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Metal Roof Innovations, LTD
8750 Walker Road
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RESEARCH REPORT: RR 26025
(CSI # 05 05 23)

Attn: Dustin Haddock
(719) 495-1906

Expires: January 1, 2023
Issued Date: March 11, 2021
Code: 2020 LABC

GENERAL APPROVAL – Renewal - S-5!® Standing Seam Clamps

DETAILS

The S-5!® Standing Seam Clamps are designed to allow the attachment of photovoltaic arrays directly to a commercial grade standing seam metal roof without penetrating the metal or collapsing or crushing the ridge in the metal roof profile.

The S-5!® Standing Seam Clamps are manufactured from 6061-T6 extruded aluminum conforming to ASTM B221 or aluminum castings conforming to ASTM B85. The S-5!® Standing Seam Clamps are approved for use with metal roof panels as listed in tables below only.

The approval is subject to the following conditions:

1. S-5! Standing Seam Clamps must be installed in accordance with the manufacturer's published installation instructions. A copy of the manufacturer's installation instructions shall be available at the job site.
2. S-5!® Standing Seam Clamps shall be labeled with manufacturer's label. All assemblies are identified on the packaging with the manufacturer's name and address, clamp type, and the City of Los Angeles Research Report Number.
3. S-5! Standing Seam Clamps subject to seismic and vibratory loading are outside the scope of this approval.

RR 26025
Page 1 of 6

4. The overall performance of the roof structure, the adequacy of the existing building with new loads and calculations demonstrating that the applied loads are less than the maximum allowable loads must be submitted to the structural plan check section for each project. The calculations must be prepared by a California registered Civil or Structural Engineer or Architect.
5. The allowable values listed in the tables are for the S-5! Standing Seam Clamps only.

Allowable Design Strength (lbs)	Parallel Direction (Shear Parallel)	Perpendicular to Seam (Shear Perpendicular)	Normal to Seam Direction (Uplift)
24ga Premium Lock 210A w/ S-5-H90 Mini Clamp, Setscrew Torque 130 in-lbf	416	577	571
24ga Premium Snap 675 w/ S-5-S Mini Clamp, Setscrew Torque 130 in-lbf	307	276	208
24ga MasterLok FS w/ S-5-V Mini Clamp, Setscrew Torque 130 in-lbf	434	308	627
24ga Clip-Loc w/ S-5-K Grip Mini Clamp, Setscrew Torque 200 in-lbf	24	91	102
24ga Mirage II S-5-R465 Mini Clamp, Setscrew Torque 130 in-lbf	517	188	282
CBC Steel Buildings MS24 w/ S-5-V Mini Clamp, Setscrew Torque 115 in-lbf	377	213	423
BigBee Steel Buildings BibBeeLok-324 w/ S-5-V Mini Clamp, Setscrew Torque 115 in-lbf	442	210	290
BibBee Steel Buildings BibBeeLokk-VR w/ S-5-V Mini Clamp, Setscrew Torque 115 in-lbf	520	258	382

6. No increase is permitted in the tabulated allowable load values.
7. Electrical safety, grounding provisions and grounding continuity are outside the scope of this approval.

Metal Roof Innovations, LTD
RE: S-5!® Standing Seam Clamps

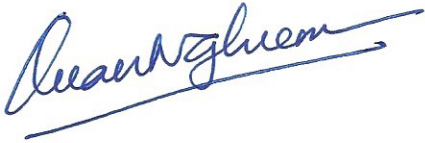
DISCUSSION

The report is in compliance with the 2020 City of Los Angeles Building Code.

The approval is based on load tests.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

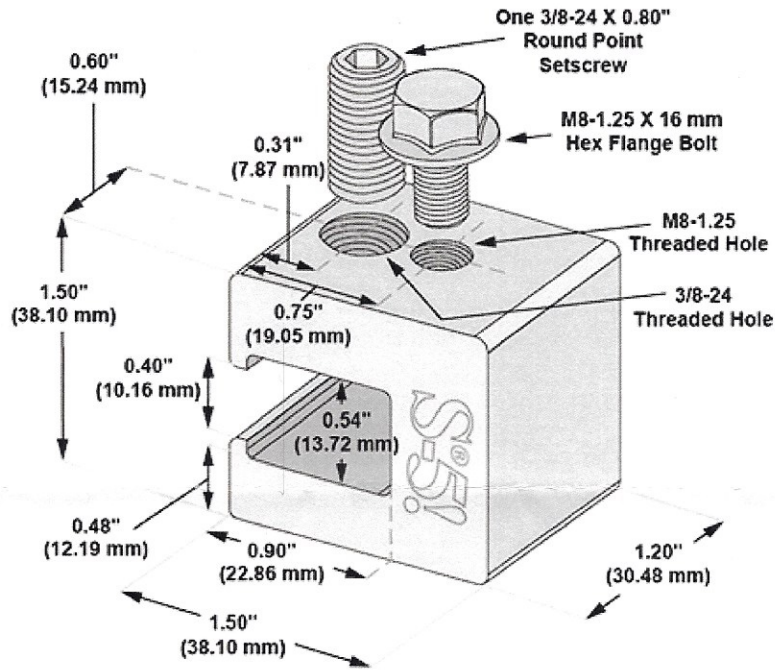
This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this Approval have been met in the project in which it is to be used.



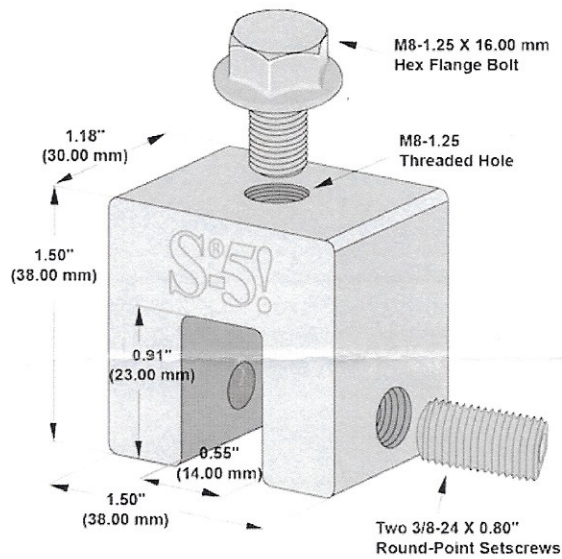
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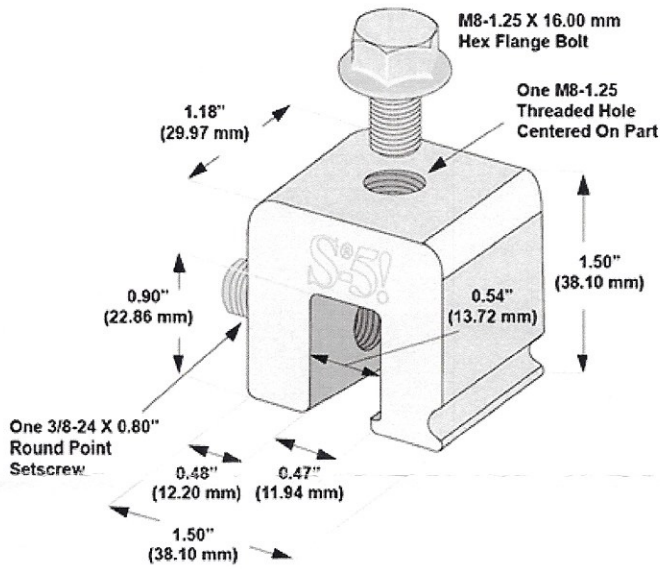


S-5-H90 Mini Clamp

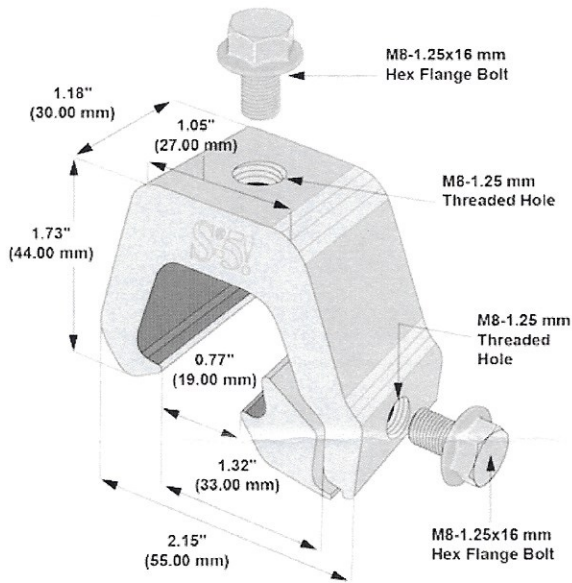


S-5-S Mini Clamp

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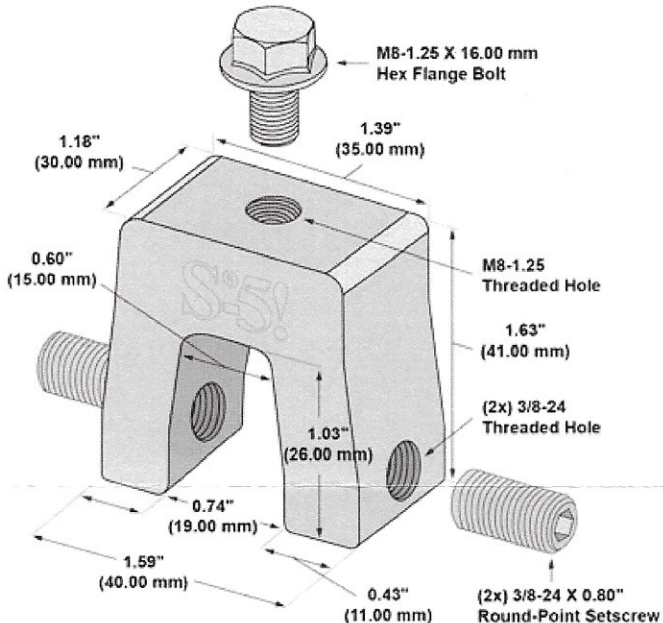


S-5-V Mini Clamp



S-5-K Grip Mini Clamp

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S-5-R465 Mini Clamp