

SNOW RETENTION SYSTEM

S-5! SNORAIL™ & SNOFENCE™ SPECIFICATION

SECTION 07721.02 Prefabricated Roof Specialties

PART 1 GENERAL REQUIREMENTS

1.01 DESCRIPTION OF WORK

A. Summary of Work

- Furnish all labor, material, tools, equipment, and services for the installation of complete S-5! "SnoRail (one rod) or SnoFence (two rod)" snow retention systems as indicated on plans, and in accordance with provisions of Contract Documents.
- Include all aluminum or stainless steel SnoRods, couplings connectors for SnoRods, "SnoClips" if indicated on drawings, clamps, posts, and any miscellaneous related items necessary for a complete installation.
- Coordinate work covered in this section with work of other trades.

B. Related Sections

- Roof and Wall Panels Section 07410
- Metal Roofing Section 07610
- Flashing and Sheet Metal: Section 07620
- Roof Accessories Section 7720

1.02 SUBMITTALS

A. Product Data

Submit manufacturer's literature including installation instructions.

B. Testing

Submit lab test report showing minimum ultimate tensile load of _____ pounds. Test to conform with 1.03.A (below). [Specifier Note: Ultimate load varies with panel type and gauge. It can be found at www.lmcurbs.com]

C. Shop Drawings

If not clearly shown on project drawings, submit roof drawing showing locations of all S-5! SnoRail (one rod) or SnoFence (two rod) assemblies including where pertinent, clamp spacing.

D. Samples

Submit sample of S-5-A, S-5-AE clamp and 24" section of SnoRod SnoPost, SnoPostE's, couplings, and other hardware. Submit mockups of special assemblies mounted on panel specimens if requested.

1.03 QUALITY ASSURANCE

A. Testing

Furnish evidence of product testing performed specifically on the panel seam and gauge being utilized on this project. Test report is to clearly indicate tensile load-to-failure of clamp in a direction parallel to the seam. Testing shall be done by recognized independent laboratory.

B. System Compatibility

Provide clamps complete with stainless steel set screws as furnished by the manufacturer. Plated ferrous attachment bolts and other fasteners are not acceptable.

C. Code Compliance

Comply with all applicable local, state, and national building codes, as well as OSHA regulations.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Packaging

Deliver components to jobsite properly packaged for protection against damage in transportation.

B. Storage

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

C. Handling

Exercise care in unloading, storing and installing all components to prevent bending, warping, twisting, and surface damage. Replace any damaged materials.

PART 2 PRODUCTS

2.01 SYSTEM DESCRIPTION

A. Attachment to Roof

For standing seam panels, provide aluminum S-5-A and S-5-AE standing seam roof clamps. Carbon steel or plastic parts are not acceptable. No fastening penetrations of the roof membrane will be permitted. Clamps to attach to standing seams using a minimum of two stainless steel set screws (3/8" minimum diameter) having rounded point. Clamp spacing is to be at (every, every second) seam. [Specifier Note: Clamp spacing depends upon load data-see www.lmcurbs.com] In no event shall clamp spacing exceed 24 inches.

For face fastened panel systems (R-panel application) and other roof types provide the ColorGard system using VersaBrackets (see www.lmcurbs.com for details).

B. Aluminum and Stainless Steel SnoRods

Usage of aluminum or stainless steel SnoRods depends on the roof panel seam spacing. Roof panel seams spaced at 24" wide are to have 3/8" stainless steel SnoRods. SnoRods are to be continuous and include couplings to join adjacent sections ensuring alignment and structural continuity.

C. Snow/Ice Clips

Install [one SnoClip] [two SnoClips] per panel between panel seams. S-5! "SnoClips" are to be aluminum with rubber "foot" as furnished by LMCurbs, clip to attach SnoRods and rest on panel flat, between panel seams to retard movement of snow/ice beneath SnoRods. Minimum recommended frequency is one SnoClip per panel on panel widths up to 24" and two or more for panel widths greater than 24". Greater SnoClip frequency on all roof panel seam widths is optional to address unique snow conditions.

2.02 MATERIALS

A. Clamps

Manufactured from 6061-T6 aluminum extrusions conforming to ASTM B221 or aluminum castings conforming to ASTM B85 and to AA Aluminum Standards and Data. Clamp model: No. S-5-A and S-5-AE. Set screws: 300 Series stainless steel, 18-8 alloy, 3/8 inch diameter, with round nose point [or] Manufactured from red brass, Copper UNS Alloy No. C23000. Clamp model: No. S-5-B and S-5-BE. Cast parts are not permitted.

B. SnoRod(s) - Aluminum, Stainless Steel or Brass

[A] Manufactured from 6061-T6 alloy and temper aluminum extrusions conforming to ASTM B221 and AA Aluminum Standards and Data [B] Manufactured from Type 303 stainless steel conforming to ASTM A581/A581M or ASTM A 582 [C] Manufactured from red brass, Copper UNS Alloy No. C23000. Provide coupling ensuring alignment and structural continuity at end joints.

C. Fasteners and Other Hardware

Each clamp is to be secured to the panel seam with a minimum of two set screws, having nominal 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. S-5-AE, S-5-BE, and SnoPostE use a smaller 5/64" set screw for end conditions. Set screws and other clamp hardware is to be either 300 series stainless steel (18-8 alloy) having no iron content, or aluminum.

2.03 APPROVED MANUFACTURERS

A. LMCurbs

827 Fisher Road, Longview, TX, 75604; Ph 800-284-1412; Fax 903-759-3598 see website www.lmcurbs.com.

B. Other Manufacturers

Must meet 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 enumerated in 1.02.B, verified by independent laboratory, and clamp style enumerated in 2.02.B. If tested load-to-failure values are lower than called out in this specification, then additional rows of assembly may be furnished to achieve compliance.

PART 3 EXECUTION

3.01 EXAMINATION AND PREPARATION

A. Clean Surface

Verify that panel seam area is reasonably clean and free of visible dirt and foreign matter at the clamp locations prior to installing clamps.

B. Seaming Complete

Verify that any required machine seaming is complete prior to installation.

C. Panel Attachment

Verify that panels are adequately attached and supported to the building structure to resist any loads imposed on the S-5 clamp.

D. Free Drainage

Verify that completed assembly installation will not in any way impede proper drainage of roof panels.

E. Discrepancies

Report any discrepancies to the above to the Project Architect before proceeding with the work.

3.02 INSTALLATION

A. Layout

- Install system in accordance with manufacturer's instructions and approved Shop Drawings.
- Place clamps at maximum 24 inches on center or as required by in-service loads.
- Place clamps in straight, aligned rows.
- Place both set screws on same side of clamp.
- Tighten set screws to manufacturer's recommended torque.
- 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 48 feet of assembly.
- [SnoFence applications] Thread the SnoPost [use SnoPostE at every S-5-AE location] into the top of the clamp.
- Install SnoRods through holes in clamps (and SnoPosts if needed).
- Install couplings at SnoRod end joints.
- Tighten small 5/64" set screws against SnoRods at all "E" clamp/post locations.
- Do not cantilever SnoRods more than 3 inches beyond last clamp at ends.
- Install [one SnoClip] [two SnoClips] per panel between panel seams.

B. Fall Protection

Provide necessary fall and other hazard protection in accordance with OSHA regulations when installing snow retention assemblies.

C. Cleaning

Clean roof of any residual debris resulting from installation.

3.03 CLOSEOUT

A. Waste Disposal

Dispose of excess materials and packaging and remove debris from site.

B. Warranties

Deliver all warranties to Owner or Owner's designated representative.