

## 010200- SOLAR SECTION

### PART 1 GENERAL REQUIREMENTS

#### 1.01 DESCRIPTION OF WORK

Furnish and install S-5 clamp as manufactured by Metal Roof Innovations, Ltd. Use clamp model "U" or "Z" as appropriate for roof seam profile. Utilize S-5 clamps for anchorage of all rooftop ancillaries including but not limited to any rooftop piping or conduits, walkways, snow guards, mechanical equipment (which is not curb mounted), and other areas called out on plans. No fastening penetrations of the roof membrane will be permitted.

##### SECTION TO INCLUDE:

- A. PV & Battery Specifications
- B. BP 7190
- C. Xantrex XW Series
- D. Accessory Kit Installation Instructions

#### 1.02 SUBMITTALS

- A. Product Data- Submit manufacturer's literature including installation instructions.
- B. Shop Drawings- Submit roof drawing showing locations of all S-5 clamps, including where pertinent, clamp spacing,  
(e.g. "two inch gas pipe, supported and anchored with S-5-U at 4' intervals").
- C. Samples- Submit sample of S-5 clamp. Submit mock-ups of special assemblies if required.

#### 1.03 QUALITY ASSURANCE

- A. For critical installations, furnish evidence of product testing performed on the panel seam for tensile load-to-failure in a direction parallel to the seam. Testing shall be done by recognized independent laboratory. Provide calculations if requested that project application does not exceed ultimate failure loads as proven by testing, using factor of safety of two.
- B. Provide clamps complete with stainless steel set screws and stainless steel bolt and washer as furnished by the manufacturer. Plated attachment bolts are not acceptable.
- C. Comply with all applicable local, state, and national building codes, as well as OSHA regulations when using and installing S-5! clamps and related items.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

Boxes containing S-5! clamps should be stored in a dry place until ready for use.

#### 1.05 WARRANTIES

- A. Installers Warranty- Provide installers warranty stating that product has been installed in full conformity with manufacturers instructions.
- B. Provide manufacturers standard warranty.

### PART 2 PRODUCTS

#### 2.01 APPROVED MANUFACTURER

- A. Metal Roof Innovations, Ltd.; 8655 Table Butte Rd.; Colorado Springs, CO 80908; Ph 719-495-0518; Fax 719-4950045; see web for product distributors at [www.s-5solutions.com](http://www.s-5solutions.com).
- B. Other manufacturers meeting all aspects of this specification and approved in writing by Architect 14 days prior to General Contractor Bid Date. Equality must be shown in every aspect of this specification, including, but not limited to tested load-to-failure values as verified by independent laboratory.

## 2.02 MATERIALS

- A. Clamps are to be manufactured from certified 6061 T6 aluminum, in strict conformity with The Aluminum Association, Incorporated "Aluminum Standards and Data" and ASTM standard B-221.
- B. Clamp model-S-5-U \_\_\_ S-5-Z \_\_\_
- C. Dimensions- S-5-U is 1.5" x 1.5" x 2" long; S-5-Z is 1.8" x 1.9" x 2" long
- D. Hardware- Each clamp is to be secured to the panel seam with a minimum of two set screws, having minimum diameter of .375". Set screws are to have a round nose point to prevent damage to panel finish. Cup point set screws are not acceptable. Set screws are to be 300 series stainless steel(18-8 alloy) having no iron content. Attachment bolt is to be .375" diameter with washer; both 300 series stainless steel.
- E. Accessories- Any snow retention accessories shall be S-5 components as manufactured by Metal Roof Innovations, Ltd. Other related attachment hardware or accessory items not furnished with S-5 components should be of noncorrosive materials compatible with aluminum.

## PART 3 EXECUTION

### 3.01 EXAMINATION AND PREPARATION

- A. Verify that panel seam area is reasonably clean and free of visible dirt and foreign matter at the clamp location prior to installing clamp.
- B. Verify that any required machine seaming has been completed prior to clamp installation.
- C. Verify that panels are adequately attached and supported to the building structure to resist any loads imposed on the S-5 clamp.
- D. Verify that completed assembly installation will not in any way impede drainage of roof panels.

### 3.02 INSTALLATION

- A. Carefully lay out desired clamp locations prior to installing clamps.
- B. Assemble set screws to clamp and clamp to seam following all manufacturers printed instructions.
- C. Both set screws are to be at the same side of clamp. When application relies upon tested load-to-failure values, minimum set screw tension shall be randomly verified using calibrated torque wrench per manufacturer's instructions.
- D. Provide necessary fall and other hazard protection in accordance with OSHA when installing clamps.
- E. Clean roof of any residual debris resulting from clamp installation and related attachments.

### 3.03 CLOSE-OUT

- A. Deliver all warranties to Owner or Owner's designated representative.
- B. Deliver one box of 30 S-5 Clamps complete with manufacturer's printed installation instructions to the Owner or his designated representative for future use.