

**1. Manufacturer**

S-5!®

Metal Roof Innovations, Ltd.

500 W. Highway St.

Iowa Park, TX 76367

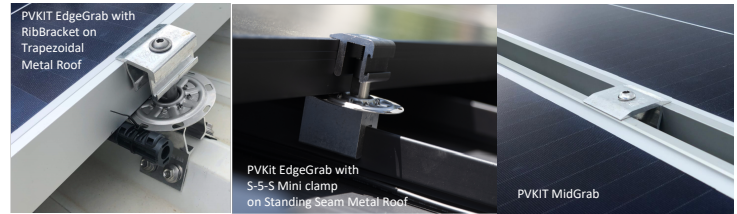
Technical Assistance:

888-825-3432

support@s-5.com<https://s-5.com/support-information/>architecturalsales@s-5.comWebsite: www.s-5.com**CSI Masterformat Categories:**

07 72 00 Roof Accessories

26 31 00 Photovoltaic Collectors

**2. Product Description****BASIC USE:**

THE S-5! PVKIT® 2.0 is a rail-less solar attachment solution for any metal roof type. Its pre-assembled components provide a simple, secure and economical method to “lay & play” PV modules with tested, engineered, direct attachment of modules to a metal roof’s seams or ribs. Manufactured from high-tensile, certified raw materials (aluminum and stainless), the PVKIT eliminates the need for traditional rail methods and offers impressive savings across hard goods, transport and handling metrics for PV mounting systems, while providing better load reductions and load distribution. The PVKIT is compatible with all S-5! clamps and brackets and is warranted** for the life of the solar and the roof.

ADVANTAGES:

- The PVKIT enables simple and cost-effective installation of solar photovoltaic modules to all types of metal roofs. Comprised of just three components vs. traditional rail systems of 9 to 12, the PVKIT reduces hard goods cost by up to 35% and weight (collateral load of mounting hardware) by 85%. Less time and money spent on shipping and handling, eliminating logistical complexities.
- The PVKIT is set in place and installed “on the fly” without measuring as solar modules are laid in place, resulting in a labor savings of 30-50%. There is no need to layout, snap lines or install mounting hardware prior to solar module installation.
- The PVKIT is compatible with all S-5! Standard or Mini clamps and most S-5! brackets. Only one tool is needed to complete installation.
- The PVKIT is listed to UL2703 and ETL1703, the standards for certified electrical bonding of solar PV mounting systems. The stainless-steel disk is a listed electric bonding and grounding device, which provides an integral ground path for module frames. This saves time and material by reducing the need for ground wiring and lugs. The disk has slots around the perimeter for easy wire management.

- The solar PV array will generally have 25% more attachment points to the roof than with rails. — This results in better collateral, environmental and live-load distribution of the system (wind, seismic and snow).
- S-5! has conducted more than 3,000 load tests on 500+ different metal roof profiles, materials and gauges to enable credible site-specific engineering. The resulting 17025 accredited lab-tested and published holding strength is the first (and only) recognized by the ICC-ES.
- The S-5! attachment clamp does not void the roof manufacturer’s warranty. All major metal roof manufacturers endorse S-5! attachments utilizing round-point setscrews to securely grip the metal roof panel seam without penetration.
- The round-point setscrews mechanically attach to the roof by tightening the setscrews to “dimple” the seam material into a mechanical interlock within the clamp.

SYSTEM COMPONENTS:

- PVKIT EdgeGrab – attaches solar modules on the north and south edges of the solar array. It is compatible with all module frame materials. It will accommodate PV frame thicknesses of 30-46mm with a single component.
- PVKIT MidGrab – attaches solar modules within the interior of a solar array (between two adjacent modules). It is compatible with all module frames. It will accommodate PV frame thicknesses of 30-46mm with a single component.
- S-5! clamps and Mini clamps – sold separately from the PVKIT due to the variety of attachment needs. For installation on most standing seam metal roofs including copper and stainless. Find specific metal roof manufacturer product and profile test data at <https://s-5.com/load-tests/>
- S-5! VersaBracket™, CorruBracket™, RibBracket™ I-V and ProteaBracket™ – sold separately from the PVKIT due to the variety of attachment needs. For installation on most exposed-fastened metal roofs (trapezoidal and corrugated). Find specific metal roof manufacturer product and profile test data at <https://s-5.com/load-tests/>

3. Composition & Materials

The PVKIT's EdgeGrab and MidGrab components are produced from certified structural aluminum (6061 T6 alloy). All other components are certified 300 series (18-8) stainless-steel.

The PVKIT is attached to roof with aluminum S-5! Mini clamps or S-5! PV brackets, which are compatible with painted or unpainted G-90 galvanized steel, bare or painted Galvalume®, Galvalume Plus®, Zinalume®, Zinalume Plus®, Acrylume®, Galfan® and Galvannealed® steel, aluminum (painted, bare or anodized), titanium-zinc and stainless-steel metal roofs.

The PVKIT may also be attached with brass S-5! Mini clamps to provide metallurgical compatibility with copper roofs.

The EdgeGrab and MidGrab are available in black for an aesthetic solution or can accept powder-coated finishes to match the metal roof color if desired.*

4. Technical Data

S-5! products are manufactured to meet or exceed the following standards and test methods:

- A. Listed to Underwriters Laboratory UL2703 Standard: Mounting Systems, Mounting Devices, Clamping Devices and Ground Lugs for Use with Photovoltaic Modules and Panels.
- B. Listed to ICC-ES Evaluation Report ESR-3869.
- C. Aluminum Association (AA) – Aluminum Standards and Data, 2017 Edition.
- D. ASTM International (ASTM):
 - 1. B85-03 – Standard Specification for Aluminum-Alloy Die Castings.
 - 2. B221-04a – Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wires, Profiles and Tubes.

ENVIRONMENTAL CONSIDERATIONS:

Where possible, S-5! products include a high percentage of recycled material, which lessens the environmental impact. Additionally, every S-5! product offers a service life equal to or greater than the roof itself and is 100% recyclable at the end of its extended service life, reducing the solid waste stream.

5. Installation

Detailed installation instructions can be obtained from the manufacturer's website: <https://s-5.com/products/solar-panels-on-metal-roof-pvkit-2-0/> Store materials to protect from harmful weather, damage or abuse. Verify acceptable site conditions before proceeding. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

6. Limitations

Any loads imposed upon S-5! clamps will be transferred to the roof panels to which they are attached. Roof panels must be adequately fastened to the building structure and have sufficient beam strength to resist these loads. When relying on testing load values, setscrew tensions should be verified. Factors of safety should be applied as appropriate. Always install S-5! systems in strict accordance with the manufacturer's published installation instructions.

7. Cost & Availability

Contact manufacturer-authorized distributors listed at: <https://s-5.com/how-to-buy/> for the most current product prices and product availability.

8. **Warranty

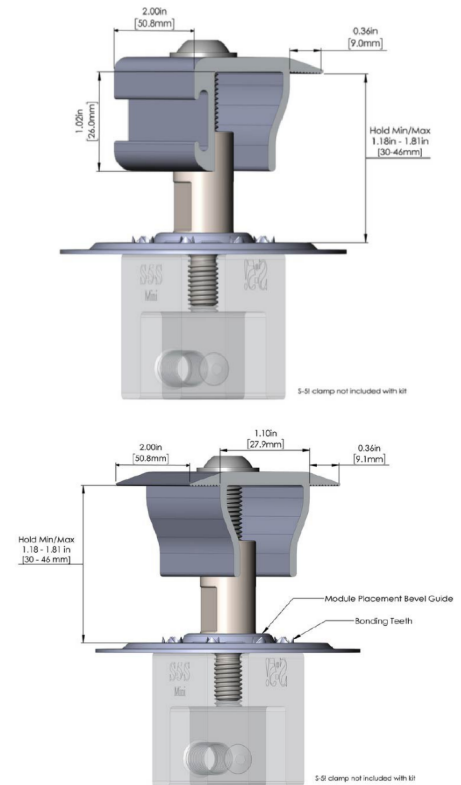
Cost-free Limited Lifetime Warranty: All S-5! products and components are warranted to be free from defects in material and workmanship for the life of the roof (and solar). See <https://s-5.com/warranty/> for details.

9. Maintenance

When the PVKIT is properly installed, maintenance is not required. Periodic inspection may reveal errors in installation that should be corrected if found. If cleaning is desired, the system can be washed with mild soap and water followed by a clean water rinse. Do not use ammonia or solutions that contain strong acids or alkalis.

10. Technical Services

Technical assistance, including more detailed information, product literature, test results, project lists, assistance in preparing project specifications, and arrangements for application supervision is available by contacting S-5! <https://s-5.com/support-information/> or the nearest S-5! distributor.



☐ APPROVED

PROJECT NAME _____

APPROVED BY _____

PRODUCT SELECTED _____

(PLACE STAMP HERE)