



Installation Guide

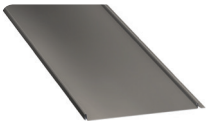
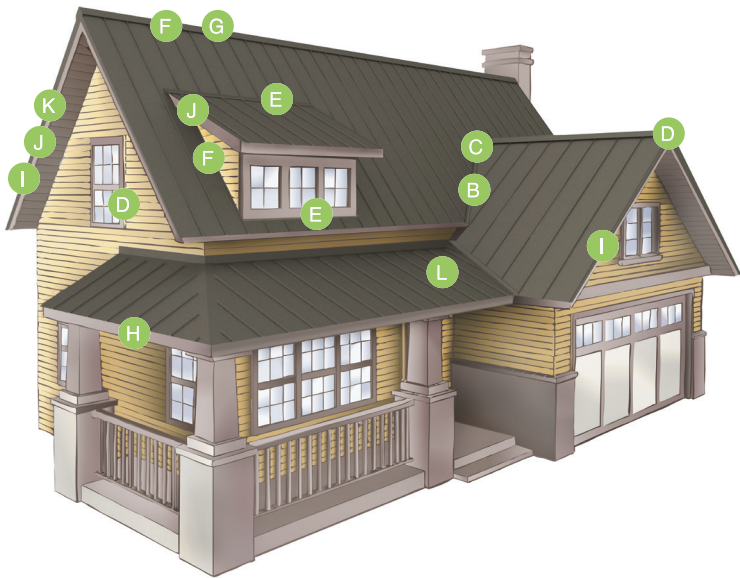
Standing Seam

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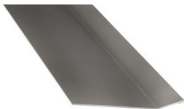
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System Components Placement

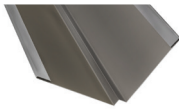
See the end of this guide for larger pictures, descriptions and SKUs of each accessory listed below.



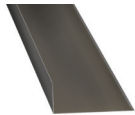
A. Standing Seam Panel



**B. Valley Cleat/
Sidewall Counter
Flashing**



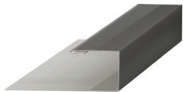
C. Valley



**D. Sidewall
Flashing**



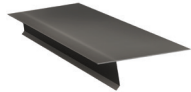
E. Endwall Flashing



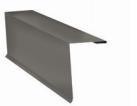
F. C-Closure



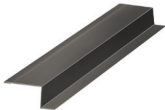
G. Hip/Ridge Cap



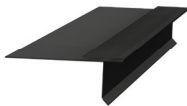
**H. T-Style
Drip Edge**



I. Outer Gable



J. 1.5" Z-Flashing



K. Rake Edge



**L. Original Clear
Poly Snow
Guard**

This page only refers to the area that components are placed for the Metal Roofing System.

Fasteners

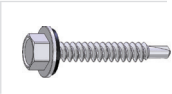
All screws used while installing Standing Seam must be of a recommended screw type.

#10 - 16x1 1/4" Roofing Screw

(Painted)

#10 Painted hex head screw, used on exposed faces.

1,000/ctn (100/bag, 10 bags/box)



#10 - 12X1 1/4" Roofing Screw (Mill)

#10 Zinc coated panhead screw. 100 screws per square (100 sq. ft.).

1,000/ctn (bulk packed)



#10 - 12x2" Roofing Screws

2". Mill 100 screws per square of job. Low profile #10 Zinc coated panhead screw.

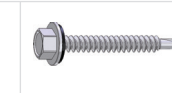
1,000/ctn (bulk packed)



#10-16 x 2" Stainless Hex Head Screw

Use two screws per each SNO-GEMJR, comes with a neoprene washer.

QTY 250/Box



Tools and Accessories

Required Tools (minimum recommend tools and equipment): The standard set of tools and equipment in the general roofing trade.



Chalk Line



Cordless Driver



Hand Seamer



Sheet Metal Gloves



Speed Square



Snips (Left and Right)



Tape Measure



Roof Jacks

Special Additional Tools: Not needed to complete the job but can improve install procedures and provide an overall finished look.



Circular Saw



Felt Tipped Marker



Caulking Gun



Power Shears



Sheet Metal Brake



Isopropyl Metal Panel Cleaner



Surebond SB-190 Adhesive

Accessories (most available through local roofing distributors):

Caulk: Butyl or urethane caulk/sealant

Tape: Butyl tape, or Flashing tape on a roll, for side and end wall flashing

Boots: Roofing Pipe Boot with metal sealer ring

Snow Guards: Should be placed as needed, and *always refer to the manufacturing instruction guide when installing. Refer to local distributor for more information.*

General Installation Guidelines

General Installation Guidelines

- Installing Standing Seam roofing on top of existing shingles is not recommended.
- Standing Seam Metal Roofing must be installed on a solid roof deck. Synthetic underlayment and high-temperature ice and water shield must be installed prior to the installation of the metal roofing products—refer to local building code.
- Prior to installing the underlayment, clear the roof deck of any debris or protrusions that could puncture the protective membrane. Installing roof panels on uneven surfaces may cause distortion or deflection on the metal surface. Surface wave in the material is not cause for rejection of the product.
- Valleys, as well as eave, rake and drip edges must be installed before the panels. Hip and ridge capping may also be installed before the panels.
- When cutting panels to length, always remove material from the top end of the panel, so that the factory pre-notched end remains intact to allow for proper hemming to the eave and drip edge.
- Circular saws or angle grinders are not recommended to cut steel roofing.
- Always install Standing Seam panels from right to left, beginning with the far right side of the roof deck. Always fill one column in completely before moving to the next one.
- Be sure each panel is fully engaged to the adjacent panel before fastening it to the deck. A rubber mallet may be required to fully engage the locking feature.
- Fasten the panels to the roof deck using the recommended 1¼" panhead screws every 12" to achieve the required wind uplift resistance.
- Remove the protective film immediately after installing the roofing panel.

Storage and Handling

- Storage - Metal building products should be stored in a dry well ventilated space. Never cover materials with non-breathing or plastic tarps. This may cause condensation which will deteriorate the protective coating of the materials.
- General Handling - Carry the roofing panels on edge instead of laying flat.
- Foot Traffic - Wear clean, soft sole, non-marking shoes when walking on installed roofing panels. Only step in areas where the panel is in contact with the roof deck.

Safety Guidelines

Follow all governmental safety procedures, including, but not limited to, all OSHA guidelines. Always wear safety gloves, safety glasses and fall protection gear when installing Metal Roofing.

Mechanically Attached Roofing Underlayment:

The manufacturer's underlayment must include this listed technical information.

- Fully synthetic underlayment designed for use under metal roofing.
- Meet or exceeds the physical requirements of ASTM D226 & D4869
- Installed per manufacturer's installation instructions.

Self-adhered Waterproofing Underlayment:

Metal roofing requirements for a self-adhered roofing underlayment. Waterproofing underlayment must resist the higher roof temperatures produced under metal roofing. Underlayment's not designed for higher temperature applications can prematurely deteriorate, crack or not seal properly. Must include listed technical data from underlayment manufacturer.

- Withstand temperatures up to 250°F.
- Meet or exceed ASTM D1970
- Installed per manufacturer's installation instructions.

Estimating

Standing Seam roofing comes in pre-cut lengths with pre-notched ends, a diagram of the roof is not necessary. Panels will be lap-seamed together in long runs, allowing the installer to disregard trying to determine the exact length needed. Simply calculate the total square footage of the roof deck to be covered and order the corresponding number of ½ square boxes that would be needed to complete the job. Amount of trim accessories can also be determined using the length and width measurements taken from the roof deck.

Ventilation

Proper ventilation must be achieved to avoid moisture and heat buildup in the attic space, or between the layers of the building envelope. Consult local building code for NFA (Net Free Area) rating requirements.

- Intake vs. exhaust: To achieve maximum airflow through the attic, the amount of intake at the eave must be less than or equal to the exhaust at the ridge.
- Soffit vents are found on the underside of the eave overhang. This is the primary source for the intake of air to the attic.
- Ridge vents are located at the peak of the roof and are the primary exhaust outlet for accumulated hot, moist air.

General Installation Guidelines

Upon completion of the installation, inspect the roof surface for metal shavings or other loose material. Remove by wiping softly with a cloth, being careful not to scratch the painted surface. Remove dirt with a damp rag, using detergent if necessary.

Maintenance

Remove any and all debris that may accumulate on the roof during its lifespan to keep it moisture free. Tighten any loose fasteners or trim pieces as access allows. Do not attempt to repair or replace any parts of the roof system without consulting a certified applicator. Repainting the roof should not be necessary through the duration of the warranty.

Warranty

Visit qualityedge.com/warranties/ to register your warranty. This is required to “trigger” any coverage. See the warranty document for details. Alternatively, you can register your warranty by mailing the warranty card.

Fastening

Fasten all roofing panels to the roof using only a #10 zinc coated or stainless steel pan head screw with a minimum head diameter of 0.45”. Screw length must be long enough to fully penetrate through the roofing deck. Ensure each panel is fully engaged into the corresponding panel.

Eave Edge and Rake Edge

Eave Edge Detail:

1. Fasten eave edge to the roof deck with a 1.25" #10 zinc coated panhead screw. Screw should be centered in the width of the eave edge. To achieve a 130 MPH wind rating, fasten every 12".
2. Butt adjacent pieces without overlap at the joint and seal the joint with 4" from the underside. Do not overlap the drip edge sections.

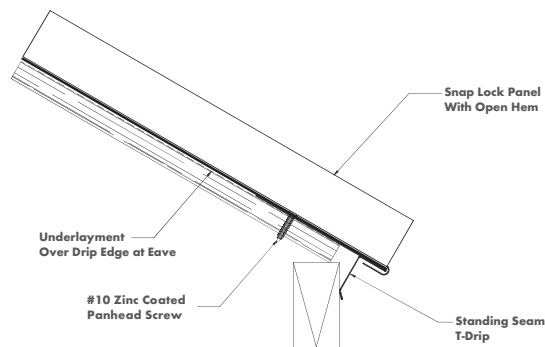
When using a field cut panel, follow these steps to hem to the eave edge:

1. Cut back panel rib on both sides one inch (unless you are using a factory pre-notched end).
2. Place the protruding pan into the panel hemming tool. The front edge of the tool should stop at the ribs on both sides.
3. While maintaining pressure against the panel ribs, rotate the hemming tool downward as close to 135° as possible.
4. Inspect completed hem to insure that the hem is opened and capable of receiving the lip of the eave edge.
5. Lay the panel on the roof in alignment with the last one and push up until the hem catches the lip of the eave edge.
6. Push down on the rib snapping it into the previous panel.
7. Tap the front of the rib with a rubber mallet, moving the panel up the roof until the eave edge lip is all the way in the hem.
8. Finish by closing the panel hem around the eave edge with a hand seamer.

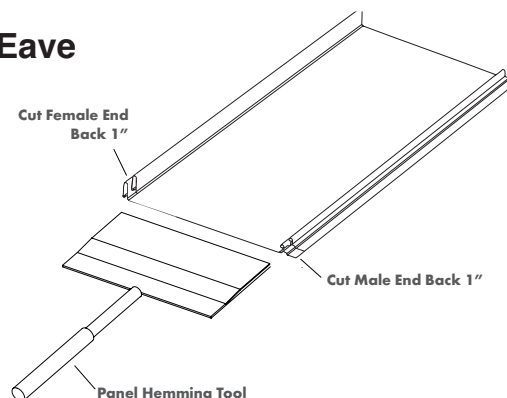
Rake Edge Option 1:

1. Determine the desired width of the panel by measuring from to the outside of the previously installed rake edge across the roof to the last panel rib and add one inch. This additional 1" of material will be bent around the rake edge using a hemming tool or a field brake.
2. Before installing the panel, bend the cut edge down and under to about 135°.
3. After the panel is snapped into position, squeeze the field created hem to the lip of the eave style drip edge using a hand seamer, so it is tight.

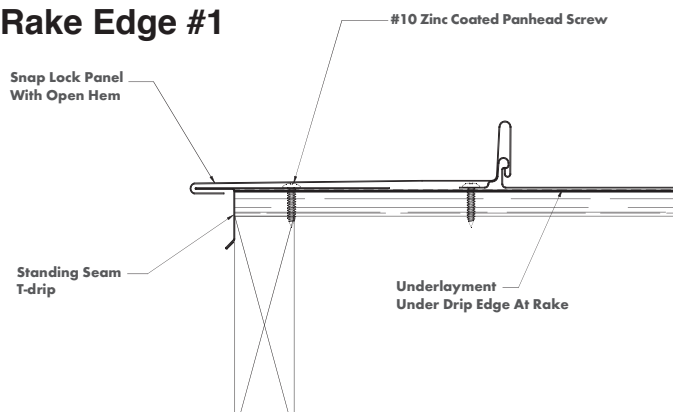
Eave Edge



Panel Eave



Rake Edge #1

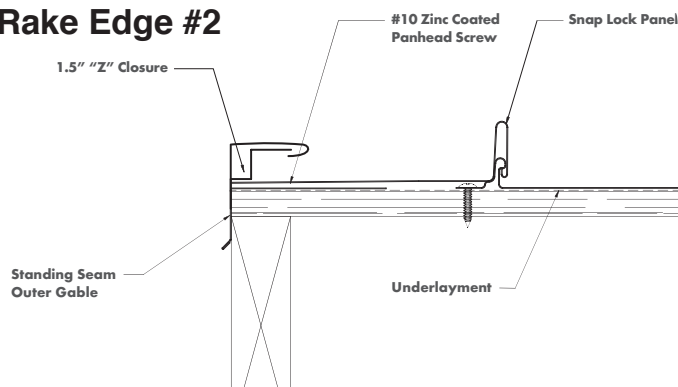


Rake Edge and Z-Closure

Rake Edge Option 2:

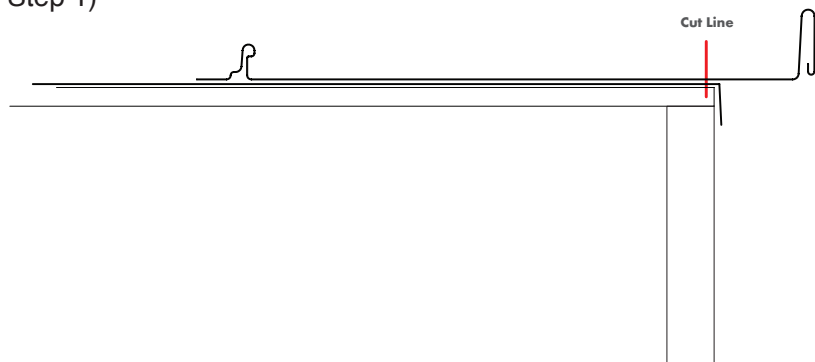
An alternative to bending the panel in the field is to cut the panel to width-from the last panel rib to the outside of the roof edge. Install a "Z" Closure on the top of the panel and screw down into the deck. The hem of the outer gable will hook onto the lip of the "Z" Closure and fastened into the fascia as needed given weather conditions. Butyl tape or tube sealant is needed between the panel and the "Z" Closure. *To achieve a 130 MPH wind rating, fasten the rake trim every 12" with the panhead screws.*

Rake Edge #2

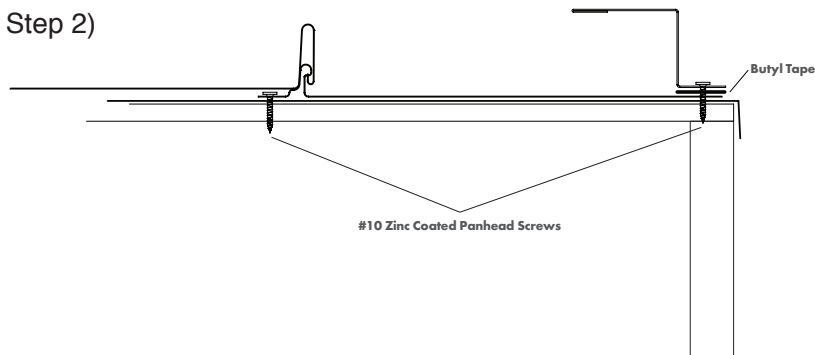


Z-Closure

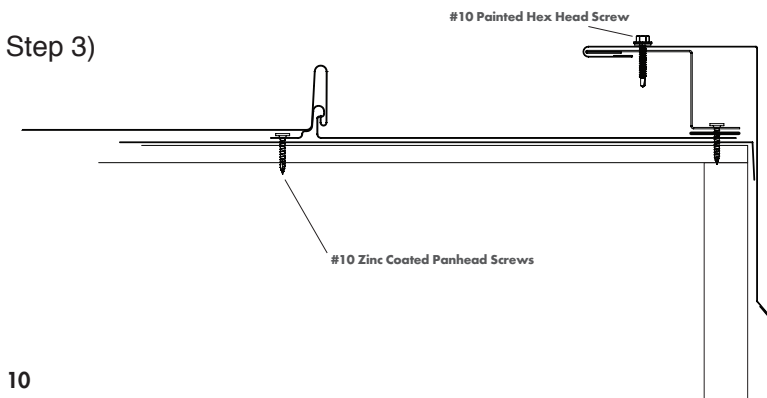
Step 1)



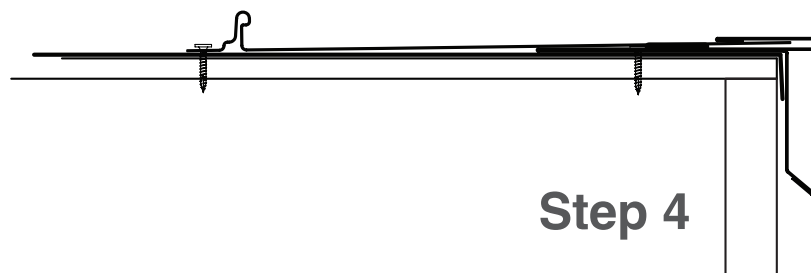
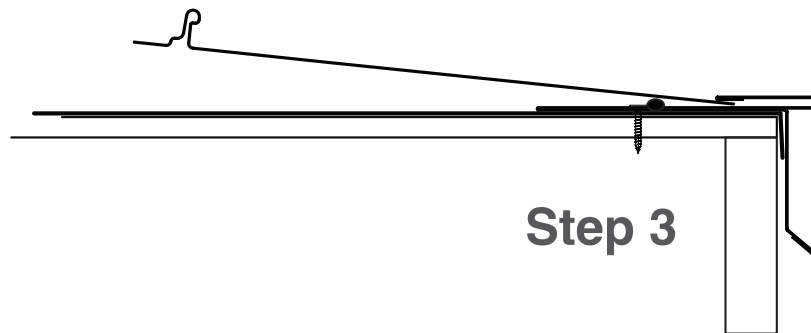
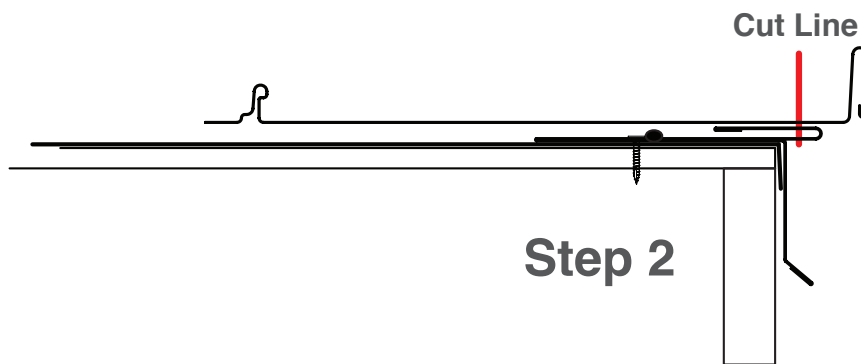
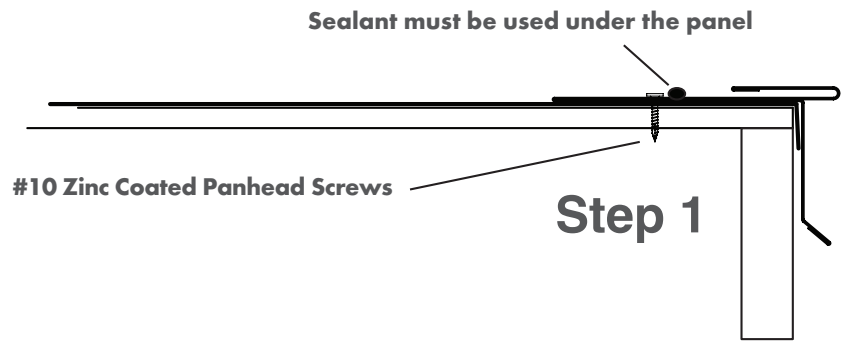
Step 2)



Step 3)



Rake Edge Alternative Option 3



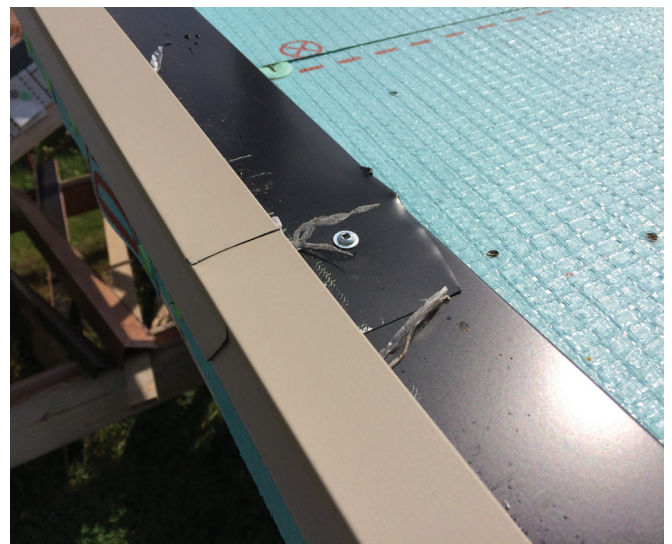
Rake Edge Alternative Option 3 Photos

Sealant Placement



This patent pending design is an alternative to using a z-closure and outer gable. Install the rake edge over the underlayment just like drip edge. Cut the panel to width-from the last panel rib to fit inside the rake edge pocket. Butyl tape or tube sealant is needed between the panel and the rake edge piece. Angle the panel to fit in the pocket of the rake edge, push the panel into the pocket until it fits over the snap lock.

Overlap Detail



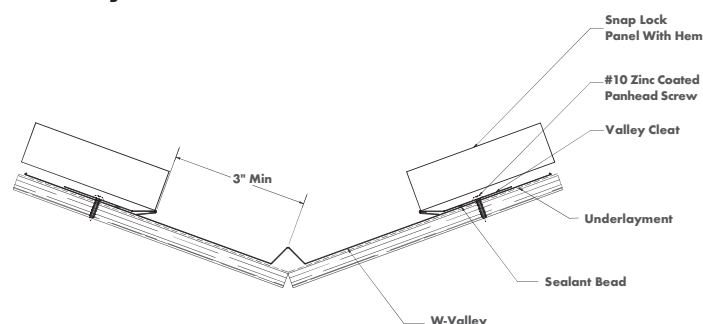
If you are installing on a roof longer than 10ft you will have to seam the rake edge piece. Cut out a 4" to 5" tongue on the upper piece that will fit over the piece below and add sealant under the overlap.

Rake Edge, Valley, Hip and Ridge

Valley Detail:

1. Place a bead of sealant on the underside of the valley cleat to prevent water penetration behind the bottom edge of the roof panel. Be sure the cleat is fastened uphill from the sealant bead. To achieve a 130 MPH wind rating, fasten the valley every 12".
2. Fasten valley cleat with #10 zinc coated panhead screws 3" from the center ridge of the "W" valley.
3. Cut the bottom end of the panels to the valley angle. Leave enough metal (1" maximum) to hem the panel bottom to the valley cleat.
4. Overlap the 10' sections of valley at least 6" and seal with 4" tape or tube sealant. The water lock will have to be cut back to get the upper valley to fit inside the lower piece.

Valley

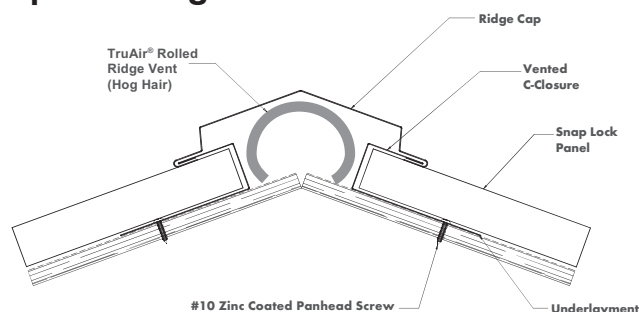


Hip & Ridge Detail:

Snap ridge is a 3 piece trim system utilizing "C" or "Z" closures at the peak of the roof. The ridge cap is fitted over these closures using the factory hem along both edges.

1. Install closures over the roof sheathing and underlayment approximately 1" down from the peak before the panels are installed. Use a section of ridge cap bent to the roof pitch to properly space the closures.
2. Be sure the ventilation opening is not blocked by the closures.
3. The hems on the ridge cap should fit over the edge of the closures on both sides of the ridge. The hem dimension may need to be adjusted depending on the roof pitch.
4. It is recommended to test your ridge cap for a tight fit before fastening the closure on one side of the ridge.
5. "C" Closures and ridge cap can be installed before the panels. This eliminates the need to walk on the finished roof panels. To achieve a 130 MPH wind rating, fasten the closures every 12".

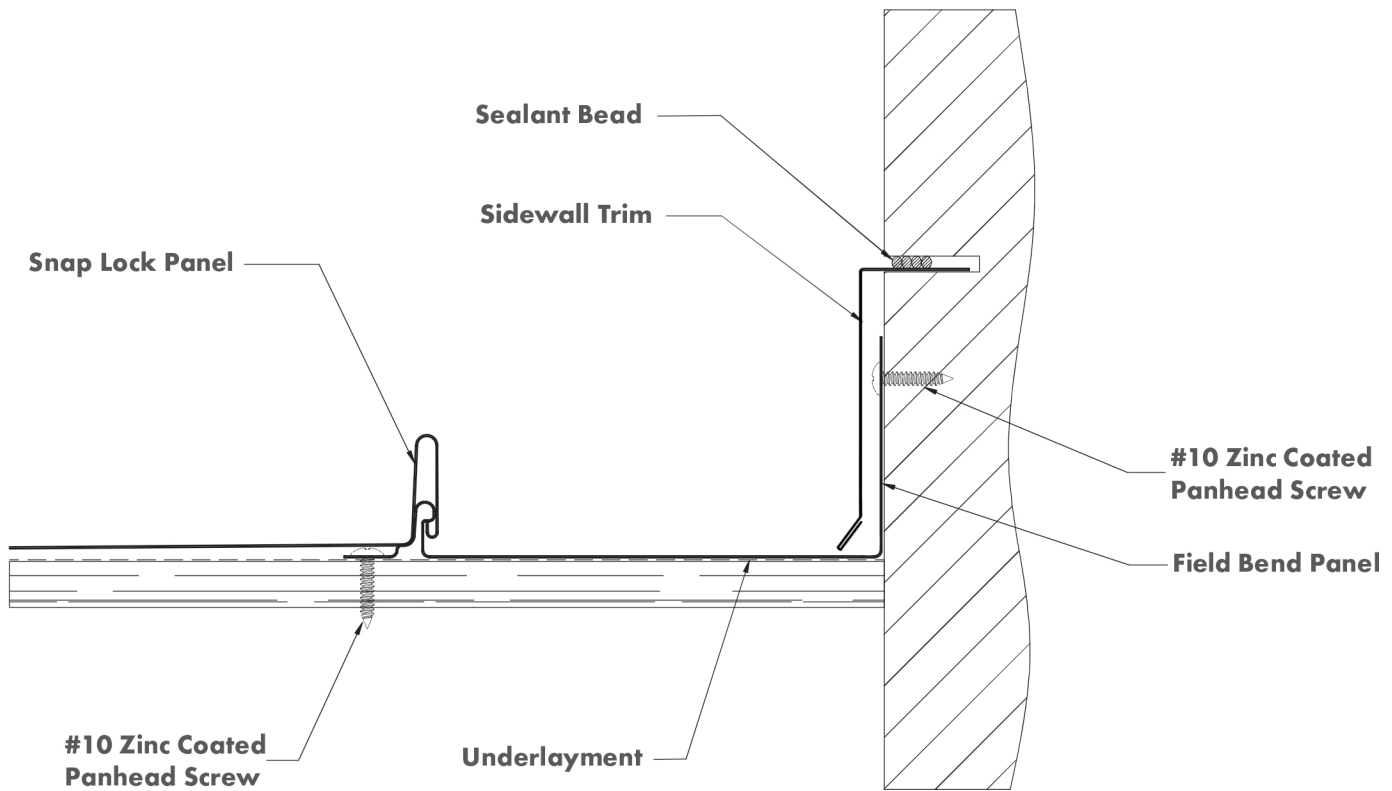
Hip and Ridge



_____ Rolled Ridge Vent (hog hair) recommended for high wind areas to be tucked under ridge cap when using vented C-Closure.

Sidewall Detail

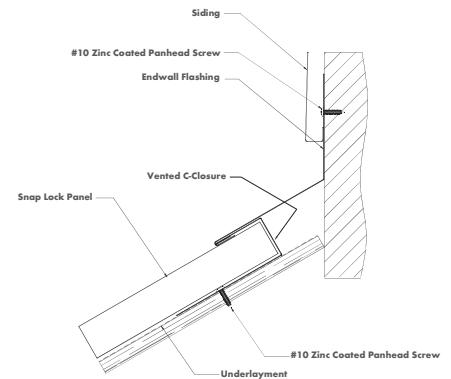
1. Cut the width of the panel to be wide enough to bend up and behind the siding.
2. Bend the cut edge of panel at least 1" up the sidewall, or as much as can be fit behind the siding.
3. Install sidewall trim over the roof panel. If needed, field bend the top of the trim to fit into a wall cut.
4. Fasten the counter flashing into the sidewall, not down to the roof deck. *To achieve a 130 MPH wind rating, fasten every 12".*
5. When needed, overlap sidewall flashing 3" and seal with butyl tape.



Vented Endwall with Detail “C” Closure:

1. Install “C” closure without covering the ventilation opening in the deck.
2. Hook hem of the end wall flashing on the “C” closure and fasten into the end wall.
3. Tuck end wall flashing behind siding or seal the top with butyl sealant as needed. *To achieve a 130 MPH wind rating, fasten every 12”.*

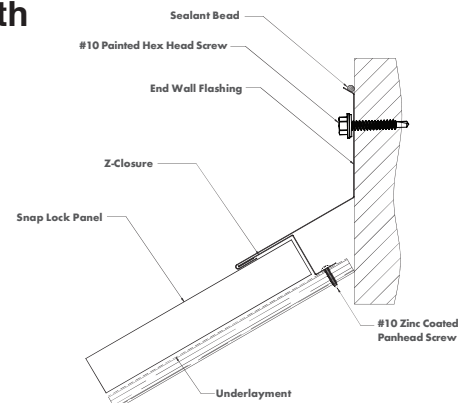
Endwall with C-Closure



Endwall Detail with “Z” Closure:

1. Fasten the “Z” closure on the roof deck low enough to fit into the hem on the end wall flashing.
2. Fasten the end wall flashing into the end wall with the hem hooked into the top of the “Z” closure.
3. Lap end wall flashing behind the siding or seal to the end wall as needed. *To achieve a 130 MPH wind rating, fasten every 12”.*

Endwall with Z-Closure



Transition Detail

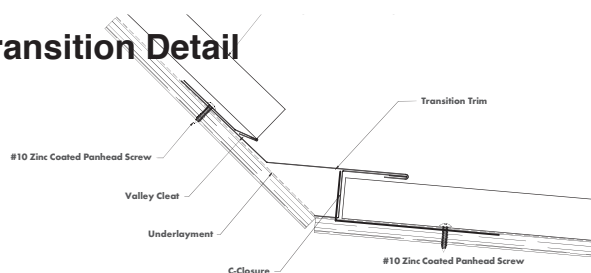
Transition Detail:

1. Install the “C” Closure against the transition, with the opening of the closure facing down the roof.

To achieve a 130 MPH wind rating:

2. Install transition trim with the bottom hem over the edge of the “C” Closure, fastening to the upper section of the roof deck.
3. Install upper course first over top of the transition trim.
4. Then install the lower course under the transition trim, pushing all the way to the back of the “C” Closure before fastening.

Transition Detail



Standing Seam Rooftop Snow Retention Options

There are a lot of options for snow guards in the market. What will follow in this installation guide is one possible solution using Sno Gem® snow guards. Sno Gem has recommended two options of snow guards per profile for metal roofing. The clear plastic snow guards depicted in this installation guide can be acquired from _____ and all the steel or color coordinated snow guards can be acquired direct from Sno Gem.

Snow stops are most often installed on eave edges over areas of concern like walk ways, parking areas, gutters, garage entrances, shrubberies and entryways. Some less common locations to mount snow guards are pipe vent penetrations, above mechanical units or anything that added weight or falling snow could damage. ***If you have no experience or are questioning your judgment on the placement of snow guards it is recommended that you work with Sno Gem on placement locations. The drawings, placement on the panel and mounting methods in this guide are derived from the recommendations of Sno Gem.***

Below are frequently asked questions about snow guards provided by Sno Gem®

Why is rooftop snow retention important? Snow often accumulates on a sloped roof. When temperatures go above freezing, the snow accumulation melts. Without snow guards, the result can be dangerous as the built up snow and ice slides and falls to the ground, and that extraordinarily heavy amount of snow could fall onto a person. The weight of the snow can also easily damage the building as well as the adjoining landscape. Sno Gem Snow Guards reduce the dangers associated with rooftop snow.

How do snow guards work? Once snow is on a roof, heat generated through the roof or from rising exterior temperature melts the snow. The melting process often creates a thin layer of water between the snow and the roof. The water forms a slippery path that the snow and ice follow down, often in one large chunk. Properly placed and attached, Sno Gem snow guards will reduce the potential for cascading snow. Instead of falling off in an avalanche, the snow and ice often drops off in small amounts or melts completely. Also, Sno Gem Snow Guards can help to more evenly distribute the weight of snow and ice on a roof.

What Rooftop pattern will my snow guard placement follow? The correct choice and snow guard placement of the Sno Gems is critical. When you are planning your installation, Sno Gem representatives will work with you to design the most efficient system.

What type of SNO GEM snow guards do I need? In the case of metal roofing Sno Gem has determined the right snow guards for slate, shake, tile and standing seam. Slate and shake profiles can use the Junior Polycarbonate or steel Half Carat with tab. Tile can use the Junior Polycarbonate or the Original metal with tab. The standing seam can use the Junior Polycarbonate or the 2" iClad clamp to seam bar/fence snow retention system.

Can Sno Gem guards match the color of my roof? Sno Gem Snow Guards can be manufactured in standard metal roof colors. We also offer an unlimited amount of custom colors to meet architectural requirements.

Plastic: Standing Seam Guard

Using two Stainless Fasteners, Original Polycarbonate Snow Guard. The clear Original snow guard can be ordered from _____ or you can buy direct from Sno Gem, Their part number is (ORIGINAL SNO-GEM RAW NO 3M Tape).

Bar Option Direct from Snow Gem: Standing Seam Guard

2" iClad clamp to the seam bar/fence snow retention system. This is a standard offering from Sno Gem. Parts for this assembly include a clamping mounting block (Sno Cube KLOC), horizontal beam/fence (2" iBeam) and a 3in wide (2" iPlate) that is designed to reduce melting snow from sliding under the iBeam.

To order steel snow guards or get help with snow guard placement, direct all questions to:

Sno Gem, Inc.

4800 Metalmaster Way

McHenry, IL 60050

Hours: Mon. – Fri. 7:00 A.M. – 5:30 P.M. (CST)

E-mail: info@snogem.com

Toll-Free: 888-SNO-GEMS (766-4367)

Phone: 815-477-4367

Fax: 815-455-4367

Snow Guard Installation Using Fasteners

Installation Instructions are provided by Sno Gem, Inc.

Introduction:

The following installation instructions are provided solely to assist installers. Sno Gem, Inc. recommends that these products be installed by a qualified roofing contractor who will have the knowledge and ability to properly install the product. It is also strongly recommended that adhesive installation be limited to smooth panels to ensure maximum bonding. Sno Gem, Inc. does not take any responsibility for acts, errors or omissions of the installer and cannot be held responsible for product installation. Check with local building code officials for requirements in your area.

Installation Products:

Sno Gem, Inc. recommends and offers the following products in order to provide the most effective installation of the Sno Gem® products. Sno Gem, Inc. cannot be liable for the effectiveness of any products used by the installer which have not been purchased directly from Sno Gem®.

- Isopropyl Metal Panel Cleaner
- Stainless Fasteners with Neoprene Gasket Washers
- SB-190 Tube Adhesive Sealant

These recommendations are based on test believed to be reliable. Please note that installation using an adhesive product should be performed in accordance with the adhesive manufacturer's published instructions. Sno Gem, Inc. does not warrant against adhesive failure and the purchaser must rely on the adhesive manufacturer's applicable warranty, if any.

Installation Instructions:

1. Measure and mark the distance from the eave where the Sno Gem® snow guard is to be installed. Using isopropyl metal panel cleaner, thoroughly clean that area. Before proceeding, make sure the panel is completely dry and free from dirt.
2. Spread an adequate amount of SB-190 Adhesive Sealant evenly across the entire bottom of the snow guard base with a notched adhesive spreader tool ensuring there are no voids, which will cause air pockets if not spread properly.
3. Place the snow guard in position on the roof panel surface, applying firm, even pressure perpendicular to the roof surface to best ensure there are no air pockets.
4. Install each fastener along with a neoprene gasket washer using the pre tapped pilot holes on the snow guard's base as a guide.
5. Apply a continuous bead of SB-190 sealant around the entire perimeter (all 4 sides) sides of the snow guard base and over all screw heads. Smooth the sealant around the edge of the snow guard to create a clean and water tight seal. Failure to perform this step could result in water infiltration between the snow guard and the roof panel and a weakening of the adhesive bond. The sealant application will require regular and ongoing maintenance to remain effective.
6. SB-190 requires a 28 day period at 50 degrees (F) or higher to fully cure and for the best results in adhesion (90% strength is achieved at 12-14 days at 50 degrees (F) or above).
7. Repeat steps 1-5 for each snow guard. Be sure to follow the Architect's and/or Engineer's required spacing and/or layout, including their adjustments for field conditions, if any (a recommended layout is furnished by Sno Gem, Inc. only upon written request).

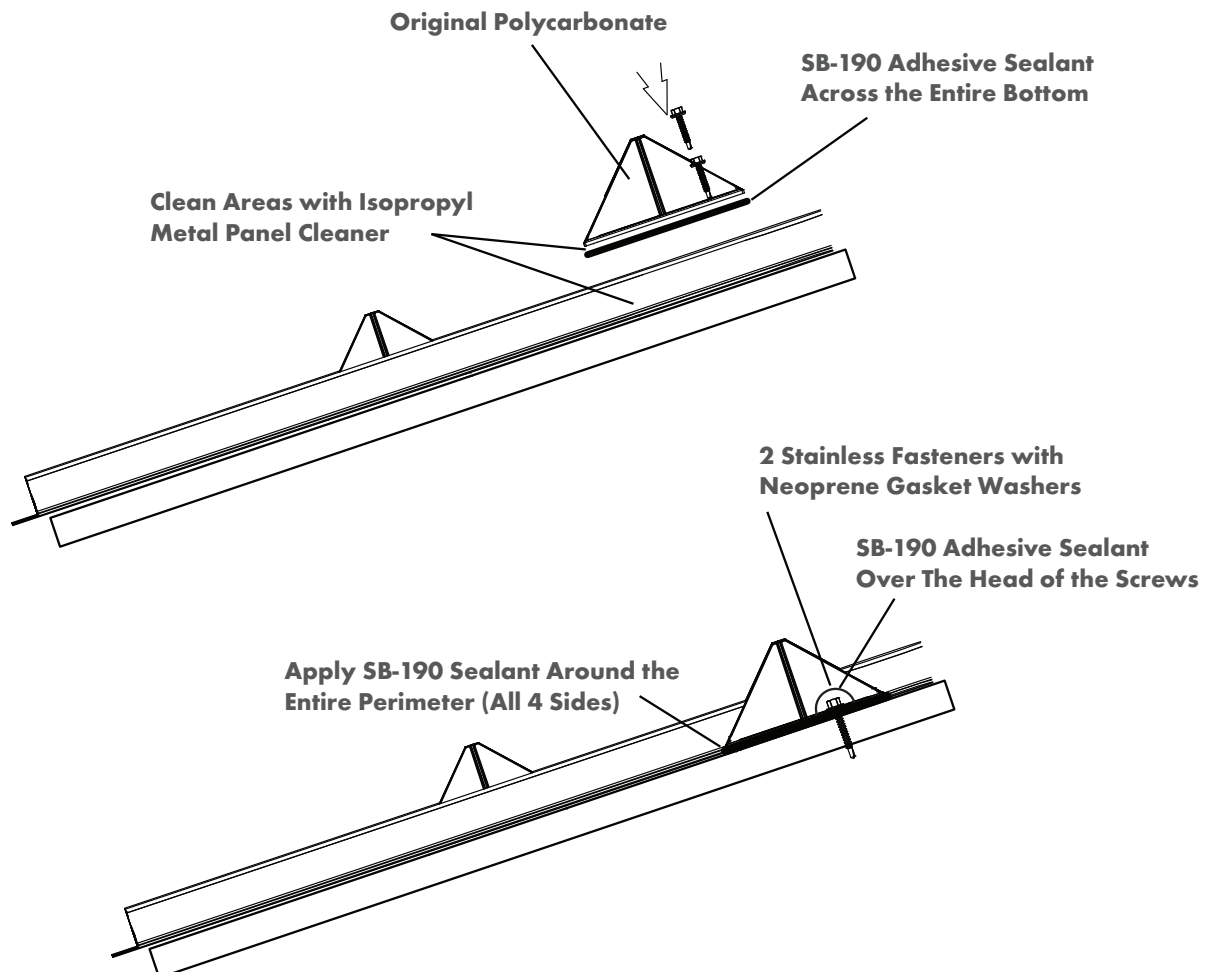
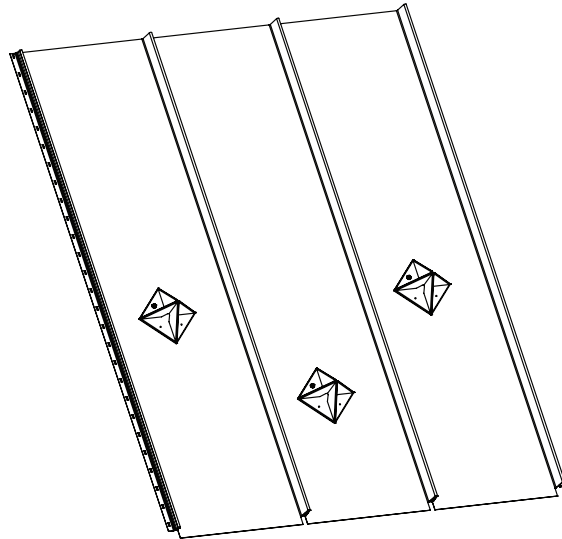
Warranty:

Sno Gem, Inc. does not provide any warranty on the installation of the products. Sno Gem, Inc. will not be responsible of misapplication of the product, incorrect materials or defects that were obvious at the time of installation. Any warranty claim shall be limited to Sno Gem's cost of material on the product determined to have a manufacturer's defect and in no event will Sno Gem, Inc. be liable for any damage, schedule delays or additional labor.

Plastic Snow Guards

Can be ordered from _____ or direct from Snow Gem

5"x5" Original Polycarbonate Snow Guard Snow Retention System



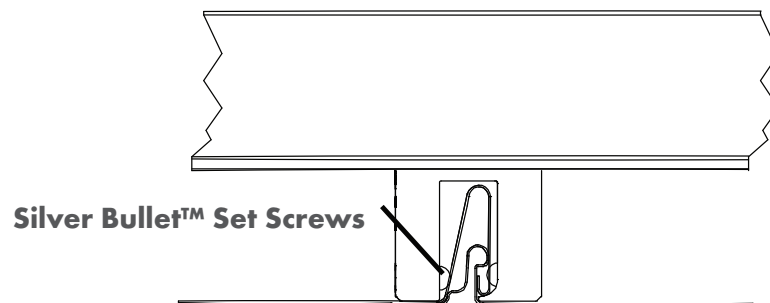
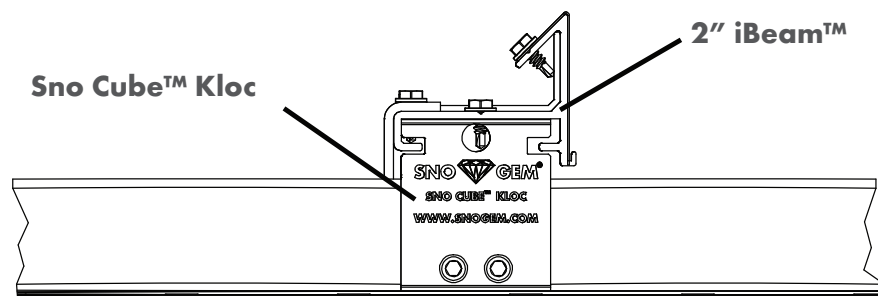
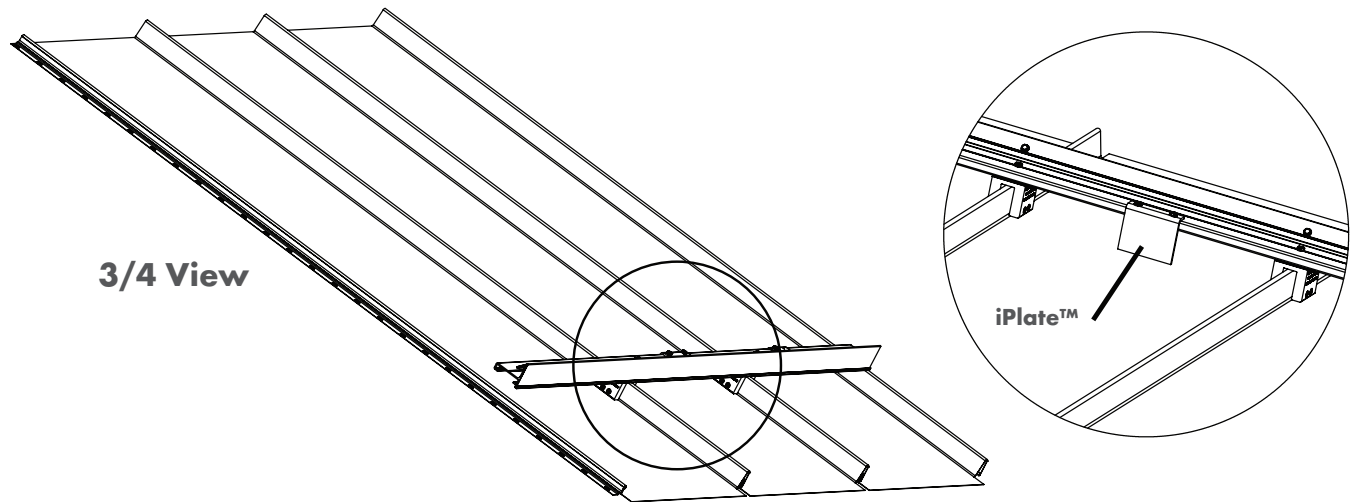
Rooftop Snow Retention Options

Bar/Fence option is only available direct from Snow Gem

Sno Gem's 2" iClad™ Bar/Fence Snow Retention System

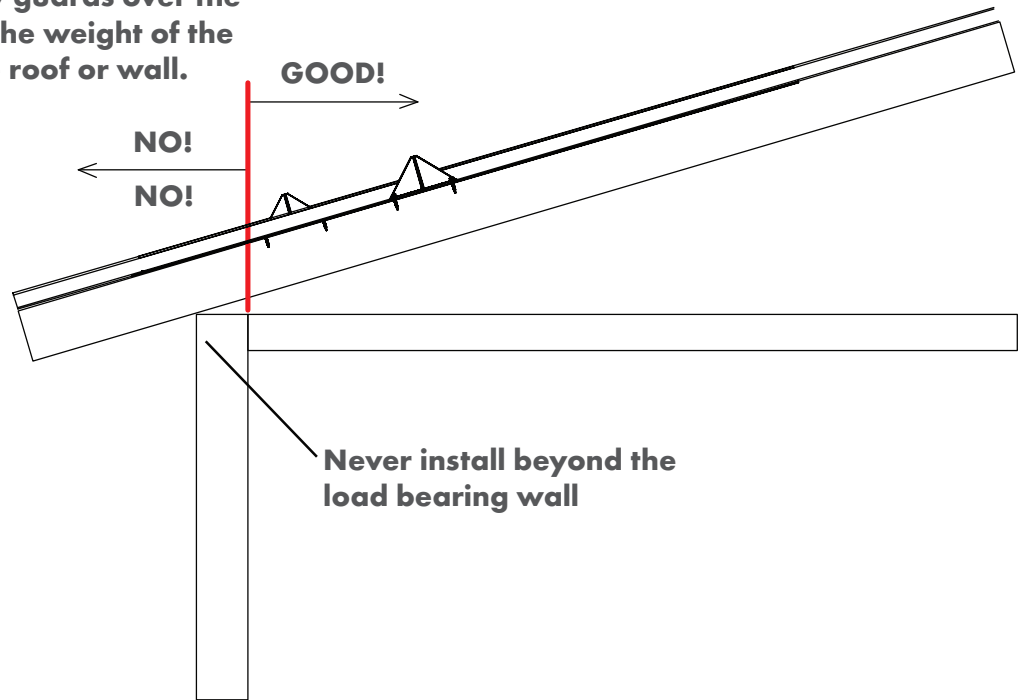
More detailed installation instructions can be found on Snow Gem's website:

http://www.snogem.com/installation_pdfs/STANDARD%20INSTALLATION%20INSTRUCTIONS%20-%202in%20iCLAD.pdf



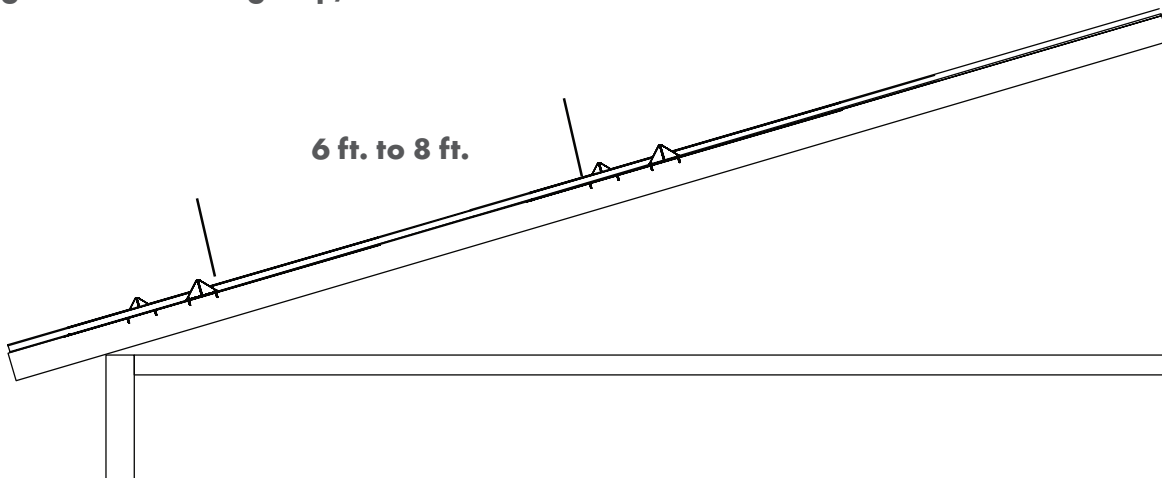
Snow Guard Placement by Lower Roof Edge

Never install the snow guards over the roof edge overhang, the weight of the snow can damage the roof or wall.



Snow Guard Placement on Large Roofs / Extreme Pitch Roofs

If a 2nd group/run of snow guards is determined to be needed. Space the 2nd group/run of snow guard up the roof 6 to 8 feet from the last snow guard in the first group/run.



Snow Guards Shielding Roof Penetrations

On large or extreme pitch roofs, if roof penetrations like vent pipes, skylights or the alike are present in the lower section, it is a good practice to install snow guards above them.

