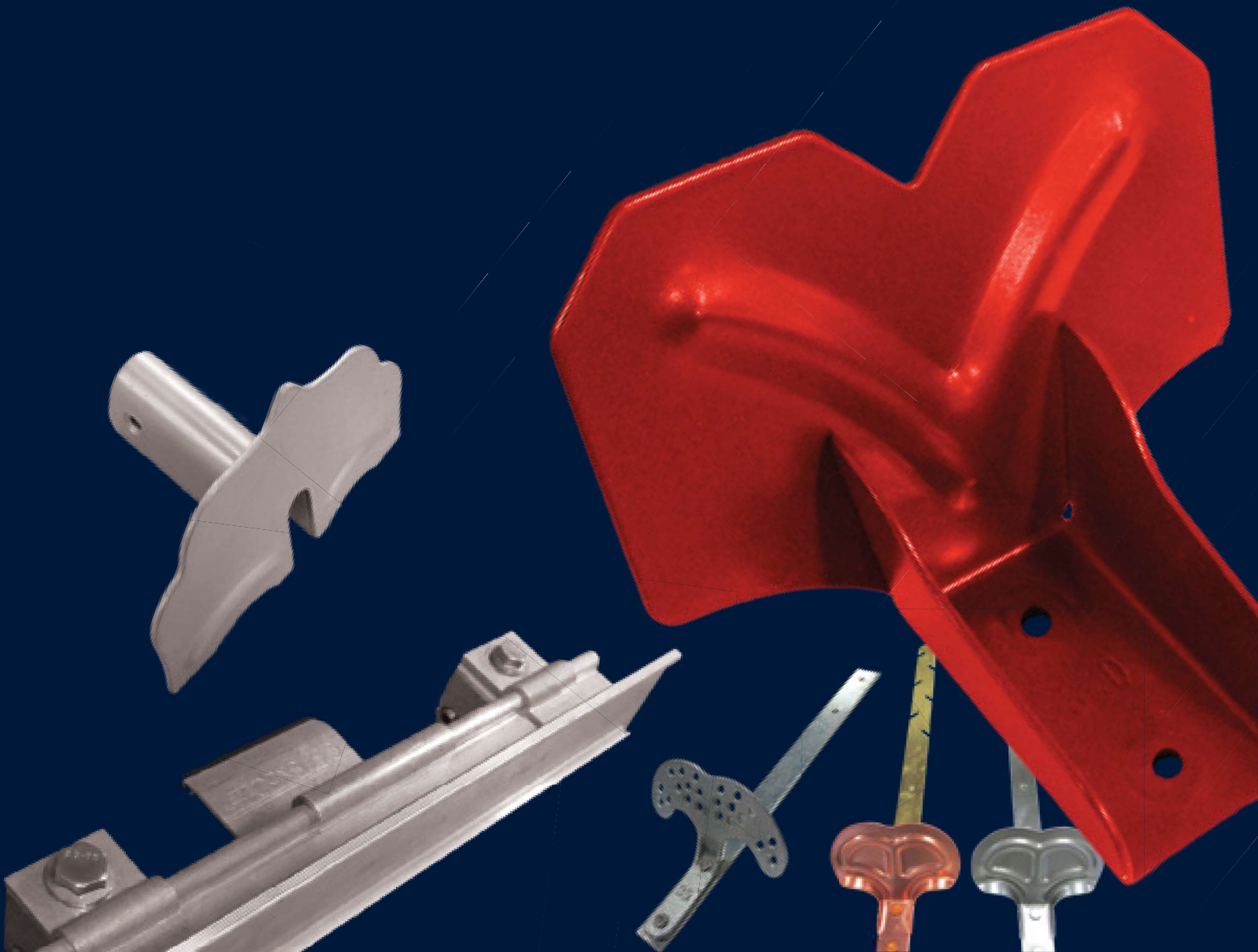
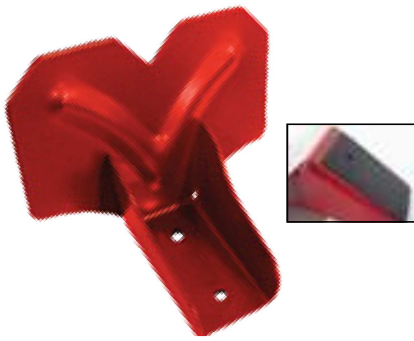


SNOW RETENTION SYSTEMS





Snow Defender™ 4500 Snow Guard

- Designed for exposed fastener panels like the ABM Panel
- Must be screwed into 2x4 purlins in the flat position
- Made with 16 Gauge type 304 stainless steel that will never rust
- EPDM rubber sealer saves time because no caulk is needed
- Powder coated for a long-lasting colored finish
- Online calculator at www.snowdefendercalculator.com

Part#	Description	Size
SNGSSRcc	Snow Defender 4500 - Stainless Steel with Rubber Seal	4" x 3" x 3"



Snow Defender™ 6500 Snow Guard

- Designed for standing seam panels like the ABSeam Panel
- Fits ribs up to 3/8" wide and 1" to 1-3/4" high
- Made with type 304 stainless steel that will never rust
- It pinches, but does not penetrate the metal panel
- Powder coated for a long-lasting colored finish
- Online calculator at www.snowdefendercalculator.com

Part#	Description	Size
SNGSDcc	Snow Defender 6500 - Stainless Steel with Setscrews	5.5" x 3" x 3.5"



Snow Defender™ 7500 DECO Snow Guard - Special Order

Introducing the SnowDefender 7500 DECO. Based on the design of the popular SnowDefender 6500, this color matched, 304 Stainless Steel model has the more traditional historic look of a cast snow guard. The decorative cutouts are embossed for increased strength and the proven attachment method using set screws means the SnowDefender 7500 Deco will last the life of your roof.

Part#	Description	Size
SNGSDSODECO	Special Order Snow Defender 7500 DECO with Setscrews	5.5" x 3.25" x 3.5"



Snow Defender™ Plastic Snow Guards

- Polycarbonate Lexan 103-112 (3/16" thick)
- UV stable and very strong
- Mount with screws or adhesive
- Attach with Surebond High Strength Adhesive
- Online calculator at www.snowdefendercalculator.com

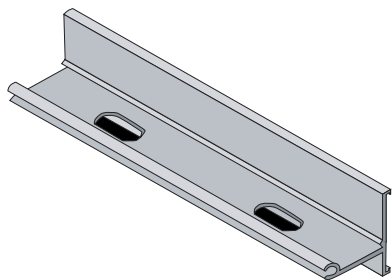
Part#	Description	Size
SNGBUSTER	Snow Defender Buster - Clear Polycarbonate Snow Guard	5" x 3" x 3"
SNGPC240	Snow Defender PC240 - Clear Polycarbonate Snow Guard	3" x 2.5" x 4.125"





S-5!® ColorGard®

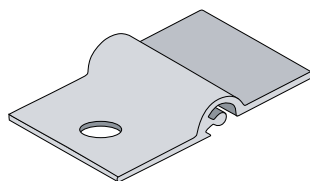
- Mechanically attached with S-5!® clamps for a snow retention system that is warranted for the life of your roof (see www.s-5.com for warranty info.)
- The S-5!® clamp base can be fastened with the patented round-point setscrews for non-penetrating attachment to standing seam roofs, or can be screwed into an exposed fastener roof
- Not compatible with the S-5! Mini Clamps
- Easily retrofitted to existing roofs or incorporated into new construction
- Easy to install with common tools of the trade
- Online calculator at www.S-5.com/calculator



S-5!® ColorGard® Rail

- Includes 1 splice collar
- Online calculator at www.S-5.com/calculator

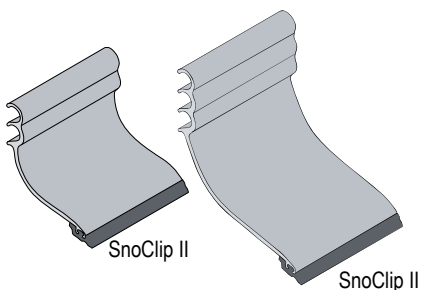
Part#	Description	Length
SNGS5RAIL	S-5 ColorGard Aluminum Rail - Unpunched	8'
SNGS5RAIL-PUNCHED	S-5 ColorGard Aluminum Rail - Punched Every 4" On Center	8'



S-5!® VersaClip™

- Online calculator at www.S-5.com/calculator

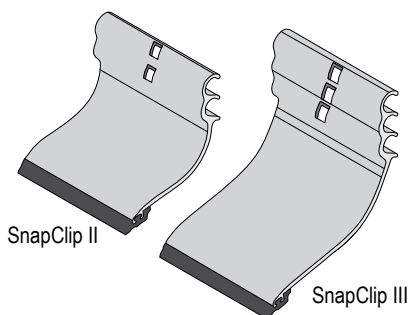
Part#	Description
SNGS5CLIP	S-5 ColorGard VersaClip



S-5!® SnoClip

- The SnoClip II can be used on panels with ribs up to 1-½" high
- The SnoClip III can be used on panels with ribs up to 3" high
- Must be attached by sliding from end of rails before installation. Cannot be retrofitted.
- Online calculator at www.S-5.com/calculator

Part#	Description
SNGS5SCII	S-5 ColorGard SnoClip II
SNGS5SHOE	S-5 ColorGard SnoClip III



S-5!® SnapClip

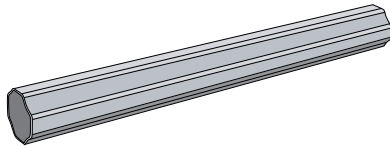
- The SnapClip II can be used on panels with ribs up to 1-½" high
- The SnapClip III can be used on panels with ribs up to 3" high
- Can be retrofitted to existing ColorGard assemblies.
- Online calculator at www.S-5.com/calculator

Part#	Description
SNGS5SCII-RETRO	S-5 ColorGard SnapClip II
SNGS5SHOE-RETRO	S-5 ColorGard SnapClip III



S-5!® X-Gard®

- The strongest snow retention system on the market
- A one or two pipe system that spans up to 48"
- The S-5!® clamp base mechanically attaches to standing seam with patented round-point setscrews that do not void the panel finish warranty, or can be screwed into an exposed fastener roof
- Not compatible with the S-5! Mini Clamps
- Can be installed any time of the year
- All related hardware is non-ferrous stainless steel for lasting performance

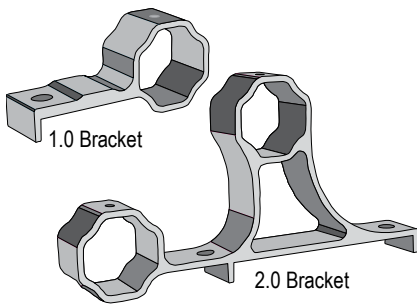


X-Gard Pipe

S-5!® X-Gard® Pipe

- Each pipe comes with 1 splice collar

Part#	Description	Size	Length
SNGS5XGNEX	S-5 X-Gard NeX Pipe	2"	8'
SNGS5XGENDCAP	S-5 X-Gard End Caps		



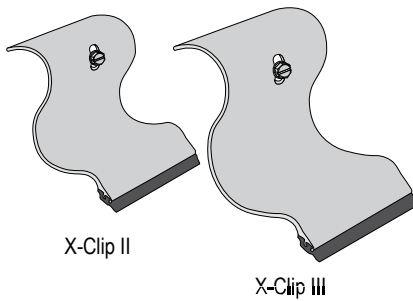
1.0 Bracket

2.0 Bracket

S-5!® X-Gard® Brackets

- Choose the X-Gard 2.0 for a double pipe system and 1.0 for a single pipe system

Part#	Description	Size
SNGS5XG1	S-5 X-Gard 1.0 Bracket for Single Pipe System	5.3" x 2.4" x 1.5"
SNGS5XG2	S-5 X-Gard 2.0 Bracket for Double Pipe System	11" x 5.75" x 1.5"



X-Clip II

X-Clip III

S-5!® X-Gard X-Clips

- Includes Screws

Part#	Description
SNGS5XGSGII	S-5 X-Gard X-Clip II
SNGS5XGSGIII	S-5 X-Gard X-Clip III



S-5!® DualGard™

- Mechanically attached with S-5!® clamps for a snow retention system that is warranted for the life of your roof (see www.s-5.com for warranty info.)
- The S-5!® clamp base can be fastened with the patented round-point setscrews for non-penetrating attachment to standing seam roofs, or can be screwed into an exposed fastener roof
- Designed for use with the S-5! Mini Clamps
- Easily retrofitted to existing roofs or incorporated into new construction
- Easy to install with common tools of the trade



S-5!® DualPipe

- Includes one 4" splice collar

Part#	Description	Size	Length
SNGS5D-PIPE	S-5 DualPipe	1"	8'



ColorGuard® Installation Instructions

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. Read installation instructions in their entirety before beginning installation. Clamp spacing should never exceed 32" with ColorGuard snow retention assemblies (contact your distributor for products to accommodate a seam spacing greater than 32").

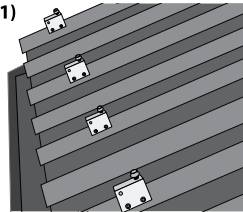
Tools Needed

- Screw Gun*
- Box End Wrench, 1/2" Drive
- Impact Wrench, or Ratchet
- Electric reciprocating saw to cut ColorGuard cross-member
- Tin Snips
- String Line
- Torque Wrench
- Pliers or Vice Grip Pliers

*For time saving tool recommendations contact S-5!

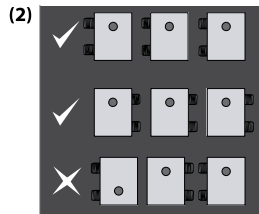
To Install ColorGuard®

1. Before you start: First, use a string (1) 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 (1).



Before continuing, please take a moment to read the important notice about SnoClip™ on the back side of these installation instructions.

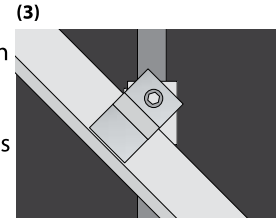
2. Preparing the Clamps: If the ColorGuard assembly utilizes the VersaClip™ for attachment of the ColorGuard cross-member, the bolt hole in the clamp should be at the upslope end of the clamp. If the assembly uses punched ColorGuard without VersaClip, the hole should be at the downslope end of the clamp. 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 (2).



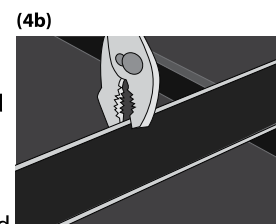
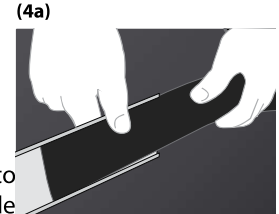
3. Installing the clamps: S-5! clamps are installed differently depending upon clamp model and seam style. Please see the installation instructions included with your clamps. For maximum holding strength, setscrews should be tensioned and re-tensioned as the seam material compresses. Screw tension should 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", when panels are not laid up true-to-dimension, or when ColorGuard is installed askew to the panel seams (3) (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 (supplied by others). Shear strips to exactly 2" wide (8' or 10' long). Slide the ColorStrip into the ColorGuard cross-member as shown (4a). If the strip length is 8', it may be pre-assembled into the ColorGuard cross-member. 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 (4b). It can be done at one end of the ColorGuard section or anywhere along its length to prevent lateral migration of the ColorStrip.

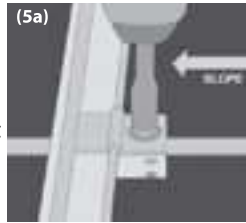


These instructions are for use by those experienced in the trade. Always follow appropriate safety precautions and use appropriate tools.



5. Bolt ColorGard® to clamps:

Attach ColorGard to clamps with the stainless bolts provided. Bolts can be tightened with a 1/2" (13mm) box-end wrench, or ratchet (5a). On larger jobs, a 1/2" drive electric impact will expedite this work. Tension bolts to a minimum of 13 ft-lbs (18 Nm). Add splice pieces at each ColorGard joint as shown below (5b). The "dimple" in the splice piece will automatically provide a 3/8" space between adjoining sections (5c) 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.



(5b)

(5c)



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.

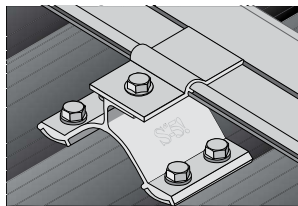
Using VersaBracket™

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 stainless steel self drilling screw.



Using CorruBracket™

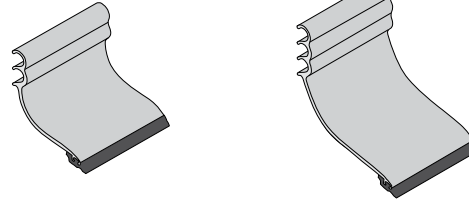
1. Install the bracket. See installation instructions that were included with your bracket. The threaded hole closest to the edge of bracket should be oriented upslope for unpunched ColorGard & downslope for punched ColorGard. When using VersaClip see step 3 on front page.
2. Fasten ColorGard to the bracket in the same fashion as step 5.



Using SnoClip™

SnoClip II

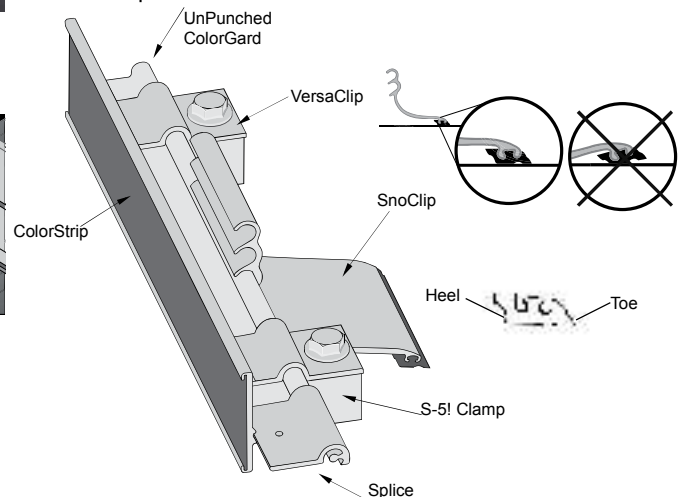
SnoClip III



IMPORTANT NOTICE! SnoClip™ design has changed. SnoClip™ must now slide on from the end of the ColorGard® cross-member. Be sure to slide SnoClip onto assembly before attaching cross-member to clamps (a new Retro-Fit SnapClip™ is also available from your authorized S-5! distributor). One SnoClip is used between seams (in some 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. When installing any S-5! snow retention assembly with SnoClip or SnapClip, be sure that the toe of the SnoClip part bears on an area of the roof panel that is well supported and not subject to excessive deflection. Should panel deflection be excessive under load allowing the SnoClip to rotate under the ColorGard, then SnoClips should not be used.



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 2018, Metal Roof Innovations, Ltd. S-5! products are patent protected. S-5! aggressively protects its patents, trademarks, and copyrights. CGI-V1.2-03-18





S-5!® DualGard Bracket

Part#	Description
SNGS5D-GARD	S-5 DualGard



S-5!® DualPipe End Cap and Collar

Part#	Description
SNGS5D-CAP	S-5 DualPipe End Cap and Collar - 4 pack



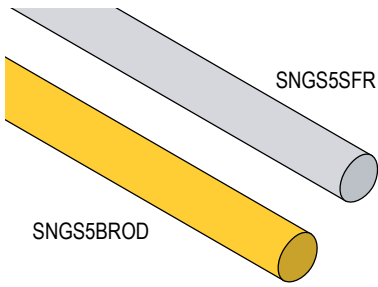
S-5!® Dual Clip

Part#	Description
SNGS5D-CLIPII	S-5 DualClip II
SNGS5D-CLIPIII	S-5 DualClip III



S-5!® SnoRail™ and SnoFence™

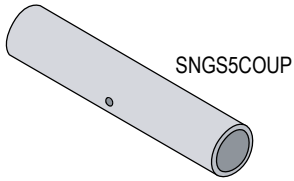
- The clean lines, cylindrical shapes and high-tech look of the SnoRail and SnoFence systems present an attractive solution to snow retention problems.
- Up to six times the strength of adhesively-mounted devices
- Mechanically attached with patented S-5-ASF and S-5-BSF brass or aluminum clamps
- Can be installed any time of the year
- All related hardware is non-ferrous stainless steel for lasting performance
- Available in Brass for copper batten or standing seam roofs and in aluminum/stainless steel for other standing seam roofing materials



S-5!® SnoRod

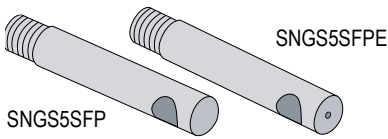
Use the stainless steel SnoRod inserted through the S-5-ASF clamps, placing it just above the panel seams for the S-5! SnoRail System. Add a second SnoRod through SnoPosts for a S-5! SnoFence system.

Part#	Description	Size	Length
SNGS5SFR	S-5 SnoFence Stainless Steel Rod	3/8"	12'
SNGS5BROD	S-5 SnoFence Brass Rod	3/8"	12'



S-5!® SnoRod Coupling

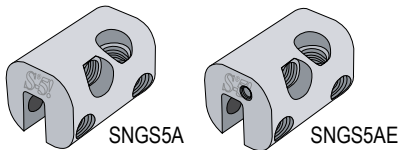
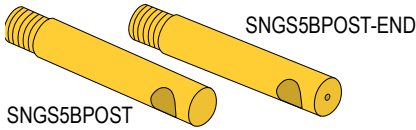
Part#	Description	Size	Length
SNGS5COUP	S-5 Aluminum Coupling for SnoRail/SnoFence	3/8"	2.8"



S-5!® SnoPost

- Used when adding a second SnoRod for an S-5! SnoFence System
- End Post includes hole for setscrew to prevent the SnoRod from sliding

Part#	Description	Length
SNGS5SFP	S-5 SnoFence Stainless Steel Post	2.8"
SNGS5SFPE	S-5 SnoFence Stainless Steel End Post	2.8"
SNGS5BPOST	S-5 SnoFence Brass Post	2.8"
SNGS5BPOST-END	S-5 SnoFence Brass End Post	2.8"



S-5-ASF Clamp/S-5-AE Clamp

- End Clamp includes hole for setscrew to prevent the lateral movement

Part#	Description	Size
SNGS5A	S-5 Aluminum Clamp for SnoRail/SnoFence	1.22" x 1.22" x 1.85"
SNGS5AE	S-5 Aluminum End Clamp for SnoRail/SnoFence	1.22" x 1.22" x 1.85"





Berger #2 Snow Guard

- Made from Malleable Iron
- Comes with long shank for slate roofs

Part#	Description
SNGG	Berger #2 Snow Guard Assembly w/ Long Shank for Slate Roofs



Berger AP-400 Snow Guard

- Designed for standing seam panels with ribs up to 3/8" wide and 2" high
- Non-penetrating setscrews that do not restrict thermal movement

Part#	Description
SNGAP400	Berger AP-400 Snow Guard - Mill Finish Cast Aluminum



Berger RT-300 Snow Guard

- Designed for standing seam panels with ribs up to 1" high
- Non-penetrating setscrews that do not restrict thermal movement

Part#	Description
SNGRT300M	Berger RT300 Snow Guard - Mill Finish Cast Aluminum



Berger #1 Snow Guard

- Designed for standing seam panels

Part#	Description
SNGGS	Berger #1 Snow Guard - Malleable Iron



Berger #100 Snow Guard

- Comes with long shank for slate and shingled roofs or without the shank for metal roofs
- Can be installed without removing shingles

Part#	Description
SNGSLC	Berger #100 Snow Guard Assembled w/ Long Shank - Copper
SNGSL	Berger #100 Snow Guard Assembled w/ Long Shank - Stainless Steel
SNGC	Berger #100 Snow Guard Shoe for Metal Roof - Copper
SNGSTS	Berger #100 Snow Guard Shoe for Metal Roof - Stainless Steel



Berger RT Clear Surface Mount Snow Guard

- Attach with Surebond High Strength Adhesive

Part#	Description
SNGPBP	Berger RT Clear Surface Mount Snow Guard



Compatible with **ABM Panel**

Berger RT Clear Surface Mount Structural Rib Snow Guard

- Attach with Surebond High Strength Adhesive

Part#	Description
SNGPRT	Berger RT Clear Surface Mount Structural Rib Snow Guard



Superbond High Strength Adhesive for Plastic Snow Guards

- 2000 psi sheer tensile strength after 25 days of 50° F or warmer temperature cure time

Part#	Description
SNGGE	Surebond Everseal High Strength Adhesive for Snow Guards

