

SECTION 07721.02

SNOW GUARDS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Snow guards for standing seam metal roofs.
 - 2. Non-penetrating attachment system.
- B. Related Sections:
 - 1. Division 1: Administrative, procedural, and temporary work requirements.
 - 2. Section [07410 - Metal Roof Panels:] [07610 - Sheet Metal Roofing:] [_____ - _____:] Metal roof panels.
 - 3. Section 07730 - Roof Accessory Attachment System.

1.2 REFERENCES

- A. Aluminum Association (AA) - Aluminum Standards and Data, 2003 Edition.
- B. ASTM International (ASTM):
 - 1. A581/A581M-95b(2004) - Standard Specification for Free-Machining Stainless Steel Wire and Wire Rods.
 - 2. A582-05 - Standard Specification for Free-Machining Stainless Steel Bars.
 - 3. B85-03 - Standard Specification for Aluminum-Alloy Die Castings.
 - 4. B221-04a - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 - 5. E527-83(2003) - Standard Practice for Numbering Metals and Alloys.

1.3 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. Loading: Design snow guard system to resist minimum in-service vector load of [__] pounds per linear foot of eave.
- C. Factor of safety: Utilize a factor of safety \geq [2] [_____] to determine allowable loads from ultimate tested clamp tensile load values.

1.4 SUBMITTALS

- A. Submittals for Review:
 - 1. Shop Drawings: Show locations of snow guards on roof and attachment spacing.
 - 2. Product Data: Include product description and installation instructions.
 - 3. Samples:
 - a. Clamp samples.
 - b. 24 inch long cross member samples including coupler and other hardware.
- B. Quality Control Submittals:
 - 1. Test results: Results of product load testing, issued by a recognized independent testing laboratory, showing load-to-failure value of attachment.
- C. Sustainable Design Submittals:
 - 1. Regionally manufactured products: Certify location of material manufacturer and distance from manufacturer to project site.

- D. Closeout Submittals:
1. Certification: Installer's certification that snow guard system was installed in accordance with manufacturer's instructions and approved Shop Drawings.

1.5 QUALITY ASSURANCE

- A. Mockup:
1. Size: Minimum [8] [___] feet long.
 2. Show: Snow guard attachment, cross members, and accessories.
 3. Locate [where directed.] [____.].
 4. Approved mockup may remain as part of the Work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Contract Documents are based on [SnoRail] [SnoFence] by Metal Roof Innovations, Ltd.
- B. Substitutions: [Under provisions of Division 1.] [Not permitted.]

2.2 COMPONENTS

- A. Clamps:
1. Manufactured from 6061-T6 aluminum extrusions conforming to ASTM B221 or aluminum castings conforming to ASTM B85 and to AA Aluminum Standards and Data.
 2. Clamp model: No. S-5-A and S-5-AE.
 3. Set screws: 300 Series stainless steel, 18-8 alloy, 3/8 inch diameter, with round nose point.

**** OR ****

- B. Clamps:
1. Manufactured from red brass, Copper UNS Alloy No. C23000.
 2. Clamp model: No. S-5-B and S-5-BE.
 3. Set screws: 300 Series stainless steel, 18-8 alloy, 3/8 inch diameter, with round nose point.

- C. Cross Members [and Posts]:
1. Manufactured from 6061-T6 alloy and temper aluminum extrusions conforming to ASTM B221 and AA Aluminum Standards and Data.
 2. Provide coupler ensuring alignment and structural continuity at end joints.

**** OR ****

- D. Cross Members [and Posts]:
1. Manufactured from Type 303 stainless steel conforming to ASTM A581/A581M or ASTM A 582.
 2. Provide coupler ensuring alignment and structural continuity at end joints.

**** OR ****

- E. Cross Members [and Posts]:
1. Manufactured from red brass, Copper UNS Alloy No. C23000.
 2. Provide coupler ensuring alignment and structural continuity at end joints.

- F. SnoClips: Aluminum, with rubber foot, minimum 3 inches wide.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to beginning installation, verify that:

1. Panel seaming is complete.
2. Panel attachment is sufficient to withstand loads applied by snow guard system.
3. Installation will not impeded 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. Place clamps at maximum 24 inches on center or as required by in-service loads.
- C. Place clamps in straight, aligned rows.
- D. Place both set screws on same side of clamp.
- E. Tighten set screws to manufacturer's recommended torque.
- F. Use [S-5-AE] [S-5-BE] clamps in lieu of standard clamp at each end of each assembly, and at a frequency and spacing of one for each 50 feet of assembly.
- G. Install cross members through holes in clamps.
- H. Install couplers at cross member end joints.
- I. Tighten set screws against cross members at all "E" clamp locations.
- J. Do not cantilever cross members more than 3 inches beyond last clamp at ends.
- K. Install [one SnoClip] [two SnoClips] per panel between panel seams.

**** OR ****

3.4 INSTALLATION

- A. Install system in accordance with manufacturer's instructions and approved Shop Drawings.
- B. Place clamps at maximum 32 inches on center or as required by in-service loads.
- C. Place clamps in straight, aligned rows.
- D. Place both set screws on same side of clamp.
- E. Tighten set screws to manufacturer's recommended torque.
- F. Use [S-5-AE] [S-5-BE] clamps in lieu of standard clamp at each end of each assembly, and at a frequency and spacing of one for each 50 feet of assembly.
- G. Install SnoPosts vertically in each clamp. Use SnoPost E at all (above) "E" clamp locations.
- H. Install cross members through holes in clamps and posts.
- I. Install coupler at cross member end joints.
- J. Tighten set screws against cross members at all "E" clamp and post locations.

- K. Do not cantilever cross members more than 3 inches beyond last clamp at ends.
- L. Install [one SnoClip] [two SnoClips] per panel between panel seams.

END OF SECTION