ✓ Pre-assembled module clamp saves time and money.
- ✓ Flat screw head provides a smooth and clean surface.
- ✓ Less wind loads due to roof-parallel mounting of the modules.
- ✓ Only one module is fixed crosswise to the seams – therefore less cross-movements and stresses for the metal roof.
- ✓ Up to 80% weight saving compared to conventional rail systems.
- ✓ UL 2703 listed ground path is automatic.



S-5!® PV-Kit 2.0 MidGrab



The MidGrab module clamp can be used as Middle- and End-Clamp.





# Direct Mounting with the S-5!® PV-Kit 2.0

Simple and economical installation - without rail systems

With only one assembly step, the MidGrab module clamp is mounted with the pre-mounted M8 threaded pin through the support washer on the S-5!® Mini clamp. This is very rational and saves considerable assembly time.



S-5!® PV-Kit 2.0 MidGrab mounted on S-5!® Mini Clamp.

In contrast to installation with rails: easy transport onto the roof, considerably less materials required and no unusable remains. This reduces the installation costs significantly.

The S-5-PVKIT® 2.0 is mounted on the S-5!® Mini clamp with M8 thread suitable for the seam type or on the new S-5!® RC-Clamp for Riverclack®.



**E-Mini**  
VPE: 90 St.



**S-Mini**  
VPE: 50 St.



**Z-Mini**  
VPE: 50 St.



**R465-Mini**  
VPE: 50 St.



**B-Mini**  
VPE: 40 St.



**N-Mini**  
VPE: 50 St.



**N1.5-Mini**  
VPE: 40 St.



**NH1.5-Mini**  
VPE: 40 St.



**H-Mini**  
VPE: 25 St.



**RC-Clamp**  
VPE: 50 St.



# The S-5!® MLPE-Clip for Mounting

of optimizer and micro-inverter on the inner module frame



## Features and Advantages

- ✓ Cost-effective alternative to existing mounting solutions.
- ✓ Simple and flexible installation without additional fasteners.
- ✓ Works on most manufacturers' module frames.
- ✓ Two tabs adapt to a variety of module frame widths.



## CADDY Solar Cable Clip

**Made of spring steel with the tested CADDY Armour corrosion protection, class C4: protection duration long - over 15 years.**

- ✓ For simple and quick attachment of 2 cables with an outer diameter of 5 - 7 mm.
- ✓ For mounting on module frames with 1.5 - 2 mm sheet thickness.
- ✓ Can be flexibly attached to the frame in 4 directions.
- ✓ Specially rounded edges prevent damage to the cable sheath.
- ✓ Does not damage the anodisation of aluminium frames.

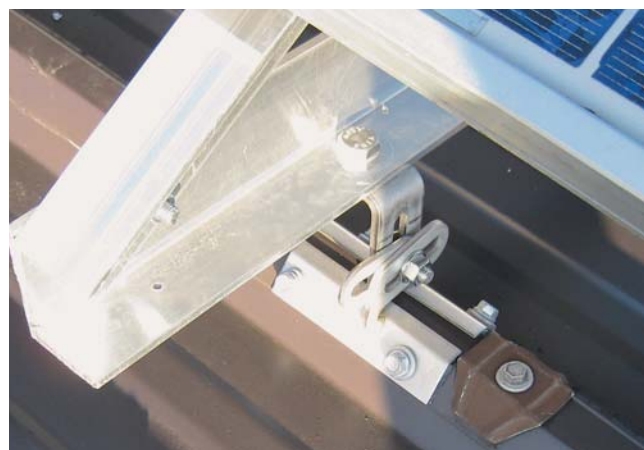


# Multi-Trapezoidal Bracket MTH

Flexibly adaptable to many trapezoid formats

The stable Multi-Trapezoidal Bracket MTH, made of 5mm stainless steel, with mounting bracket and self-adhesive sealing strips, can be flexibly adapted and mounted on many shapes of trapezoidal sheet metal and sandwich profiles with an upper cord width up to max. 43mm (according the approval). Fastening with four approved thin sheet metal screws with sealing washers.

- ✓ **Very stable and corrosion-resistant:**  
Material 5mm stainless steel V2A.
- ✓ In contrast to rigid brackets, it **can be flexibly adapted** to many trapezoidal shapes.
- ✓ **Height-adjustable** mounting bracket with 2 M11 slotted holes - thus optimally adjustable in height in order to avoid cramping.
- ✓ **Self-adhesive sealing strips** on the inner-side of the mounting bracket ensure mounting fixation and optimal tightness.
- ✓ **Approved by the building authorities:**  
DIBt No. Z-14.4-706.



## Adapter plates

for flexible mounting of rail systems with the S-5!® Clamps.

Adapter plates can be combined flexibly and economically with the S-5!® clamps for mounting rail systems with bottom or side screw channels.



Adapter Plate V2A 80 x 30 mm.



Angle- / L-Adapter Alu 38 + 58 mm.



Angle Adapter Alu mounted on S-5!® E-Mini Clamp.





# Solarud Waterdrain Clip

against soiling on the solar modules



## SOLARUD

The piece that was missing

**The Solarud Nextgen Waterdrain Clip prevents the accumulation of water and dust by draining the standing water on the lower frame side of the solar module.**



- ✓ Ideal for PV module installations with low inclination (up to 15°).
- ✓ Four flexible plastic wings allow flexible adjustment to frame heights between 28mm and 40mm (and module depths between 8 and 11mm).
- ✓ The Solarud Clip has a special anti-clog design that prevents clogging of the drain due to deposits of dust and sand.
- ✓ Robust, UV resistant and temperature resistant up to 105° C.
- ✓ 6-year product guarantee.



Four flexible plastic wings allow flexible adjustment to frame heights between 28 and 40mm (and module depths between 8 and 11mm).





# CADDY Tool-Free Flat Roof Support

for easy and professional installation of cable trays and conduit

PV systems and other installations can only remain functional in the long term if cables and conductors are routed properly on the flat roof.

According to the standard DIN VDE 0100, plug connections and cables should not lie on the roof surface. Therefore, an installation should be chosen that is protected from the weather and also protects against mechanical stress, e.g. with pipes, cable ducts or mesh cable trays.

The 10 cm high CADDY Tool-Free feet offer a simple, economical and stable solution.

- ✓ Easy to transport onto the roof due to low weight. Packed in cardboard boxes.
- ✓ Easy and quick to attach with clips or pins in the holes on the top of the feet. No time-consuming drilling and screwing.
- ✓ UV-stable, corrosion-resistant and durable: material PE and PP.
- ✓ Can withstand static loads from 1,330N up to 6,670N (136kg - 680kg).
- ✓ Optimized load distribution, minimized point loading and notch effect.
- ✓ Protection of the roof cladding by foam rubber on the underside of the feet.
- ✓ Compatible with bitumen and plastic roofing membranes, metal roofs, etc.
- ✓ Mounting level optimally 102 mm above the roof surface.



Pipe and conduit laying with Tool-Free clamps.



Cable tray made of perforated sheet - fastened with Tool-Free Pins.



Mesh tray - easily and stably mounted with Tool-Free clamps.



The Tool-Free feet are available in 3 widths and in kits with clamps or pins.

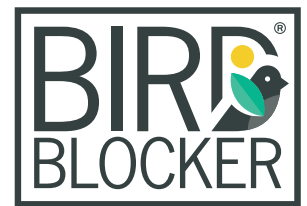


# BirdBlocker Protects the Solar Installation

against nesting birds

**For all these reasons, the solar system should be protected against nesting birds:**

- ❗ Soiling of the solar system and the roof by nesting and bird droppings is a major nuisance and reduces electricity production considerably.
- ❗ The nests disrupt the natural underside ventilation of the solar system. This results in a lower energy yield and an increased risk of fire.
- ❗ Damage to the cables and to the modules can cause malfunctions.



## BirdBlocker - Mounting without screwing, drilling or gluing.

As fastening with the stainless steel clips does not damage the PV module, the warranty remains intact!

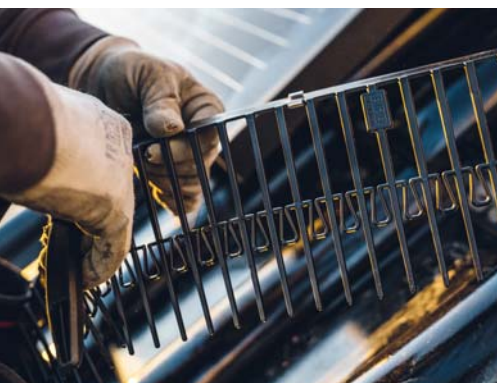
Suitable module frames are those with an inner flat (at least 10 mm wide) profile with frame thicknesses of 1.0 - 2 mm, to which the BirdBlocker strips are easily and stably mounted with the stainless steel fastening clips.

For box frames without a sufficiently wide frame plate on the inside of the modules, such as the

Trina Vertex modules, we offer special fastening clips separately.

It is important that the BirdBlocker strips are installed around the solar installation and that the needles of the BirdBlocker are stable on the roof surface so that there is resistance.

**The BirdBlocker with 12.5cm or 20cm long „needles“** are conveniently packed in cartons of 30m BirdBlocker each, including 250 fastening clips and 100 cable ties



Fixing to the inner module frame with the stainless-steel fastening clips.



BirdBlocker BB125 with 12.5cm long needles. These are connected to each other for extra stability.



BirdBlocker BB200 with 20cm long needles for bigger distances between module and roof surface.





# BirdBlocker for Protection of the PV-System

against nesting birds



## The advantages over conventional solutions:

- ✓ Two needle lengths for different distances between module and roof surface. Distances between module and roof surface.
- ✓ „Needles“ are connected to each other for additional stability.
- ✓ Simple, even retrofitting, installation with stainless steel fastening clips.
- ✓ Special clip for fastening to box frames, e.g. with Trina Vertex modules.
- ✓ The rear ventilation of the PV system is not restricted.
- ✓ No scratching or damage to the roof surface.
- ✓ UV-resistant HDPE plastic and recyclable.
- ✓ TÜV tested: UV resistance, product safety, REACH.
- ✓ 10-year product guarantee.

## Special clips for box frames

The standard BirdBlocker mounting clip fits 95% of the most common solar module frames. However, there are some modules with box frames on the short inner side that do not have a sufficient frame plate. Different special Clips have been designed for this with these dimensions:

- ✓ 11x30x18mm
- ✓ 11x30x15mm
- ✓ 11x30x16mm
- ✓ 10,5x35x14,5mm

Further special clamps on request.

## BirdBlocker Installation-Tool

Using the BirdBlocker installation tool makes it easier to attach the BirdBlocker strips to the inner module frame.

This allows the BirdBlocker strips to be pushed onto the module frame with the pre-installed standard fastening clips.



# Our S-5!® Clamp Assortment

the perfect fastening base for many different applications



**The S-5!® Clamps with two set screws, M8 thread(s) on the top and one M8x16 stainless steel screw with locking serration, are used for very high loads such as e.g. for single fastenings, fall protection and the S-5!® ColorGard snow guard system.**

## S-5!® E-Clamps for Double Folded Seams

The E-clamps made of Aluminium have an opening slot of 7mm and offer mounting solutions on double standing seam roofs. **Official approved by the DIBt.: Z-14.4-719.**

## S-5!® S-Clamps for Snap Lock and Angle Seams

With a bigger opening slot of 14mm the S-Clamps are extremely versatile for angle seams and a big number of industrial seams such as Snap-Lock or Snap-together profiles from Fischer-Kliptec, Schleich, Prive-Stylinov, Ruukki or similar.

## S-5!® Z-Clamps for Round Bulb Seams

Z-Clamps are specially developed to fit profiles having round "bulb" seams with a max. 22mm diameter such as profiles of Kalzip®, Bemo®, Aluform, Euroseam® or Kingspan. **Official approved by the DIBt.: Z-14.4-719.**

## S-5!® B-Clamps for Copper Roofs

The B-clamps with an opening slot of 6mm are the perfect choice for copper roofs with double standing seam. The B-clamps are **made of Brass** and thus enable material-compatible installations on copper roofs.

## S-5!® N-Mini and N1.5-Mini Clamps for Nail Strip Seams

The N-Mini clamp is suitable for 1 inch (25mm) high and the N1.5-Mini clamp and NH1.5-Mini clamp for 1.5 inch (38mm) high Nail-strip profiles such as those from Schleich or similar.

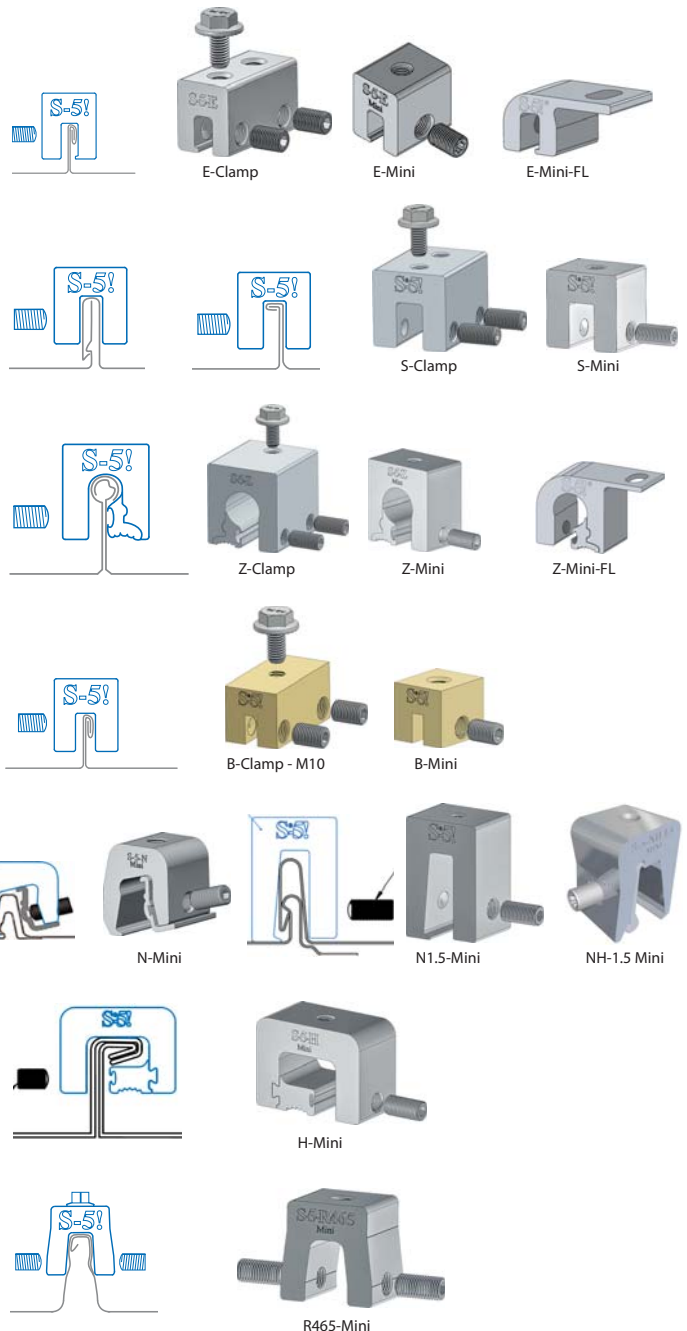
## The S-5!® H-Mini for larger Horizontal Profiles

The H-Mini clamp is developed for different types of larger horizontal seams up to 32mm width.

## The S-5!® R465 Mini Clamp

is specially designed for the profiles Zambelli RIB-Roof 465, Domico GBS and similar. The exact fit with the set screws on both sides are the basis for the high holding forces.

**The S-5!® Minis with one set screw and M8 thread or with a flange and slotted hole (FL) are used in applications where rigid objects, such as rails, are to be fixed to the seams with several clamps.**



**All not stocked S-5!® products can be imported from S-5!, USA, after customer request – even in small quantities and in short time with air freight. If you would like a quote, further information or advice on a project, please do not hesitate to contact us.**

The respective installation instructions must be observed for the applications and installation of the products (please request if necessary). The suitability of the products for the intended use is checked by the buyer and user themselves. In the event of non-observance of our installation instructions, when installing or assembling our products with components of the competition and when using and combining further components which were not purchased from us, we shall not be liable for any resulting defects and damage. The warranty is excluded in this respect. The information provided in our documents and the drawings and photos shown serve to clarify individual details and are only recommended information. RoofTech GmbH and the producers do not accept any further liability from this. Descriptions, pictures and drawings may represent development stages that are not available in this form. RoofTech GmbH and the manufacturers do not accept any responsibility for the installation, suitability, effect and applications or any further liability. The contents of our documents are protected by copyright. S-5!® products are protected by international patents.

