

## SECTION 07 72 55

### ROOF ACCESSORY UTILITY ATTACHMENT SYSTEM

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Utility Attachment for metal roofs.
  - 2. Non-penetrating attachment system.

##### 1.2 RELATED SECTIONS

- A. Division 01: Administrative, procedural, and temporary work requirements apply to this section.
- B. Section 07 41 13 - Metal Roof Panels
- C. Section 07 61 00 - Sheet Metal Roofing
- D. Section 07 62 00 – Sheet Metal Flashing and Trim
- E. Section 07 72 53 – Snow Guards
- F. Section 13 34 19 – Metal Building Systems
- G. Section 27 05 29 – Hangars and Supports for Communication Systems

##### 1.3 REFERENCES

- A. Aluminum Association (AA) - Aluminum Standards and Data, 2003 Edition.
- B. 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, Wire, Profiles, and Tubes.

##### 1.4 SUBMITTALS

- A. Action Submittal:
  - 1. Shop Drawings: Include roof plans showing locations of utility attachment on roof and attachment details and spacing.
  - 2. Product Data:
    - a. Product description.
    - b. Construction details.
    - c. Material descriptions.
    - d. Individual component dimensions.
    - e. Finishes.

- f. Installation instructions.
  - 3. Samples:
    - a. Clamp samples.
    - b. 12-inch long attachment member samples including all associated hardware.
- B. Informational Submittals:
  - 1. Test results: Results of product tensile load testing of attachment clamp, issued by a recognized independent testing laboratory, showing ultimate load-to-failure value of attachment.
- C. Closeout Submittals:
  - 1. Certification: Installer's certification that utility attachment system was installed in accordance with manufacturer's instructions and approved Shop Drawings.

## 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer to specialize in production of Metal Roof Attachment Products of the type specified with a minimum of 20 years documented experience.
- B. Installer Qualifications: Installer to specialize in metal roof installation and installation of Metal Roof Attachment Products with a minimum of 5 years documented experience.
- C. Mockup:
  - 1. Size: Minimum [8] [ ] feet long.
  - 2. Show: Utility attachment clamps, utility attachment members, and accessories.
  - 3. Locate [where directed.] [ ].
  - 4. Approved mockup may remain as part of the Work.

## 1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver components to jobsite properly packaged to provide protection during transport, delivery and handling.
- B. Store products in manufacturer's original labeled and unopened packaging in a clean and dry location, protected from potential damage, until ready for application.

## PART 2 - PRODUCTS

### 2.1 SYSTEM DESCRIPTION

- A. Attachment system to provide attachment to standing seam metal roofs:
  - 1. With only minor dimpling of panel seams.
  - 2. Without penetrations through roof seams or panels.
  - 3. Without use of sealers or adhesives.
  - 4. Without voiding roof warranty.
- B. Performance Requirements: Provide utility attachments to withstand exposure to the weather and environmental elements, and resist design forces without failure due to defective manufacture.

### 2.2 MANUFACTURER

- A. Acceptable Manufacturer: S-5! Metal Roof Innovations, Ltd., 8655 Table Butte Road, Colorado Springs, CO. 80908; Tel: 888-825-3432; Fax: 719-495-0045; Email: [support@s-5.com](mailto:support@s-5.com); Web: [www.s-5.com](http://www.s-5.com)
- B. Substitutions: Not permitted.

## 2.3 UTILITY ATTACHMENT SYSTEMS FOR STANDING SEAM METAL ROOFS

- A. Basis of Design: S-5! Utility System manufactured by S-5! Metal Roof Innovations, Ltd.
- B. Components:
  - 1. Clamps
    - a. Manufactured from 6061-T6 aluminum extrusions conforming to ASTM B221 or aluminum castings conforming to ASTM B85 and to AA Aluminum Standards and Data.
      - 1) Model: S-5! Standard Mini Clamp No. [S-5-U MINI.] [S-5-S MINI.] [S-5-T MINI.] [S-5-Z MINI.] [S-5-E MINI.] [S-5-Q MINI.] [S-5-H MINI.] [S-5-K700 MINI.] [S-5-H90 MINI.] [S-5-N MINI.] [S-5-N 1.5 MINI.] [S-5-KHD MINI.] [S-5-V MINI.] [S-5-K Grip MINI.] [S-5-R465 MINI.]
      - 2) Model: S-5! Flanged Mini Clamp [S-5-USF MINI.] [S-5-EF MINI.] [S-5-ZF MINI.]
    - b. Set screws: 300 Series stainless steel, 18-8 alloy, 3/8 inch diameter, with round head point.
    - c. Attachment bolts: 300 Series stainless steel, 18-8 alloy, 8 mm diameter, hex flange bolt.
  - 2. Flange Adapter:
    - a. Manufactured from 6061-T6 or 6005-T5 alloy and temper aluminum extrusions conforming to ASTM B221 and AA Aluminum Standards and Data or cast aluminum.
      - 1) Model: No. S-5-FA
  - 3. Utility Attachment Cross Members:
    - a. Manufactured from 6061-T6 or 6005-T5 alloy and temper aluminum extrusions conforming to ASTM B221 and AA Aluminum Standards and Data.
    - b. Track in top and bottom to receive 8 mm diameter, hex flange nut.
      - 1) Model: Dual Grip Strut

## PART 3- EXECUTION

### 3.1 EXAMINATION

Prior to beginning installation, verify that:

1. Panel seaming is complete.
2. Panel attachment is sufficient to withstand loads applied by utility attachment system.
3. Installation will not impede roof drainage.

### 3.2 PREPARATION

- A. Clean areas to receive attachments; remove loose and foreign matter that could interfere with installation or performance.

### 3.3 INSTALLATION

- A. Install system in accordance with manufacturer's instructions and approved Shop Drawings
- B. S-5! Utility System:
  1. Place clamps at maximum 32 inches on center or as required by in-service loads.
  2. Place clamps in straight, aligned rows.
  3. Tighten set screws to manufacturer's recommended torque. Randomly test set screw torque using calibrated torque wrench.
  4. Attach flange adapter to clamp; tighten bolts to manufacturer's recommended torque.

5. Attach utility attachment cross members to flange adapter; tighten bolts to manufacturer's recommended torque.
  6. Do not cantilever utility attachment cross members more than 4 inches beyond last clamp at ends.
- B. S-5! Utility System:
1. Place clamps at maximum 32 inches on center or as required by in-service loads.
  2. Place clamps in straight, aligned rows.
  3. Tighten set screws to manufacturer's recommended torque. Randomly test set screw torque using calibrated torque wrench.
  4. Attach utility attachment cross members to clamps; tighten bolts to manufacturer's recommended torque.
  5. Do not cantilever utility attachment cross members more than 4 inches beyond last clamp at ends.

END OF SECTION