The S-5!® Z-Clamps, made of Aluminium, are specially developed to fit profiles having round "bulb" seams with max. 23mm diameter such as roofs from Kalzip®, Bemo®, Aluform, Interfalz, Kingspan, Euroseam®, etc.. The Z-Clamps are suitable for all roofing materials except Copper.

Its two-piece design allows perfect adhesion and form closure on the seam, without piercing it.

The **S-5!® Z-Clamp with two set-screws**, insert, one sideway M8 thread and M8 stainless steel bolt is used for heavy demands e.g. fall protection systems and in the S-5!® ColorGard® snow retention.

PU: Z-Clamp is packed with 30 pieces per box.

The **S-5!® Z-Mini with on set-screw**, insert and one topside M8 thread and the **S-5!® Z-Mini-FL with one set-screw, insert and Flange** with 18x11mm hole are utilized in various instances when multiple clamps are required for the attachment of rigid objects to the seams e.g. rails, the S-5!® PV-Kit and the RoofTech one- and double-tube snow retention, walkways, steps, handrails, etc..

The Z-Mini-FL is mainly used for rails with an underside screw channel.

The S-5!® Mini clamps are now supplied without M8x16 stainless steel screws. These screws can be ordered separately from us. PU: 100 pieces per box.

Z-Mini and Z-Mini-FL are packed with 50 pieces per box.

Tested and Approved

Z-Clamp

Z-Mini

Z-Mini-FL

Examples of applications: Fall Protection, Snow Retention, Solar Installations, Handrails, Walkways, etc..

The S-5!® Z-Clamps are currently the only clamps on the market with an official approval (DIBt No. Z-14.4-719) for the round „bulb" seams for all these internationally operating producer: *Kalzip-Aluminium-Profile from Kalzip, BEMO-FLAT-ROOF from Bemo and ALUFALZ and FALZ-RIPP from Aluform.*

In addition, S-5!® has tested the holding strength of all clamps on a wide range of seam types and metal finishes from various manufacturers by independent testing institutes in the USA. This type of test tests the clamp itself and the connection of the clamp to the profile under test conditions. Tests made with load pulling parallel (shear) to seam and with load pulling normal (tensile) to seam. The test results proved the outstanding performance of the S-5!® clamps. The load- bearing capacity values from the building approval Z-14.4-719 may be used for static calculations.

Please don't hesitate to contact us for more information, the test results and technical assistance.

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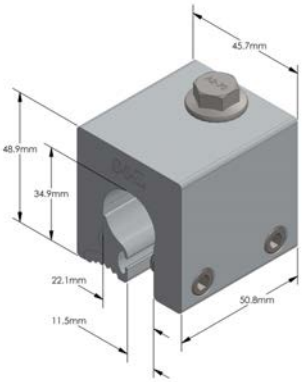
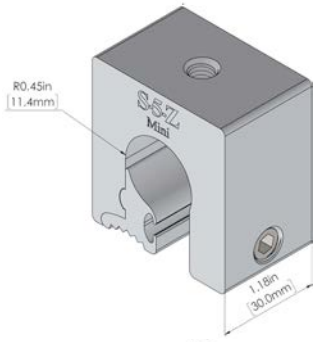
S-5!®
The Right Way!

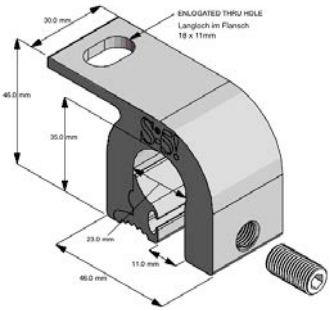
Z-Clamps



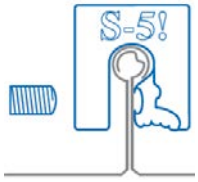
S-5!® Z-Clamp



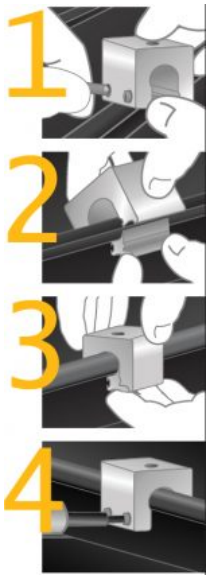
S-5!® Z-Mini



S-5!® Z-Mini-FL



To install the S-5!® Z-Clamps:



- Partially thread the setscrews into the clamp by hand. Position clamp at desired location along seam with the bolt hole in the correct (upslope or downslope) orientation. Then, affix ancillary items using the screw provided.
- **Don't fix the clamps on or beside the clips (halter) of the profile** (distance 17,5cm). The thermal elongation of the panels may not be hindered!
- Install by holding the small insert piece under the edge of the seam, then roll the clamp into position over the seam and insert (2 + 3).
- The set screws are fitted with the S-5!® mounting bit with a tightening force of 15 -17 Nm. For galvanized steel with a thickness of more than 0.7 mm, tighten with 18 - 20 Nm.
- Tighten the set screws on the Z-Clamps and tighten both again.
- Many screw-drivers do not always offer a constant tightening force. The tightening force must therefore be checked with a calibrated torque wrench and the set screws tightened if necessary.
- If the a M8x16 stainless steel screw is used for mounting the further application, it must be tightened with a torque of 18 Nm.

Please note in general:

- Please make sure that the load coming into the clamp will be taken by the structure of the roof. Assumption is that the determination has been made that the roof to which the S-5! clamps will be attached is structurally adequate. Any loads imposed on the S-5! clamps will be transferred to the panels. Panel seams must have sufficient flexural strength to carry these loads. Panels must also be adequately attached to the building structure, and the structure must be sufficient to carry these loads. In particular, the snow and wind loads, the additional loads from the installations attached to the clamps, as well as the increased loads in the edge and corner areas of the roof construction must be considered.
- A sufficient number of clamps must be provided. For statically relevant clamps, a distance of at least 500mm from the end of the standing seam profile must be maintained. RoofTech and the makers of the S-5! clamps make no representations with respect to these variables. It is the responsibility of the user to verify this information, or seek assistance from a qualified design professional or stress analyst, if necessary.
- Responsible for the stability of a building structure is the building owner or the owner or operator. The installer is responsible not only for the installation but also for the roof on which the system is installed. Whoever installs a system on an existing roof without having checked the stability beforehand, violates existing law! For critical installations, inquire for specific test data of ultimate tensile load on specific panel materials and seam types. The sufficient holding force of the roofing to the supporting or substructure must always be ensured. The sufficient holding force of the roofing on the supporting or substructure must always be guaranteed. Proof must be provided by the customer or installer. In cases of doubt, a structural engineer must be consulted to determine the loads and its effects.
- In the case of handcrafted metal roofing on wooden formwork, the edge and corner areas should not be covered with installations, PV-modules etc. due to the limited load-bearing capacity of the roofing and the adhesives. In the central area, the skipping of seams is usually not possible. Therefore, we recommend to install clamps on each seam. The installation of e.g. PV systems represents a punctual load entry; therefore, we recommend reduced clip distances and screwed clips. The mounting and fastening of the clamp should be carried out between the clips to achieve an optimal load sharing.
- When mounting rigid objects such as rails, pipes, cable trays, etc. on the clamps, they must be separated at regular intervals (max. 3m) in order to limit deformations due to thermally induced length changes of the mounted materials.
- The material properties of the respective metals, the combination with each other as well as the installation instructions and regulations of all manufacturers involved (including those of the metal roof) must be observed.
- S-5! Clamps are not suitable as fall protection applications. The S-5! clamps may only be used for this purpose in a certified and approved fall protection system. The respective system provider is responsible for this and must provide proof of this.
- The user and/or installer must always clarify in advance the application possibilities and application of our products in connection with the other used materials and products at the single project. The user and/or installer of all our products is responsible for all necessary engineering and design to ensure that the S.5! clamps and other products has been properly spaced and configured.
- RoofTech GmbH and S-5!® - Metal Roof Innovations Ltd. recommend that the planned installation, PV system, snow guard system, etc. should be verified by a qualified professional who is responsible for the snow and wind loads, the additional loads from the installations attached to the clamps, the statics and assembly as well as the planning and construction of and on metal roofs.
- The photographs and drawings herein are for the purpose of illustrating installation, tools and techniques, not system designs. RoofTech GmbH and S-5!® - Metal Roof Innovations Ltd. do not assume any liability. S-5!® products are protected by international patents of Metal Roof Innovations, Ltd..
- RoofTech GmbH and S-5!® - Metal Roof Innovations Ltd. assume no responsibility and liability for assembly, suitability and applications.

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