



Rocky Mountain Snow Guards Inc

ROCKY MOUNTAIN SNOW GUARDS
4231 S NATCHES CT., UNIT C
ENGLEWOOD, CO 80110
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www.rockymountainsnowguards.com

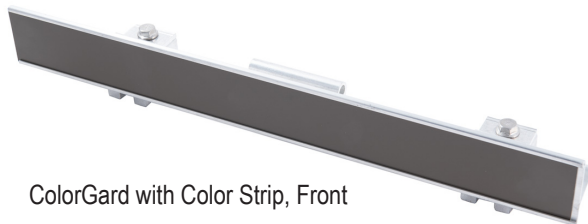
S-5® ColorGard SNOW BAR SYSTEM

AVAILABLE MATERIALS:

- ALUMINUM
- BRASS (S-5® B-CLAMP ONLY)

INFORMATION:

- 7'8" Punched or Unpunched bar
Clamps to fit all seam profiles
Specific load ratings for all panels
Excellent Choice for:
 - Standing seam metal panel roofs
 - Through-fastened metal panels (Versabacket)
 - Corrugated metal panels (Corruracket)



ColorGard with Color Strip, Front



Unpunched ColorGard Bar with S Clamps, Veracips
and SnoClip II, Rear



Punched ColorGard Bar with S Clamps, Rear

EXAMPLES:



S-5![®]

The Right Way![®]

S-5-E Clamp

The S-5-E clamp is designed specially for double-folded standing seam roof profiles having the appropriate dimensioning.

Although a bit smaller and less expensive than the S-5-U, for these profiles, the S-5-E is just as strong.

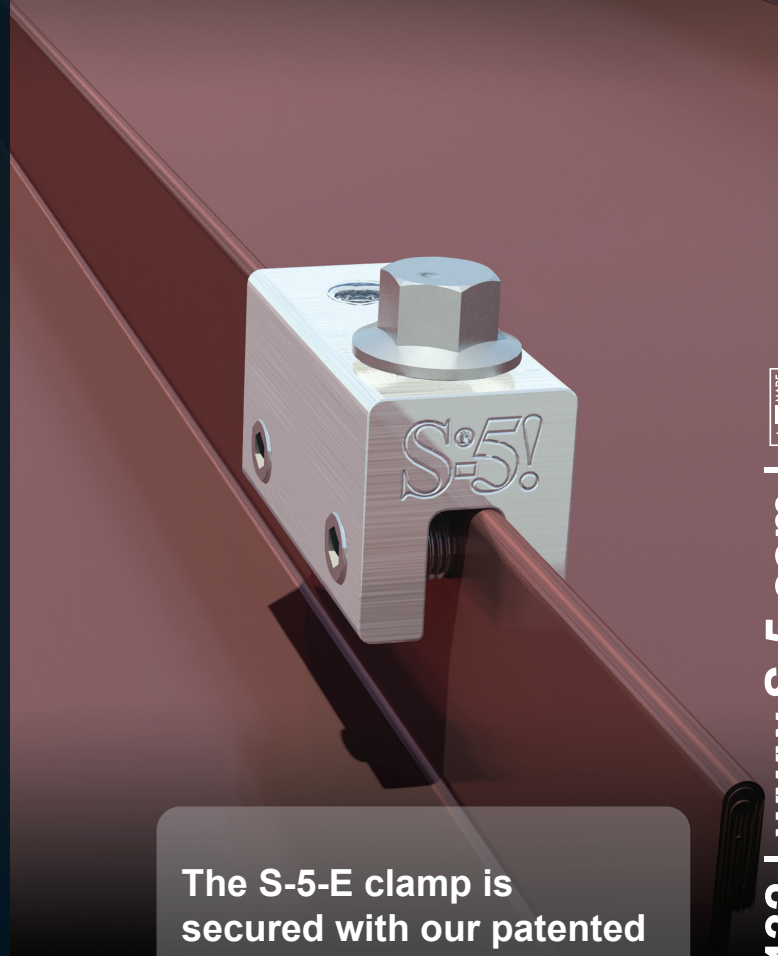
The S-5-E is perfect for use with S-5![®] ColorGard[®] snow retention systems and other heavy-duty applications.

Installation is as simple as placing the clamp on the seam and tightening the patented round-point setscrews to the specified tension. Then, affix ancillary items using the bolt provided. Go to www.S-5.com/tools for information and tools available for properly attaching and tensioning S-5! clamps.

S-5-E Mini Clamp

The S-5-E Mini is a bit shorter than the S-5-E and has one setscrew rather than two. The mini is the choice for attaching all kinds of rooftop accessories: signs, walkways, satellite dishes, antennas, rooftop lighting, lightning protection systems, solar arrays, exhaust stack bracing, conduit, condensate lines, mechanical equipment—just about anything!*

*S-5! mini clamps are not compatible with, and should not be used with S-5! SnoRail™/SnoFence™ or ColorGard[®] snow retention systems.



The S-5-E clamp is secured with our patented round-point setscrews without piercing the metal roof panel, thereby preserving the roof manufacturer's warranty!

The right way to attach almost anything to metal roofs!

S-5-E and S-5-E Mini



888-825-3432 | www.S-5.com |

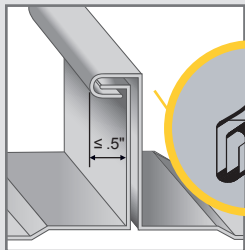


The strength of the S-5-E clamp is in its simple design. The patented setscrews will slightly dimple the metal seam material but will not puncture it—leaving roof warranties intact.

The **S-5-E and S-5-E Mini clamps** are each furnished with the hardware shown to the right. Each box also includes a bit tip for tightening setscrews using an electric screw gun. A structural aluminum attachment clamp, the S-5-E 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.

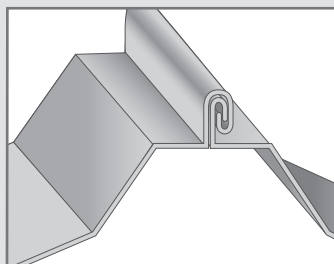
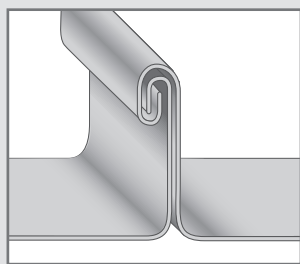
The S-5-E and S-5-E Mini clamps have been tested for load-to-failure results on a variety of double-folded standing seam roofs, from leading manufacturers of panels and panel-forming machines. The independent lab test reports found on our website at www.S-5.com prove that S-5!® holding strength is unmatched in the industry.

Example Profiles



For horizontal seams under .5", crimp the seam to 180 degrees at desired clamp location.

This illustration demonstrates crimping technique, NOT actual location of clamp.

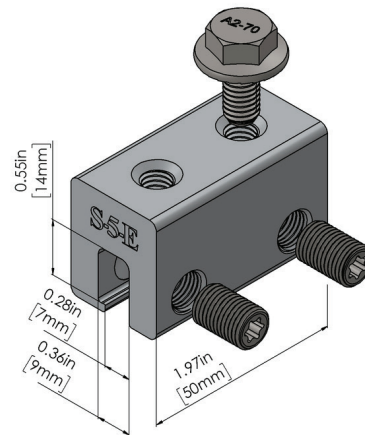


S-5-E Clamp

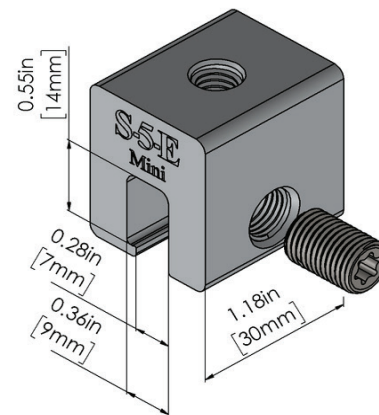
M8-1.25 X 16 mm
Hex Flange Bolt

(2x) M8-1.25
Threaded Hole

Two 3/8-24 X 0.80"
Round-Point
Setscrews



S-5-E Mini Clamp



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

Products are protected by multiple U.S. and foreign patents. Visit the website at www.S-5.com for complete information on patents and trademarks. For maximum holding strength, setscrews should be tensioned and re-tensioned as the seam material compresses. Clamp setscrew tension should be verified using a calibrated torque wrench between 160 and 180 inch pounds when used on 22ga steel, and between 130 and 150 inch pounds for all other metals and thinner gauges of steel. Consult the S-5! website at www.S-5.com for published data regarding holding strength.

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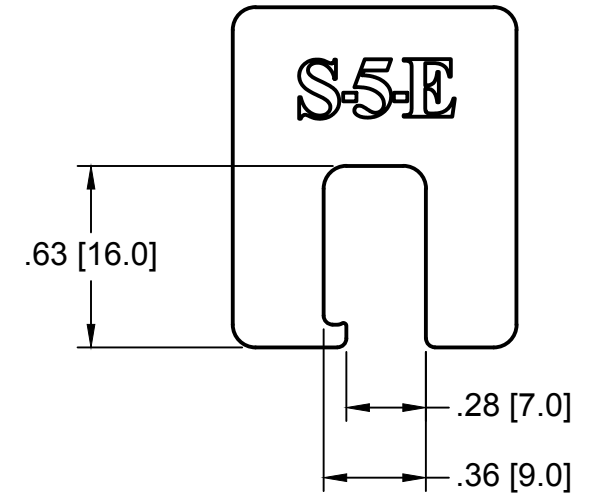
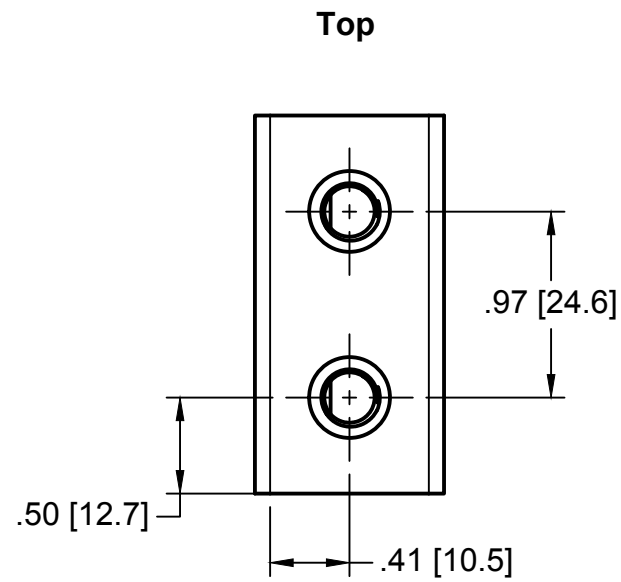
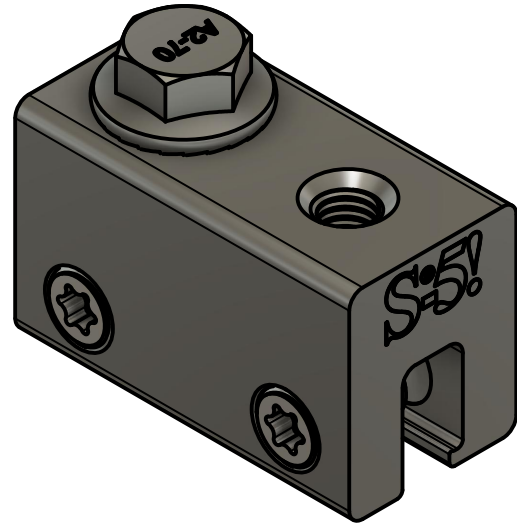
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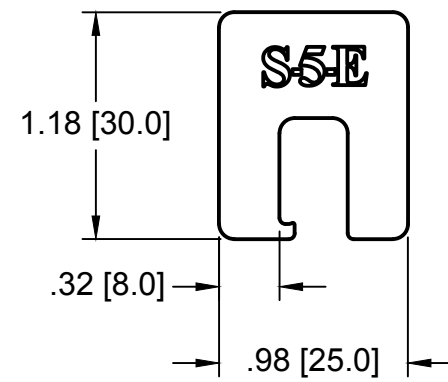
**Rocky Mountain
Snow Guards Inc**

4231 S. Natches Court, Unit C, Englewood, CO 80110
(877) 414-7606 / www.rockymountainsnowguards.com

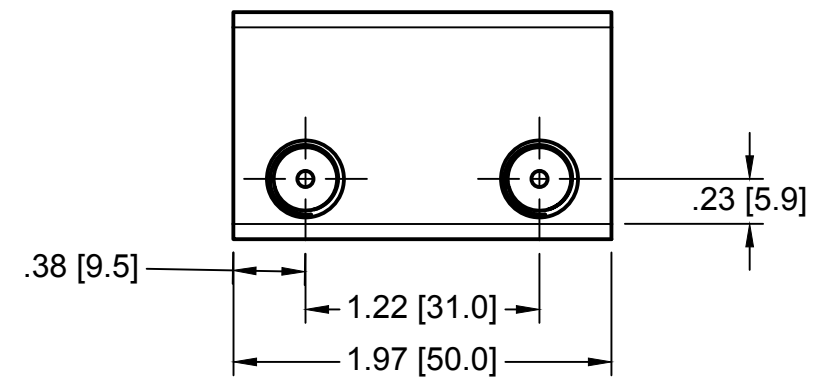
S-5-E



Front

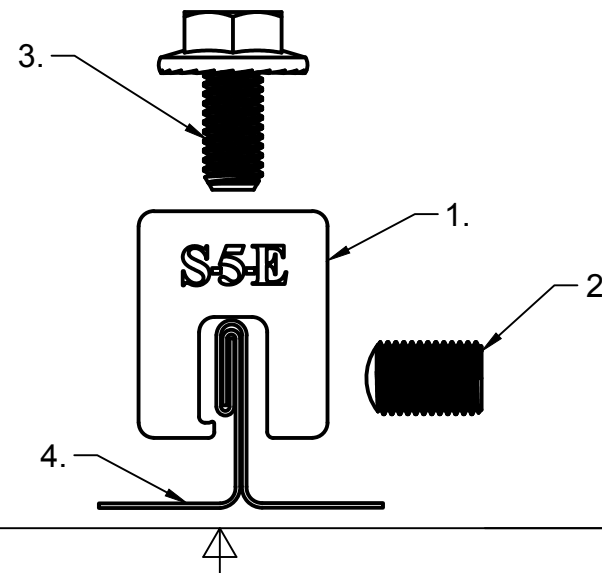


Right



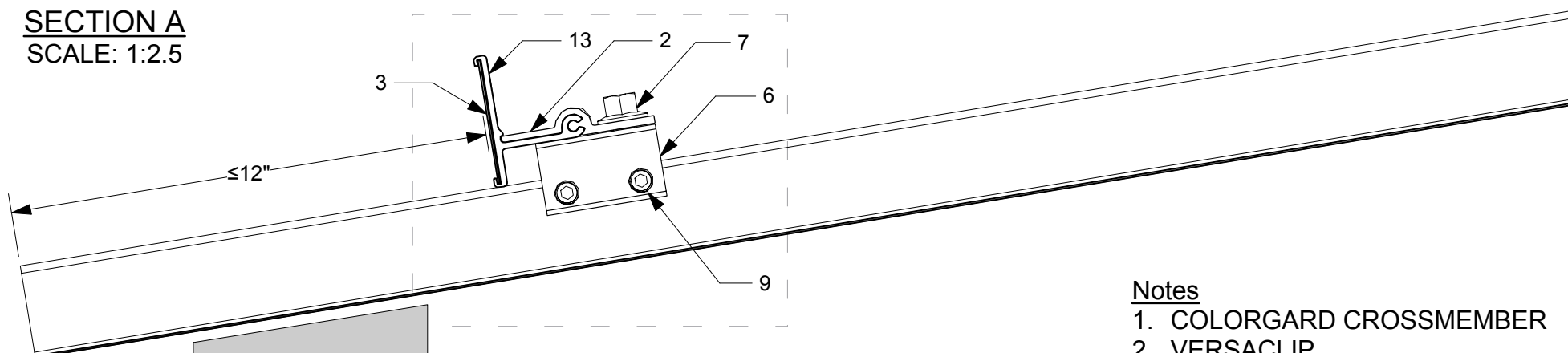
General Notes:

1. S-5-E
2. 0.5" 3/8-24 T30 Drive SetScrew
3. M8-1.25 16 mm Bolt
4. Example roof

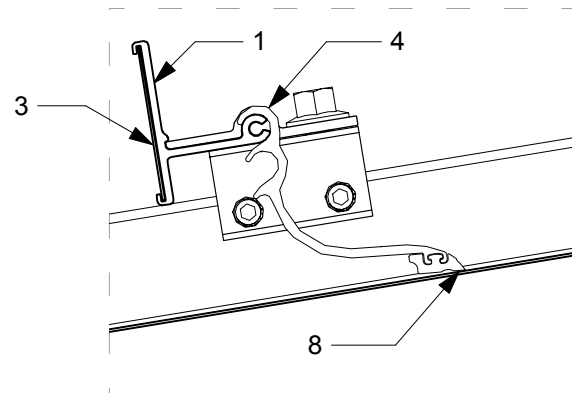


MATERIAL: 6000 Series AL		METAL ROOF INNOVATIONS, LTD. 8750 WALKER RD COLORADO SPRINGS, CO 80908 719-495-0518 719-495-0045 (FAX)	
EST ASSEMBLY WT: 0.207 lbs		TITLE S-5-E [CCD]	
HARDWARE: 1/2" 3/8-24 T30 Drive SetScrew, M8-1.25 16 mm Bolt	DRAWING NO. E03-B-18-D	DRAWN BY SNLR	DATE 3/7/2022
	SCALE 1:1	FILE NAME E03-B-18-D (S-5-E) [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			

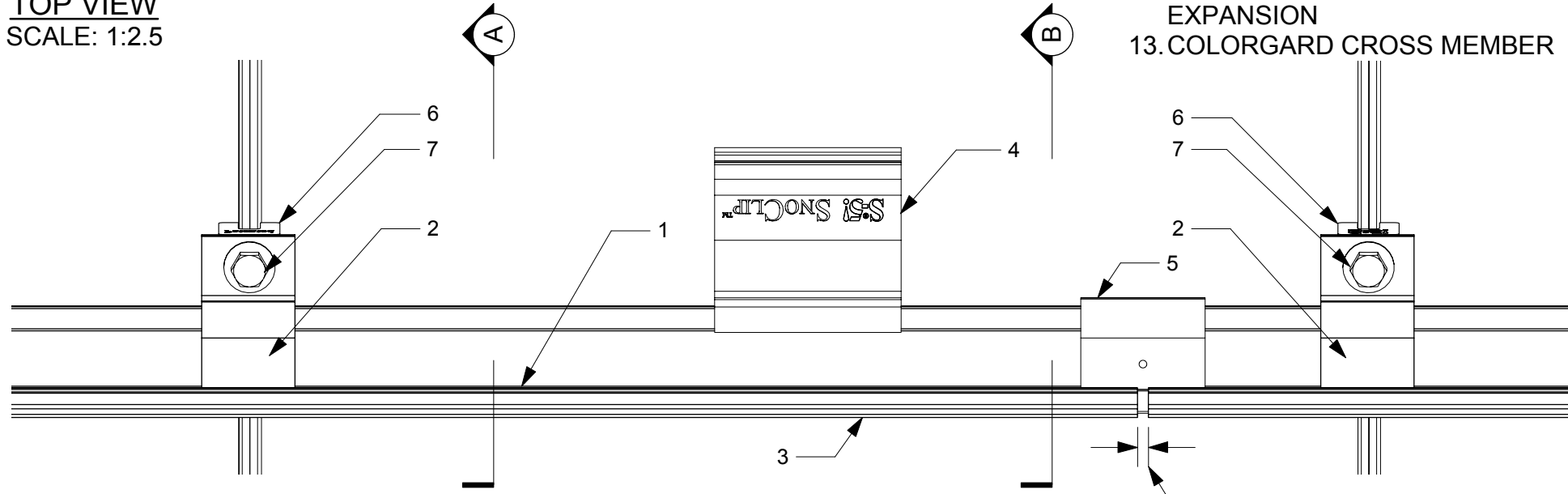
SECTION A
SCALE: 1:2.5



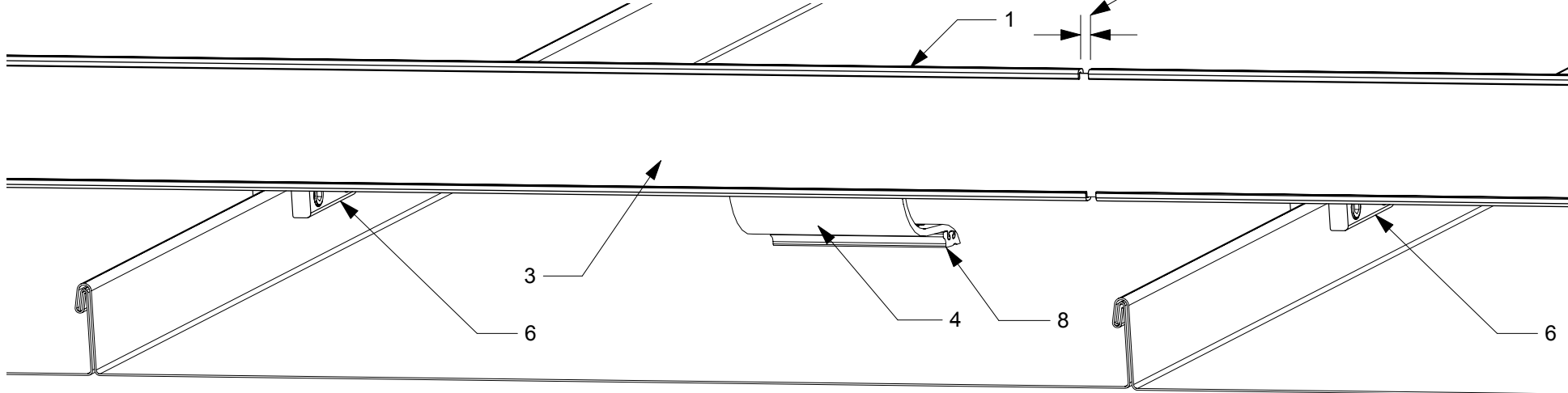
SECTION B
SCALE: 1:2.5



TOP VIEW
SCALE: 1:2.5



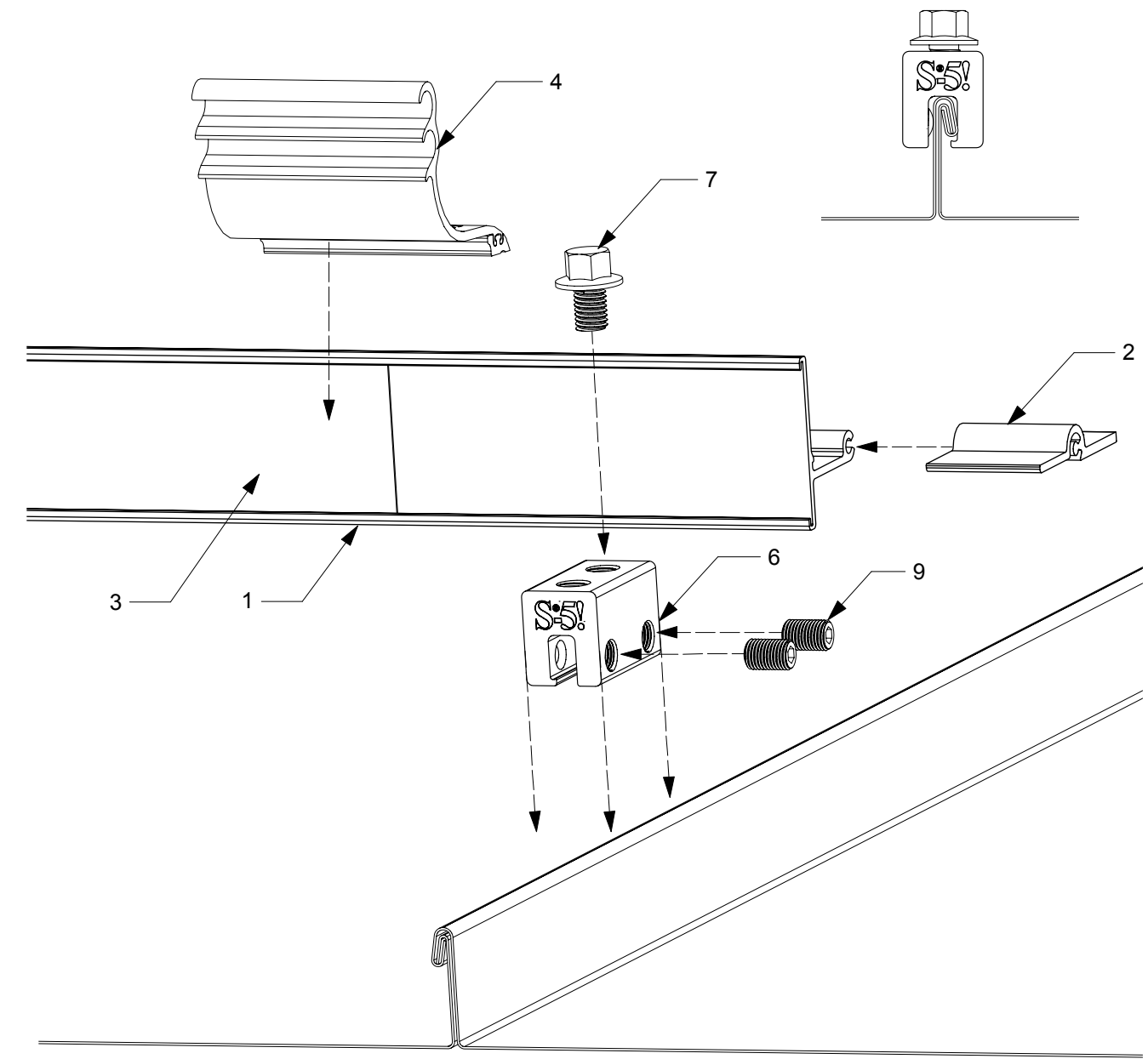
ASSEMBLY
SCALE: 1:2.5




Notes

1. COLORGARD CROSSMEMBER
2. VERSACLIP
3. 2" PREFINISHED COLORSTRIP TO MATCH ROOF (BY OTHERS)
4. SNOCLIP BETWEEN ROOF SEAMS (VERIFY SNOCLIP MODEL WITH ROOF SEAM HEIGHT)
5. COLORGARD SPLICE
6. S-5-E CLAMP
7. M10-1.5 x 0.63" HEX FLANGE BOLT
8. RUBBER FOOT (TOE)
9. 3/8-24 x 0.5" ROUND POINT SETSCREW
10. EAVE STRUCTURE
11. SIDING MATERIAL
12. SPACE FOR THERMAL EXPANSION
13. COLORGARD CROSS MEMBER

COMPONENTS
SCALE: 1:2



 S-5! The Right Way!	DRAWING TITLE: S-5-E ColorGard Assembly	
	DRAWING NUMBER: S-5-ECG 100	ISSUE DATE: September 18, 2013
CLAMP: S-5-E	CLAMP WEBPAGE: http://www.s-5.com/clamps/index_888.cfm#7	METAL ROOF INNOVATIONS, LTD. 8655 TABLE BUTTE RD COLORADO SPRINGS, CO 80908 719-495-0518 888-825-3432 www.S-5.com
CROSS MEMBER: Unpunched ColorGard	CROSS MEMBER WEBPAGE: http://www.s-5.com/snow/index_1146.cfm	
CALCULATOR: Calculator	CALCULATOR WEBPAGE: http://www.s-5.com/calculator/index.cfm	

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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! clamps have been properly spaced and configured. **Notice to S-5! users:** Due to the many variables involved with specific panel products, climates, snow melt 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. Visit www.S-5.com for more details. 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. Information contained within is intended to apply to the document as a whole.

The S-5-U, S-5-S, S-5-E, S-5-B, and S-5-V clamps are made for standing seam profiles. For horizontal seam applications, the setscrew(s) must be accessible from the top for tightening. S-5-U clamps have two bolt holes to accommodate either vertical or horizontal seam applications; visit www.S-5.com for more details.

Tools Needed

- Screw Gun*
- T30 Torx Bit Tip (provided)
- Dial-Calibrated Torque Wrench
(For accurate tension values, do NOT use a clicking torque wrench; inquire with S-5! for proper tool sourcing)

To Install the S-5-U, S-5-S, S-5-E, S-5-B, and S-5-V

1. Partially thread the setscrews into the clamp by hand. (The S-5-U has four setscrew locations to make the clamp more versatile; however, only two setscrews are used per clamp. Both setscrews should always be loaded into the same side of the clamp.)
2. Determine how to position the clamp. When attaching to machine-folded seams (regardless of panel profile and geometry), S-5! clamps are designed to engage the seam as shown in Illustration A; with setscrew opposite seam fold. On many snap-together type seams, the setscrews are on the open (or overlap) side of the seam. On some seams, this aspect of clamp orientation is not critical.
3. Tighten the setscrews using a screw gun* and the included screw gun bit tip. Setscrews should be tensioned and re-tensioned as the seam material compresses, i.e. tighten the first setscrew, then the second; then repeat until each setscrew achieves the recommended torque. The setscrews will dimple the seam material but will not penetrate it. When relying on published load values, setscrew tension should be verified periodically using a calibrated torque wrench as indicated below to ensure the tool is consistently achieving the proper torque range. **Note:** See "Step 3 Note" at bottom of document on fitting S-5-U and S-5-V on certain vertical double-folds.

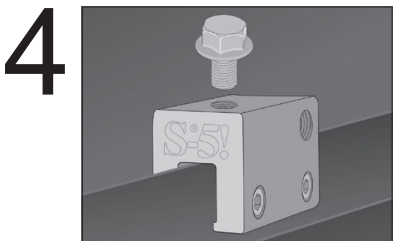
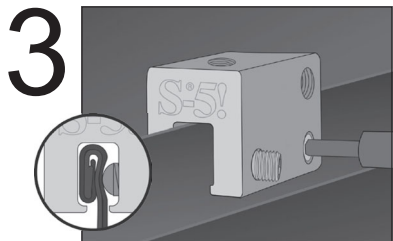
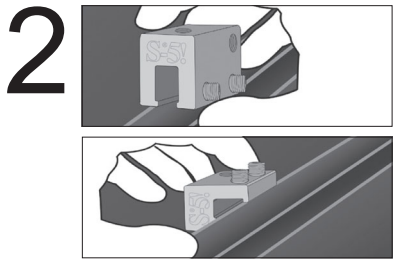
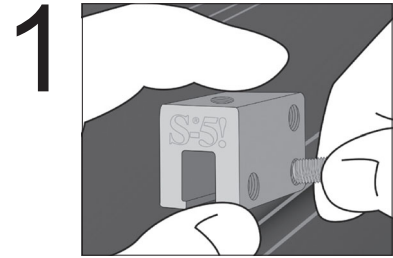
* For time-saving tool recommendations, call S-5!

Specified Torque	Inch Pounds	Foot Pounds	Nm
22ga steel	160–180	13–15	18–20
All other metals and thinner gauges of steel	130–150	11–12.5	15–17

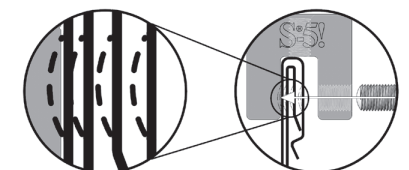
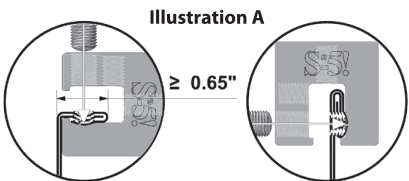
Once installed correctly, these clamps require no maintenance or re-inspection for the life of the roof.

4. For critical attachment applications utilizing an M8-1.25 X 16 mm Hex Flange Bolt, tighten the included M8 bolt to 160 inch pounds (13 foot pounds).

These instructions are for use by those experienced in the trade. Always follow appropriate safety precautions and use appropriate tools.



Above illustrations show S-5-U clamp on a vertical seam. Step 2 shows both vertical and horizontal applications.



(Top) S-5-U clamp on both vertical and horizontal seams. (Bottom) S-5-S on a snap together seam with blow up illustrating deformation of seam as setscrew is tightened

For horizontal seams equal to or greater than .65" use the S-5-U in its horizontal orientation.

For horizontal seams equal to or less than .50" use the S-5-S mounted vertically.

S-5-U Mini, S-5-S Mini, S-5-E Mini, S-5-B Mini, and S-5-V Mini Installation Instructions

To Install the S-5-U Mini, S-5-S Mini, S-5-E Mini, S-5-B Mini, and S-5-V Mini

1. Partially thread the setscrew into the clamp by hand.
2. Determine how to position the clamp. When attaching to machine-folded seams (regardless of panel profile and geometry), S-5!® clamps are designed to engage the seam as shown in Illustration A on the front page; with setscrew opposite seam fold. On many snap-together type seams, the setscrew is on the open (or overlap) side of the seam. On some seams, this aspect of clamp orientation is not critical.
3. Tighten the setscrew using a screw gun* and the included screw gun bit tip. The setscrew will dimple the seam material but will not penetrate it. When relying on published load values, setscrew tension should be verified periodically using a calibrated torque wrench as indicated below to ensure the tool is consistently achieving the proper torque range. **Note:** See "Step 3 Note" at bottom of document on fitting S-5-U Mini and S-5-V Mini on certain vertical double-folds.

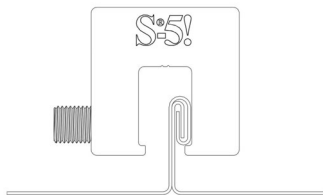
*For time-saving tool recommendations, call S-5!

Specified Torque	Inch Pounds	Foot Pounds	Nm
22ga steel	160-180	13-15	18-20
All other metals and thinner gauges of steel	130-150	11-12.5	15-17

Once installed correctly, these clamps require no maintenance or re-inspection for the life of the roof.

4. For critical attachment applications utilizing an M8-1.25 X 16 mm Hex Flange Bolt (sold separately), tighten the bolt to 160 inch pounds (13 foot pounds).

Step 3 Note: When installing S-5-U, S-5-V, S-5-U Mini, or S-5-V Mini on a vertical double fold, you may need to lift clamp in a manner that allows the lip of the clamp to engage the bottom of the seam and the setscrew(s) to fully engage the fold while tightening the setscrew(s). See clamp lip engagement in figure below. This will assist in making the clamp sit more vertically on the seam.



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

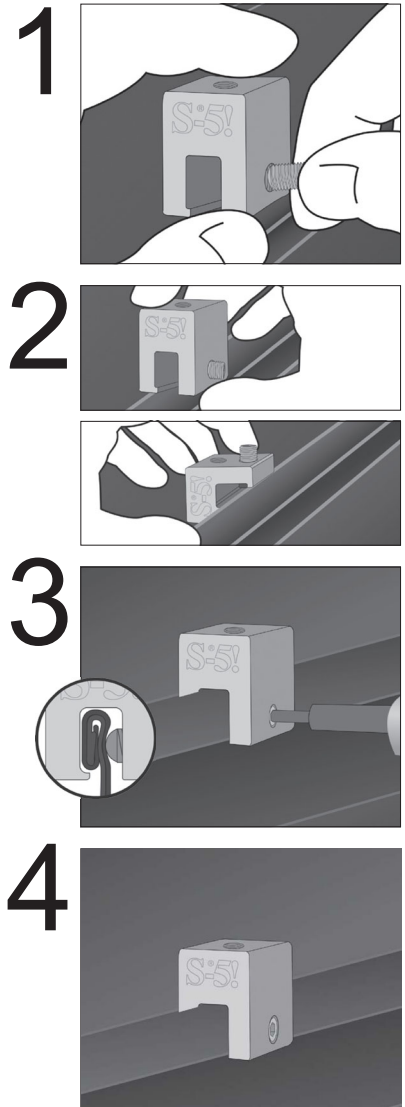
S-5!® Warning! Please use this product responsibly!

Products are protected by multiple U.S. and foreign patents. Visit the website at www.S-5.com for complete information on patents and trademarks. For maximum holding strength, setscrews should be tensioned and re-tensioned as the seam material compresses, i.e. tighten the first setscrew, then the second; then repeat until each setscrew achieves the recommended torque. Clamp setscrew tension should be verified using a calibrated torque wrench between 160 and 180 inch pounds when used on 22ga steel, and between 130 and 150 inch pounds for all other metals and thinner gauges of steel. Consult the S-5! website at www.S-5.com for published data regarding holding strength.

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USEBVI-V1.2-0420



Above illustrations show S-5-E Mini clamp on a vertical seam. Step 2 shows S-5-E Mini on vertical applications and S-5-U Mini on horizontal applications.

Installation Instructions

Stop! Has your ColorGuard[®] system been designed properly with the assistance of a distributor or the online ColorGuard calculator? If not, see our Calculator and Load Table at www.S-5.com, or ask your distributor!

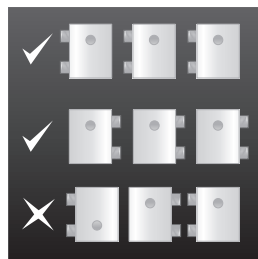
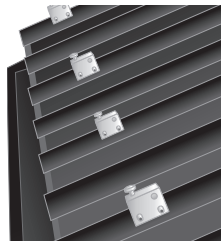
Notice to S-5![®] users: Specific layout and assembly schematics for S-5! products are the responsibility of the user or project designer. Due to the many variables involved with specific panel products, climates, snow melt phenomena, and job particulars, the manufacturer cannot and does not express any opinions as to the suitability of any S-5! assembly for any specific application and assumes no liability with respect thereto. S-5! clamps are tested for ultimate holding strength on various seam 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. Clamp spacing should never exceed 32" with standard products (contact your distributor for products to accommodate a seam spacing greater than 32").

Tools Needed

- Electric Screw Gun
- Box End Wrench, 1/2" Drive Impact Wrench, or Ratchet
- Saw to cut ColorGuard crossmember
- Tin Snips
- String Line
- Torque Wrench
- Pliers or Vice Grip Pliers

To Install ColorGuard[®]

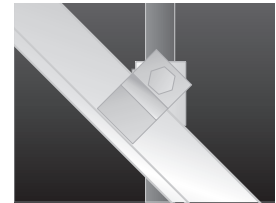
1. Before You Start: First, use a string line across the top of the panel seams at the desired location to establish a true line for installation of the S-5! clamps. Individually measuring from the eave to determine each clamp location is not recommended. **Before continuing, please take a moment to read the important notice about SnoClip[™] on the back side of these installation instructions.**



- 2. Preparing The Clamps:** If the ColorGuard assembly utilizes the VersaClip[™] for attachment of the ColorGuard crossmember, the bolt hole in the clamp should be at the upslope end of the clamp. If the assembly uses punched ColorGuard without VersaClip, the hole should be at the downslope end of the clamp. When using the S-5-U, determine which side of the clamp to load the setscrews into, and thread the setscrews into all clamps, being careful that the bolt hole will be in the correct (upslope or downslope) orientation, with the setscrews on the correct side of the seam. Both setscrews must be on the same side of the clamp.
- 3. Installing The Clamps:** S-5! clamps are installed differently depending upon clamp model and seam style. Please see the installation instructions included with your clamps. For maximum holding strength, setscrews should be tensioned and re-tensioned as the seam material

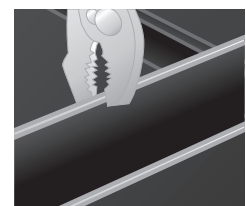
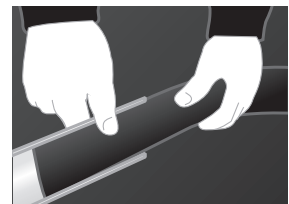
compresses. Screw tension should be verified using a calibrated torque wrench between 160 and 180 inch pounds when used on 22ga steel and between 130 and 150 inch pounds for all other metals and thinner gauges of steel. Please visit our load table at www.S-5.com to determine the proper screw tensions and holding strength.

Using VersaClip: When seam spacing is not divisible by 4" (e.g. 12", 16", 24"), or when panels are not laid up true-to-dimension, or when ColorGuard is installed askew to the panel seams (e.g. parallel with the line of a valley), the VersaClip facilitates installation. The VersaClips are inserted into the ColorGuard prior to placement of ColorGuard on the clamps. Align clips with S-5! clamp. VersaClip can be used with punched or unpunched ColorGuard.



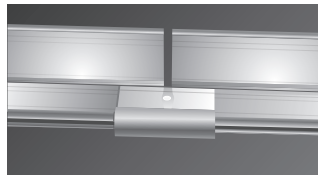
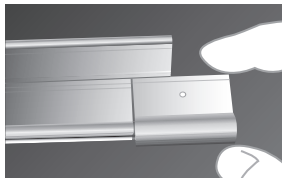
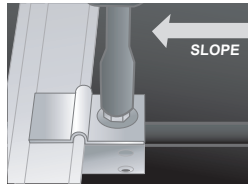
4. Installing The ColorGuard:

To maintain color conformity over time, ColorStrips should be sheared from the same pre-finished metal as the roof panels. Shear strips to exactly 2" wide (8' or 10' long). Slide the ColorStrip into the ColorGuard crossmember as shown (right). If the strip length is 8', it may be pre-assembled into the ColorGuard crossmember. If the strip is 10' long, it will be assembled to the ColorGuard as installation progresses. Joints in the ColorGuard should be concealed by offsetting the joints of the ColorStrip from the joints of the ColorGuard. The joints of the ColorStrips can be overlapped about 1/2" if desired. Each ColorStrip should be secured to the ColorGuard somewhere along its length. This is done by pinching the retainer lip of the ColorGuard with an ordinary pair of pliers. It can be done at one end of the ColorGuard section or anywhere along its length to prevent lateral migration of the ColorStrip.



5. Bolt ColorGard® to Clamps:

Attach ColorGard to clamps with the stainless bolts and washers provided. Bolts can be tightened with a 9/16" (17 mm) box-end wrench, or ratchet. On larger jobs, a 1/2" drive electric impact will expedite this work. Tension bolts to a minimum of 20 ft. lbs. (27 Nm). Add Splice pieces at each ColorGard joint as shown below. The "dimple" in the Splice piece will automatically provide a 1/8" space between adjoining sections to allow for linear thermal expansion of the ColorGard. Trim ColorGard at the end of the assembly, being sure it does not cantilever more than 4" beyond the last clamp of an assembly. Any trimmed piece of ColorGard must be attached with at least two clamps.



ColorGard Cutting Tip: If it is necessary to field cut ColorGard, such as at the end of an assembly, it can be done with a hack saw or electric reciprocating saw with a fine-tooth metal cutting blade. A power mitre saw with a fine tooth carbide tip blade also works well.

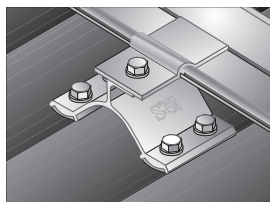
Using VersaBracket™

1. Install the bracket. See installation instructions that were included with your bracket.
2. Fasten unpunched ColorGard to the top flange of the bracket using a 1/4 - 14 self-drilling screw.



Using CorruBracket™

1. Install the bracket. See installation instructions that were included with your bracket.
2. Fasten ColorGard to the bracket in the same fashion as step 5.

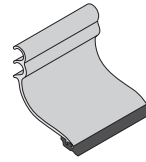


S-5!® Warning! Please use this product responsibly!

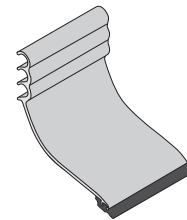
Products are protected by multiple U.S. and foreign patents. Visit the website at www.S-5.com for complete information on patents and trademarks. For maximum holding strength, setscrews should be tensioned and re-tensioned as the seam material compresses. Clamp setscrew tension should be verified using a calibrated torque wrench between 160 and 180 inch pounds when used on 22ga steel, and between 130 and 150 inch pounds for all other metals and thinner gauges of steel. Consult the S-5! website at www.S-5.com for published data regarding holding strength.

Copyright 2013, Metal Roof Innovations, Ltd. S-5! products are patent protected. S-5! aggressively protects its patents, trademarks, and copyrights. Version 080813. These instructions are for use by those experienced in the trade. Always follow appropriate safety precautions and use appropriate tools.

Using SnoClip™

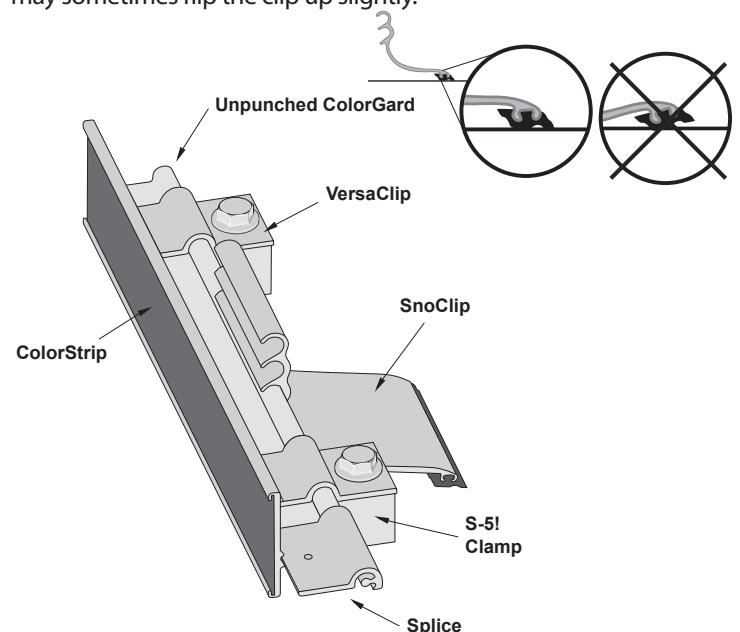
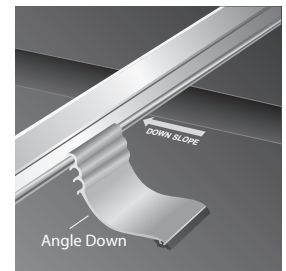


SnoClip II



SnoClip III

IMPORTANT NOTICE! — SnoClip™ design has changed. SnoClip must now slide on from the end of the ColorGard crossmember. Be sure to slide SnoClip onto assembly before attaching crossmember to clamps (a new Retro-Fit SnoClip™ is also available from your authorized S-5!® distributor.) One SnoClip is used between seams (in rare cases two SnoClips may be desired; see www.S-5.com for details). Mount the SnoClip to the back of the ColorGard using the lock that results with the rubber "foot" resting properly on the panel surface. When applying downward pressure on the part, the "toe" should engage the surface of the panel just before the "heel." Periodic maintenance over time may be necessary to ensure that the SnoClips maintain the appropriate positioning, as snow weight may sometimes flip the clip up slightly.





Rocky Mountain
Snow Guards Inc



Stocked Color Strip Inserts for Colorgard Snow Fence Systems

Black

Charcoal Gray

Dark Bronze

Medium Bronze

Evergreen

ACTUAL COLORS MAY VARY

**We strongly recommend obtaining a
sample prior to purchasing.**

(877) 414-7606

www.RockyMountainSnowGuards.com

SECTION 07 72 53

COLORGARD® SNOW GUARDS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Snow guards for metal roofs.
 - 2. [Non-penetrating] [Face fastened] 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) - 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 snow guards 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 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 [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.

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 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 \geq [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

- 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; Web: www.s-5.com
- B. Substitutions: Not permitted.

2.3 BAR/RAIL-TYPE SNOW RETENTION SYSTEMS FOR STANDING SEAM METAL ROOFS

- A. Basis of Design: ColorGard, 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: No. [S-5-U.] [S-5-S.] [S-5-T.] [S-5-Z.] [S-5-E.] [S-5-B.] [S-5-Q.] [S-5-H.] [S-5-K700.] [S-5-H90.] [S-5-N.] [S-5-N 1.5.] [S-5-KHD.] [S-5-V.] [S-5-K Grip.] [S-5-R465.]
 - b. Set screws: 300 Series stainless steel, 18-8 alloy, 3/8 inch diameter, with round nose point.
 - c. Attachment bolts: 300 Series stainless steel, 18-8 alloy, 8 mm or 10 mm diameter, hex flange bolt..
 - 2. Brackets:
 - 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. [VersaBracket 47.] [VersaBracket 67.] [CorruBracket.].
 - b. Screws for attachment of brackets to roof: Type best suited to application: Metal to metal applications: ¼-14 self drilling point, 2 inch length, 3/8 inch hex washer head, Zinc/Aluminum cap. Metal to wood applications: ¼-14 type 17 AB milled point, 2 inch length, 3/8 inch hex washer head, Zinc/Aluminum cap.
 - 3. 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. Receptacle in face to receive color-matched metal strips.
 - c. Provide splice connectors ensuring alignment and structural continuity at end joints.
 - 4. Color Strips: Same material and finish as roof panels; obtained from roof panel manufacturer.
 - 5. Snow and Ice Clips:
 - a. Aluminum, with rubber foot, minimum 3 inches wide.
 - 1) Model: SnoClip II or SnapClip II for standing seam heights 1” to 1.75”
 - 2) Model: SnoClip III or SnapClip III for standing seam heights 1.75” to 3”

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 snow guard system.
- 3. Installation will not impeded roof drainage.

Prior to beginning installation, verify that:

1. Roof attachment is sufficient to withstand loads applied by snow guard system.
2. 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. ColorGard Snow Retention 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. Place both set screws on same side of clamp.
4. Tighten set screws to manufacturer's recommended torque. Randomly test set screw torque using calibrated torque wrench.
5. Insert color-matched metal strips into cross members, staggering strips to cover cross member joints.
6. Attach cross members to clamps; tighten bolts to manufacturer's recommended torque.
7. Install splice connectors at cross member end joints.
8. Do not cantilever cross members more than 4 inches beyond last clamp at ends.
9. Install [one SnoClip or SnapClip] [two SnoClips or SnapClips] per panel between panel seams.
 - a. SnoClips: slide onto cross member before securing cross member to clamps
 - b. SnapClips: Secure [SnapClip II] [SnapClip III] to back side of cross member using stainless steel #10 x ½ inch screw

1. Place brackets at maximum 32 inches on center or as required by in-service loads.
2. Clean roof area to receive bracket. Remove protective seal on butyl tape
3. Place brackets in straight rows along underlying substrate.
4. Insert color-matched metal strips into cross members.
5. Place brackets at spot of attachment and fasten with screws best suited for type of attachment
6. Attach cross members to brackets using self drilling screws.
7. Install splice connectors at cross member end joints.
8. Do not cantilever cross members more than 4 inches beyond last bracket at ends.

9. Install SnoClips or SnapClips at spacings indicated on Shop Drawings.
 - c. SnoClips: slide onto cross member before securing cross member to clamps
 - d. SnapClips: Secure [SnapClip II] [SnapClip III] to back side of cross member using stainless steel #10 x ½ inch screw (provided).

END OF SECTION



Rocky Mountain Snow Guards Inc

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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.