

**#115R Membrane Roof Retro-fit Snow Guard**  
Patent #6,526,701 B2

Document version 01.26.2005

#115R Snow Guard Specification Sheet

**PART 1 - GENERAL**

- 1.1 SUMMARY
- A. WORK INCLUDES
    - 1. #115R Snowguard that attaches directly to the roof deck.
    - 2. Provide appropriate snowguard and fasteners for the roof system.
  - B. RELATED SECTIONS
    - 1. Section 07600: Flashing and Sheet Metal.
    - 2. Section 07500: Membrane Roofing
    - 3. Division 7: Thermal and Moisture Protection.
- 1.2 SYSTEM DESCRIPTION
- A. COMPONENTS:
    - 1. #115R Snowguard system consists of snowguard bracket and base plate
    - 2. Aluminum tubing.
    - 3. Couplings.
    - 4. End Caps (optional).
    - 5. End Collars (optional).
    - 6. Fasteners
      - a. To be of metal compatible with snowguards.
      - b. Fasteners should be selected for compatibility with the roof deck.
      - c. Fastener strength should exceed or be equal to that of the snowguard system.
    - 7. Adhesive: to be membrane roof manufacturer approved.
  - B. DESIGN REQUIREMENTS:
    - 1. Spacing to be recommended by manufacturer or building engineer.
    - 2. A minimum of 7 fasteners per snowguard base plate.
    - 3. It is important to design new structures or assess existing structures to make sure that they can withstand retained snow loads.
- 1.3 SUBMITTAL - Submit manufacturer's specifications, standard detail drawings, recommended layout and installation instructions.
- 1.4 QUALITY ASSURANCE - Installer to be experienced in the installation of specified roofing material and snowguards for not less than 5 years in the area of the project.
- 1.5 DELIVERY / STORAGE / HANDLING - Inspect material upon delivery and order replacements for any missing or defective items. Keep material dry, covered and off the ground until installed.

**PART 2 - PRODUCTS**

- 2.1 MANUFACTURER
- A. Alpine SnowGuards. A division of Vermont Slate & Copper Services Inc., 289 Harrell St, Morrisville, VT (888) 766-4273.
- 2.2 MATERIALS
- A. Snowguard Block and Flag are extruded and milled 6061-T6 Aluminum
  - B. Base Plate is 11 gauge thick 302 Stainless Steel.
  - C. Tubing is 6061-T6, 1" outside diameter and 1/8" wall thickness extruded Aluminum.
  - D. Couplings are 6061-T6 Aluminum 5" long.
  - E. End Caps are 302 stainless steel.
  - F. End Collars are 6061 T-6 aluminum shaft collars.
  - G. Ferrules are 6061-T6, 1" outside diameter and 1/8" wall thickness extruded Aluminum.
  - H. Fasteners are 302 or 304 Stainless Steel.
- 2.3 FINISH - All materials provided mill finish.

**PART 3 - EXECUTION**

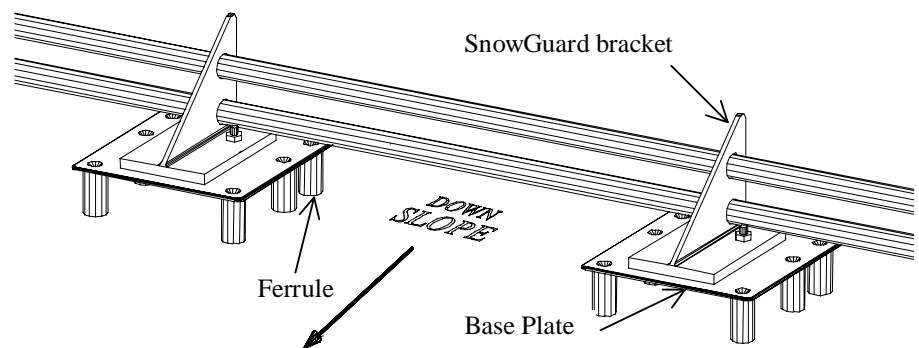
- 3.1 EXAMINATION
- A. Substrate: Inspect roof system to be properly attached and installed to withstand additional loading incurred. Notify General Contractor of any deficiencies before installing Alpine SnowGuards.
- 3.2 INSTALLATION
- A. Comply with architectural drawings for location and with Manufacturer's instructions for installation and layout.

## Assembly Instructions for Membrane Roof Style Snowguards #115R

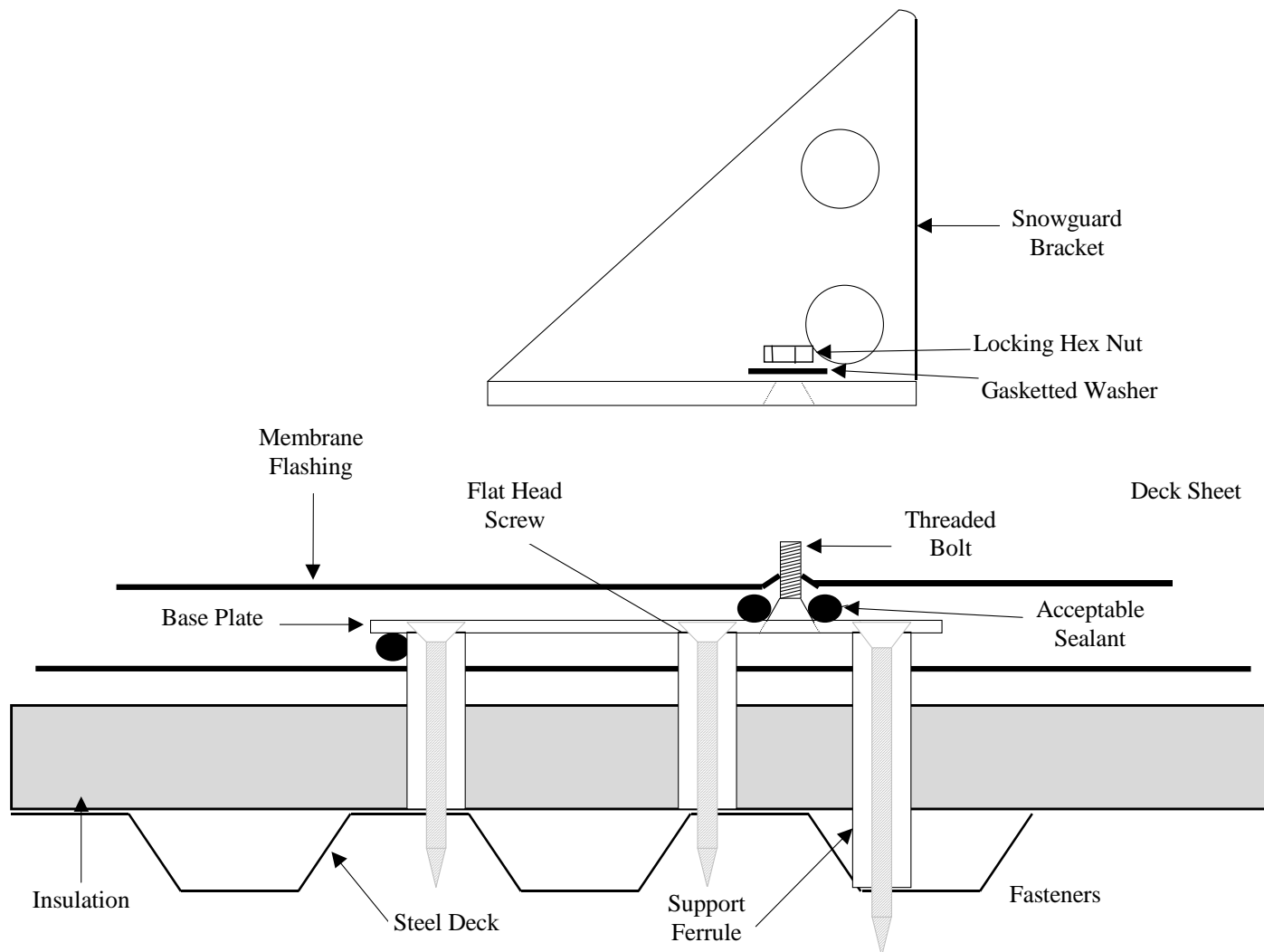
- I. Base Plate (The base plate is the flat piece with the two threaded studs.)
  - A. Place the base plate on the finished membrane and mark the locations of the seven fastener holes. NOTE: The threaded studs on the base plate are not centered. For #115R installation, align the base plate so that the studs are on the up-slope end of the base plate.
  - B. Remove the base plate and at the six marked locations, bore seven one-inch holes through the finished membrane and through the insulation until the substructure is reached.
  - C. Measure the depth of each hole and cut the ferrules to rest on the substructure and be flush with the finished roof surface when inserted into the holes. Drop the ferrules into place. The ferrules will prevent the insulation from compressing when the base plate is tightened into place.
  - D. Place the base plate on top of the finished membrane roof so that the six fastener holes line up with the centers of the six ferrules. The holes in the base plate will lock into the ferrules when the ferrules are positioned properly.
  - E. Fasten base plate to the substructure using the appropriate fasteners for the type of decking and the thickness of the insulation. Make certain that the base plate can not shift.
  - F. Consult with an engineer or fastener company to determine the fastener required to attach the base plate to the substructure. Fasteners must resist a 2000-pound load against the bracket.
- II. Membranous Flashing of Base Plate
  - A. Use an acceptable piece of flashing material 18" square.
  - B. Cut two small holes in membrane flashing to fit tightly over threaded studs.
  - C. Before installing flashing apply a generous amount of acceptable sealer around threaded studs.
  - D. Apply flashing over base plate and seal the perimeter of the patch to the deck sheet
  - E. The threaded studs are now the only part of the base plate exposed. NOTE: Due to the sealer applied around the studs there may be bleed out at this opening. When the base block is installed and tightened this bleed out will help to create a water tight compression fitting.
- III. Installation of snowguard block
  - A. Install base block over the threaded studs. The block will be centered on the base plate when installed properly.
  - B. Place one gasketed washer over each stud.
  - C. Place one locking nut over gasketed washer and tighten.
  - D. Insert tubing through the holes in the uprights.
- IV. Locking Collars, End Caps, and Ice Flags (optional)
  - A. Locking collars (#65) should be placed over each end of each line of tubing. Center the tubing on the snowguards and tighten the setscrew on the collar until it no longer slips.
  - B. End caps (#56) are installed by pressing the cap into the end of the pipe.
  - C. Ice flags (#95), if used, should be placed over the top tube so that the long leg rests against the uphill side of both tubes. Use the carriage bolt and nut to hold the ice flag in position.

## Snowguard Layout for Pipe Style Brackets

- \* Contact the manufacturer for detailed layout.
- \* Horizontal spacing between brackets should be 48" maximum. This may have to be decreased due to variable conditions.
- \* Do not install runs than 100 feet long without a break to allow for thermal expansion.
- \* First row of snowguards is installed above outer most wall or support of the building.
- \* Tubing is 1" O.D. aluminum.
- \* Brackets are made of aluminum.
- \* One, two and three pipe systems are available.



Document version 01.26.2005



## #115R Retro-fit Membranous Roof SnowGuard Installation Detail

Document version 01.26.2005