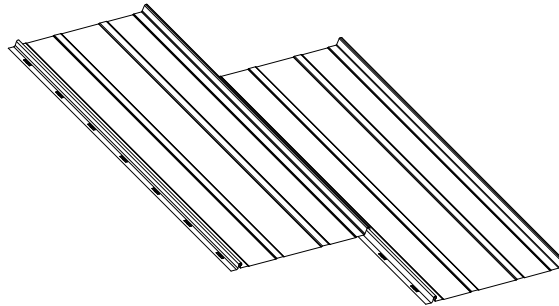
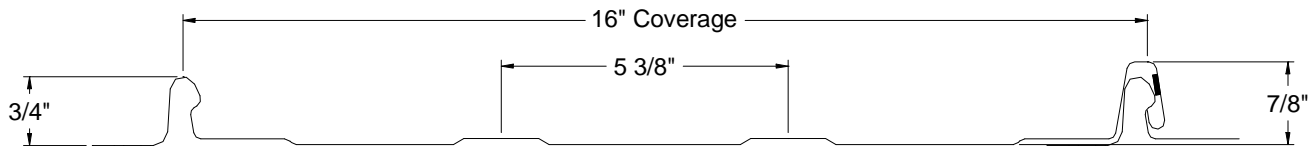


FABRAL[®]

Climaguard[™]



Metal Roofing System Ordering & Installation Guide



Specifications contained herein subject to change without notice
or obligation to make changes in products previously purchased.

Climaguard™
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CLIMAGUARD INSTALLATION GUIDELINES

Important Notice: This guide must be read in its entirety before beginning installation. This guide is supplied by FABRAL, Inc. for use by its customers. This is intended to be a guide only, and does not replace or supercede local or state building codes.

Climaguard roofing must be applied on a minimum roof pitch of 3:12 or greater and requires solid decking.

FABRAL, Inc. assumes no responsibility for any problems which might arise as a result of improper installation or any personal injury or property damage that might occur with the products use.

In certain conditions, panels may show slight waviness commonly referred to as "oil canning." This can occur as a result of the roll-forming process. Oil-canning does not affect the structural performance of the roof system, and is not cause for rejection of material. In areas of high snow or ice accumulations, snow guards, or snow blocks, may need to be added to an Climaguard roof system to reduce or eliminate snow or ice from cascading from a higher roof and damaging lower roofs, roof valleys, gutters, or objects on the ground. Check with your installer and local building codes concerning the use of snow blocks or guards in your area and design appropriately.

MINIMUM RECOMMENDED TOOLS & EQUIPMENT

Caulking Gun—Used for miscellaneous caulking and sealing to inhibit water infiltration.

Chalk Line—Used to assist in the alignment of panels, flashings, etc.

Electric Drill—Used to drill holes such as those required for pop rivet installation.

Electric Nibblers or Metal Shears—Used for general metal cutting, such as cutting the panels in hip and valley areas.

Some installers prefer using a circular saw with a metal cutting abrasive blade. This method may be faster, but it has some drawbacks:

- ❑ *Saw cut edges are jagged and unsightly and tend to rust more quickly than sheared edges.*
- ❑ *Saw cutting produces hot metal filings that can embed in the paint and cause rust marks on the face of the panel.*
- ❑ *Saw cutting burns the paint & galvanizing at the cut edge leading to the onset of edge rust.*

End Bender Tool—Used to hand bend the ends of the panels as indicated in the details of this manual. This tool is available from FABRAL.

Locking Pliers—Standard and "Duckbill" style for miscellaneous clamping and bending of parts.

Marking Tools—Indelible markers, pencils, or scratching tools.

Rivet Tool—Used for miscellaneous flashing and trim applications.

Rubber Mallet – may be used to help snap panels together.

Scratch Awl—Can be made from old screw drivers ground to a point. Used to mark the steel, open hems, and as a punch.

Screw Gun—2,000 to 2,500 rpm Clutch type screw gun with a depth sensing nose piece is recommended to ensure proper installation of the screws. The following bits will be required:

- 1/4" hex
- #2 Combination Square/Phillips bit

Snips—For miscellaneous panel and flashing cutting requirements.

Three pairs will be required: one for left edge, one for right edge, and one for centerline cuts.

Tape Measure—25 foot minimum.

Utility Knife—Used for miscellaneous cutting.

SAFETY CONSIDERATIONS

Never use unsecured or partially installed panels as a working platform. Do not walk on panels until they are in place on the roof and all of the fasteners have been installed.

Metal roofing panels are slippery when wet, dusty, frosty, or oily. Do not attempt to walk on a metal roof under these conditions. Wearing soft soled shoes will improve traction and minimize damage to the painted surface.

Always be aware of your position on the roof relative to your surroundings. Take note of the locations of roof openings, roof edges, equipment, co-workers, etc.

Always wear proper clothing and safety attire. Wear proper clothing when working with sheet metal in order to minimize the potential for cuts, abrasions and other injuries. Eye protection and gloves are a must when working with sheet metal products. Hearing protection should be used when power-cutting metal panels. When working on a roof, fall protection is highly recommended. Follow all OSHA Safety Requirements.

Use care when operating electrical and other power equipment. Observe all manufacturer's safety recommendations.

Roof installation on windy days can be dangerous. Avoid working with sheet metal products on windy days.

DELIVERY, HANDLING & STORAGE

Always inspect the shipment upon delivery. Check for damage and verify material quantities against the shipping list. Note any damaged material or shortages on the bill of lading at the time of delivery.

Handle panel bundles and individual panels with care to avoid damage. Longer bundles and panels may require two or more "pick points" properly spaced to avoid damage that can result from buckling and/or bending of the panels.

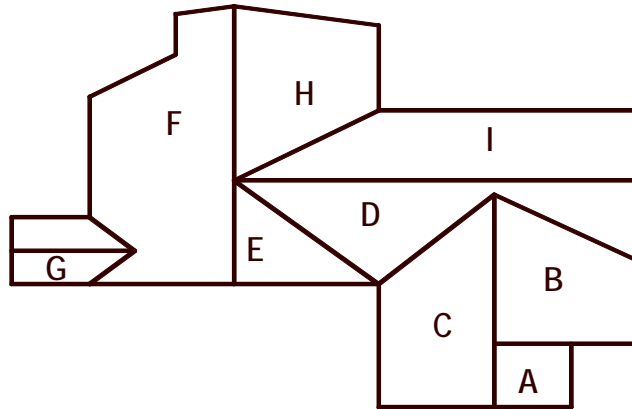
Store the panels and other materials in a dry, well ventilated area, away from traffic. Elevate one end of the bundle so that any moisture that may have accumulated during shipping can run off. If outdoor storage cannot be avoided, protect the metal with a breathable canvas or waterproof paper cover. Leave the bottom of the cover loose to allow air circulation. Do not use plastic which causes sweating or condensation.

Wear clean, non-marking, soft soled shoes when walking on the panels to avoid shoe marks or damage to the finish. Step only in the flat area of the panels. Do not step on the ribs.

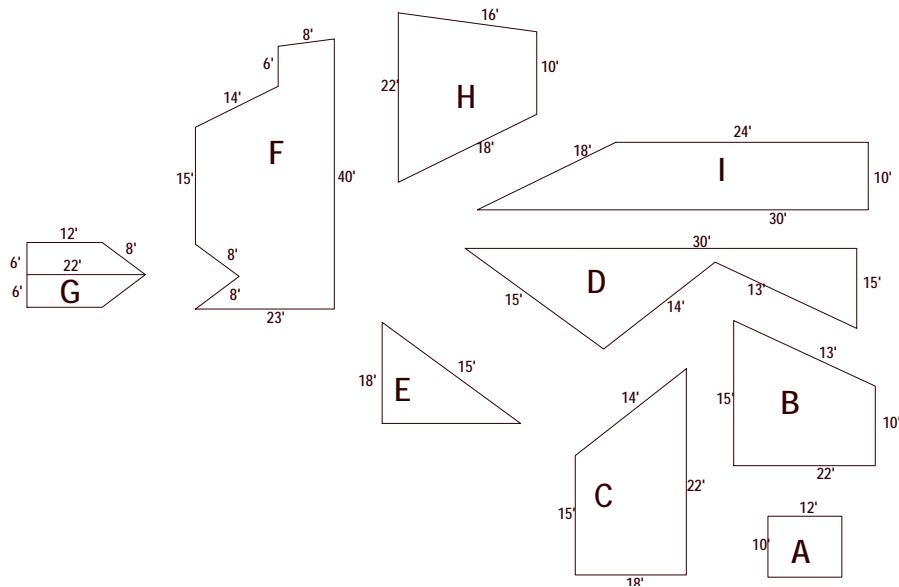
ESTIMATING & ORDERING A ROOF

Step 1

A. Sketch a birds-eye view of the roof and label each section (see example below.)



B. Sketch a diagram of each roof section. Show all measurements (see example below.) **It is important to measure the exact center of the ridge to the eave edge.** Do not allow anything for overhang.



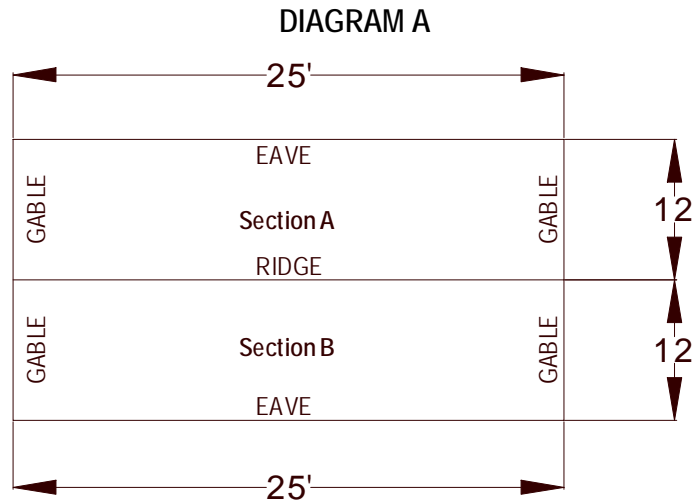
Additional Information Required: Roof Pitch, Skylights (Location & Size), Chimneys (Location & Size), and Size and Number of Pipe Penetrations.

Additional Identification: Ridge, Hips, Valleys, Gables, Etc.

ESTIMATING & ORDERING A ROOF

Step 2

With the information from the diagram you completed in Step 1, you are now ready to complete your roofing panel cut list. Each panel is 16" wide so the only measurement you need is the distance from the eave to the ridge. You can then determine the number of panels needed to cover the length from gable to gable. (See example Diagram A below.)



The length from the eave to the ridge is 12'. The length of the ridge is 25'; therefore, the number of panels to complete one side of the house is $25' \div 1.33'(16'') = 19$ pcs. Your materials list should look like Sample B.

SAMPLE B

Section A - 19 pcs. X 12'

Now look at your roof diagram and figure out your next section of roof. Refer back to Diagram A. Section B of this sample roof is the same as Section A. Your materials list should now look like Sample C below.

SAMPLE C

Section A—19 pcs. X 12'

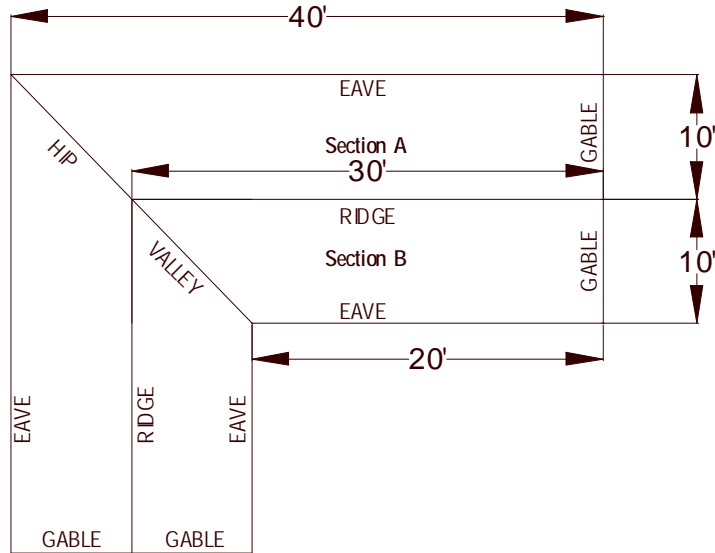
Section B—19 pcs. X 12'

If your home has hips or valleys, refer to Diagram 1A on page 8.

ESTIMATING & ORDERING A ROOF

Step 2 (cont.)

DIAGRAM 1A



Start with section A. The eave length is 40' and the ridge length is 30', with a difference of 10'. You will need 23 pcs. X 10' to reach the area where the hip starts. Remember that you have 10' remaining to cover the area, or 8 more panels. Determine the length of each panel going into the valley by calculating the roof's pitch. Pitch is how much rise your roof has in inches for every foot of horizontal run. Use the Hip and Valley Chart below to ensure you order the correct panel length for hips and valleys, keeping in mind, that panels come cut to the nearest full inch. For example, Diagram 1A is a 4/12 pitch (4/12p). According to the chart below, we know each panel will be 17" shorter. Since we are measuring from the longest point of the angle, your first piece will be the same length as the full eave to ridge measurement and each piece after will be 17" shorter. (Your list of Section A should look like Sample D on page 9.)

Hip & Valley Chart

When determining the panel length needed for a hip or valley, the panel will either be shorter or longer as you go up or down the hip or valley. The chart below shows you the amount to add or subtract from each panel according to the pitch of your roof.

$3/12p = 16 \frac{1}{2}"$	$6/12p = 18"$	$9/12p = 20"$
$4/12p = 17"$	$7/12p = 18 \frac{1}{2}"$	$10/12p = 20 \frac{3}{4}"$
$5/12p = 17 \frac{1}{2}"$	$8/12p = 19"$	$11/12p = 21 \frac{3}{4}"$
		$12/12p = 22 \frac{3}{4}"$

Note: When determining panel length, always round up to the next full inch.

ESTIMATING & ORDERING A ROOF

SAMPLE D

Section A	24 pcs. X 10'
	1 pc. X 8'-7"
	1 pc. X 7'-2"
	1 pc. X 5'-9"
	1 pc. X 4'-4"
	1 pc. X 2'-11"
	1 pc. X 1'-6"
	1 pc. X 1'-0"

Step 3

Refer to the Home Legend of page 16 for trim placement. From this diagram, you can determine the names and placement of the trim needed. All trim is produced in 10'6" sections only. Remember to allow 6" of overlap on all trims. Use the estimating section to determine trim quantities.

For applications of trims and flashings, see pages 17-26.

CLIMAGUARD Estimator/Order Guide

Calculate total lineal feet of panels = (pcs x ft-inches) total sum = _____ In ft.
Use on next page for number of screws needed.

Accessories

Determine total lineal feet of conditions listed below and then fill that number in accordingly at each spot listed, Perform calculating to determine number of pieces for each item and circle flashing design required.

Eave _____

Ridge _____

Hip _____

Gable _____

Sidewall _____

Endwall _____

Valley _____

Transition _____

Gambrel _____

Swept Wing or Flying Gable _____

Clear Story _____

Roof Pitch _____ " in 12"

Chimney (Qty. and size) _____

Skylight (Qty. and size) _____

CLIMAGUARD Estimator/Order Guide

- A. Eave _____ft ÷ 10** = _____pcs. (WEF1 or WEF2 & WEF3 or WEF4)
- B. (Ridge _____ft ÷ 10) *** + (Hip _____ft ÷ 10) = _____pcs (WRH3 or WRH5)
- C. Gable _____ft ÷ 10 = _____pcs (WGF4)
- D. Sidewall _____ft ÷ 10 = _____pcs (WSW3)
- E. Endwall _____ft ÷ 10 = _____pcs (WEW2) Pitch _____
- F. Valley _____ft ÷ 10 = _____pcs (RV2 & WVC1) Pitch _____
- G. Transition _____ft ÷ 10 = _____pcs (WTF1) Pitch from _____ to _____
- H. Gambrel _____ft ÷ 10 = _____pcs Mod. (WTF1) Pitch from _____ to _____
- I. Monoslope _____ft ÷ 10 = _____pcs. (WRH4)
- J. (Perimeter of Skylights/Chimney _____ft ÷ 5) = _____pcs WSCB1 & _____pcs WSCT3
- K. (Total lineal feet of panels _____ft) = _____pcs #10 Pancake Head Screws (Panels)
- L. (Valley _____ft x 2) + (Transition _____ft) + (Gambrel _____ft) + (Swept Wing Gable _____ft) = _____pcs #10 Pancake Head Screws (Accessories)
- M. (Eave _____ft) + (Ridge _____ft x 6) + (Gable _____ft ÷ 2) + (Sidewall _____ft) + (Endwall _____ft x 3) + (Hip _____ft x 6) + (Transition _____ft x 3) + (Gambrel _____ft x 3) + (Monoslope _____ft x 4) = _____pcs #14 x 1" Mill Point Painted
- N. (Ridge _____ft x 2) + (Sidewall _____ft) + (Endwall _____ft) + (Hip _____ft x 2) + (Transition _____ft) + (Gambrel _____ft) + (Monoslope _____ft) = _____pcs #12 x 3/4" Stitch Screw Painted
- O. (Eave _____ft x .0125) + (Valley _____ft x .0125) + (Swept Wing Gable _____ft x .0625) = _____Tubes of Sealant
- P. (Eave _____ft) + (Gable _____ft) + (Ridge _____ft x 4)*** + (Valley _____ft x 2) + (Transition _____ft x 3) + (Perimeter of skylight / chimney _____ft) + (Sidewall _____ft) = _____ Total lf ÷ 40 = _____ Rolls of Butyl Sealant
- Q. End Bending Tool = _____pcs End Bending Tool
- R. (Hip _____lf x 2) ÷ 19.68 = _____rolls.- Sealer Strip (1" x 1" x 19.68' roll)
- S. (Non-Vented Ridge _____ft x 1.5) = _____pcs Climaguard Outside Closure x 16", pre-notched (one per panel)
- T. (Vented Ridge _____ft ÷ 50) *** = _____ctn. Profile Vent (Sold by 2 -- 1"x3"x 50' -- rolls per ctn.)
- U. (Non-Vented Ridge _____ft ÷ 1.33) = _____pcs HORIZON S Outside Closure x 32", pre-notched (covers 2 panels)
- V. (Vented Ridge _____ft ÷ 1.33) = _____pcs. Marco LP2 Vent (Sold by pcs.)
- W. Pipe Boots: _____ #3 (1/4" to 5" dia. pipe) _____ #5 (4 1/4" to 7 1/2" dia. pipe) _____ #8 (7" to 13" dia. pipe)
(add screws and sealant for boots)

** Note: 10 results from 10'6" standard length flashings with 6" overlap.

*** Note: Alternate vented ridge: use WRH3 or WRH5, with RX-10 VersaVent attached. (Will not need ridge butyl or profile vent)

CLIMAGUARD
Estimator/Order Guide
Step 3 (cont.)

When determining the number of fasteners needed, follow these GENERAL rules:

1. For every linear foot of roof panel ordered, you need 1 panel screw.
2. Remember, these are GENERAL rules; the actual amount may vary slightly for each different roof application.
3. At this point, your materials list for Diagram A on page 7 should look like Sample E below.

SAMPLE E

Section A	19 pcs. X 12'
Section B	19 pcs. X 12'
5 pcs.	Eave Trim 5/12p
3 pcs.	Ridge Cap 5/12p
5 pcs.	Gable Trim
600 pcs.	#10 x 1" Wafer Head Panel Screws
300 pcs	#14 x 1" Mill Point screws
100	#12 x 3/4" Stitch Screws
1 tube	Sealant
3 Rolls	Butyl Sealant Tape
1 each	Bending Tool (optional)

You are now ready to order your new metal roof. Simply fill out the following form and provide it to your local FABRAL dealer or distributor. If you have any questions, or need to have your material list checked, please contact your local FABRAL dealer or distributor.

CLIMAGUARD - Order Form

Panels: Color = _____

- _____ pcs. @ _____ ft. _____ in.
- _____ pcs. @ _____ ft. _____ in.
- _____ pcs. @ _____ ft. _____ in.
- _____ pcs. @ _____ ft. _____ in.
- _____ pcs. @ _____ ft. _____ in.
- _____ pcs. @ _____ ft. _____ in.

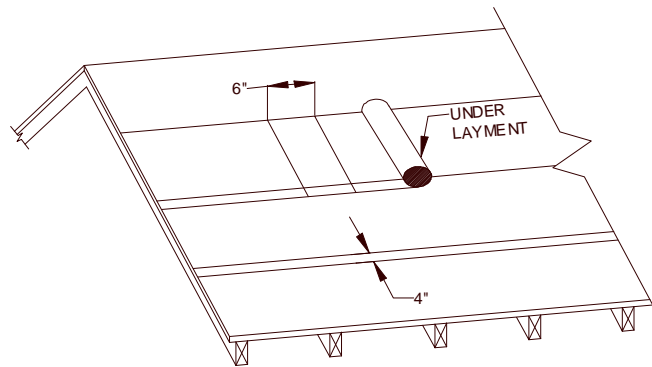
Accessories:

- _____ pcs. of Eave Flash _____ (flashing code ex: WEF1)
- _____ pcs. of Ridge Flash _____ (WRH3, WRH5)
- _____ pcs. of Gable Flash WGF4
- _____ pcs. of Sidewall Flash WSW3
- _____ pcs. of Endwall Flash WEW2
- _____ pcs. of Valley Flash RV2
- _____ pcs. of Transition Flash WTF1
- _____ pcs. of Gambrel Flash WTF1 mod.
- _____ pcs. of Swept Wing Gable WEF1, etc
- _____ pcs. of Monoslope Flash WRH4
- _____ pcs. of #10x1" Wafer Head (Panel Screws)
- _____ pcs. of #10x1" Wafer Head (Accessories Screws)
- _____ pcs. of #14 x 1" MP Painted
- _____ pcs. of #12 x 3/4" Stitch Screw Painted
- _____ pcs. of Tube Caulk
- _____ pcs. of WSCB1
- _____ pcs. of WSCT3
- _____ rolls. of Butyl Sealant Tape
- _____ pcs. of Eave/End Bending Tool
- _____ pcs. of Touch-up Paint
- _____ ctns of ProfileVent
- _____ pcs. of Climaguard Outside Closure
- _____ pcs. of Pipe Flash
- _____ Roof Underlayment

NEW ROOF APPLICATION

1. Make sure there are no nails or other objects protruding from the substrate that might puncture the underlayment or damage the roof panels. Clean all debris from the deck.
2. Check all details for possible roof penetrations which must be added to the deck prior to roof panel installation (vented ridge for example).
3. Cover the entire roof deck with 30-pound felt paper, or Titanium Underlayment (hereinafter referred to as underlayment). Begin at the eave at the gable end and roll out the underlayment horizontally (parallel to the eave). Allow each consecutive course to overlap the previous one by 4-6". Overlap the end a minimum of 6" when starting a new roll of underlayment. Areas of underlayment that have been torn or cut should be replaced or repaired prior to installation of the metal roof. (See Illustration #1 below) Ice & Water shield should be used in cold climates starting at the eave and extending at least 24" past exterior walls.

ILLUSTRATION #1



4. Ensure panels are squared to the eave, not the gable.

EXISTING ROOF APPLICATION

In many cases, FABRAL's Climaguard Panels can be installed over existing roofing.

Some jurisdictions will allow retrofit over certain types of roofing without tear-off of the old roofing. For best results, always use furring strips and 30 lb. felt paper over old shingles. Furring strips can be installed 12" o.c. with Climaguard to provide adequate panel support and wall capability. This panel should have a solid deck to lie on. This can be accomplished by adding rigid insulation between the furring strips. Check with your local codes or building department for the specific requirements in your area.

If the roof is to be stripped down to the existing decking, follow the procedures for new roofs on page 13. Be sure to check the existing roof and repair any damaged areas prior to installation of the new roof system.

The following steps should be taken when installing Climaguard roof panels over existing roofing.

- ❑ Inspect the roof for damage and make the necessary repairs.
- ❑ Secure any warped or loose roofing material.
- ❑ Make sure there are no nails or other objects protruding from the roof that might puncture the new underlayment or damage the new roof panels.
- ❑ Remove all moss and other debris from the roof.
- ❑ Cut off any overhanging roofing flush with the roof deck, and remove all hip and ridge caps.
- ❑ Follow the directions on page 13, #2 through #4, on roof preparation.




Note: For best results, Climaguard Roofing requires a relatively smooth and flat substrate. Application over rough and/or uneven surfaces is not recommended, as this will cause oil-canning.

PANEL INSTALLATION

Note: Prior to panel installation, determine which items need to be installed prior to panels (such as vent screen, eave, valley, swept wing, etc.)

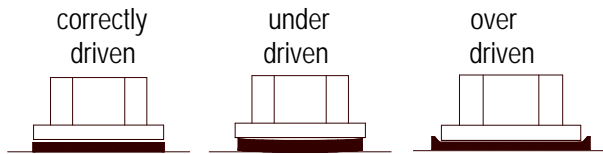
1. Install eave trim.
2. Working off the eave edge, establish a straight line up the gable edge from which you are starting. This will insure that the first panel laid will be straight and square with the eave. (See Illustration #2 – page 13)
3. Before fastening the panel to the roof deck, hem 1" of the panel 180deg. (or allow a 1" overhang to attach an angle piece to the eave when using WEF4).
4. Once the first panel is in proper position, secure it to the roof deck with the proper fasteners along the screw flange (#10 x 1" Pancake woodscrew on 18" centers maximum.)
5. Install the gable trim and face screw it to fascia board (see page 18). This fully secures the first panel to the roof deck.
6. Position the second panel (overlap edge on top of the underlap edge of first panel) assuring that the eave edge is in position (1" overhang). Secure the second panel to the first panel by applying slight pressure with your foot on the overlap seam (or use rubber mallet) working from the eave toward the ridge. **The overlap edge of the panel contains factory-applied sealant to ensure weathertightness. Be sure that you achieve a positive engagement between panels.** Fasten the panel to the roof deck as in step #3 above.
7. Each consecutive panel will be applied as in step #3 and #5 above.

CLIMAGUARD - FASTENERS

Description	Use
#10 x 12 Wafer Head Screw 	Panel to Deck or Trim to Wood Attachments (Unexposed)
#14 x 1" Mill Point Screw 	Panel to Deck Attachments at ridge. Also used for flashing to fascia applications
#12 x 3/4" Stitch Screw 	Panel to Panel or Trim to Panel Attachments (may be used as an alternative to blind rivets)

Listed above are the fasteners recommended for the proper installation of the CLIMAGUARD panels. Also note the diagram below for proper installation of gasketed fasteners.

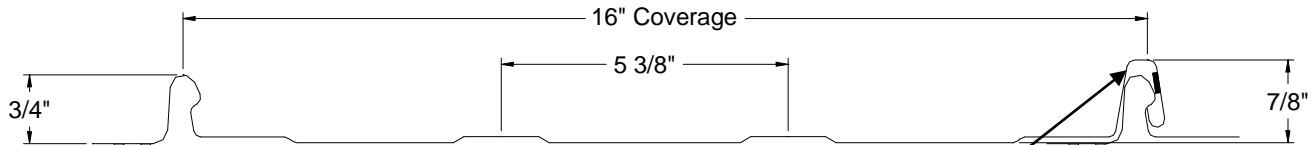
PROPER INSTALLATION OF GASKETED FASTENERS



Load Table – Steel Panels
 LOAD-SPAN TABLES FOR 26 ga. CLIMAGUARD ROOFING
 Allowable wind uplift loads (psf)

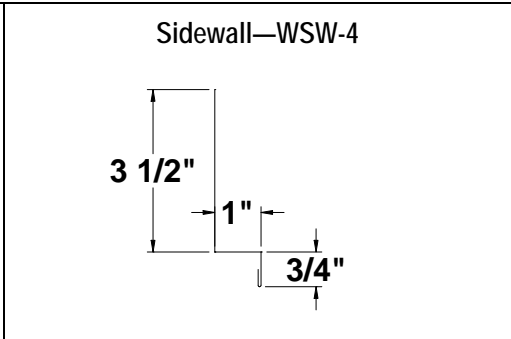
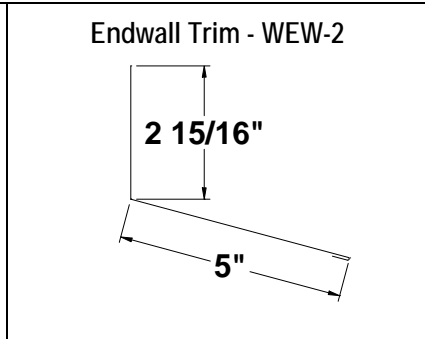
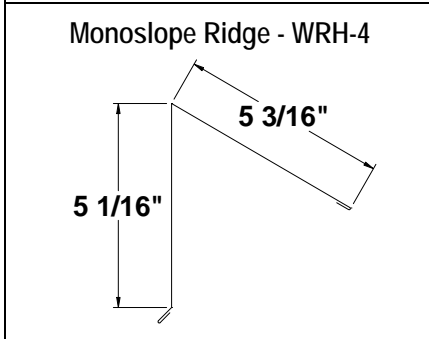
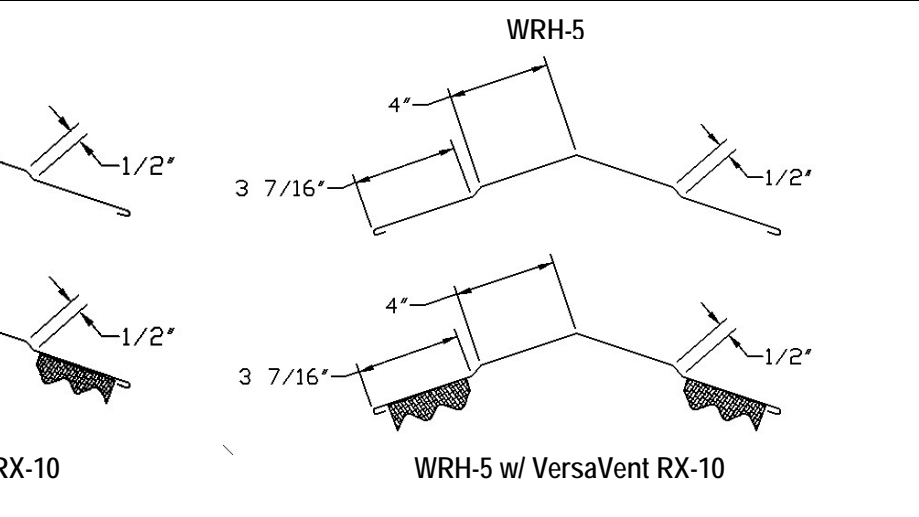
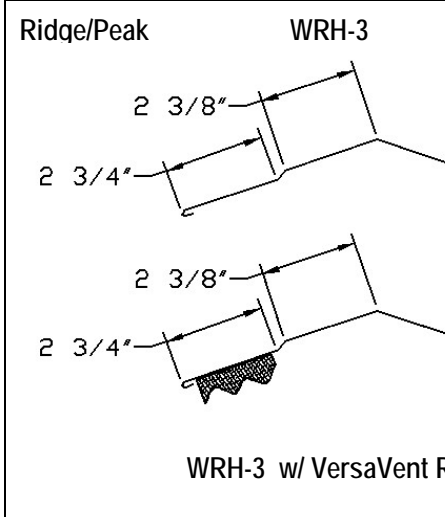
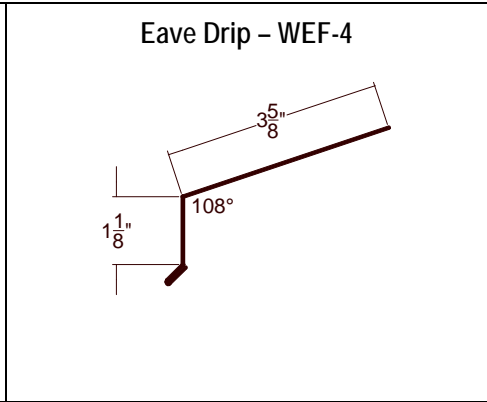
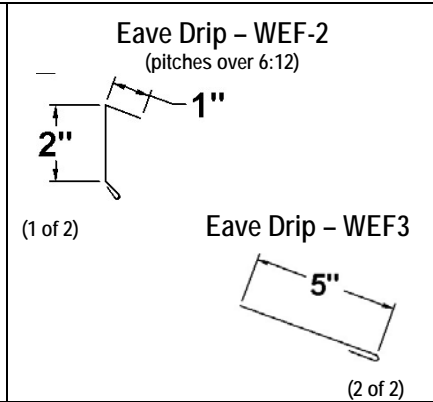
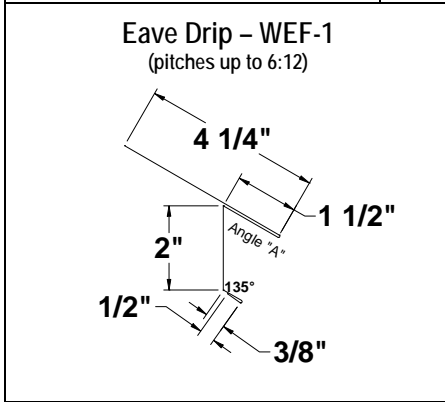
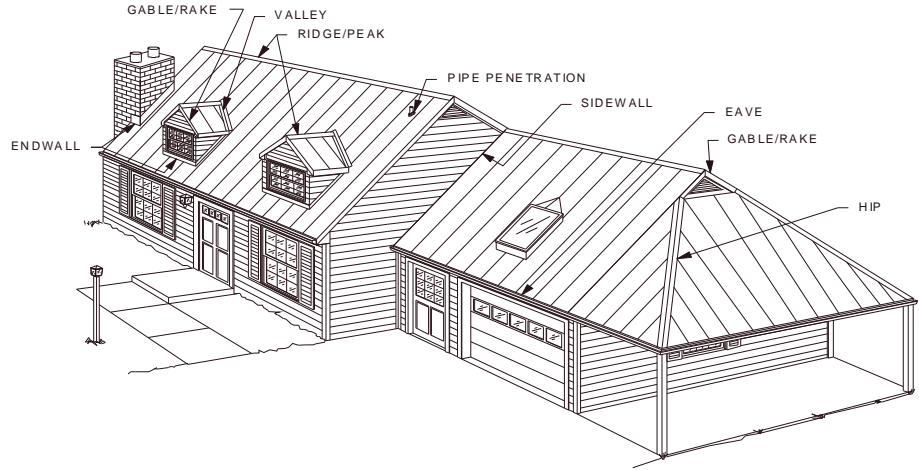
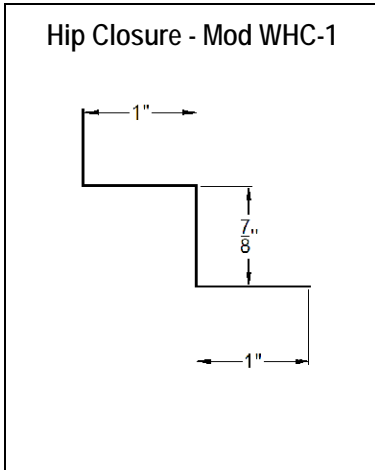
Substrate	Fastener	9"	12"	15"	18"	21"	24"
1/2" Plywood	#10 x 1" Pancake Head	80	60	48	40	NR	NR
5/8" Plywood	#10 x 1" Pancake Head	115.7	86.8	69.5	57.8	49.6	43.4
7/16" OSB	#10 x 1" Pancake Head	57.1	42.8	NR	NR	NR	NR

Climaguard Panel Profile

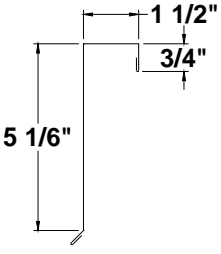
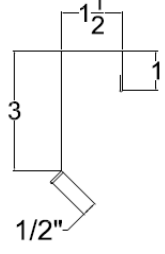
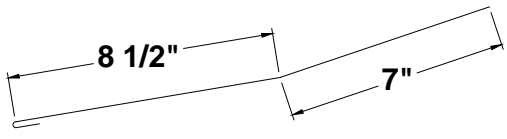

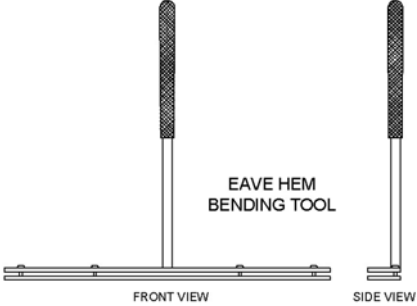
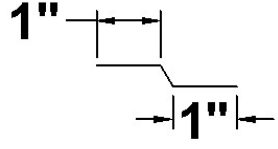
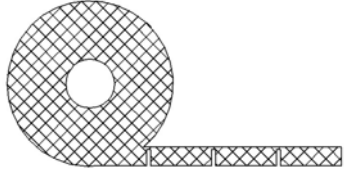




Note: remove strippable film upon installation

Climaguard™ Typical Flashings



Climaguard™ Typical Flashings (cont.)

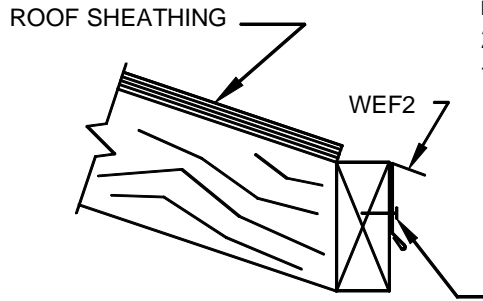
<p>Gable Trim - WGF-4</p> 	<p>Gable Trim - WGF-6</p> 	<p>Transition Trim - WTF-1</p>  <p>Gambrel Trim - Mod WTF-1 (bent down)</p>
<p>W-Valley Flashing - RV-4</p> 		 <p>EAVE HEM BENDING TOOL</p> <p>FRONT VIEW SIDE VIEW</p>
<p>WVC-1 Valley Cleat</p> 	<p>Profile Vent</p> 	
<p>#10 x 12 Wafer Head Screw</p> 	<p>#14 x 1" Mill Point Screw</p> 	

HEMMED EAVE DETAIL

STEP 1

TWO-PIECE EAVE TRIM

(Use when roof pitch is greater than 6:12)

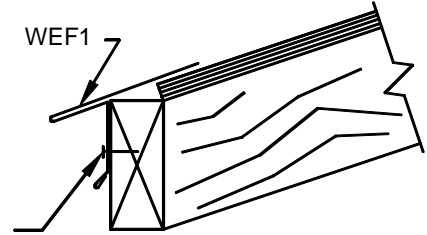


1. Line WEF2 or WEF1 top in line with plywood/purlin.
2. Screw at 16" o.c. across face of trim.

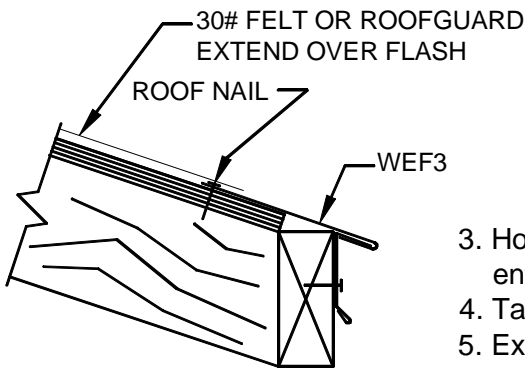
#14 x 1" PAINTED

ONE-PIECE EAVE TRIM

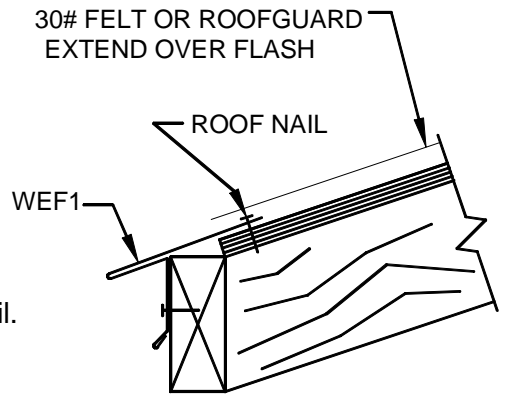
(Use with roof pitches up to 6:12)



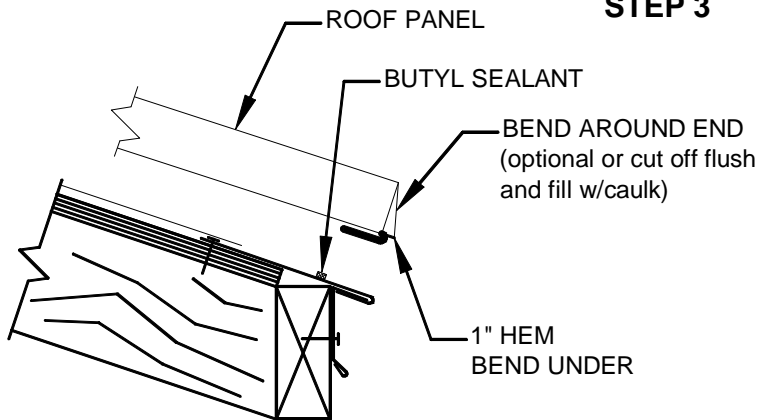
STEP 2



3. Hook WEF3 over hem entire length.
4. Tack in place with roofing nail.
5. Extend felt over eave trim.



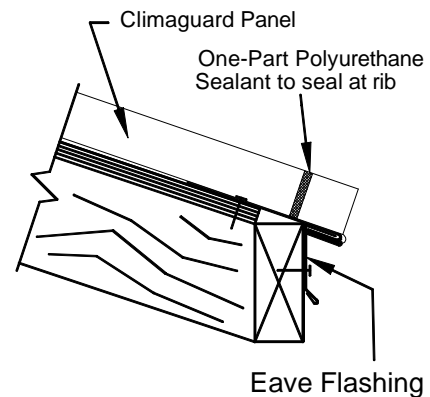
STEP 3



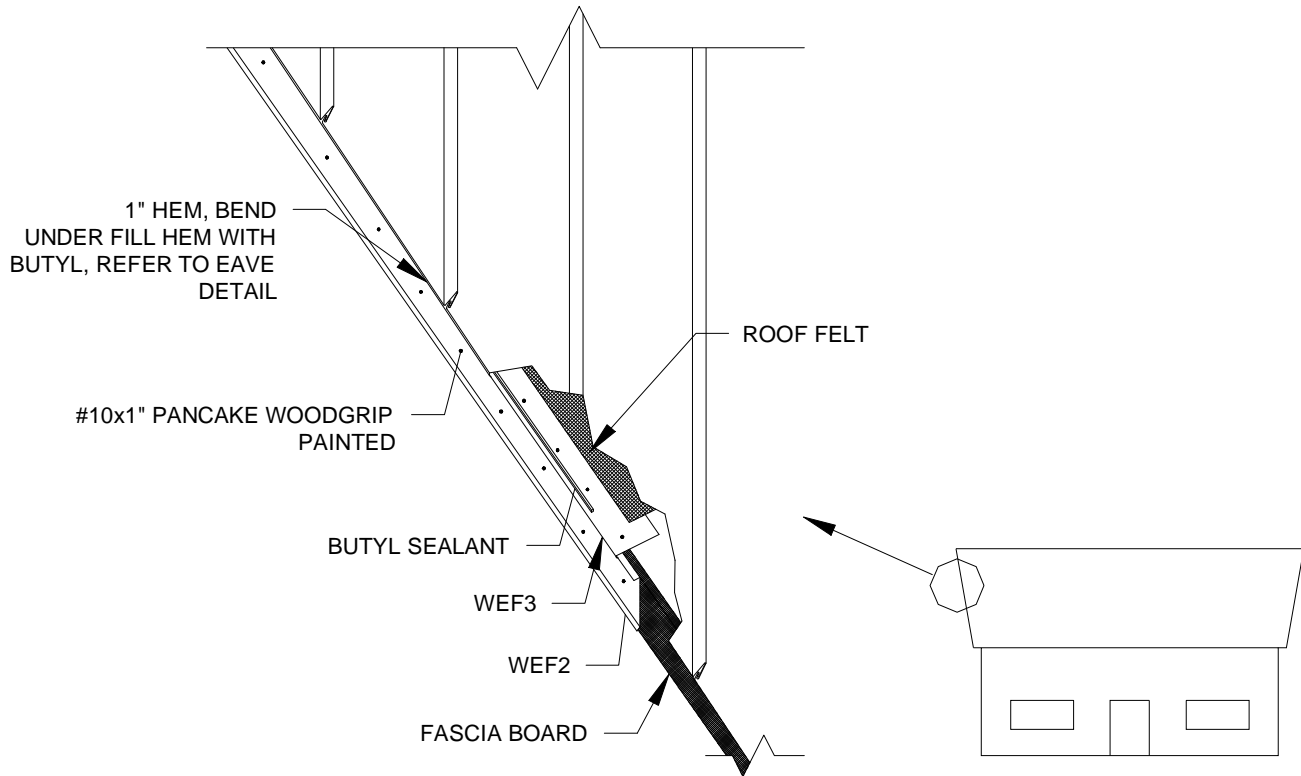
6. Mark 1" in pan of panel and cut beside each rib with a tin snips.
7. Use bending tool to bend hem under the panel.
8. Cut underlap leg off completely for 1".
9. Cut overlap leg as shown on angle. Cut to produce a triangular piece to fold, closing the open rib.

STEP 4

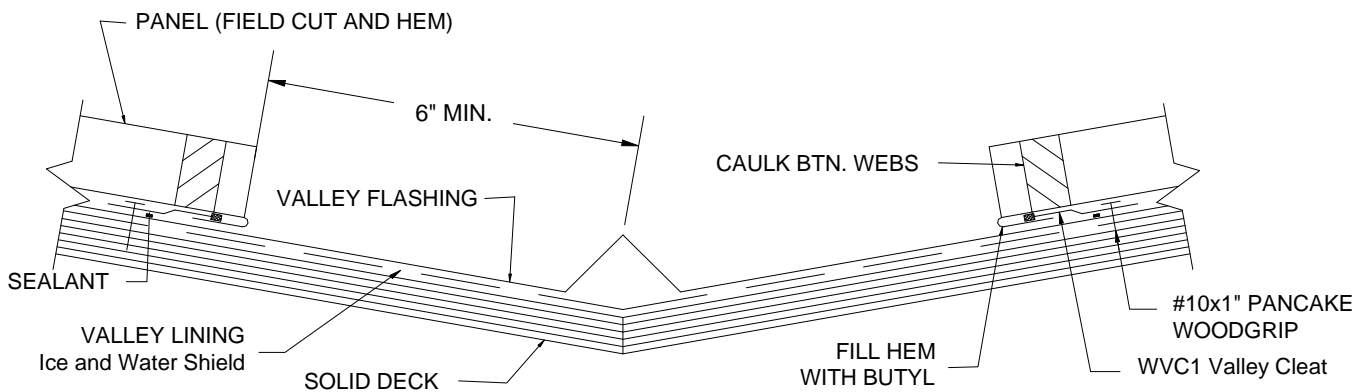
10. Caulk with One-Part Polyurethane up underlap leg.
11. Slide panel over eave hem, tight (in cold weather) or with gap (in warm weather). Snap panels together by applying pressure to the panel rib. Start at the eave and work toward the ridge.



SWEPT WING GABLE (FLYING GABLE) DETAIL



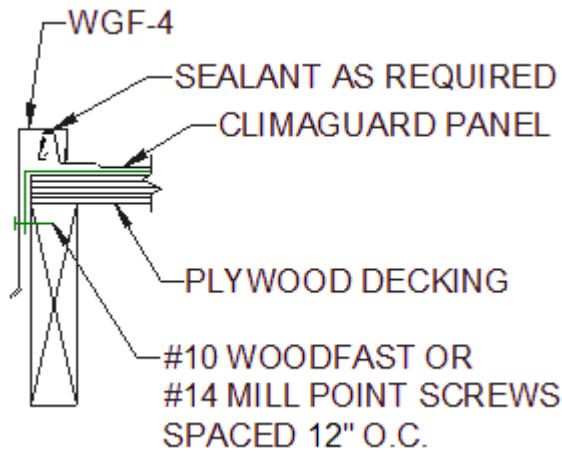
VALLEY DETAIL



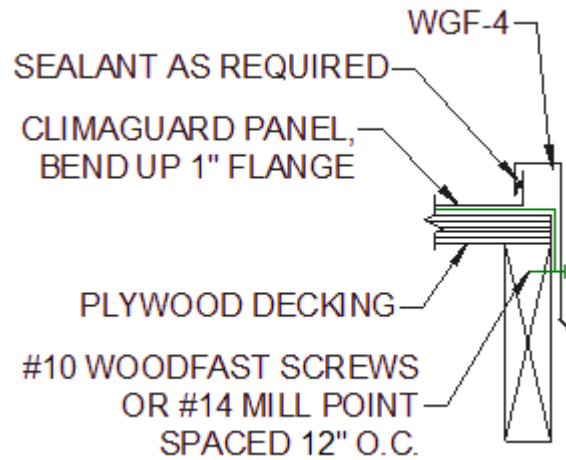
Notes:

1. Ice and water shield or similar membrane is recommended in all valleys. Install this before installing roofing felt.
2. Roofing underlayment not shown.
3. Place a second layer of 36" roofing underlayment in the center line of the valley with 18" of underlayment on each side of the valley. Additional underlayment may be required in cold climates due to ice damming.
4. When valley flashing is overlapped, 6" of lap is recommended with sealant applied under the lap.
5. Refer to above detail.

START GABLE DETAIL



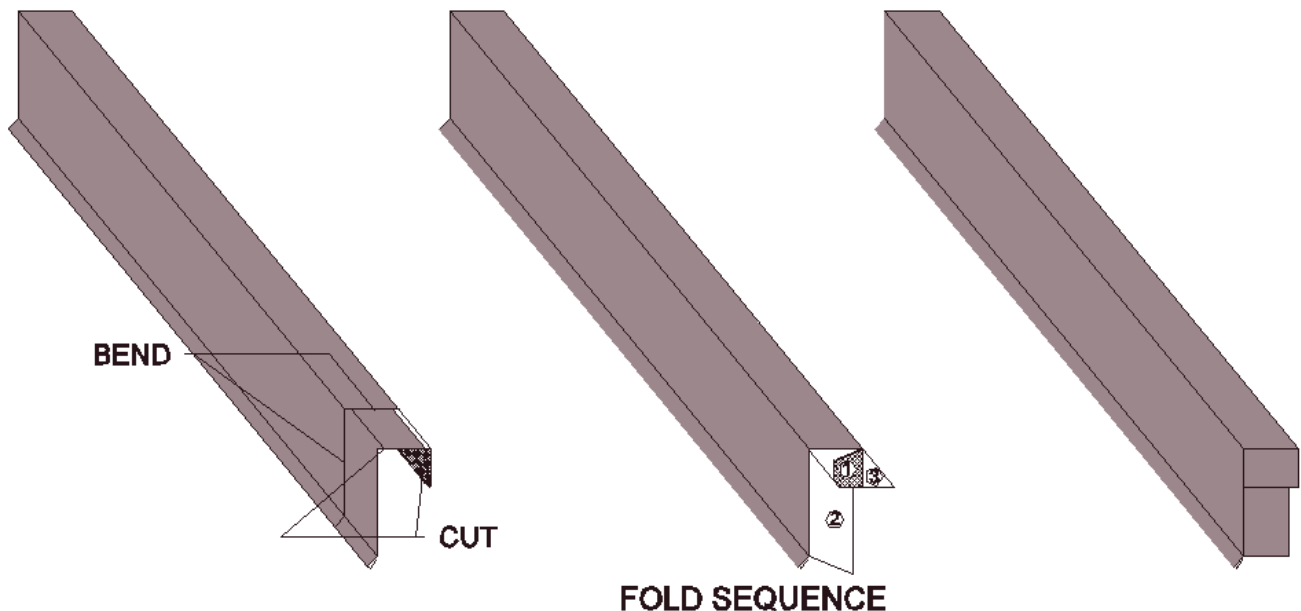
FINISH GABLE DETAIL



Notes:

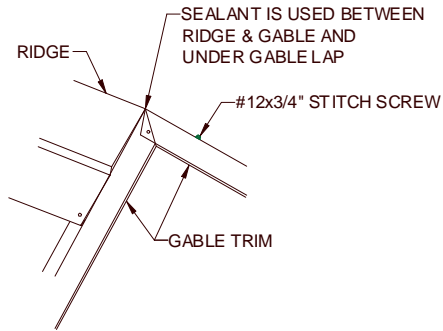
1. Roofing underlayment not shown.
2. Install the gable trim by placing it over the seam rib as shown and fasten it to the fascia board at 12" on center.
3. The eave end of the gable trim can be closed off by snipping and folding.
4. For gable detail at ridge, see page 19.
5. When the last roof panel overhangs the gable end cut off excess and finish as shown below.

FINISHING THE GABLE TRIM

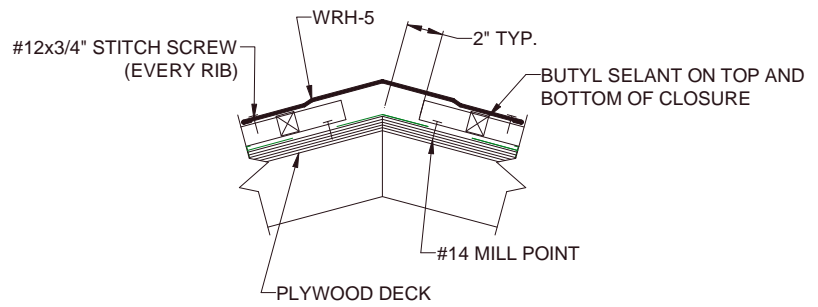


After snapping the gable flash over the cleat, pull the gable flash over the eave end fascia by 2" to 3" to finish fold. See diagram for cuts and bending locations. Always fold the sides in first and fold the top flap down last so water will run off and NOT run in.

RIDGE & GABLE DETAILS



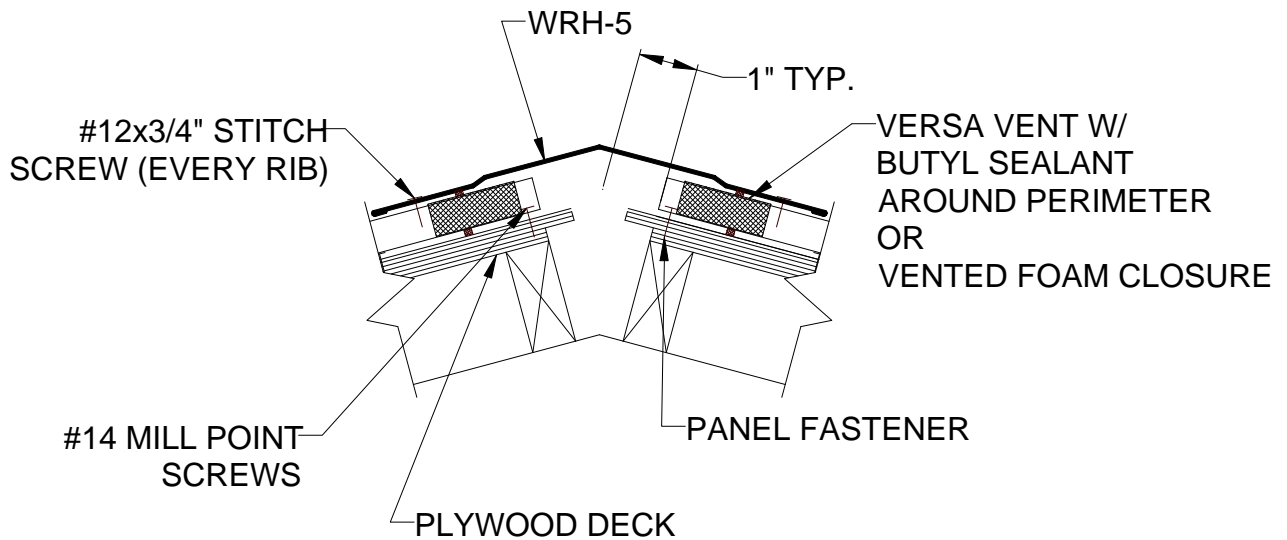
RIDGE DETAIL (NON VENTED)



Notes:

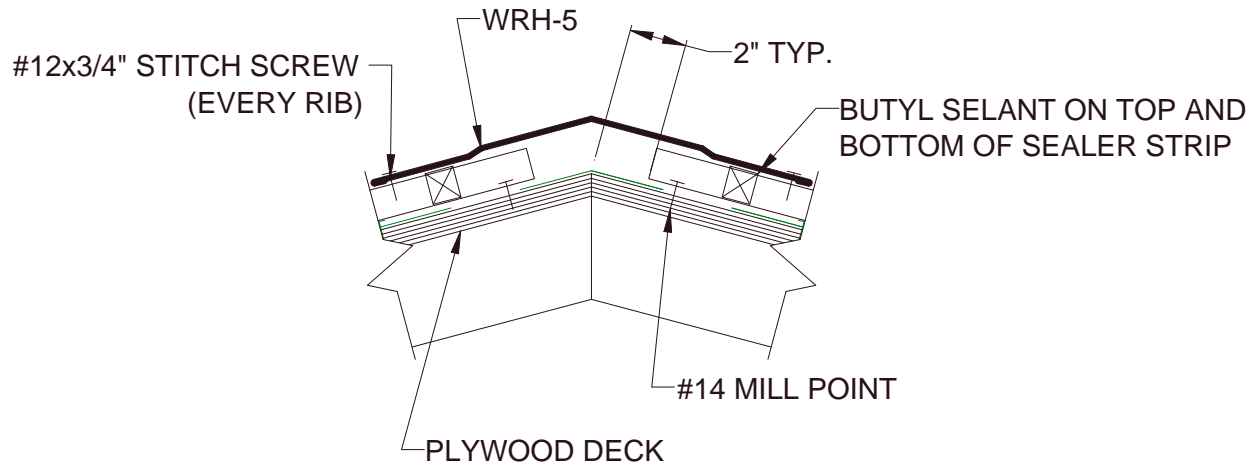
Refer to installation instructions below.

VENTED RIDGE

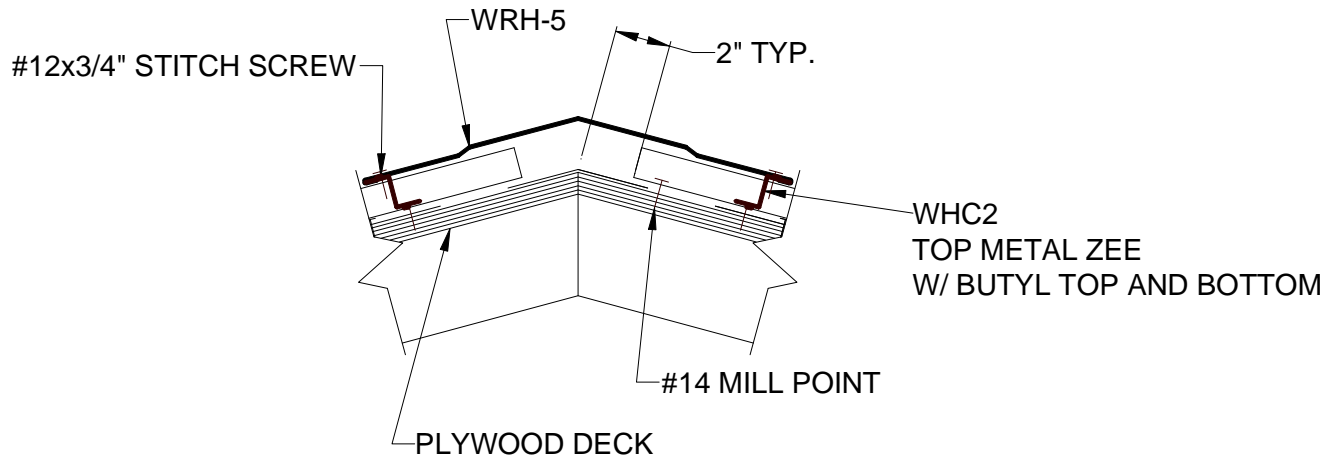


2. Roofing underlayment not shown.
3. Plywood should be held back or cut back 1" from each side of the ridge.
4. Use WRH-3 or WRH-5 for pitches up to 4:12.
Use WRH-5 for pitches greater than 4:12.
5. Install ProfileVent on each side of the ridge. (WRH3 or WRH5)
If using VersaVent RX-10, ProfileVent and the butyl sealant is not needed
6. Fasten the ridge cap using #12 x 3/4" stitch screws on each panel rib 1" back from the edge of the ridge cap.

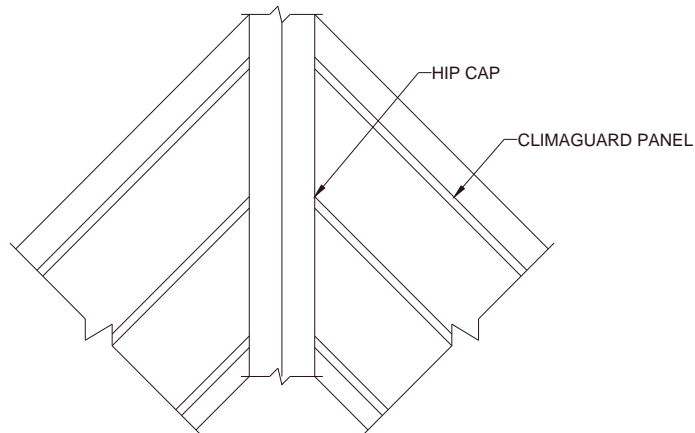
HIP DETAIL



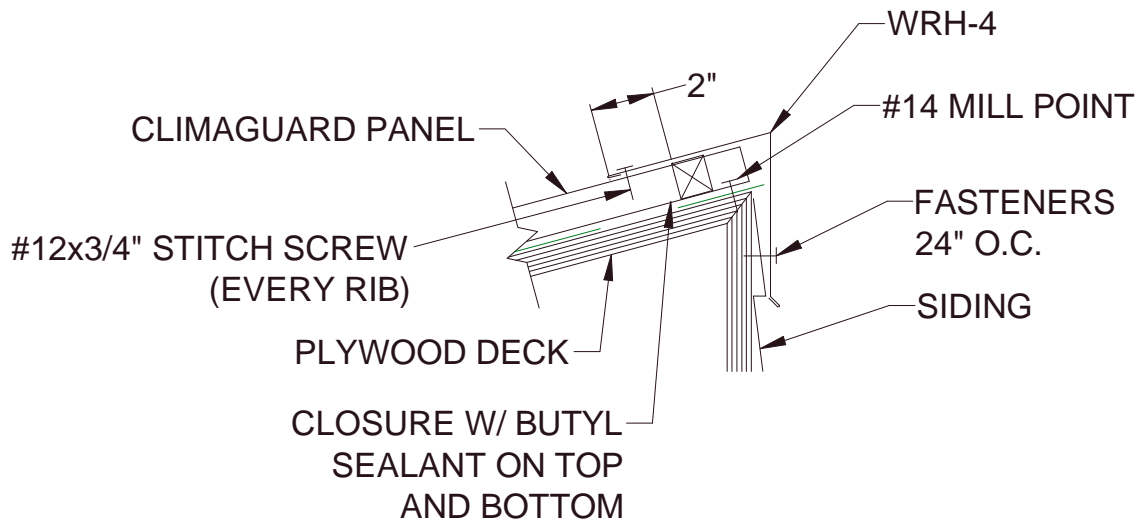
ALTERNATE HIP DETAIL



HIP ROOF—PLAN VIEW



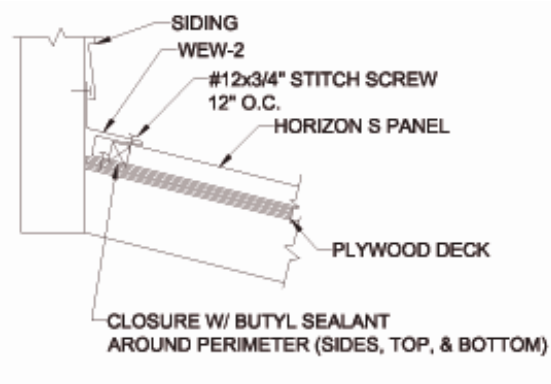
MONOSLOPE RIDGE CAP



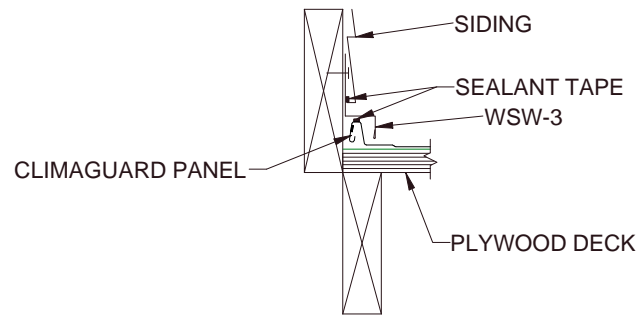
Notes:

1. Roofing underlayment not shown.
2. Apply sealant to the bottom of the foam closure and position it on the roof panel approximately 2" back from the edge of the flashing as shown.
3. Apply sealant to the top of the foam closure.
4. Install flashing as shown.
5. When more than one length of flashing is used, a 6" minimum overlap is recommended. Apply sealant between the laps.

ENDWALL DETAIL



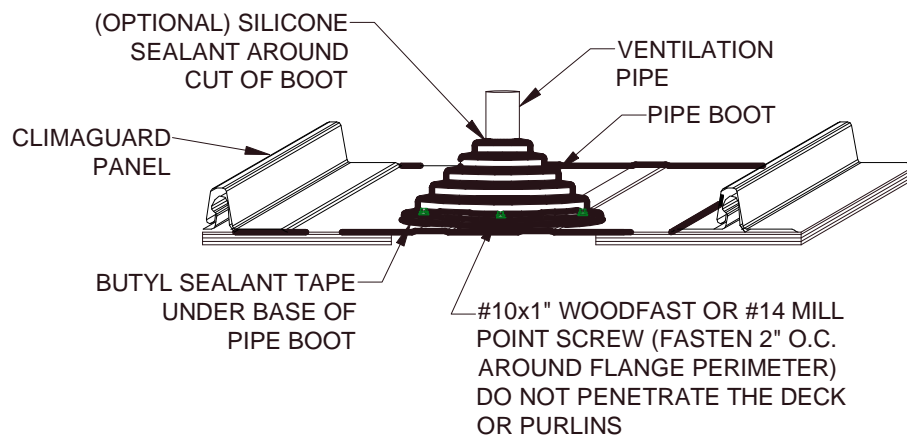
SIDEWALL DETAIL



Notes:

1. Roofing underlayment not shown.
2. Install the foam closure as shown using sealant on the top and bottom.
3. Install endwall flashing as shown.
4. When more than one length of endwall trim is needed, a 6" minimum overlap is recommended with sealant between the lap.

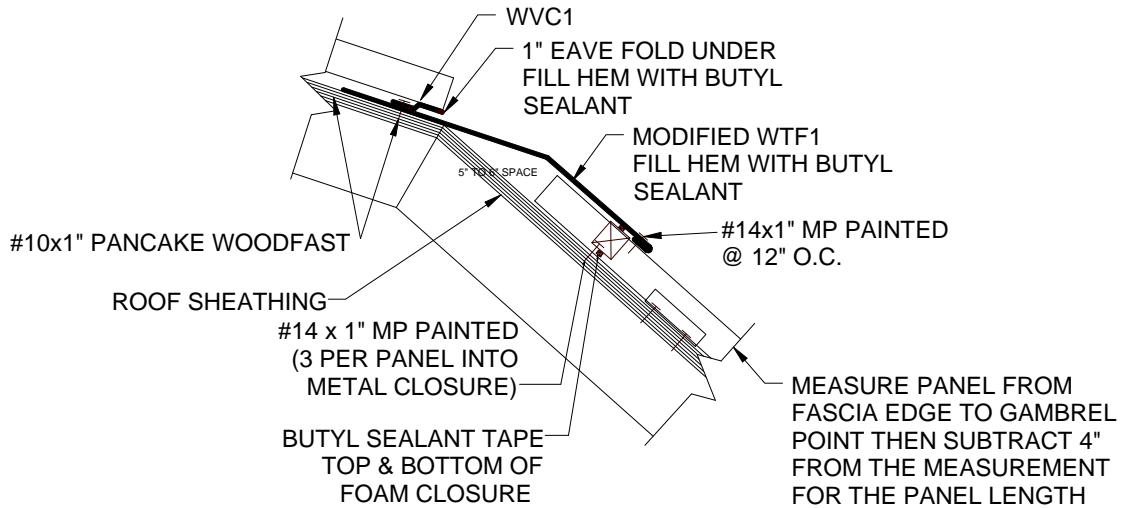
PIPE FLASHING



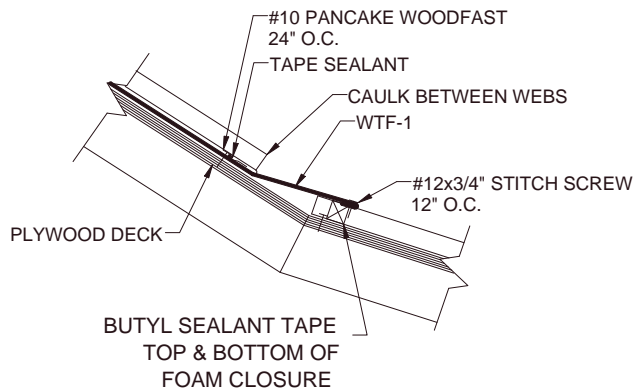
Notes:

1. Cut the hole in the flashing 20% smaller than the pipe diameter.
2. Slide the flashing down the pipe.
3. Form the flashing to the roof profile.
4. Apply sealant around the perimeter of the underside of the flashing base and fasten to roof using #10 x 1 or #14 x 1 woodscrew fasteners 2" o.c. as shown.

GAMBREL DETAIL



SLOPE TRANSITION (WOOD FRAMING)



Notes:

1. Roofing underlayment not shown.
2. **Bottom panels of the pitch change or transition must be installed first.**
3. Apply sealant to the bottom of the foam closure and set in place. Apply sealant to the top of the closure.
4. Install Pitch Change trim using stitch screws to each rib seam of the bottom transition panels.
5. Apply sealant as indicated above.

SKYLIGHT AND CHIMNEY DETAIL

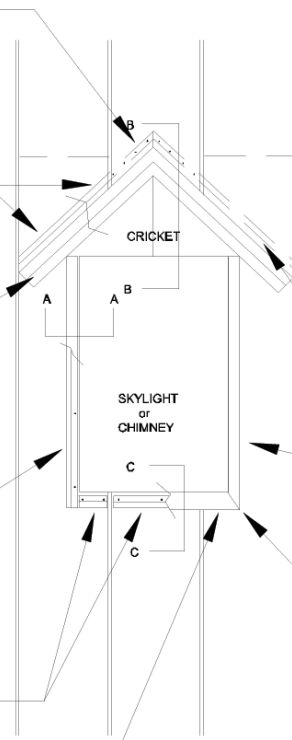
USE #10X1
WAFERHEAD SCREW
TO FASTEN VALLEY
CLEAT AND VALLEY
FLASHING TO DECK.
(REFER TO VALLEY
DETAIL)

WVC1 VALLEY CLEAT
IS NOT FASTENED
TO PANEL OR
DECKING AT PANEL
WHICH RUNS
ADJACENT TO
SKYLIGHT.

VALLEY FLASHING
NOT FASTENED TO
PANEL OR DECK AT
PANEL WHICH RUNS
ADJACENT TO
SKYLIGHT

WGC1 GABLE CLEAT
FASTENED TO ROOF
DECK USING #14X1
MP FASTENERS

FOAM CLOSURES



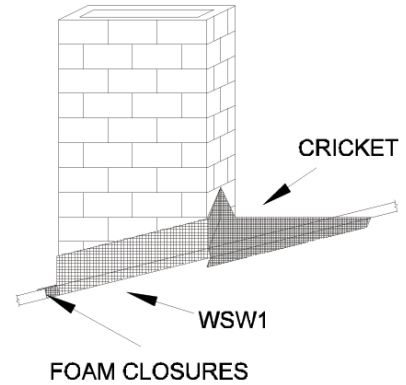
WEW2 ENDWALL
FLASHING

TRIM LOWER
SECTION OF PANEL
RIB TO ALLOW THE
RIB TO SNAP OVER
THE UNDERLAPPING
PANEL

HEM PANEL
ALLOWING EDGE TO
WRAP AROUND
VALLEY CLEAT

WSW4 SIDEWALL
FLASHING

TRIM, FOLD AND
APPLY ONE-PART
POLYURETHANE
SEALANT TO AREA
WHERE SIDEWALL
AND ENDWALL
FLASHING JOIN



NOTE: SEE THE FOLLOWING
PAGES FOR CROSS SECTIONS

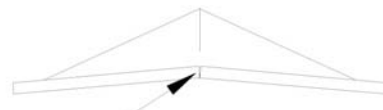
A flexible/formable rubber material, similar to the pipe boots, can be used in place of flashings to outline the entire area around any penetrations. Rubber strips are NOT provided by Fabral.

CRICKET DETAIL

WHC1 "HIP CLOSURE"
USE TO CREATE
BASE/FRAME OF
CRICKET

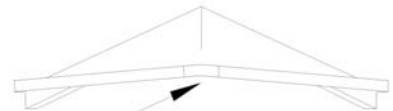


TOP OF CRICKET FIELD
FORMED FROM FLAT SHEET



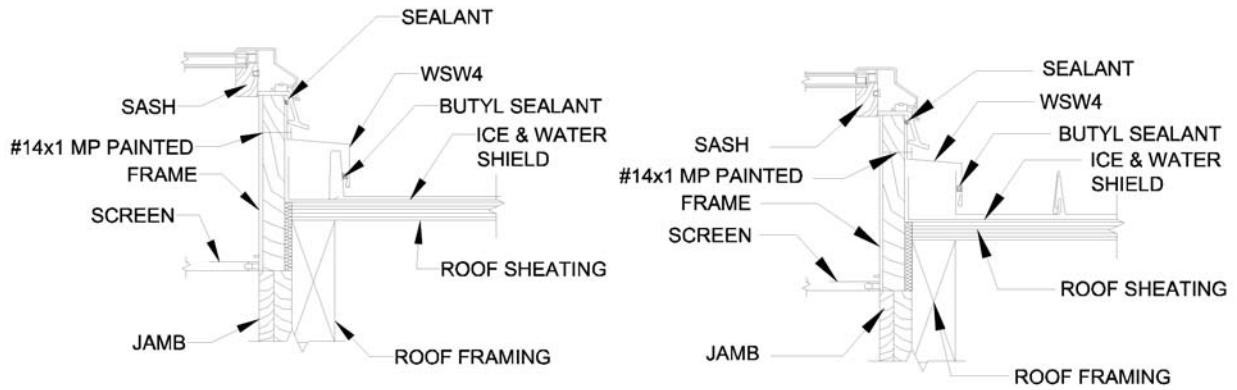
CUT TRIANGULAR CRICKET TOP
FOLD UP WIDE END OF TRIANGLE.
SLIT CENTER OF FOLD AND BEND
SLIGHTLY DOWN THE CENTER.

FASTEN TOP OF CRICKET TO BASE
USING #14 MP. CAULK ALL JOINTS
AND SEAMS WITH ONE-PART
POLYURETHANE SEALANT.

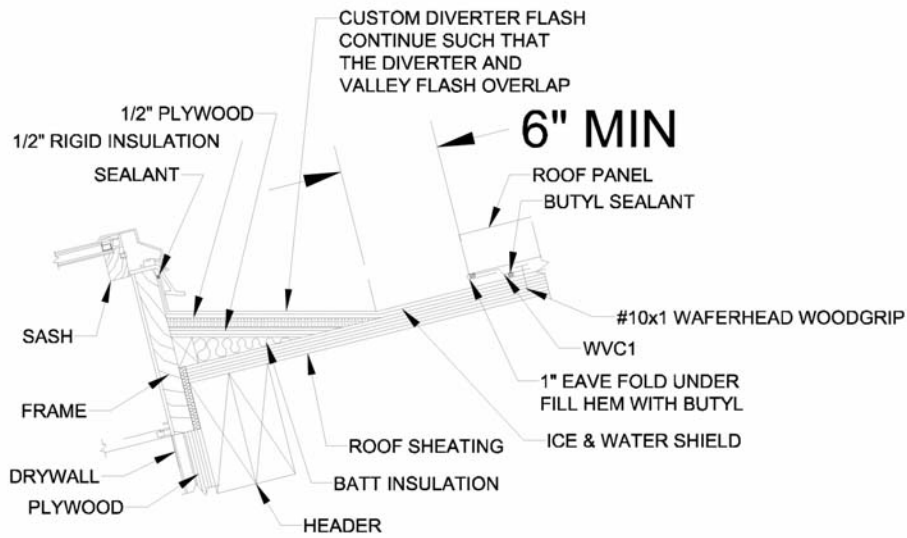


FABRICATE SMALL CAP
TO COVER AREA WHICH
WAS SLIT

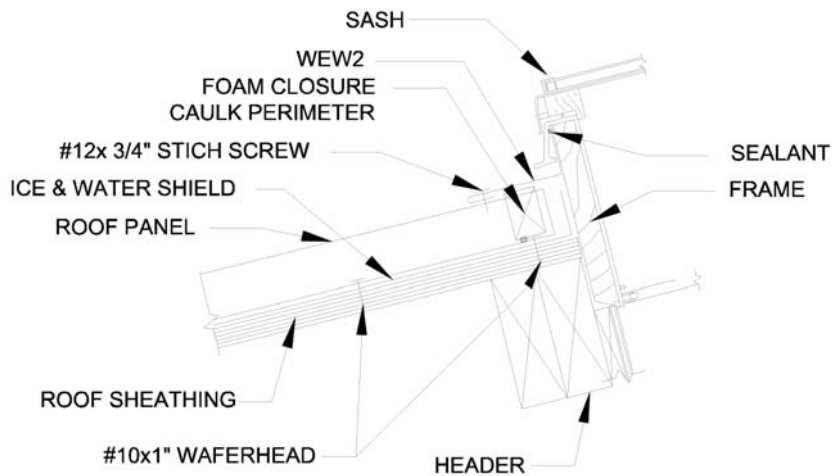
SKYLIGHT FLASHING PREPARATION (cont.)



SECTION A-A

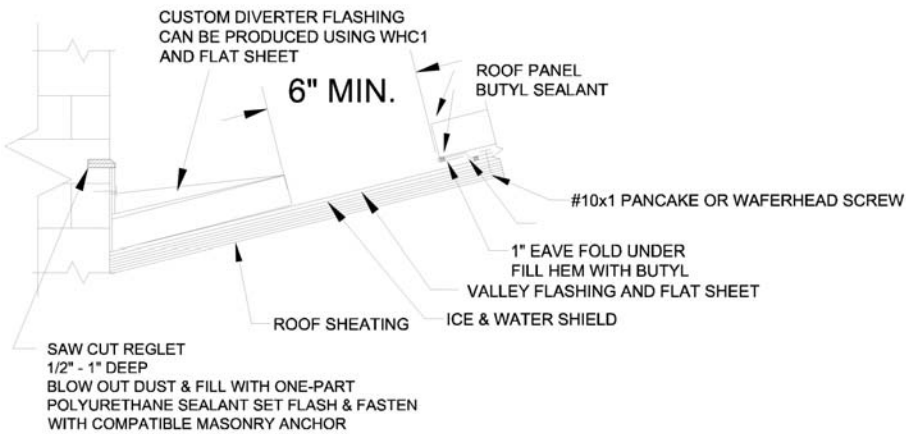
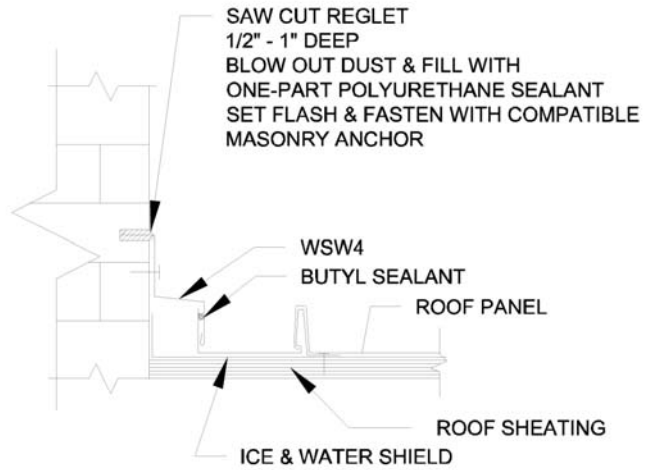
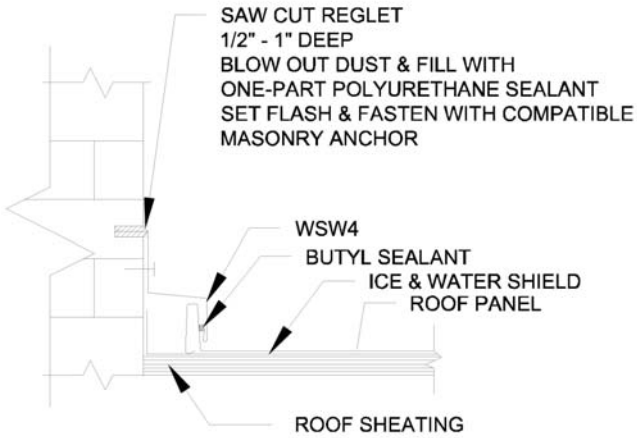


SECTION B-B

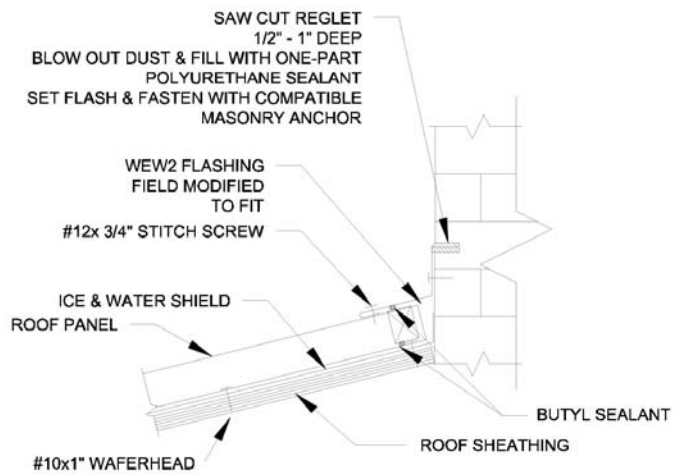


SECTION C-C

CHIMNEY FLASHING PREPARATION



CRICKET DETAIL



ENDWALL DETAIL

CLIMAGUARD TRIM PARTS

See page 16 for Illustration of Trim Conditions

Key Terms

CHIMNEY OR SKYLIGHT

See pages 23-26.

EAVE TRIM

This piece is used at the eave or gutter edge of the building, and **must be installed before any panels**

ENDWALL

This piece is used when the upper end of panel butts into a vertical wall.

HIP CAP

This piece covers projecting angles formed at the intersection of the two sloping roof planes.

FASTENERS

3/4" Stitch Screw

This fastener is used to attach two pieces of metal to each other.

#14 x 1" Mill Point

This fastener is used to fasten into panel near ridge, and can also be used for secure flashings and pipe boots.

#10 x 1" Wafer Head

This fastener is used to attach roofing panels to the roof deck. (Used to fasten into Climaguard fastener strip.)

#10 x 1" WoodFast

This fastener is used to fasten flashing to fascia boards at eave or gable.

GABLE TRIM

This piece is installed on the house between the ridge and the eave, holding down the first panel edge and the last panel edge.

GAMBREL CONDITION

This trim is used to transition from a low slope on the upper roof to a steep slope on the lower roof.

MONOSLOPE RIDGE

This piece is used at the top of a single sloped roof.

RIDGE CAP

This piece is used at the peak of the roof. The ridge can be ventilated by leaving the foam closure out.

SIDEWALL

This piece is used when the roofing panel is installed parallel to a vertical wall.

SLOPE TRANSITION

This piece is used where two roofs of different pitch meet; the top section being steeper than the lower section.

W-VALLEY

Used to flash the valley formed by intersecting roof planes.

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