

# BEST PRACTICE FOR MOUNTING ROOFTOP EQUIPMENT ON STANDING-SEAM ROOFS

Standing-seam metal roofing offers a durable and sustainable roofing alternative and can provide low-maintenance service for five to ten decades. Sadly, this exceptional lifespan is often sabotaged during the mounting of essential rooftop equipment.

It is widely agreed that the best way to prevent roof-related problems is to keep the rooftop clear and let it function as a roof, rather than as a platform for equipment. However, the reality is that HVAC equipment, piping and walkways are common roof mountings, not to mention fall protection, plumbing vents, signage and more.

The first rule about any metal rooftop mounting is to avoid penetrating the membrane whenever possible. While this may seem obvious, it is often violated, particularly with

standing-seam (concealed fix) roofing on commercial and industrial structures. The norm seems to be to anchor the item to the structure through the roof.

This practice not only threatens the sheeting weather integrity, but can also violate the metal's natural expansion and contraction by inadvertent pinning of the sheet to the structure. Within a short time, such a point of attachment will fatigue and fail from forces of thermal expansion exerted by the metal.

The better practice is to use special seam-mounted clamping hardware that grips the standing seam without penetrating the membrane. Unlike many other roof materials, metal is a rigid high-tensile material and the seam creates a beam-line anchorage that can be used to secure most items without harming the roof's weatherproof performance. Mechanical equipment can be safely and cost-effectively secured to these seam clamps, leaving the roof penetration-free and allowing for its thermal cycling behaviour.

Clamps must be made of non-corrosive materials, typically aluminium and stainless steel, to last the full lifecycle of the roof. It is also important to remember that any loads introduced to the clamps will be transferred to the roof sheets and to their anchorage to the structure. The anchorage must therefore be capable of carrying the added load.

The best practice is to utilise clamps that have been appropriately tested for material and seam-specific holding strength. The roof panel manufacturer should also be consulted with respect to approval of the devices used.

Safintra is the sole distributor of S-5 clamps that provide penetration-free attachment to Saflok and most standing-seam profiles, and are warranted for 25 years. A range of S-5® brackets is also available for virtually any pierced fix-metal sheeting profile.

According to Sally Stromnes, group marketing manager of Safintra, the holding strength of the S-5® clamp is unsurpassed, with ultimate load-to-failure rates averaging more than a ton and in some clamps over four tons.

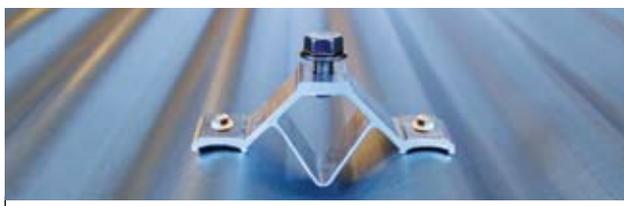
All S-5 components are made from solid aluminium, while additional hardware, such as bolts and plates, is made of non-corrosive 300 series stainless steel. These materials are totally compatible with aluminium-zinc coated metal sheeting, sold in South Africa as Colorplus, Colorbond, Zinalc or Zinalume. **WR**



S-5-K Grip™ mini is suitable for all rooftop attachments on Saflok and similar concealed fix systems.



S-5! TrapBracket™ for trapezoidal profiles.



S-5! CorruBracket™ for corrugated profiles.



The S-5-PV Kit™ is used for solar module attachments on most metal roofs, when used with the clamps shown above.

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