

ROCKY MOUNTAIN SNOW GUARDS
4231 S NATCHES CT, UNIT C
ENGLEWOOD, CO 80110
PHONE: (877) 414-7606
FAX: (720) 387-8361
www.rockymountainsnowguards.com

BLIZZARD II (S-5! DualGard) SNOW FENCE SYSTEM

AVAILABLE MATERIALS:

- S-5! Aluminum Mini Clamps with Stainless Steel Hardware
- Aluminum Upright
- · Aluminum Tubing, End Collars and End Caps

OPTIONAL COMPONENTS:

- Aluminum Ice Flags
- Aluminum Ice Screen

All Aluminum and Stainless parts are available powder coated or mill finish.

INFORMATION:

- Blizzard II brackets feature S-5! Clamps for all types of standing seam profiles
- Brackets and clamps are pre-assembled for quick onsite attachment.

Excellent choice for:

- New and Existing Standing Seam Roofs

-



EXAMPLES:







ROCKY MOUNTAIN SNOW GUARDS 4231 S NATCHES COURT, UNIT C ENGLEWOOD, CO 80110 PHONE: (877) 414-7606

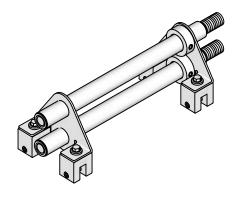
FAX: (720) 387-8361

www.rockymountainsnowguards.com

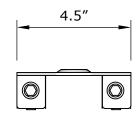
BLIZZARD II SNOW FENCE SYSTEM (ASSEMBLED S-5!® DUALGARD)

SELECT DESIRED S-5!® MINI CLAMP:





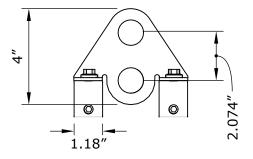
ISOMETRIC VIEW



TOP VIEW



SIDE VIEW



FRONT VIEW

MANUFACTURER NOTES:

- 1. CONTACT MANUFACTURER FOR SPECIFIED LAYOUT PATTERN.
- 2. FOR CUSTOM MATERIALS CONTACT MANUFACTURER.
- 3. OTHER SIZES ARE AVAILABLE ON A CUSTOM BASIS.

NOTES:

- 1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- 2. DO NOT SCALE DRAWING.

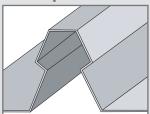


The S-5-K Grip™ eliminates the large moment arm and features a low mounting surface area with the mounting bolt directly over the center of the seam, which dramatically increases the strength of the clamp.

The S-5-K Grip and S-5-K Grip Mini clamps are each furnished with the hardware shown to the right. A structural aluminum attachment clamp, the S-5-K Grip is compatible with most common metal roofing materials excluding copper. All included hardware is stainless steel. Please visit www.S-5.com for more information including CAD details, metallurgical compatibilities, and specifications.

The S-5-K Grip clamp has been tested for load-tofailure results on a variety of standing seam roof profiles from leading panel manufacturers. The independent lab test reports found on our website at www.S-5.com prove that S-5!® holding strength is unmatched in the industry.

Example Profile



Profiles

S-5-GX 10 or S-5-GX 10 Mini

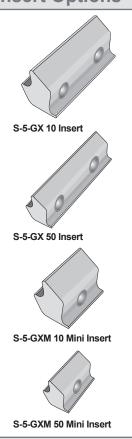
- LYSAGHT KLIP-LOK® 406
- McElroy Metal Mirage
- AEP Span Klip-Rib®
- Metal Sales Clip-Loc
- SpeedDeck® SpeedDeck®
- · Safintra Saflok 410
- Safintra Saflok 700
- And other similar profiles

S-5-GX 50 or S-5-GX 50 Mini

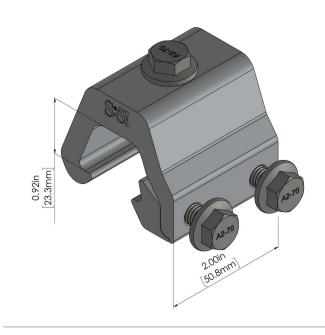
- LYSAGHT KLIP-LOK Classic® 700
- LYSAGHT KLIP-LOK 700 Hi-Strenath® • Stramit Speed Deck Ultra®
- Fielders KingKlip® 700
- · And other similar profiles

If you have a profile not listed here, please contact S-5! to request a sample for test

Insert Options



S-5-K Grip



S-5-K Grip Mini (With S-5-GX 10 Mini Insert)



Please note: All measurements are rounded to the second decimal place.

S-5!® Warning! Please use this product responsibly!

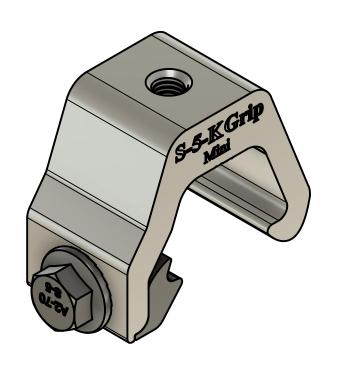
Products are protected by multiple U.S. and foreign patents. For published data regarding holding strength, fastener torque, patents, and trademarks, visit the S-5! website at www.S-5.com

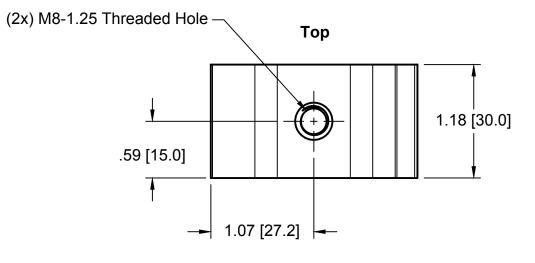
Copyright 2021, Metal Roof Innovations, Ltd.

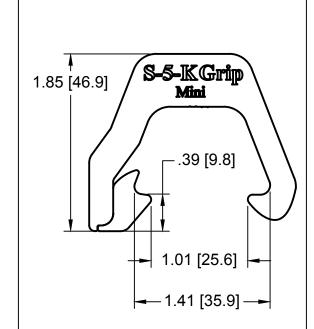
S-5! aggressively protects its patents, trademarks and copyrights. Version 081321...

Distributed by

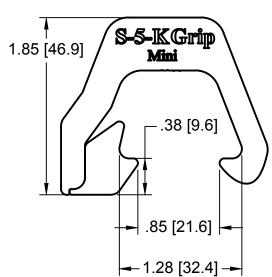
S-5-K Grip Mini





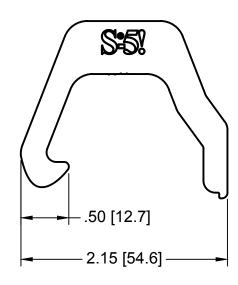


S-5-K Grip Mini with GX 50 insert

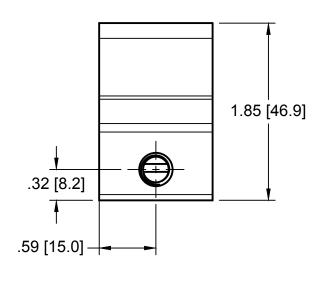


S-5-K Grip Mini with GX 10 insert





Right

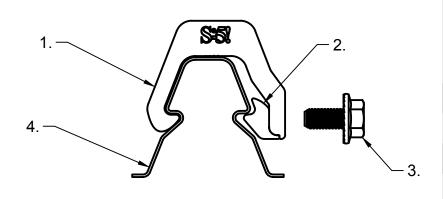


MATERIAL:

HARDWARE:

General Notes:

- S-5-K Grip Mini
- S-5-K Grip Mini Insert
- M8-1.25x16 mm Stainless Steel Hex Flange Bolt
- Example roof





METAL ROOF INNOVATIONS, LTD. 8750 WALKER RD COLORADO SPRINGS, CO 80908 719-495-0518 719-495-0045 (FAX)

S-5-K Grip Mini [CCD]

DRAWN BY SNLR DRAWING NO. KG47-A-9-C TE 2/28/2022

KG47-A-9-C (S-5-K Grip Mini) [CCD]

S-5!® PRODUCTS ARE PROTECTED BY MULTIPLE U.S. AND FOREIGN PATENTS. VISIT OUR WEBSITE AT WWW.S-5.COM FOR COMPLETE INFORMATION ON PATENTS AND TRADEMARKS

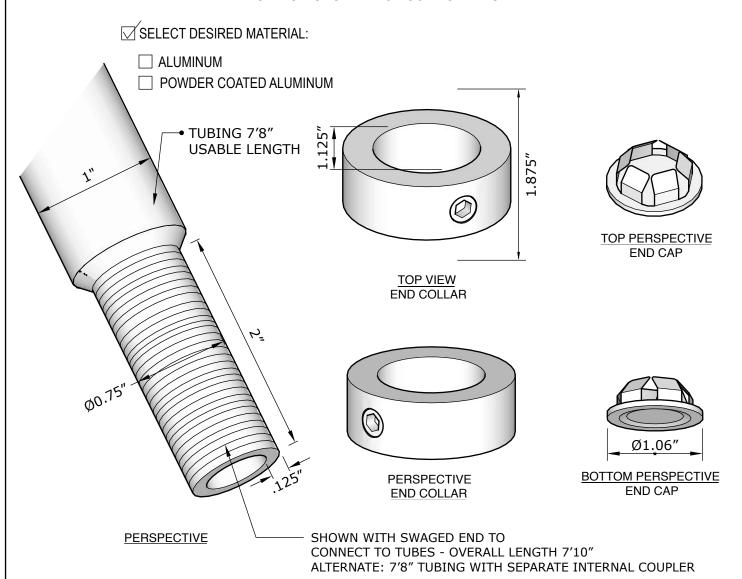


ROCKY MOUNTAIN SNOW GUARDS 4231 S NATCHES COURT, UNIT C ENGLEWOOD, CO 80110 PHONE: (877) 414-7606

FAX: (720) 387-8361

www.rockymountainsnowguards.com

ALUMINUM SNOW FENCE COMPONENTS



MANUFACTURER NOTES:

- 1. CONTACT MANUFACTURER FOR SPECIFIED LAYOUT PATTERN.
- 2. FOR CUSTOM MATERIALS CONTACT MANUFACTURER.
- 3. OTHER SIZES ARE AVAILABLE ON A CUSTOM BASIS.

NOTES:

- 1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- 2. DO NOT SCALE DRAWING.



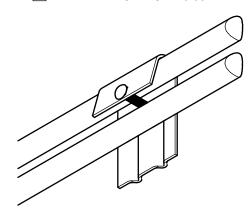
ROCKY MOUNTAIN SNOW GUARDS 4231 S NATCHES COURT, UNIT C ENGLEWOOD, CO 80110 PHONE: (877) 414-7606

FAX: (720) 387-8361 www.rockymountainsnowguards.com

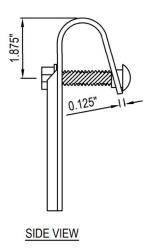
ICE FLAG - SNOW FENCE SYSTEM ACCESSORY

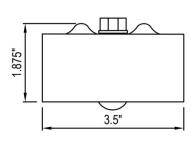
SELECT DESIRED MATERIAL:

- ☐ COPPER 16 OZ
- PAINTED ALUMINUM 0.032"

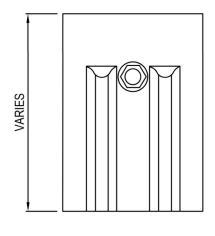


ISOMETRIC VIEW





TOP VIEW



FRONT VIEW

MANUFACTURER NOTES:

- 1. CONTACT MANUFACTURER FOR SPECIFIED LAYOUT PATTERN.
- 2. FOR CUSTOM MATERIALS CONTACT MANUFACTURER.
- 3. OTHER SIZES ARE AVAILABLE ON A CUSTOM BASIS. NOTES:
- 1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- 2. DO NOT SCALE DRAWING.



ROCKY MOUNTAIN SNOW GUARDS 4231 S. NATCHES COURT, UNIT C ENGLEWOOD, CO 80110 PHONE: (877) 414-7606

FAX: (720) 387-8361 www.rockymountainsnowguards.com

Blizzard II, Blizzard Heavy Duty II and III Clamp-to-Seam Snow Fence Installation Instructions

Each Blizzard II is comprised of (2) S-5! Mini Clamps pre-attached to a 2-pipe aluminum upright. Blizzard Heavy Duty II and III are comprised of 2 S-5! Standard Clamps attached to aluminum upright.

- 1. Screw stainless steel setscrew(s) into each clamp.
 - ~2 Set Screws on each Blizzard II Bracket
 - ~4 Set Screws on each Blizzard Heavy Duty II and II Bracket



2. Using a laser level or chalk line, mark locations for brackets 12" from eave edge.

1st course only, more snow fence rows may be necessary. Consult Rocky Mountain Snow Guards Snow Retention Plan for location of additional rows.



3. Tighten each set screw. Torque wrenches are a must to achieve the torque.

Torque wrenches are a must to achieve the torque recommended for your specific panel. Recommended torque can be found at www.s-5.com.





Blizzard II, Blizzard Heavy Duty II and III Clamp-to-Seam Snow Fence Installation Instructions Con't)

4. Insert 1" O/D Aluminum Tubing through brackets.



5. Slide Swaged Tube end into unfinished end of adjacent tubes to complete run.





6. Slide End Collars onto tubing and tighten, being careful to locate the collars on the INSIDE of the last bracket in a run.

Collars must be installed to the inside of the last bracket to hold tubing together at joints.



7. Insert End Caps and attach Ice Flags (if needed).





The Right Way™ to attach almost anything to metal roofs!

Installation Instructions

S-5!® Warning! Please use these products responsibly! Visit our website or contact your S-5! distributor for available load test results. The user and/or installer of these parts is responsible for all necessary engineering and design to ensure the S-5-K Grip™ and S-5-D Grip™ have been properly spaced and configured.

Notice to S-5! product users: Due to the many variables involved with specific panel products, climates, snowmelt phenomena, and job particulars, the manufacturer cannot and does not express any opinions as to the suitability of any S-5! assembly for any specific application and assumes no liability with respect thereto. S-5! products are tested for ultimate holding strength on various profile types and materials. This information is available from the S-5! website: **www.S-5.com.** This document is an installation guide only and the photographs and drawings herein are for the purpose of illustrating installation tools and techniques, not system designs.

The S-5-K Grip™ clamp is designed to fit Klip Rib® and other bulb snap-together seams.

The S-5-D Grip™ clamp is designed to fit Dimondek 630° and other bulb snap-together seams.

The S-5-K Grip and S-5-D Grip utilize multiple inserts (sold separately) in order to accommodate a variety of bulb snap-together profiles. Each insert has a unique shape that allows for a tight fit and provides increased holding strength over other attachment options.

The appropriate seam profiles for each insert option are listed on the back of these installation instructions.

The head of the clamp's M8-1.25 X 13.00 mm Hex Flange Bolts control the amount of compression, which reduces the possibility of over-compressing the seam, and makes installation a snap!

Tools Needed

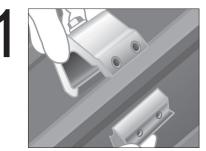
• Ratchet or Screw Gun with 13.00 mm Hex

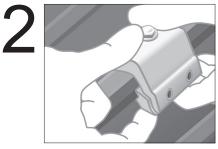
To Install S-5-K Grip or S-5-D Grip

- **1.** Position clamp insert at desired location along the rib, just under the fold of the rib.
- 2. Roll the clamp into position over the seam and clamp insert piece. Position the clamp so that it is centered over the clamp insert with approximately 2.00 mm of insert overhang on each side of the clamp.
- **3.** Partially thread the two flanged bolts into the base of the clamp by hand, or the single flanged bolt into the base of the mini sized clamp. The bolts should engage the divots in each end of the standard sized clamp insert and in the center of the mini sized clamp insert.
- **4.** Tighten the bolts at the base of the clamp using a ratchet or screw gun with a 13.00 mm hex. For optimal holding strength, bolts should be tensioned to 200 inch pounds.

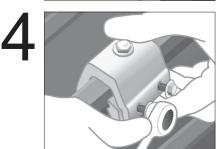
Note: Standard sized clamps include top M8-1.25x16mm bolt. Mini sized clamps do not include top bolt (sold seperately).

NOTE: Any S-5! warranty and/or calculation may be void if hardware is used that was not furnished by S-5! directly or through one of their licensed distributors









Seam Profiles

S-5-K Grip is designed to fit Klip-Rib® and other bulb snap-together seams.

Seam profiles for the S-5-GX 10 insert with the standard clamp (or S-5-GXM 10 mini insert with the mini clamp):

- LYSAGHT KLIP-LOK® 406
- McElroy Metal Mirage
- AEP Span Klip-Rib®
- Metal Sales Clip-Loc
- SpeedDeck® SpeedDeck®
- Safintra Saflok 410
- Safintra Saflok 700
- Domico GBS Domitec® Dach
- · And other similar profiles

Seam profiles for the S-5-GX 50 insert with the standard clamp (or S-5-GXM 50 mini insert with the mini clamp):

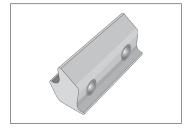
- LYSAGHT KLIP-LOK Classic® 700
- LYSAGHT KLIP-LOK 700 Hi-Strength®
- Stramit Speed Deck Ultra®
- Fielders KingKlip® 700
- And other similar profiles



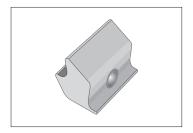
Seam profiles for the S-5-GX 50 insert with the standard clamp (or S-5-GXM 50 mini insert with the mini clamp):

• Dimond Roofing Dimondek 630®

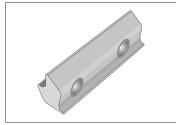
If you have a profile not listed here, please contact S-5!® to request a sample for testing.



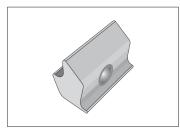
S-5-GX 10 Insert



S-5-GXM 10 Mini Insert



S-5-GX 50 Insert



S-5-GXM 50 Mini Insert

SECTION 07 72 53

Blizzard II Clamp to Seam Snow Guards

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Snow guards 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 55 Roof Accessory Attachment System
- F. Section 13 34 19 Metal Building Systems

1.3 REFERENCES

- A. Aluminum Association (AA) (www.aluminum.org) Aluminum Standards and Data, 2003 Edition.
- B. ASTM International (ASTM) (<u>www.astm.org</u>):
 - 1. A484/A484M-16 Standard Specifications for General Requirements for Stainless Steel Bars, Billets, and Forgings
 - 2. A554-16 Standard Specification for Welded Stainless Steel Mechanical Tubing
 - 3. A555/A555M-16 Standard Specification for General Requirements for Stainless Steel Wire and Wire Rods
 - 4. B85-03 Standard Specification for Aluminum-Alloy Die Castings
 - 5. B221-04a Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
 - 6. F836M-02 (2015) Standard Specification for Style 1 Stainless Steel Metric Nuts (Metric).
 - 7. F880-12 Standard Specification for Stainless Steel Socket, Square Head, and Slotted Headless-Set Screws

1.4 SUBMITTALS

A. Action Submittal:

1. Shop Drawings: Include roof plans showing locations of snow guards on roof and attachment details and spacing, signed and sealed by a professional engineer.

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 (305 mm) long cross member samples including all associated hardware.

B. Informational Submittals:

- 1. Include calculation of number and location of snow guards based on designed roof snow load, roof slope, roof type, components, spacings and finish.
- 2. Test results: Results of product tensile load testing, issued by a recognized independent testing laboratory, showing ultimate load-to-failure value of attachment.

C. 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. Manufacturer Qualifications: Manufacturer to specialize in production of Snow Guard 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 Snow Guard Products with a minimum of 5 years documented experience.

C. Mockup:

- 1. Size: Minimum 7'8" long.
- 2. Show: Snow guard attachment, cross members, and accessories.
- 3. Locate [where directed.]
- 4. Approved mockup may remain as part of the Work.

1.6 DELIVERY, STORGE 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 snow guards to withstand exposure to the weather and environmental elements, and resist design forces without failure due to defective manufacture.
 - 1. Loading: Design snow guard system to resist minimum in-service vector load of [__] pounds per linear foot of eave.
 - 2. Factor of safety: Utilize a factor of safety ≥ [2] [____] to determine allowable loads from ultimate tested clamp tensile load values.
 - 3. Source Limitation: Provide snow guard system as designed and tested by the manufacturer as a complete system. Install components by the same manufacturer.

2.2 MANUFACTURER

Rocky Mountain Snow Guards, Inc., 4231 S. Natches Court, Unit C, Englewood, CO 80110

Phone: 720-379-7756 / Fax: 720-387-8361 Email: <u>info@rockymountainsnowguards.com</u> Web: <u>www.rockymountainsnowguards.com</u>

2.3 FENCE-TYPE SNOW RETENTION SYSTEMS FOR STANDING SEAM METAL ROOFS

A. Basis of Design: Blizzard II, manufactured by Rocky Mountain Snow Guards, Inc.

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.
 - Model: No. [S-5-U Mini.] [S-5-S Mini.] [S-5-T Mini.] [S-5-Z Mini.] [S-5-E Mini.] [S-5-B Mini.] [S-5-Q Mini.] [S-5-H Mini.] [S-5-H90 Mini.] [S-5-N Mini.] [S-5-N 1.5 Mini.] [S-5-KHD.] [S-5-V Mini.] [S-5-K Grip Mini.] [S-5-R465 Mini.]
 - b. Set screws: 300 Series stainless steel, 18-8 alloy, 3/8 inch (9.525 mm) diameter, with round nose point.
 - c. Attachment bolts: 300 Series stainless steel, 18-8 alloy, 8 mm diameter, hex flange bolt.

2. Brackets:

- a. Manufactured from 5000 Series alloy and temper aluminum conforming to ASTM B221 and AA Aluminum Standards and Data.
- 3. Aluminum Tubing (Cross Members):
 - a. Manufactured 6005a-T61 Series alloy and temper aluminum extrusions conforming to ASTM B221 and AA Aluminum Standards and Data.
 - 1) 1" O/D Tubing with .125" thickness walls.
- 5. End Collar:
 - a. Manufactured from 6005a-T61 Series alloy and temper aluminum extrusions conforming to ASTM b221 and AA Aluminum Standards and data, with ½-20 x 3/8 inch (9.525 mm) stainless steel set screw.
 - 1) End Collar
- 6. Ice Flags:
 - a. Aluminum.
 - 1) 3.5" wide.
- 7. End Caps:
 - a. Stainless Steel.

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 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. Blizzard II Snow Retention System:
 - 1. Pre-load 1 set screws into each clamp.
 - 2. Align clamp placement using a string line or laser guide light. 1st row is usually placed 12" from eave edge. Additional rows may be necessary. Placement of those rows must follow Rocky Mountain Snow Guards Snow Retention Plan for each project.
 - 3. Clamps may be a maximum of 48" apart.
 - 4. Reference installation instructions for the specific clamp used to assure they are oriented correctly. Torque ratings and specific clamp installation instructions are available at www.s-5.com.
 - 5. Tighten clamp set screws to manufacturers recommended torque. Test set screw torque using calibrated torque wrench.
 - 6. Insert Tubing through brackets. Insert swaged tubing end into non-finished end of the adjacent tube.
 - 7. Slide End Collars over tubes making sure that the Collars are on the INSIDE of the last Blizzard II bracket on each run. This is necessary to hold the swaged tubing ends together within a run.
 - 8. Cut extended end of tube at end of run. Do not cantilever tubes more than 4 inches (101.6 mm) beyond last bracket at ends.
 - 9. Apply end cap to each tube.
 - 10. Install one Ice Flag per panel for panels less than 18" wide. Install 2 Ice Flags for panels wider than 18".
 - a. Secure each Ice Flag by tightening the upslope nut until the Ice Flag will not slide side to side on the tube.



ROCKY MOUNTAIN SNOW GUARDS 4231 S. NATCHES COURT, UNIT C ENGLEWOOD, CO 80110 PHONE: (877) 414-7606 FAX: (720) 387-8361

www.rockymountainsnowguards.com

Rocky Mountain Snow Guards Snow Retention System Maintenance Guide

Systems designed by Rocky Mountain Snow Guards, installed properly should last the life of the roof. Rocky Mountain does not recommend adhesive tape or sealant attachment for any snow fence or snow guard system. Rocky Mountain snow retention systems installed on commercial buildings, above high traffic areas or in areas with high snow loads should be inspected by a qualified roofing or snow retention professional on an annual basis to ensure the system will continue to perform as designed.

Bolt Down Snow Fence Systems:

- 1. Inspect brackets, snow fence components and fasteners for evidence of damage.
- 2. Replace damaged parts prior to the next snow season.

Clamp to Seam Snow Fence and Snow Bar Systems:

- 1. Inspect brackets, snow fence and snow bar components for evidence of damage.
- 2. Replace damaged parts prior to the next snow season.
- 3. Check torque on set screws with an appropriate torque wrench.
- 4. Torque set screws to recommended torque. This is especially important after the 1st snow season.

Snow Guards:

- 1. Inspect snow guards for evidence of damage.
- 2. Inspect exposed fasteners.
- 3. Replace damaged parts prior to the next snow season.