

# FABRAL®

## HORIZON® S INSTALLATION GUIDE

AGRICULTURAL

LIGHT COMMERCIAL

RESIDENTIAL



Due to Product improvements, changes and other factors, Fabral reserves the right to change or delete information herein without prior notice or obligation to make changes in products previously purchased.

The details and written instructions described in this manual are suggested installation methods to ensure a quality application of our products, and should be considered as a guideline only. FABRAL recognizes that installation techniques can vary based upon builder and geographical preferences, and that there are other acceptable ways to install our products.

# HORIZON S

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# INTRODUCTION

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## The Right Tools.

This Horizon S Installation Guide, is the right tool to have at your fingertips. By knowing you have access to all of the right information from proper storage and installation instructions to trim and flashing details, you can be confident installing your Fabral materials.

Use this guide, and call us when further support is needed.



## AGRICULTURAL

Fabral is the solution for your agricultural applications. We know that your barns and buildings must stand up to all weather conditions and last through the years.



## LIGHT COMMERCIAL

For your light commercial needs, Fabral offers metal roofing and siding to match the various building types.



## RESIDENTIAL

Homeowners feel proud and confident with Fabral metal roofing for the durability and sophisticated appearance.

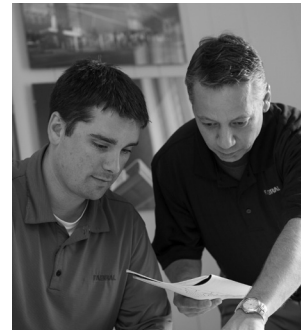
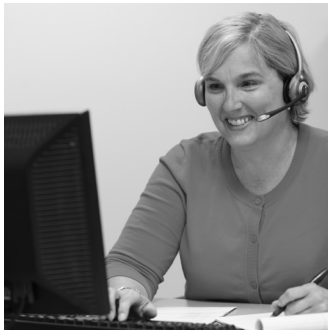
# FABRALCORE™

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## You challenge us. And we like it.

Your vision for a building and what you want to achieve makes us think harder. It'd be easy to say - "That won't work." Instead we go with - "Let's see what we can do." As the leading provider of metal for building envelope solutions, we push the envelope.

We like it when you bring us a problem because we know we'll find the solution. We have the products, the manufacturing and the know-how. We offer everything you need for the total building envelope solution. At our core, we relish a challenge.



SYSTEM  
SUPPORT

CUSTOMER CARE

EDUCATION

PROJECT CONSULTING

TECHNICAL SUPPORT

To learn more contact us [Fabral.com](http://Fabral.com).

# 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.

**HORIZON S roofing must be applied on a minimum roof pitch of 3:12 or greater.**

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 HORIZON S 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.

For panel lengths over 30’ please consider changing to 24 gage 1-1/2” SSR panels.

## 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 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.

**Hem Bending 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 or Hand Break**—Standard and “Duckbill” style for miscellaneous clamping and bending of parts.

**Marking Tools**—Indelible markers or scratching tools. No graphite pencils.

**Rivet Tool**—Used for miscellaneous flashing, trim applications and alternate eave detail.

**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 Square bit
- 5/16” hex

**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.

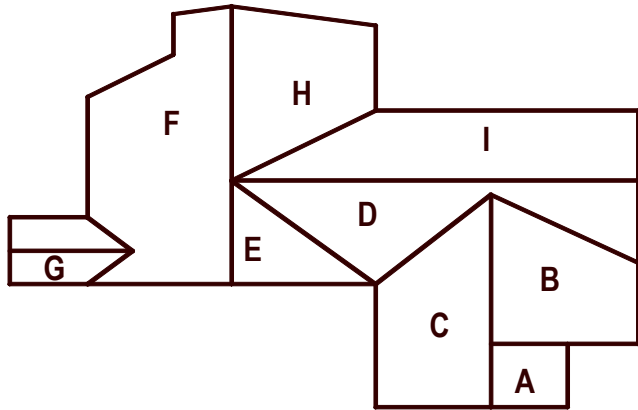
Store the panels and other materials in a dry, well ventilated area, away from traffic. Elevate one end of the bundle so that any moisture that may have accumulated during shipping can run off. If outdoor storage cannot be avoided, protect the metal with a breathable canvas or waterproof paper cover. Leave the bottom of the cover loose to allow air circulation. Do not use plastic which causes sweating or condensation. If left outside, be careful not to let water get trapped between the stacked panels. This can damage the panel finish. If possible, separate sheets to allow for airflow.

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.

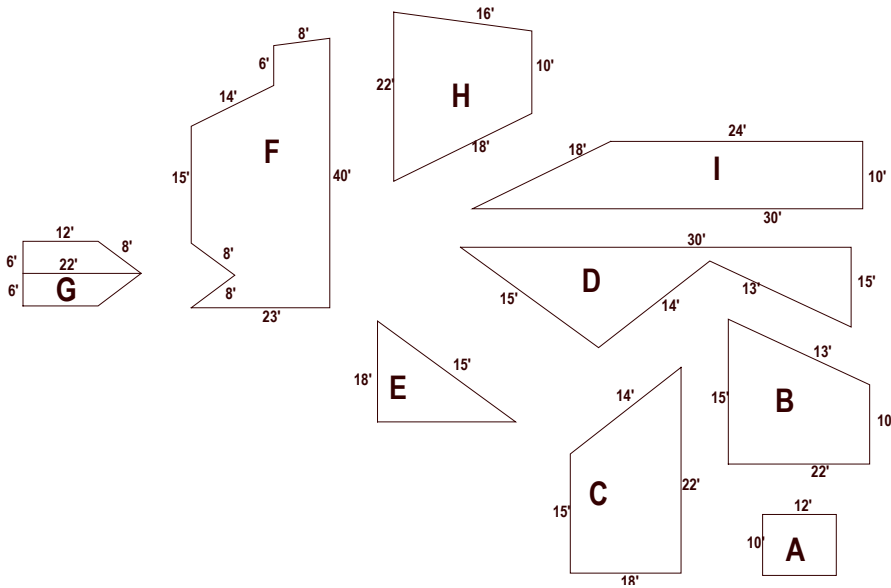
# ESTIMATING & ORDERING

## 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.

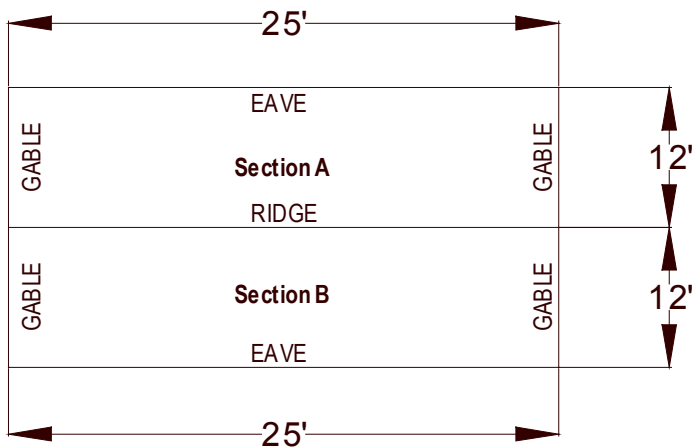
Additional Identification: Ridge, Hips, Valleys, Gables, Etc.



## 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.)

### DIAGRAM A



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'

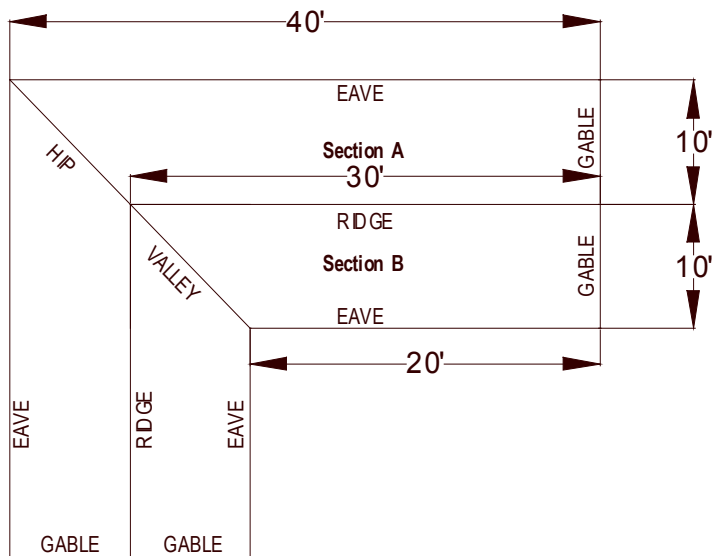
Section B—19 pcs. X 12'

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

# ESTIMATING & ORDERING

## 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 are 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 1/2" | 6/12p = 18"     | 9/12p = 20"      |
| 4/12p = 17"     | 7/12p = 18 1/2" | 10/12p = 20 3/4" |
| 5/12p = 17 1/2" | 8/12p = 19"     | 11/12p = 21 3/4" |
|                 |                 | 12/12p = 22 3/4" |

Example: 3/12 pitch = 16 1/2" panel length

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

## 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.

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 \_\_\_\_\_

Hip \_\_\_\_\_

Sidewall \_\_\_\_\_

Valley \_\_\_\_\_

Gambrel \_\_\_\_\_

Clear Story \_\_\_\_\_

Chimney (Qty. and size) \_\_\_\_\_

Ridge \_\_\_\_\_

Gable \_\_\_\_\_

Endwall \_\_\_\_\_

Transition \_\_\_\_\_

Swept Wing or Flying Gable \_\_\_\_\_

Roof Pitch \_\_\_\_\_ " in 12"

Skylight (Qty. and size) \_\_\_\_\_

# ESTIMATING & ORDERING

## Step 3 (cont.)

- A. Eave \_\_\_\_ ft  $\div$  10\*\* = \_\_\_\_ pcs. (WEF1 or WEF2 & WEF3 or WEF4)
- B. (Ridge \_\_\_\_ ft  $\div$  10) \*\*\* + (Hip \_\_\_\_ ft  $\div$  10) = \_\_\_\_ pcs (WRH3 or WRH5)
- C. Gable \_\_\_\_ ft  $\div$  10 = \_\_\_\_ pcs (WGF4)
- D. Sidewall \_\_\_\_ ft  $\div$  10 = \_\_\_\_ pcs (WSW4)
- E. Endwall \_\_\_\_ ft  $\div$  10 = \_\_\_\_ pcs (WEW2) Pitch \_\_\_\_\_
- F. Valley \_\_\_\_ ft  $\div$  10 = \_\_\_\_ pcs (RV2 & WVC1) Pitch \_\_\_\_\_
- G. Transition \_\_\_\_ ft  $\div$  10 = \_\_\_\_ pcs (WTF1 & WVC1) Pitch from \_\_\_\_\_ to \_\_\_\_\_
- H. Gambrel \_\_\_\_ ft  $\div$  10 = \_\_\_\_ pcs Mod. (WTF1 & WVC1) Pitch from \_\_\_\_\_ to \_\_\_\_\_
- I. Monoslope \_\_\_\_ ft  $\div$  10 = \_\_\_\_ pcs. (WRH4)
- J. (Perimeter of Skylights/Chimney \_\_\_\_ ft  $\div$  5) = \_\_\_\_ pcs WSCB1 & \_\_\_\_ pcs WSCT3
- K. (Total lineal feet of panels \_\_\_\_ ft) = \_\_\_\_ pcs #10 x 1" Waferhead Screws (Panels)
- L. (Valley \_\_\_\_ ft x 2) + (Transition \_\_\_\_ ft) + (Gambrel \_\_\_\_ ft) + (Swept Wing Gable ft) = \_\_\_\_ pcs #10 Waferhead Screws (Accessories)
- M. (Eave \_\_\_\_ ft) + (Ridge \_\_\_\_ ft x 6) + (Gable \_\_\_\_ ft  $\div$  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) + (Gambrel \_\_\_\_ ft x 3) + (Perimeter of skylight / chimney \_\_\_\_ ft) + (Sidewall \_\_\_\_ ft) = \_\_\_\_ Total lf  $\div$  40 = \_\_\_\_ Rolls of Butyl Sealant
- Q. Hem Bending Tool = \_\_\_\_ pcs Hem Bending Tool
- R. (Hip \_\_\_\_ lf x 2)  $\div$  19.68 = \_\_\_\_ rolls.- Sealer Strip (1" x 1" x 19.68' roll)
- S. (Non-Vented ridge \_\_\_\_ ft  $\div$  1.33) + (Transition \_\_\_\_ ft  $\div$  2.66) + (Gambrel \_\_\_\_ ft  $\div$  2.66) = \_\_\_\_ pcs HORIZON S Outside Closure x 32", pre-notched (covers 2 panels)
- T. (Vented Ridge \_\_\_\_ ft  $\div$  1.33) = \_\_\_\_ pcs. Marco LP2 Vent (Sold by pcs.)
- U. 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.

### 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" Waferhead 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    | Hem 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.

#### HORIZON S - Order Form

Panels: Color = \_\_\_\_\_

|                                  |                                  |
|----------------------------------|----------------------------------|
| _____ pcs. @ _____ ft. _____ in. | _____ pcs. @ _____ ft. _____ in. |
| _____ 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 WSW4       |
| _____ 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" Waferhead Screw (Panel Screws)      | _____ pcs. of #14 x 1" MP Painted       |
| _____ pcs. of #10x1" Woodfast Screw (Accessories Screws) |   |
| _____ pcs. of #12 x 3/4" Stitch Screw Painted            |   |
| _____ pcs. of Tube Caulk                                 | _____ rolls. of Butyl Sealant Tape      |
| _____ pcs. of WSCB1                                      | _____ pcs. of WSCT3                     |
| _____ pcs. of Hem Bending Tool                           | _____ pcs. of Touch-up Paint            |
| _____ pcs. of Vented Closure                             | _____ pcs. of HORIZON S 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 synthetic 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. Tip: To reduce the risk of plywood clips showing through the panels, place a 6" x 6" piece of peel and stick underlayment or 30lb felt over plywood clips prior to installation of underlayment.

4. Place an alignment line along the gable end where the first roof panel will be installed. **THIS LINE MUST BE LOCATED 1/2" IN FROM THE GABLE EDGE OF THE ROOF DECK AND SQUARE WITH THE EAVE LINE.** Various methods exist for ensuring that the line is square. Call your nearest FABRAL representative if you need assistance. (See Illustration #2)

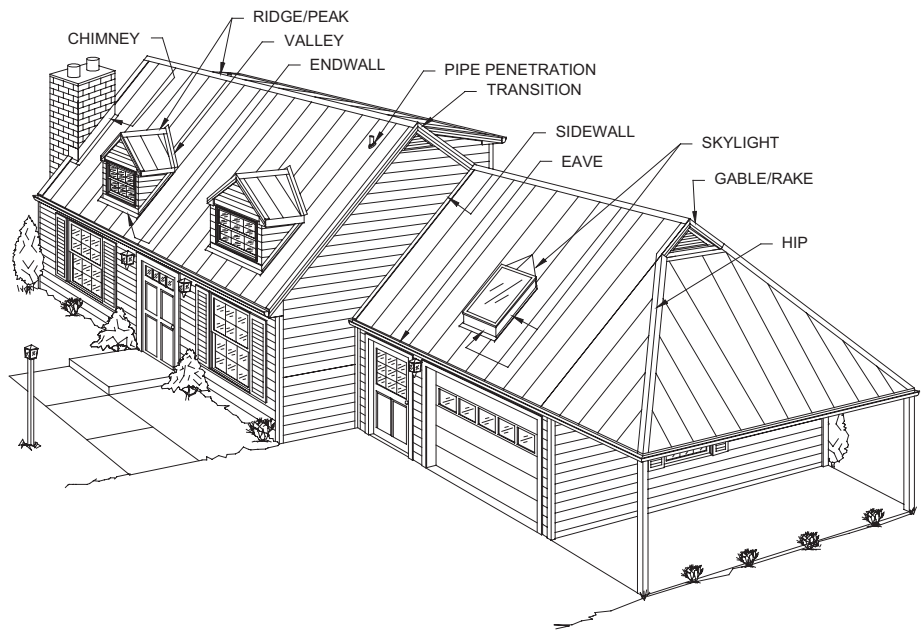


ILLUSTRATION #1

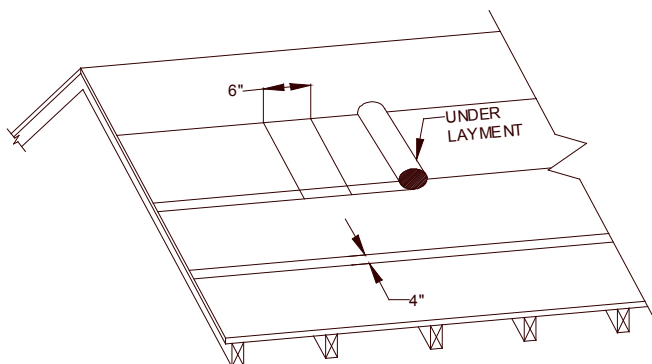
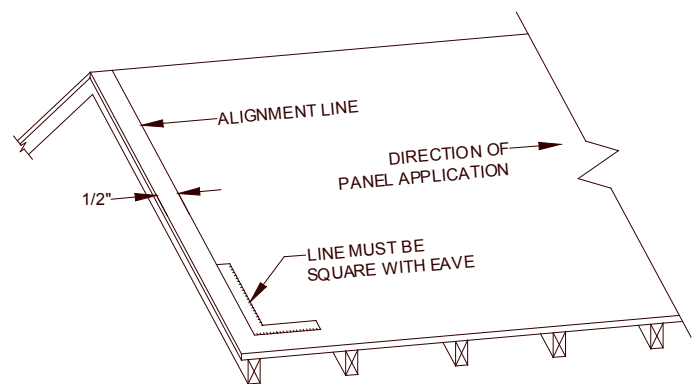


ILLUSTRATION #2



# EXISTING ROOF APPLICATION

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In many cases, FABRAL's HORIZON S 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 HORIZON S to provide adequate panel support and wall capability. 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 HORIZON S 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, HORIZON S 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 180 deg. (or allow a 1" overhang to attach an angle piece to the eave when using WEF4 alternate eave detail).
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" Waferhead panel screw on 12" centers maximum.)
5. Install the gable trim and face screw it to fascia board (see page 21). This fully secures the first panel to the roof.
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 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 as in step #3 above.
7. Each consecutive panel will be applied as in step #3 and #5 above.

# FASTENERS

Recommended fasteners for the proper installation of Horizon S panels

## #10 Waferhead Screw



- Use for panel to deck or purlin attachments
- Available in 1", 1 1/2", and 2"
- #2 Square Drive
- Plain
- 250/bag

## #14 WoodTite



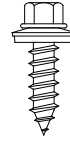
- Use to fasten metal to plywood or OSB
- Use for trim attachment
- Available in 1", 1 1/2", and 2"
- 5/16" hex head, EPDM/metal washer
- Oxyseal Long-Life Coating
- Plain or Painted
- 250/bag

## #10 WoodTite High Low



- Use with dimensional lumber
- Available in 1", 1 1/2", 2", 2 1/2" and 3"
- 1/4" hex head, EPDM/metal washer
- Oxyseal Long-Life Coating
- Plain or Painted
- 250/bag

## #12 x 3/4" Stitch Screw



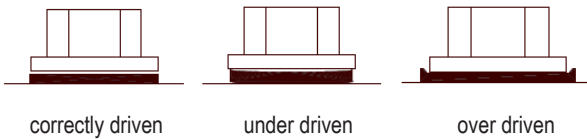
- Used for attachment of trim to top of seam for screw flange panels
- Use with STEEL panels
- Used to stitch sidelaps for exposed fastener panels
- Used for miscellaneous metal to metal attachments
- 1/4" hex head, EPDM/metal washer
- Plain or Painted
- 250/bag

## #43 Pop Rivet



- Use for attaching trim to closures
- Plain or Painted
- 250/bag

## Proper Installation of Gasketed Fasteners



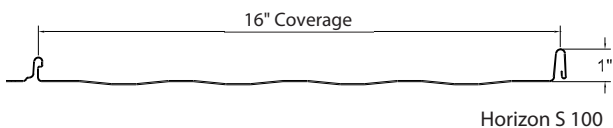
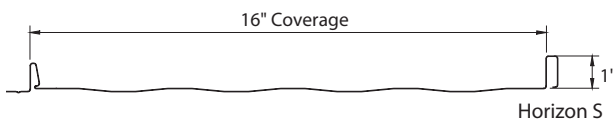
## Load Table - Steel Panels

Load-Span tables for 26ga Horizon S Roofing

Allowable wind uplift loads (psf)

| Substrate    | Fastener            | 9"    | 12"  |
|--------------|---------------------|-------|------|
| 1/2" Plywood | #10 x 1" Wafer Head | 80    | 60   |
| 5/8" Plywood | #10 x 1" Wafer Head | 115.7 | 86.8 |
| 7/16" OSB    | #10 x 1" Wafer Head | 57.1  | 42.8 |

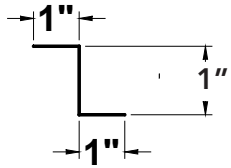
## Horizon S Panel Profile (varies slightly by region)



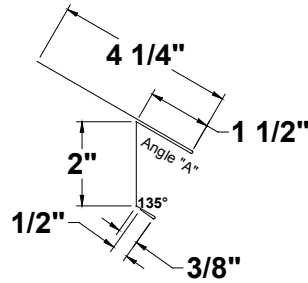


# STANDARD HORIZON S FLASHINGS & TRIMS

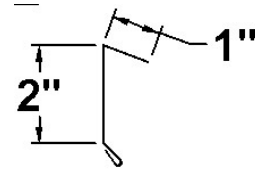
All flashing is 10' 6" in length & available in steel.



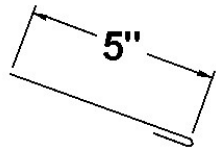
**Mod WHC1**  
Hip Closure



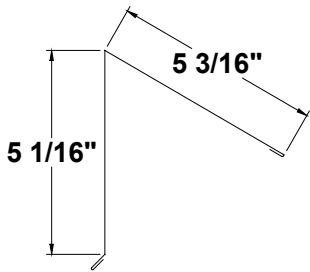
**WEF1**  
Eave Drip  
itches up to 6:12



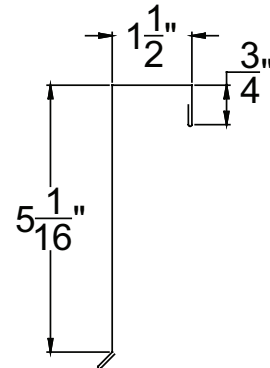
**WEF2**  
Eave Drip  
itches over 6:12



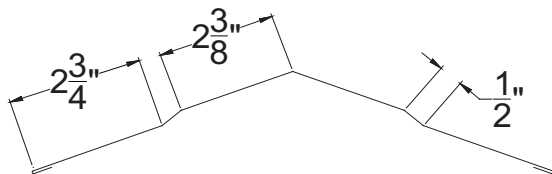
**WEF3**  
Eave Drip



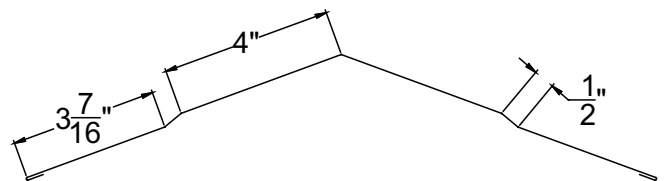
**WRH4**  
Monoslope Ridge



**WGF4**  
Gable Trim

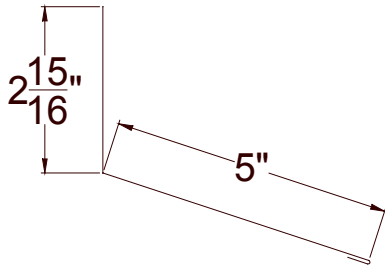


**WRH3**  
Ridge/Peak

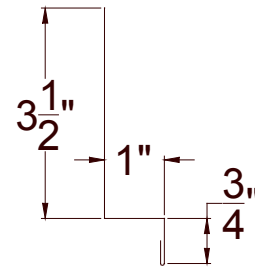


**WRH5**  
Ridge/Peak

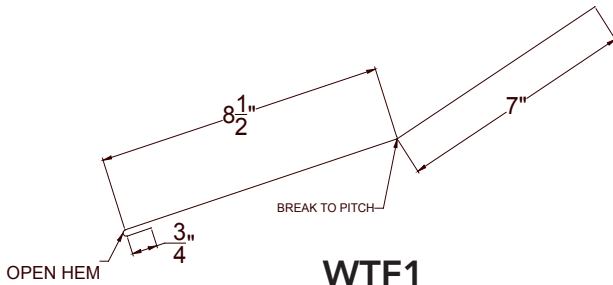
# HORIZON S FLASHINGS & TRIMS



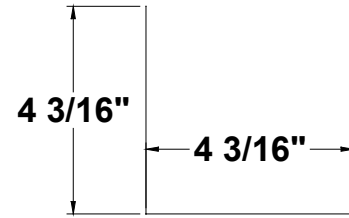
**WEW2**  
Endwall



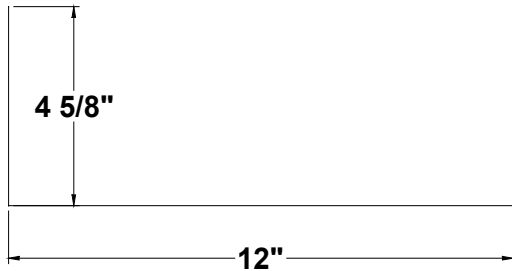
**WSW4**  
Sidewall



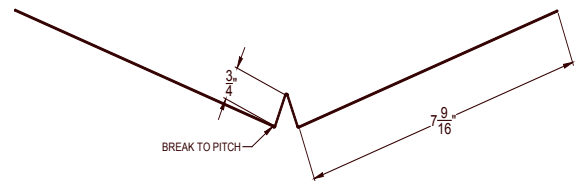
**WTF1**  
Transition  
Gambrel Mod WTF1 (bent down)



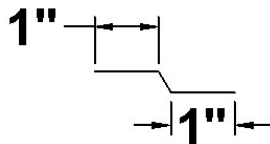
**Bottom Flashing 2' Skylight**  
WSCB 1 (34") and 2 (58")



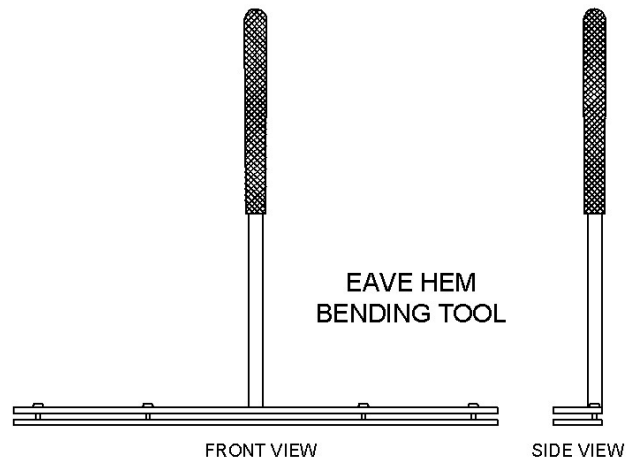
**Top Flashing 2' Skylight/Chimney**  
WSCB 3 (34") and 4 (58")



**RV4**  
W Valley Flashing



**WVC1**  
Valley Cleat



FRONT VIEW

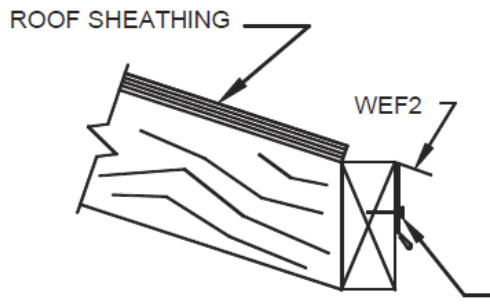
SIDE VIEW

# HORIZON S TRIM DETAILS

## Step 1

### TWO-PIECE EAVE TRIM

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

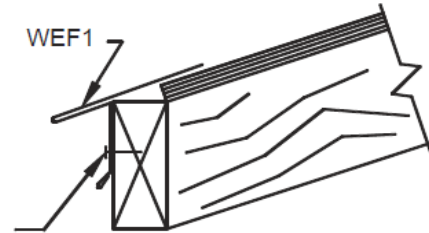


1. Line WEF2 or WEF1 top in line with plywood/purlin.
2. Screw at 12" o.c. across face of trim

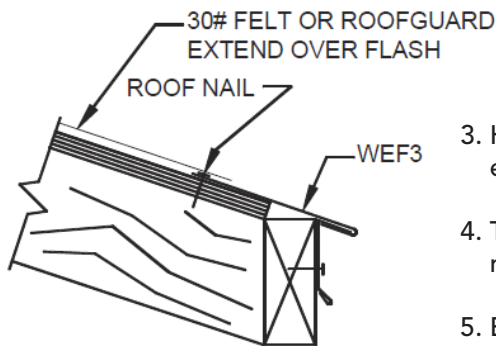
#14 x 1" PAINTED

### ONE-PIECE EAVE TRIM

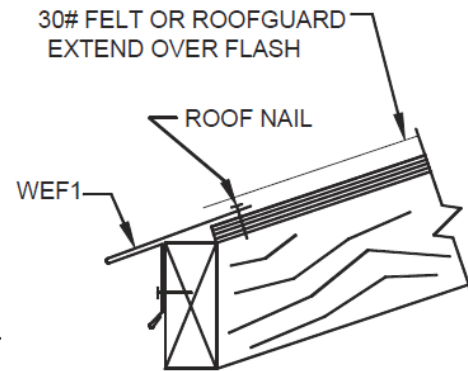
(Use with roof pitches up to 6:12)



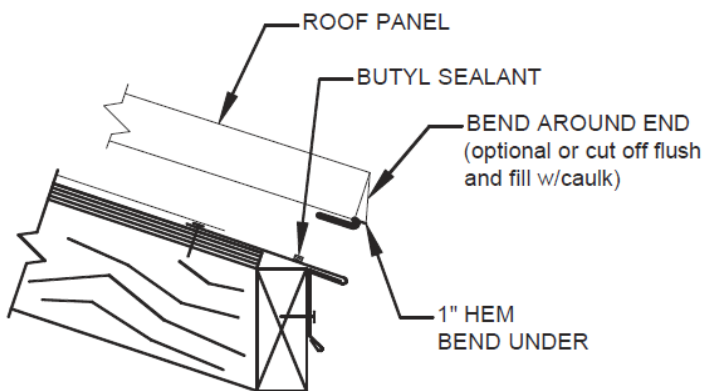
## Step 2



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



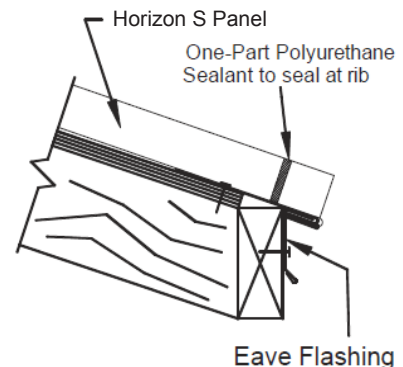
## Step 3



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.

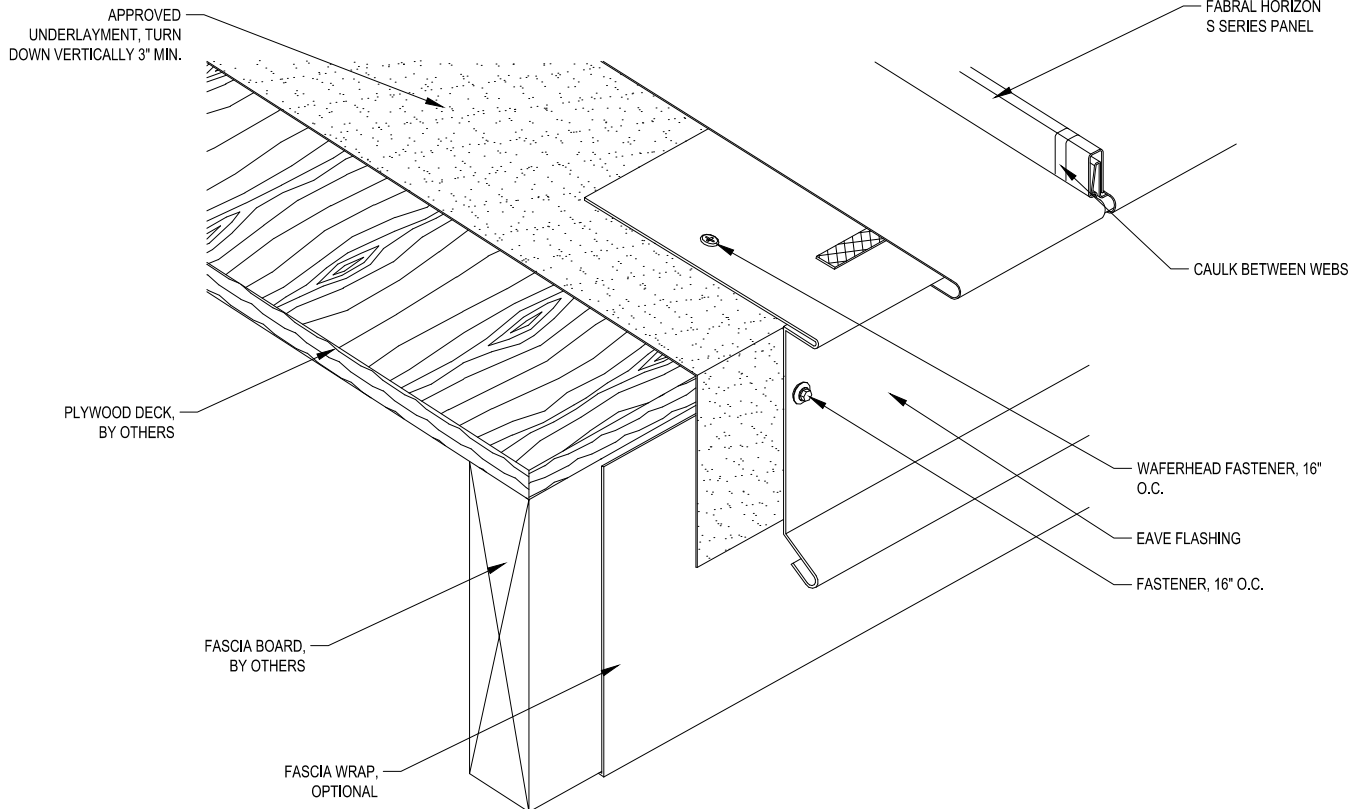
## Step 4

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.

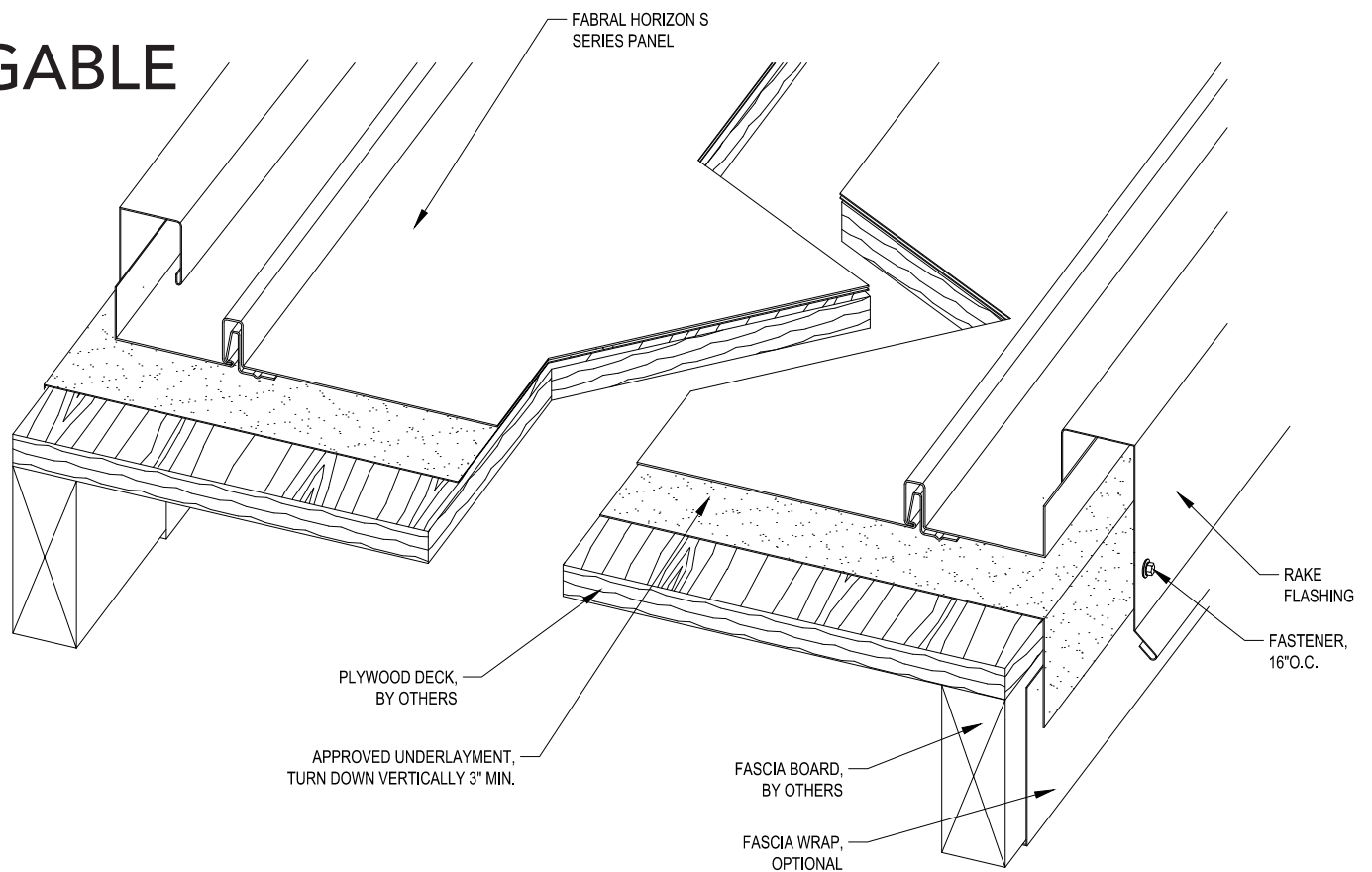


# HORIZON S TRIM DETAILS

## EAVE

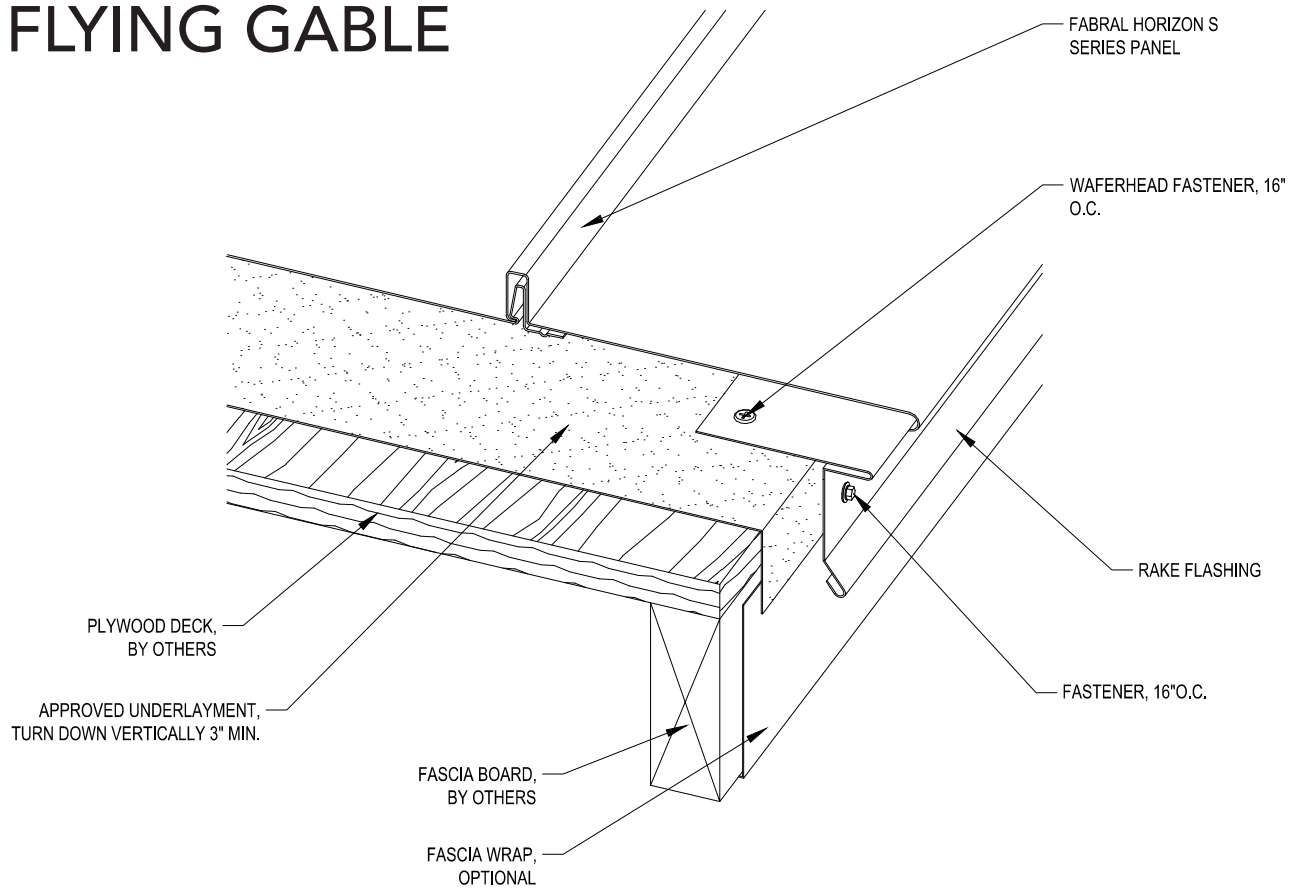


## GABLE

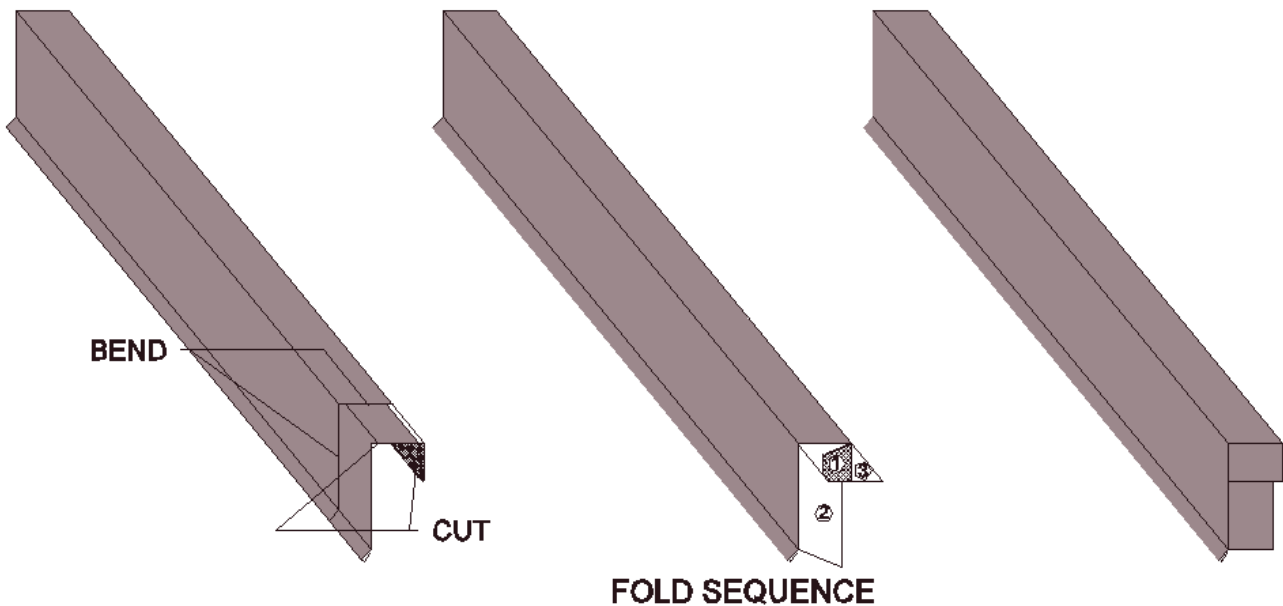


# HORIZON S TRIM DETAILS

## FLYING GABLE



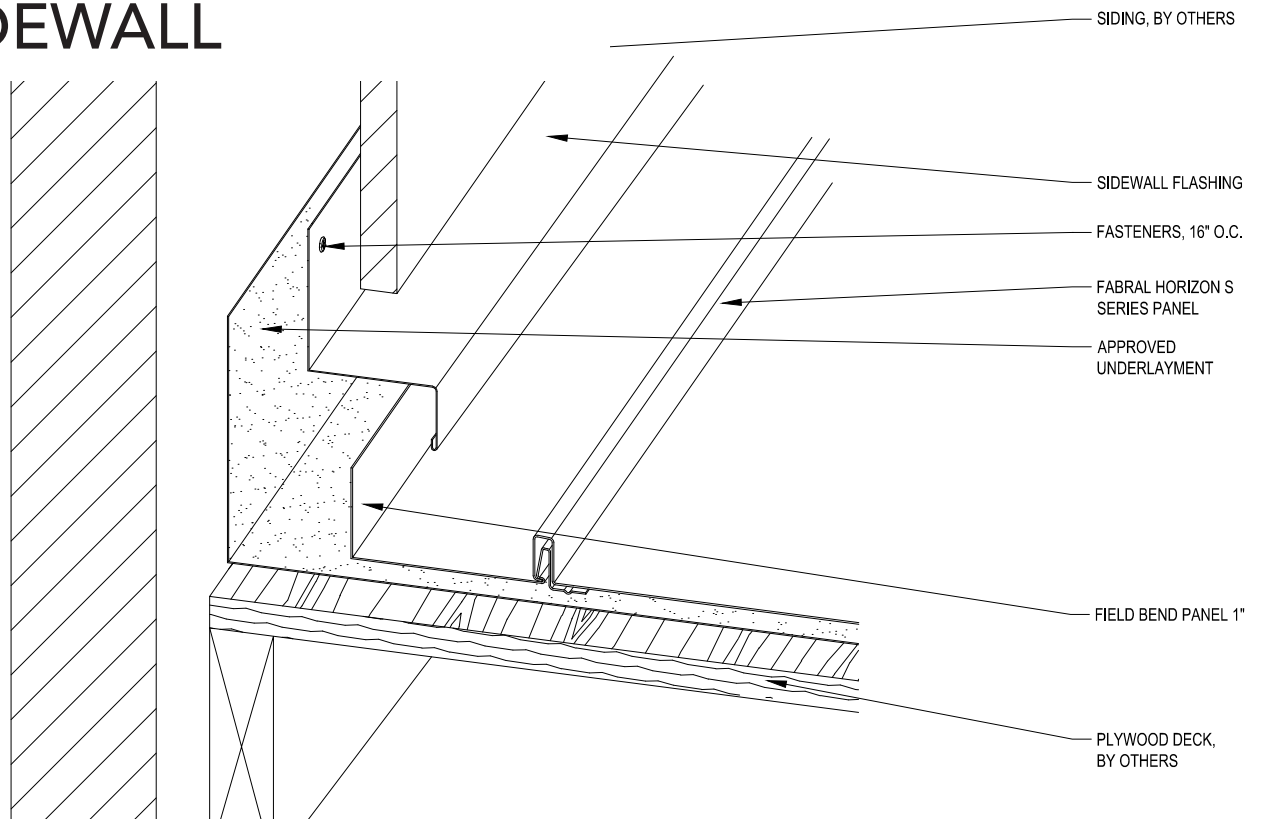
## FINISHING THE GABLE



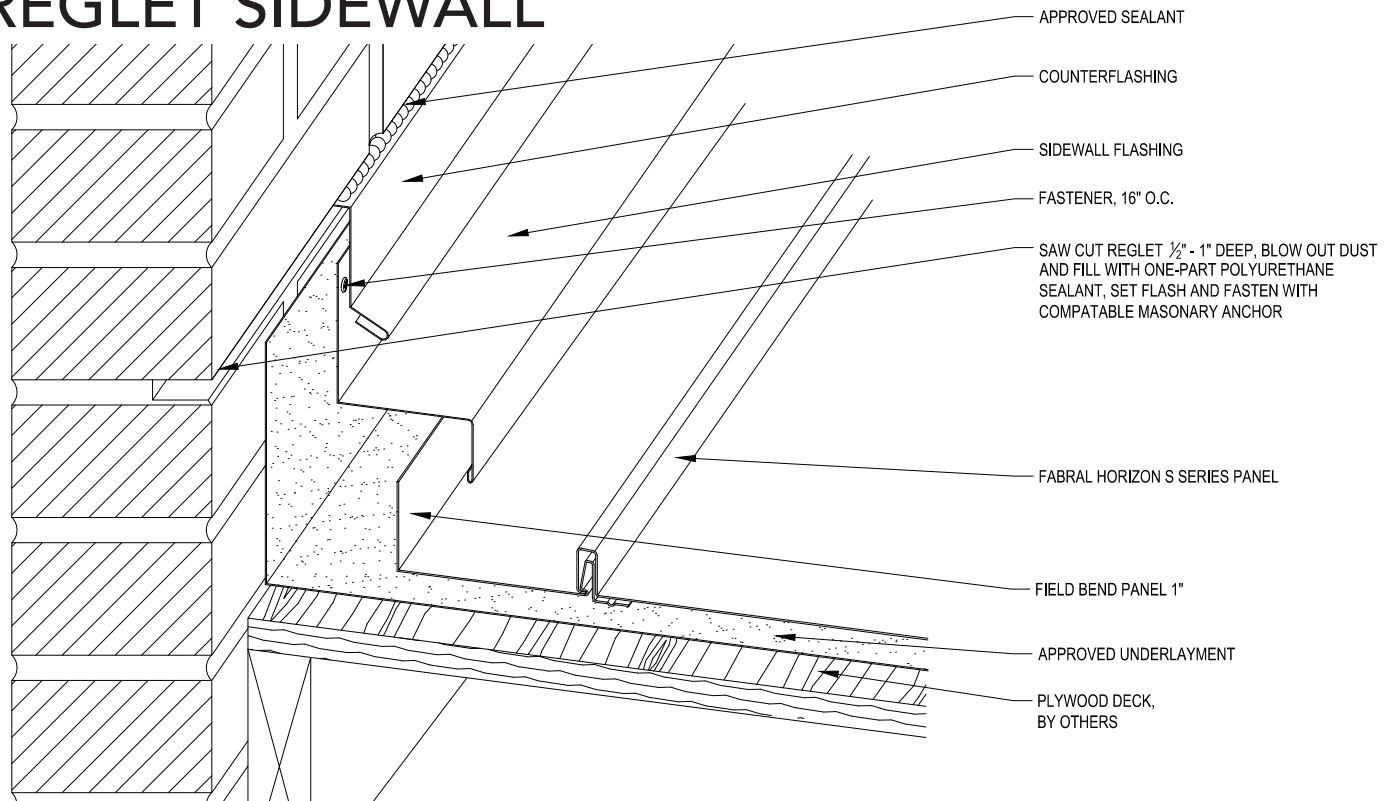
After snapping the gable flash over the cleat, pull the gable flash over the eave end fascia by 2" to 3" to finish fold. See diagram for cuts and bending locations. Always fold the sides in first and fold the top flap down last so water will run off and NOT run in.

# HORIZON S TRIM DETAILS

## SIDEWALL

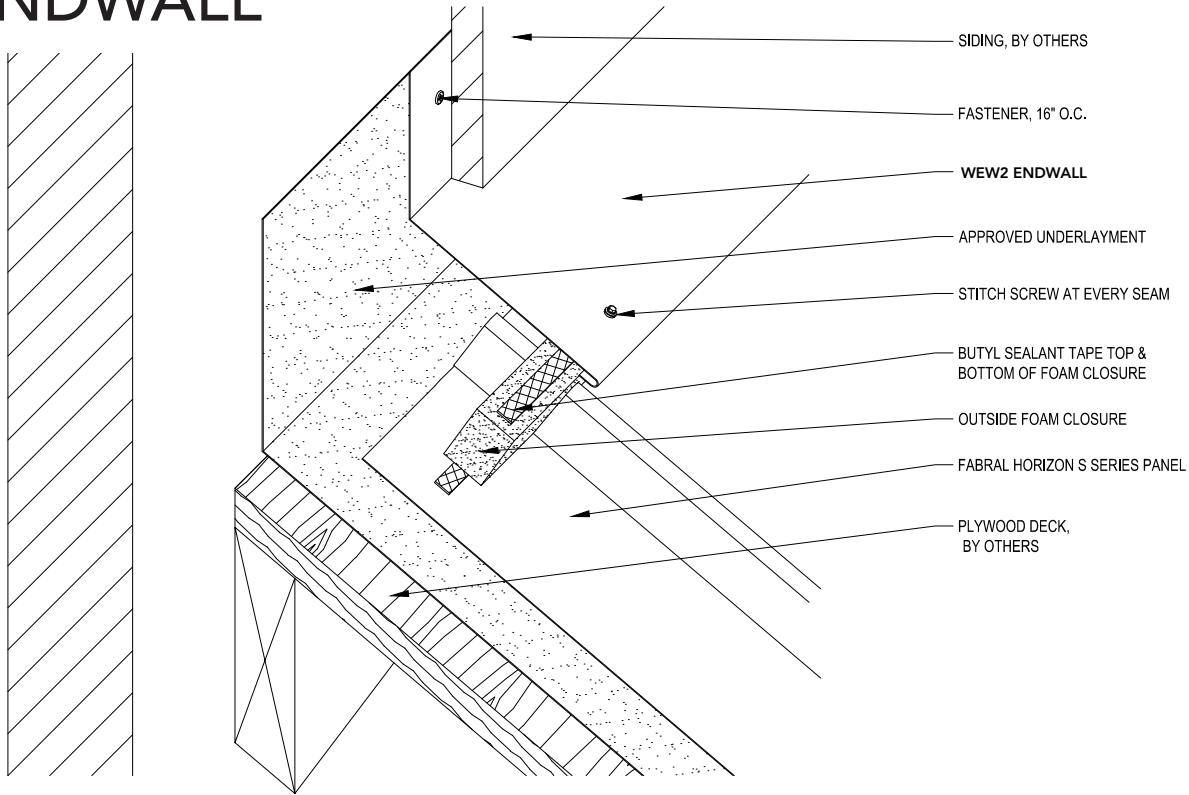


## REGLET SIDEWALL

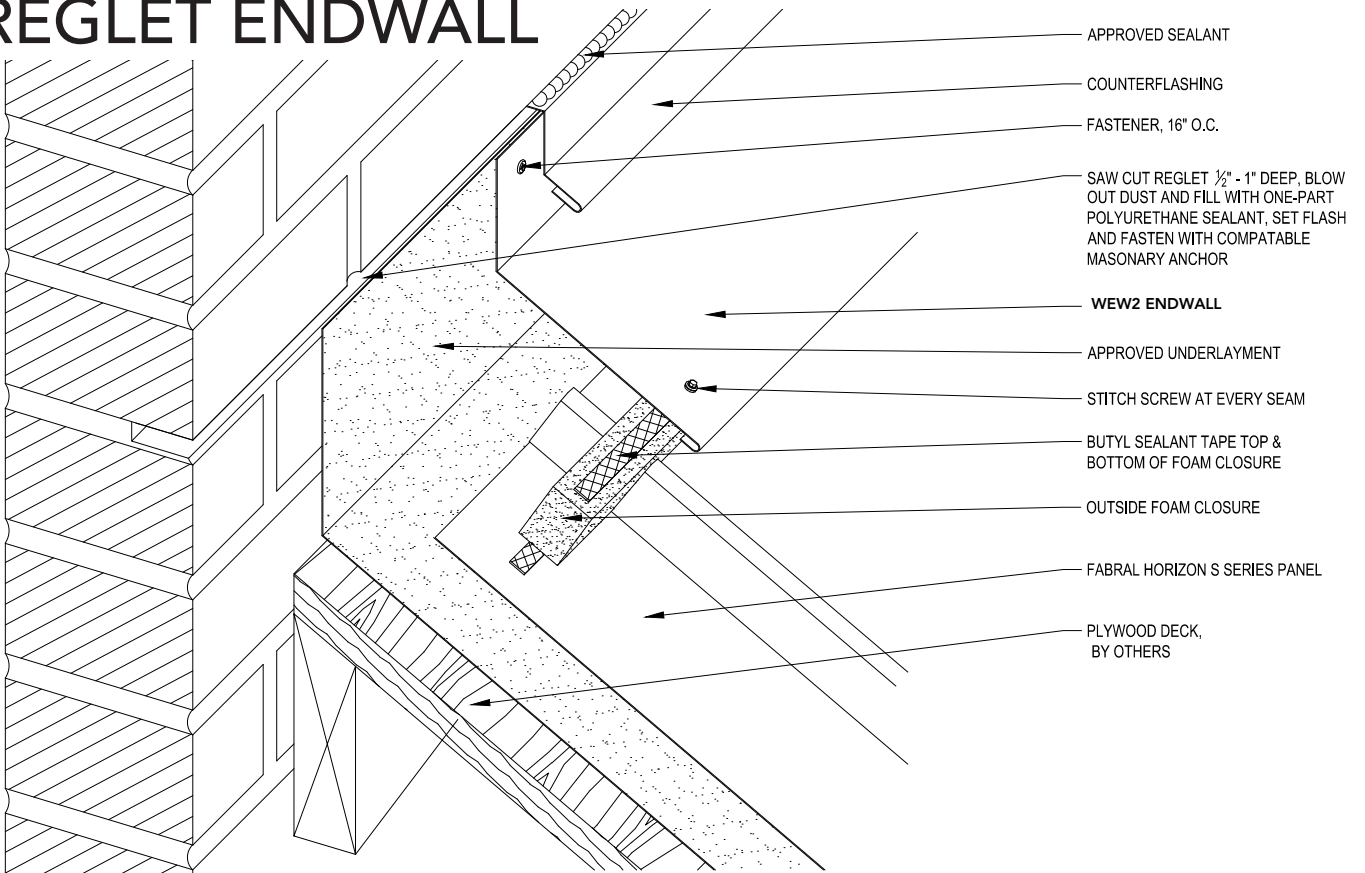


# HORIZON S TRIM DETAILS

## ENDWALL

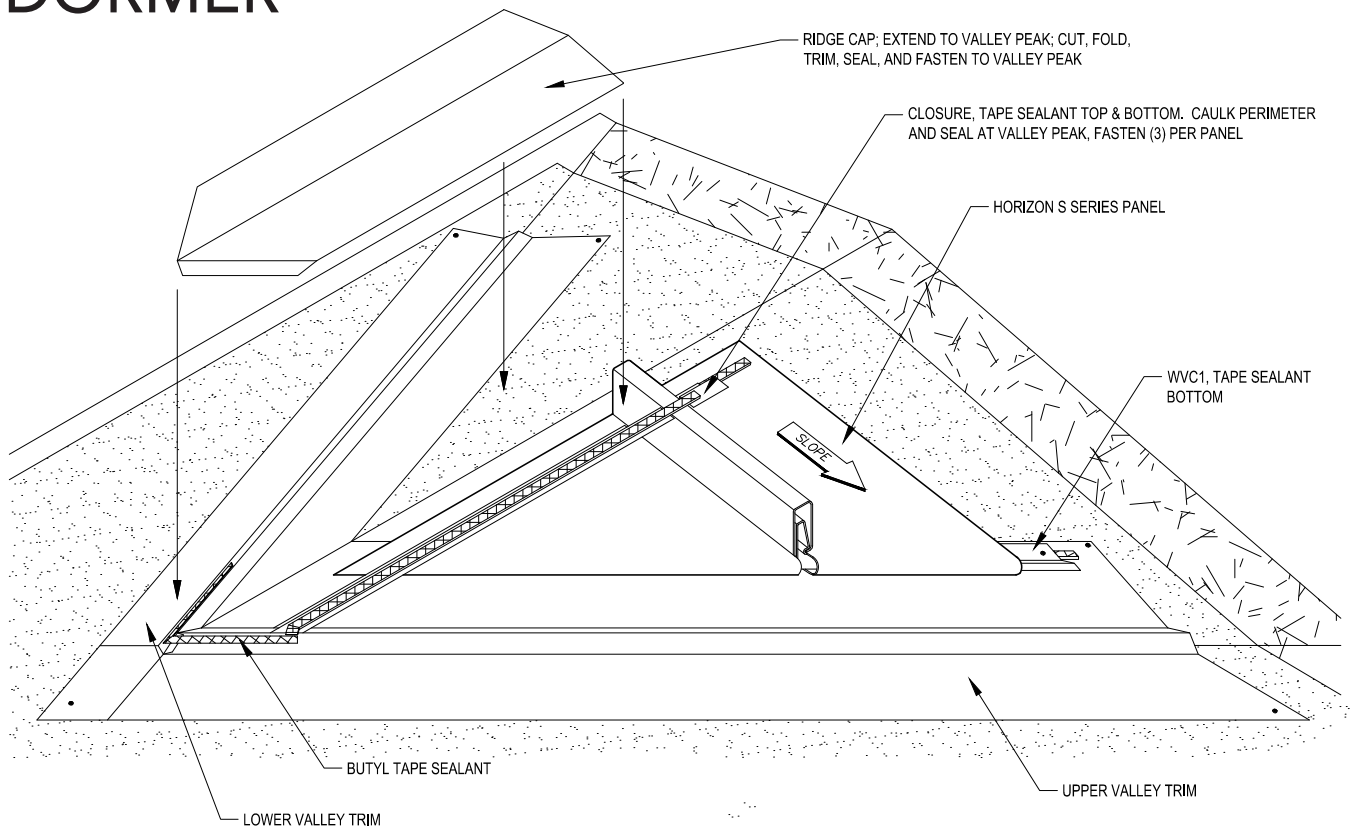


## REGLET ENDWALL

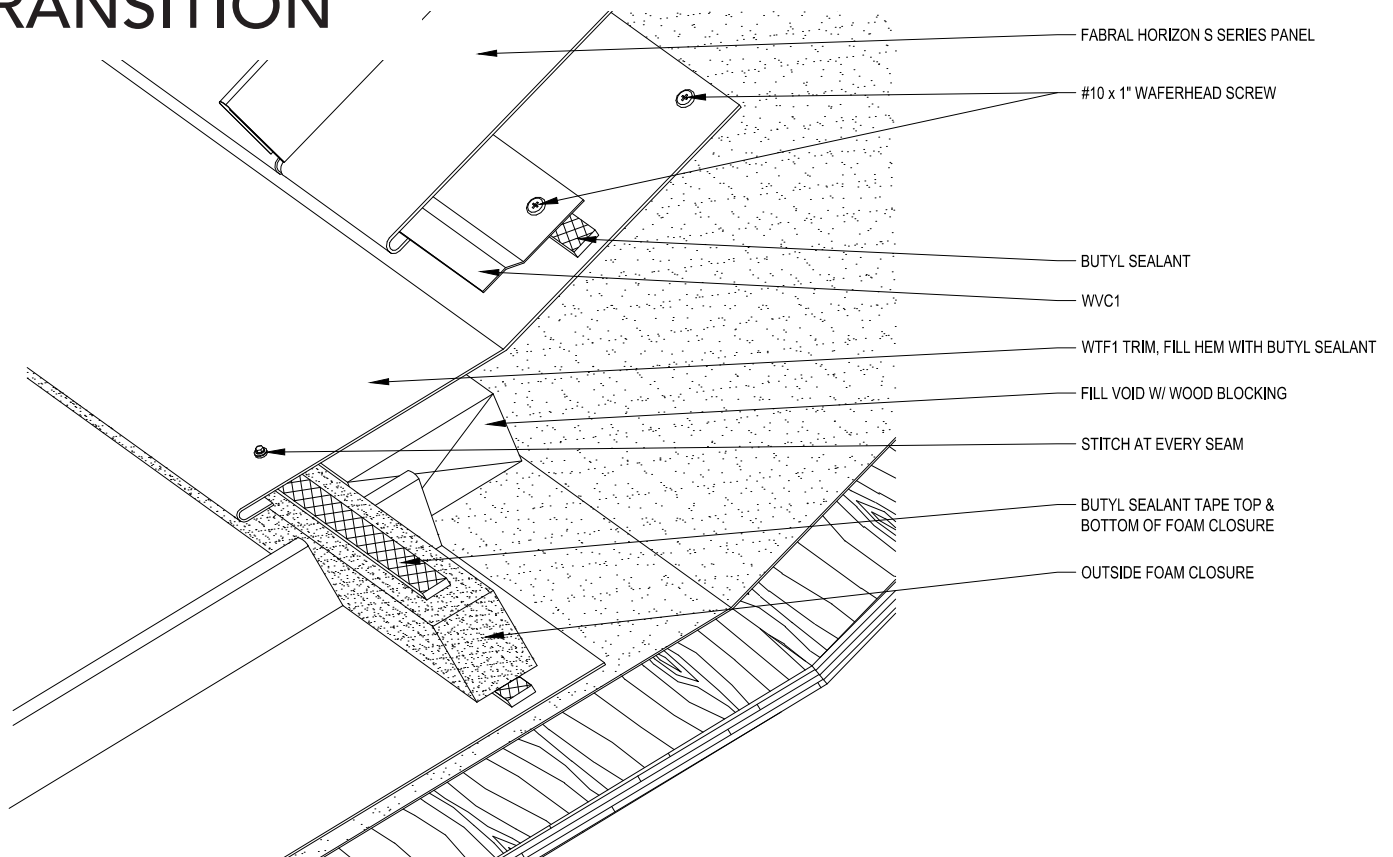


# HORIZON S TRIM DETAILS

## DORMER



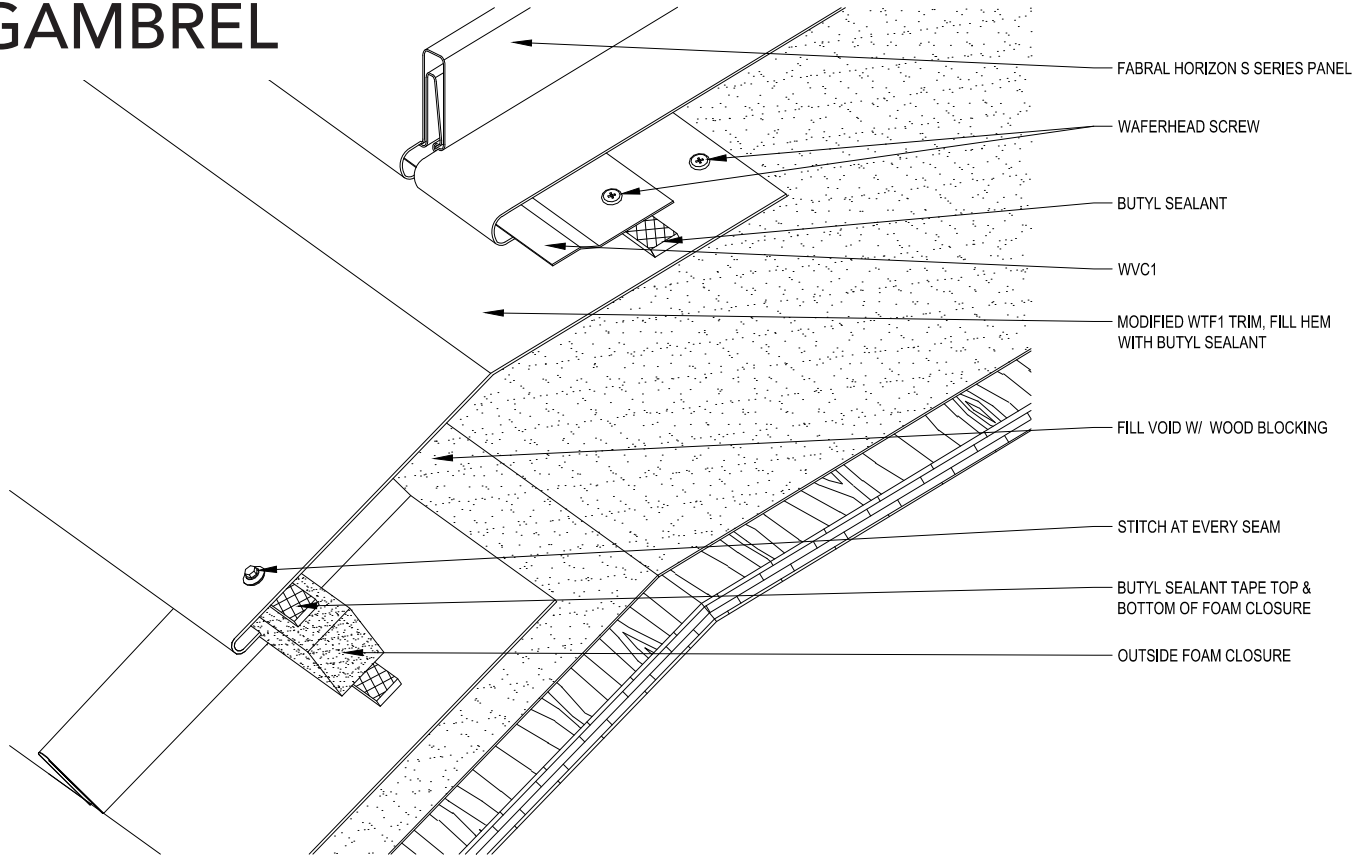
## TRANSITION



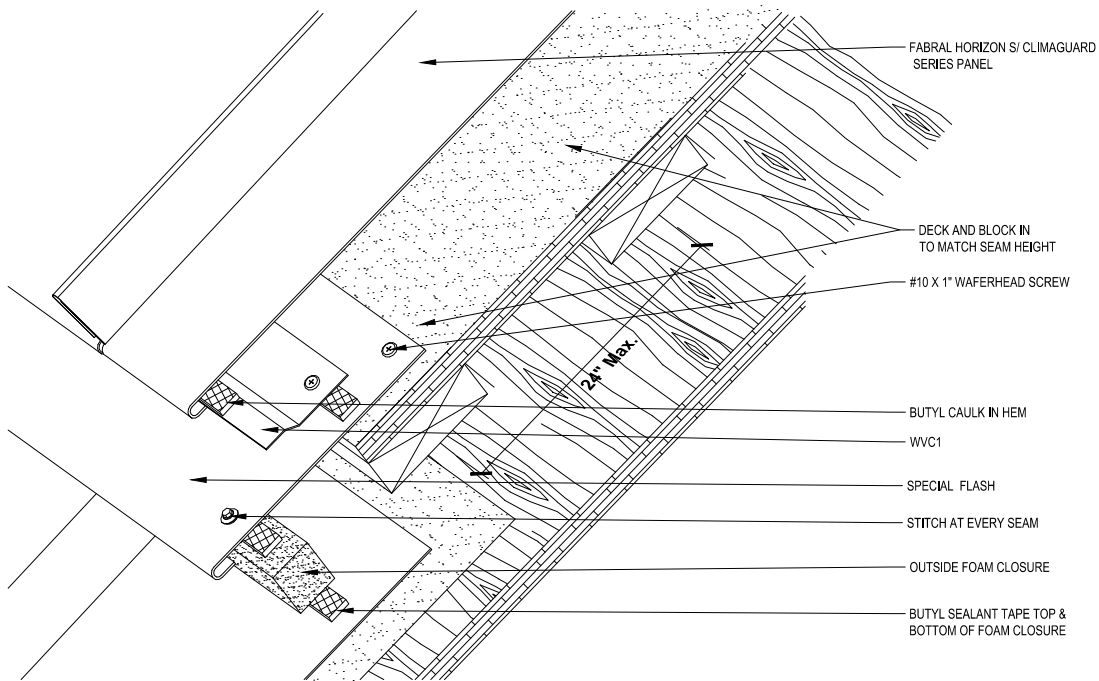


# HORIZON S TRIM DETAILS

## GAMBREL

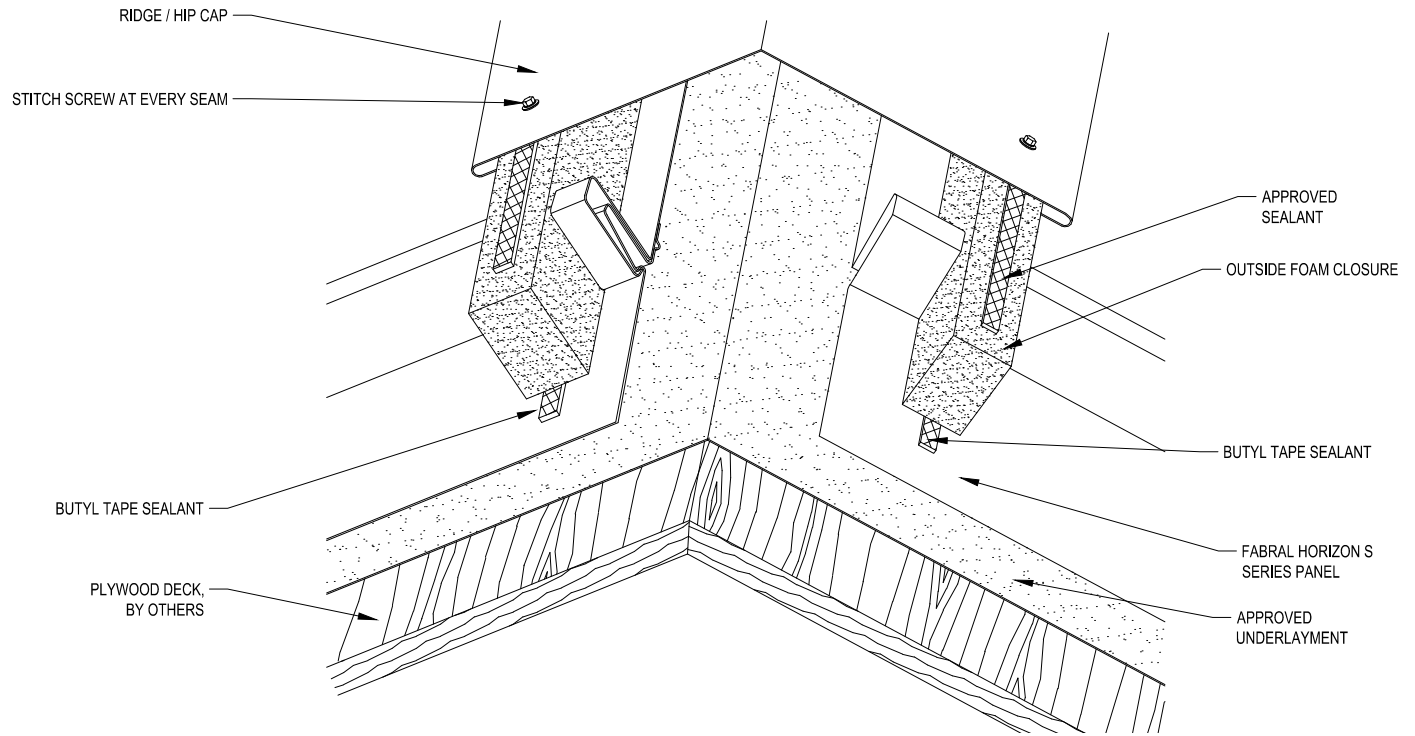


## STEP DOWN DETAIL

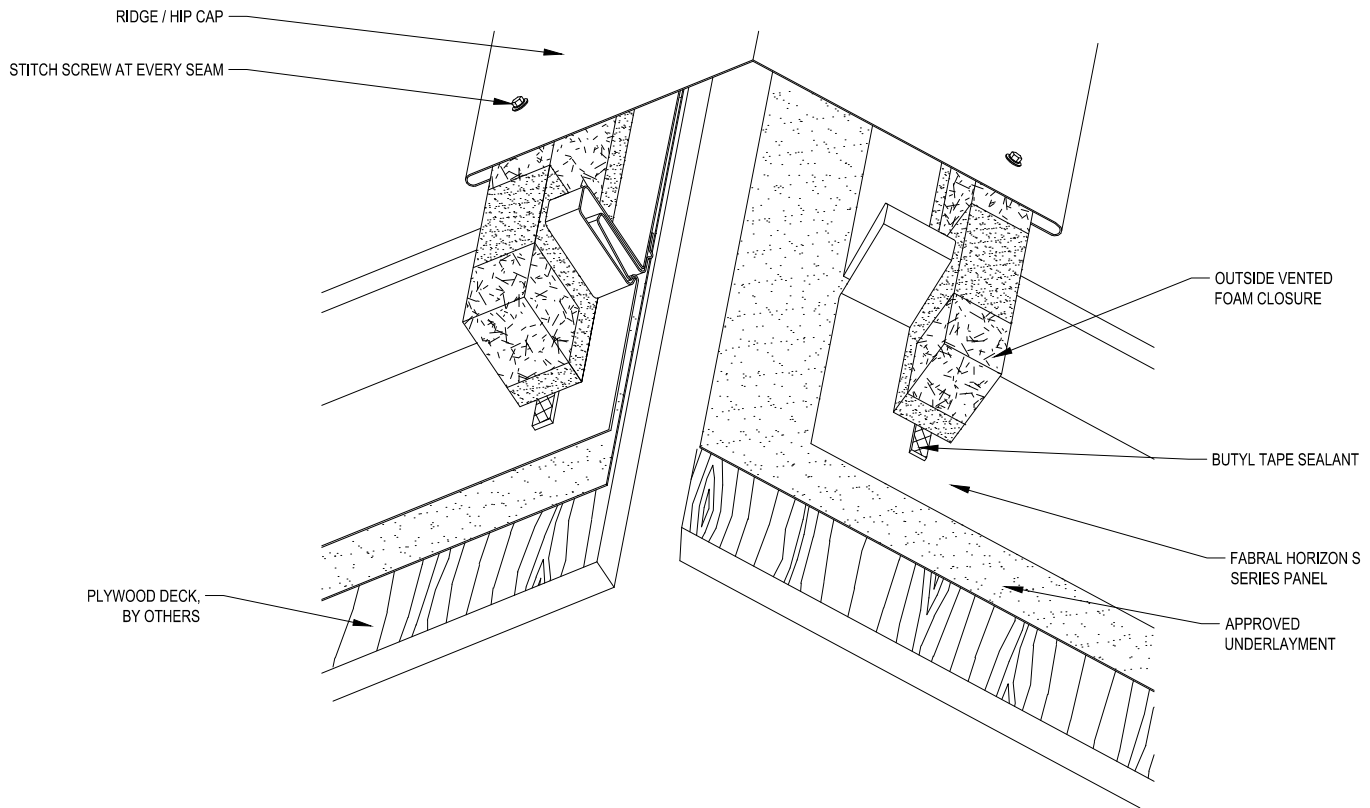


# HORIZON S TRIM DETAILS

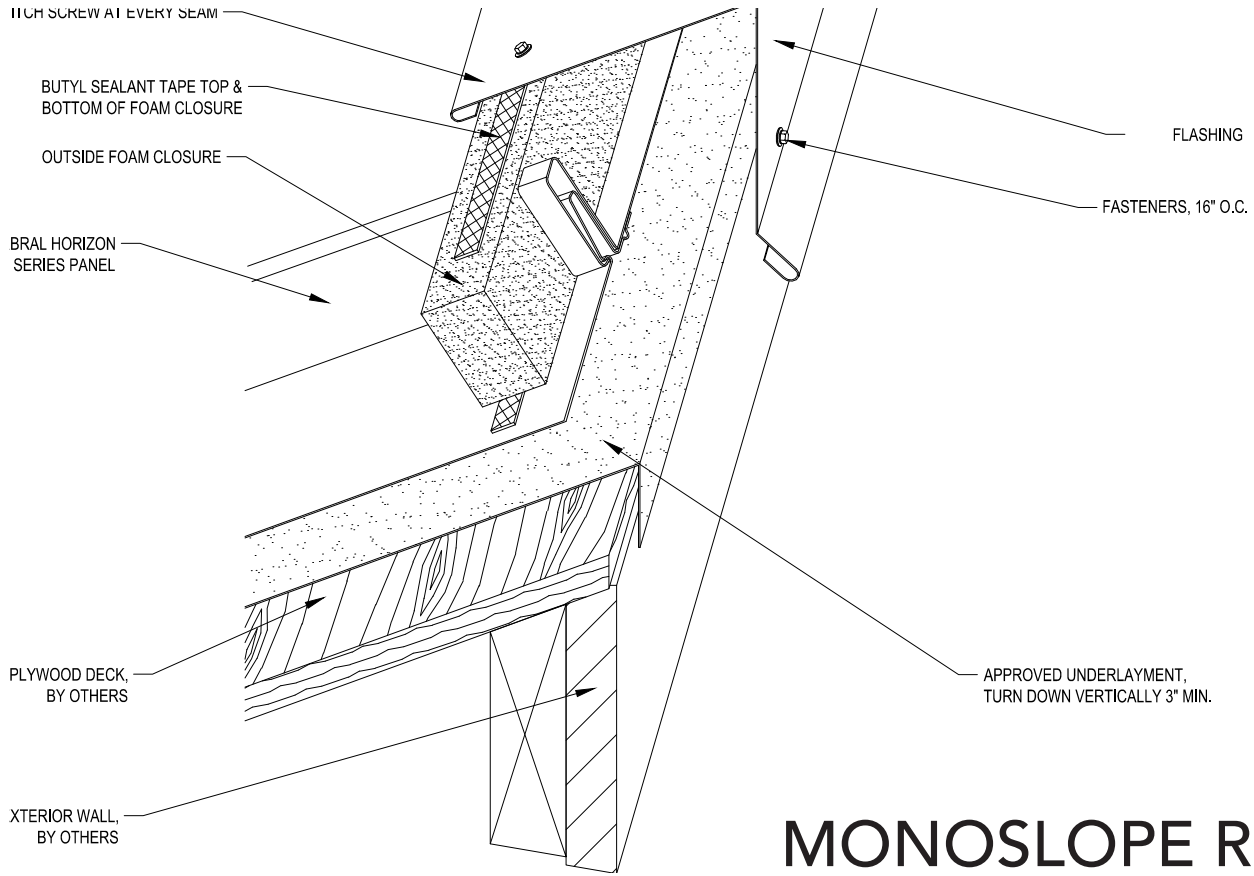
## RIDGE



## VENTED RIDGE

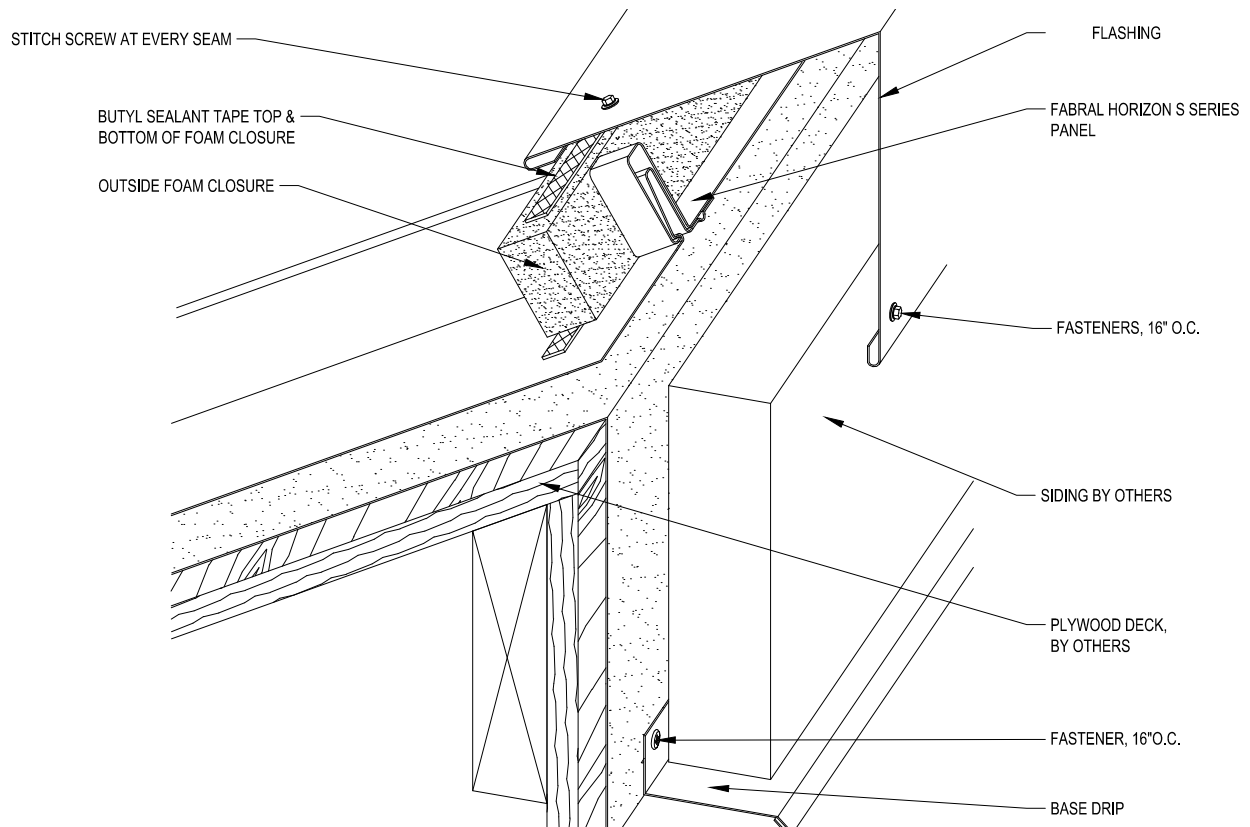


# HORIZON S TRIM DETAILS



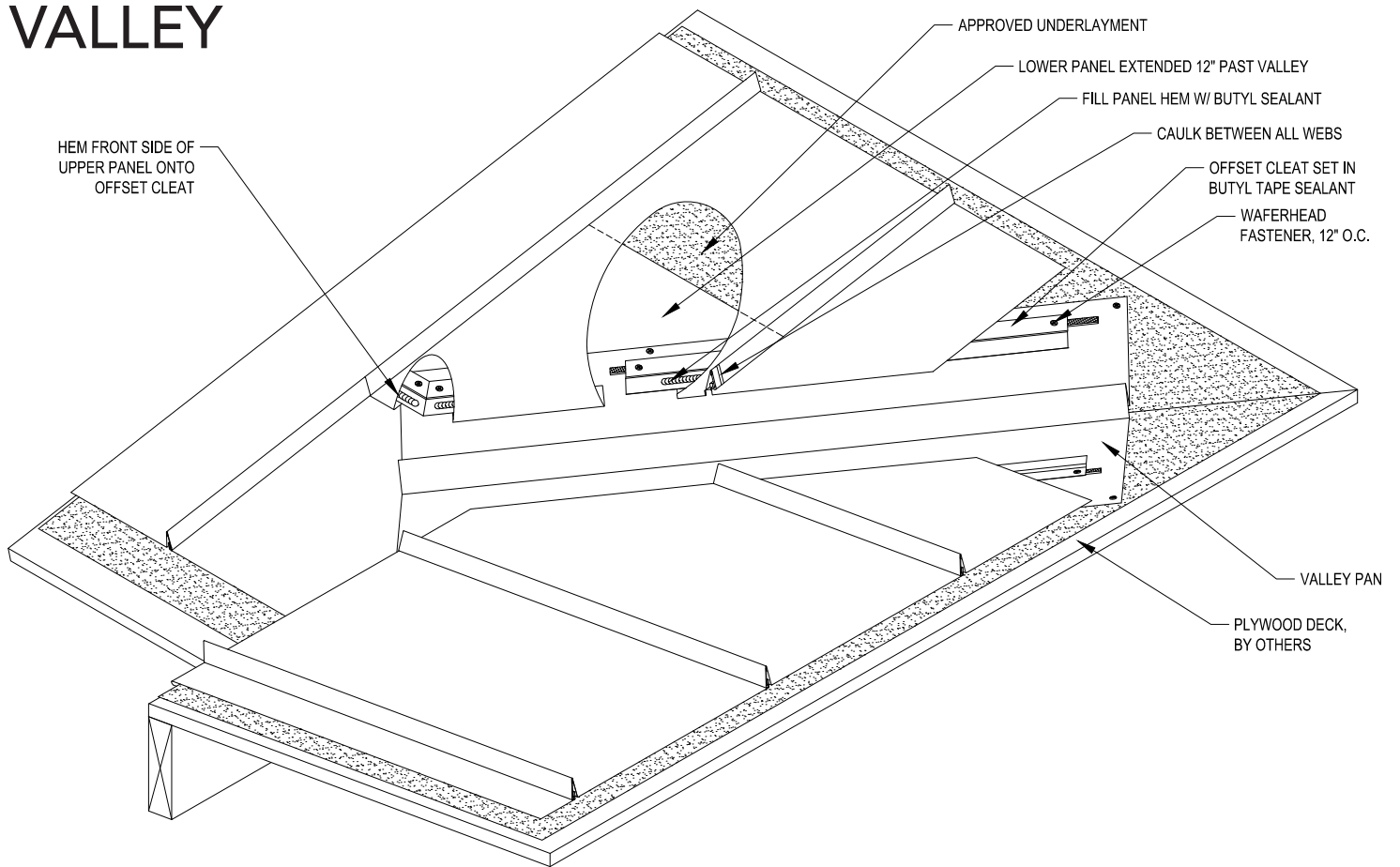
## MONOSLOPE RIDGE

# MONOSLOPE RIDGE WITH SIDING

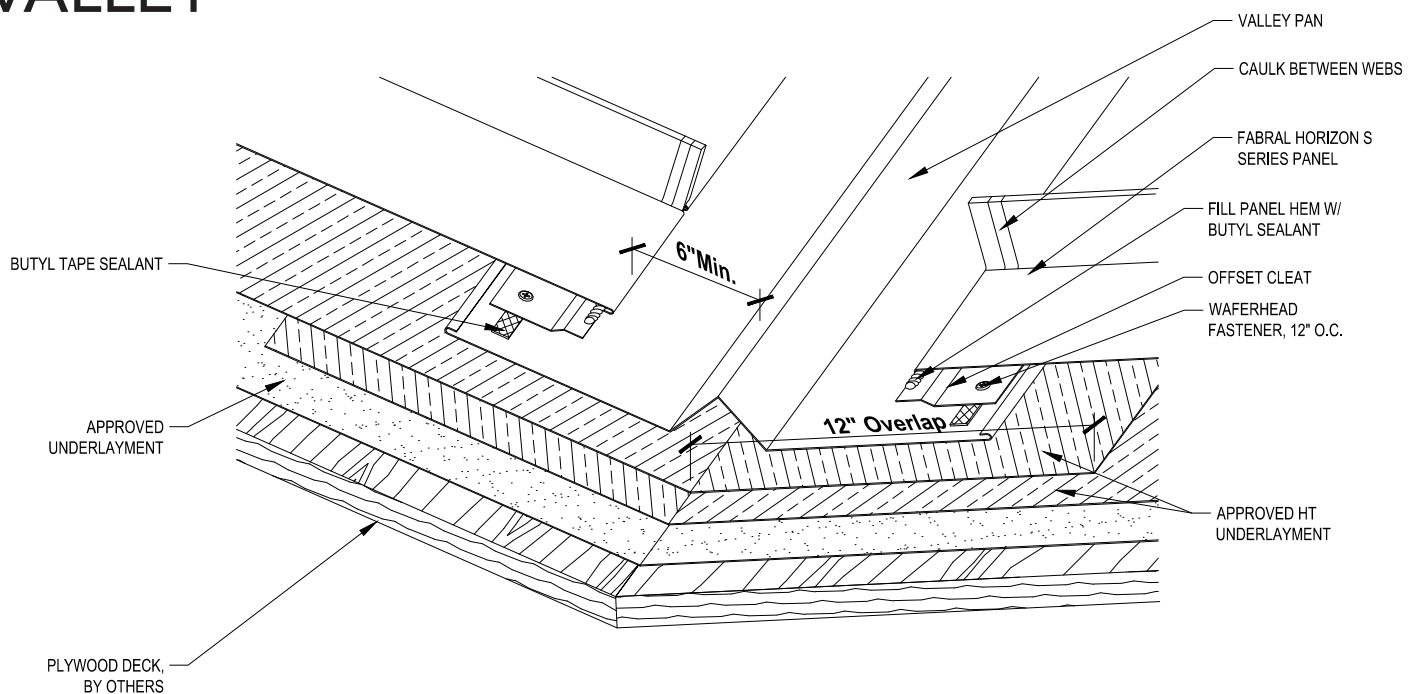


# HORIZON S TRIM DETAILS

## VALLEY

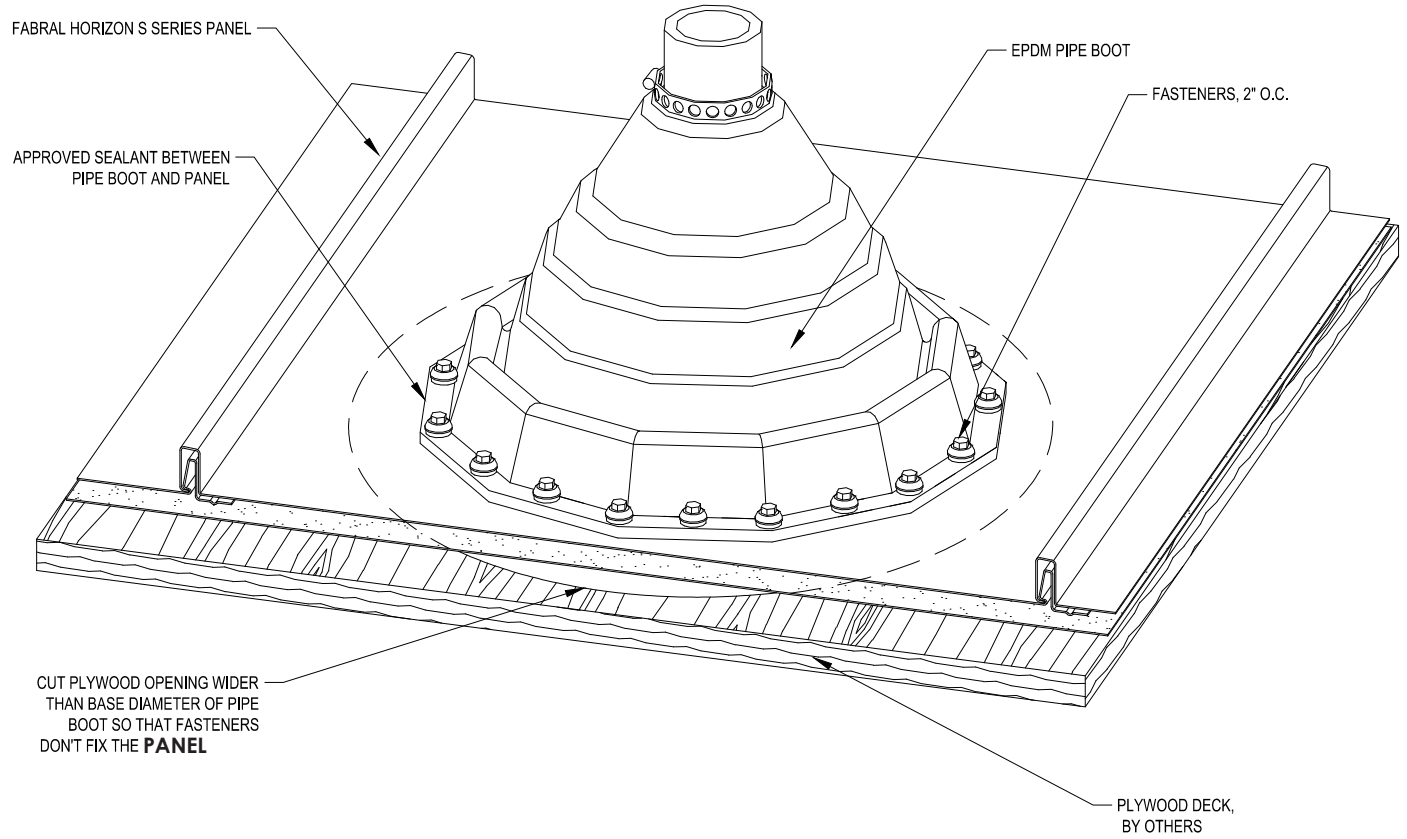


## VALLEY



# HORIZON S TRIM DETAILS

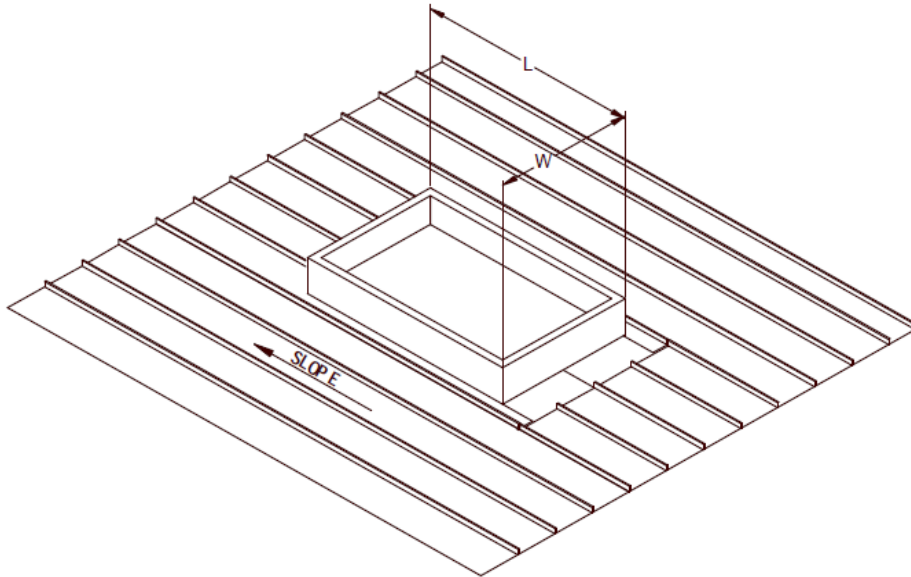
## PIPE BOOT



# HORIZON S TRIM DETAILS

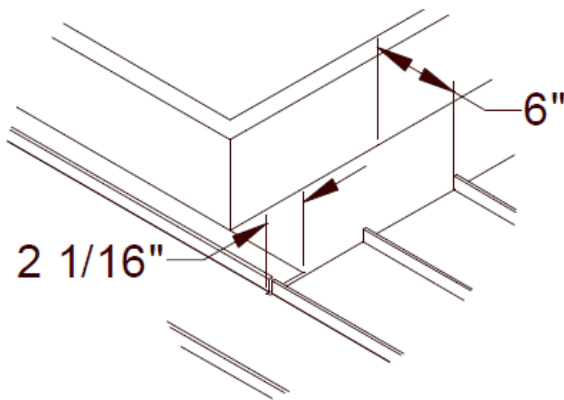
## SKYLIGHTS

### PROCEDURE FOR THE INSTALLATION OF SKYLIGHT FLASHING



#### Notes:

1. Do not fasten down the panels a minimum of 24" uphill from the skylight.
2. Whenever possible, position the skylight curb so the ribs of the roof panels do not interfere with the flashing.
3. Cut the HORIZON S panels as close to the left, right and downhill sides of the curb as possible. Cut the uphill side 6" from the curb as indicated above.



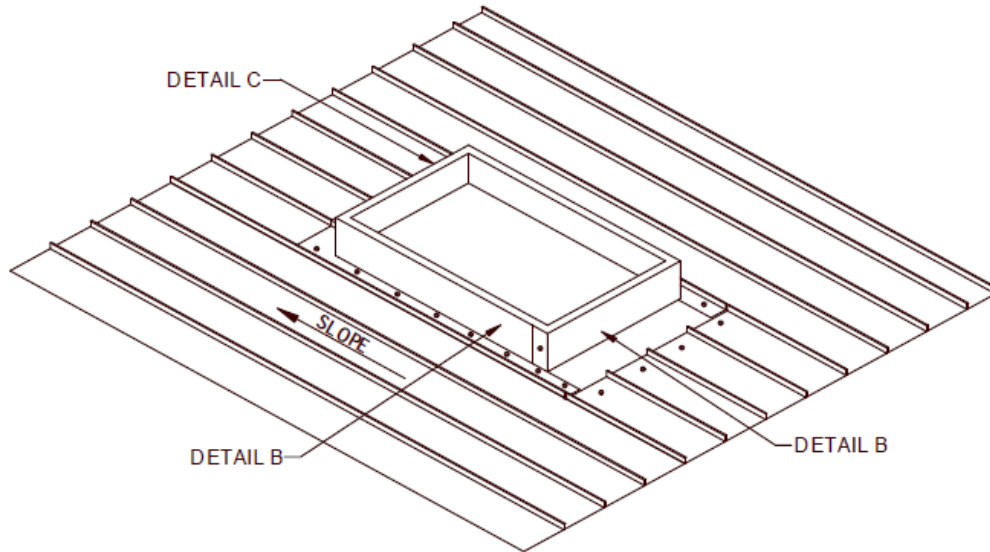
#### Notes:

1. The skylight flashing will be 4" wider than the width of the curb (2" on each side).
2. Cut a 1/8" slot in the two uphill corners of the HORIZON S panels, slightly wider than 2" so the uphill flashing can slide through the two slots.

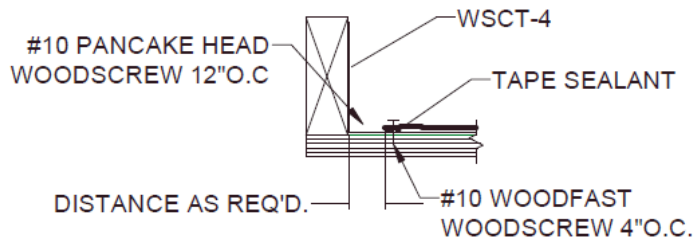
Note: Contact Fabral regarding skylight details when skylight is downslope more than 10 ft. down from ridge. Applications where this is present may cause panel distortion due to thermal movement.

# HORIZON S TRIM DETAILS

## SKYLIGHTS CONT'D



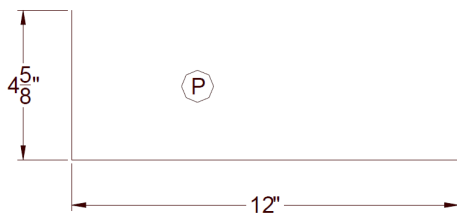
### SKYLIGHT FLASHING (SIDE)



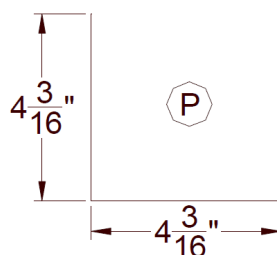
#### Notes:

1. In reference to details A, B, and C, refer to page 25.

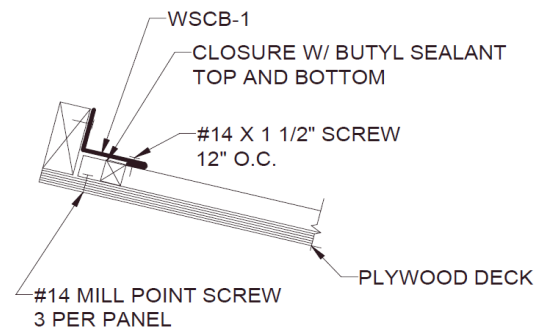
### SKYLIGHT TOP FLASH



### SKYLIGHT BOTTOM FLASH



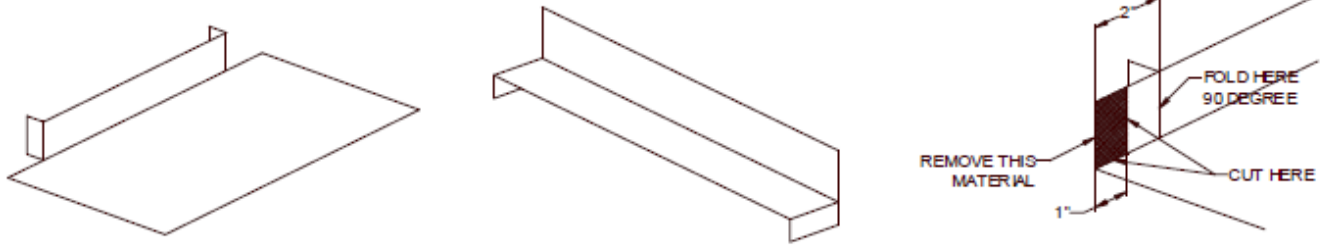
### SKYLIGHT DOWNHILL



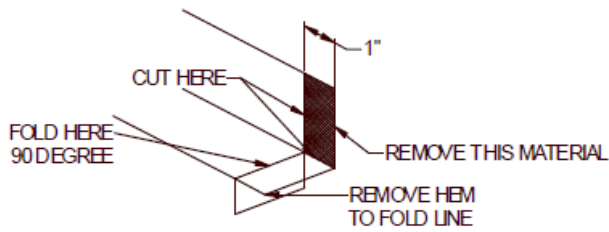
# HORIZON S TRIM DETAILS

## SKYLIGHTS CONT'D

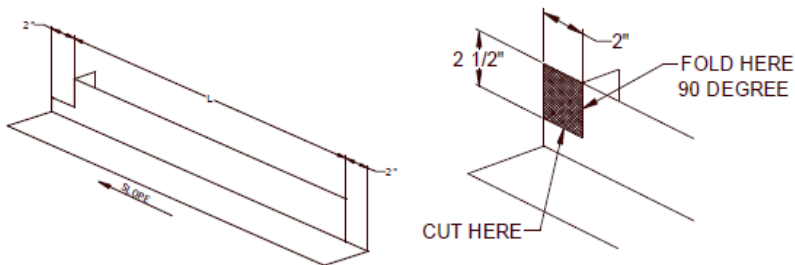
### SKYLIGHT FLASHING PREPARATION - DETAIL A



Detail C



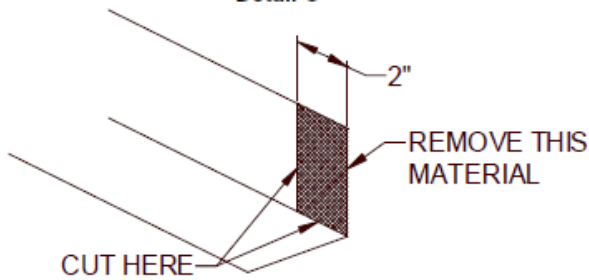
### SKYLIGHT FLASHING PREPARATION - DETAIL B



#### Notes:

1. Trim and bend the right side skylight flashing as indicated.
2. Trim the left side in a similar fashion. (Keep in mind the up from the downhill ends.)

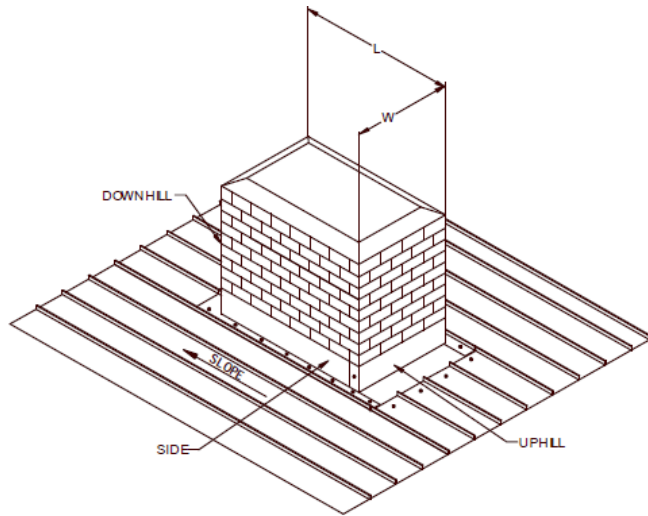
Detail C





# HORIZON S TRIM DETAILS

## CHIMNEYS

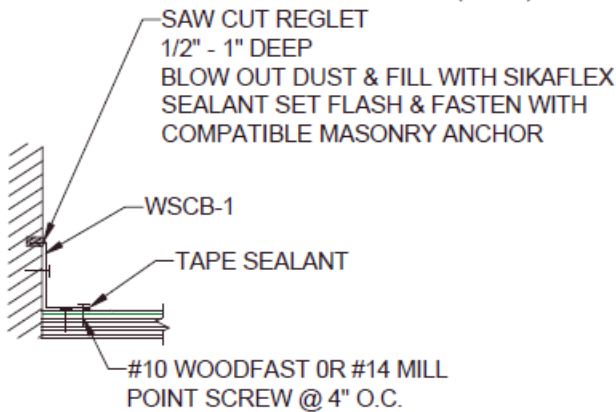


### Notes:

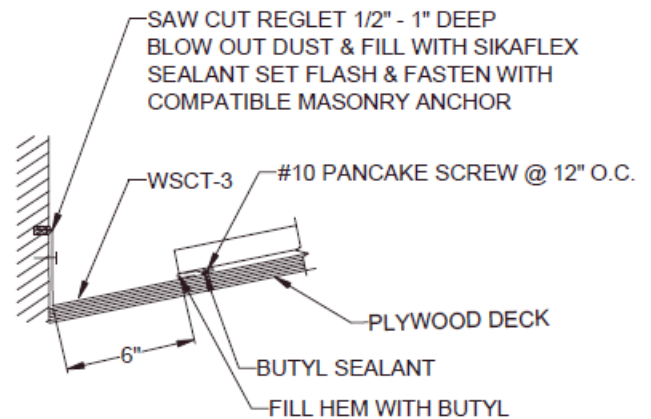
1. Procedures for the installation of Chimney Flashings are similar to the Skylight's (refer to pages 23-25).
2. The reglet shown may be deleted if the chimney is clad with siding. Lap the siding over the flashing and caulk.
3. Be sure to specify the slope and the orientation when ordering this assembly.

Note: Contact Fabral regarding chimney details when chimney is located downslope more than 10 ft. from ridge. Applications where this is present may cause panel distortion due to thermal movement.

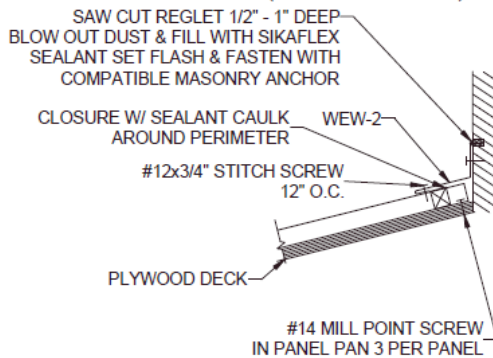
### CHIMNEY FLASHING (SIDE)



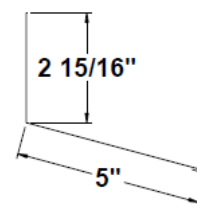
### CHIMNEY FLASHING (UPHILL SIDE)



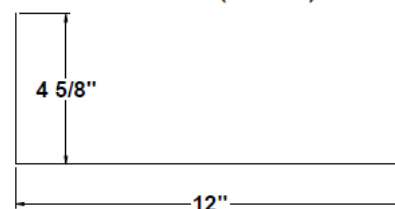
### CHIMNEY FLASHING (DOWNHILL SIDE)



### CHIMNEY (DOWNHILL)



### CHIMNEY (UPHILL)



# KEY TERMS

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 Screw

This fastener is used to attach roofing panels to the roof deck. (Used to fasten into HORIZON S 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.

# PAINT SYSTEMS & WARRANTY

Enduracote® is a paint system that takes performance to the next level. Based on cutting edge resin technology, this system offers unbeatable durability and superior long-term performance against the elements.

## The Enduracote® Warranty for Galvalume® Panels

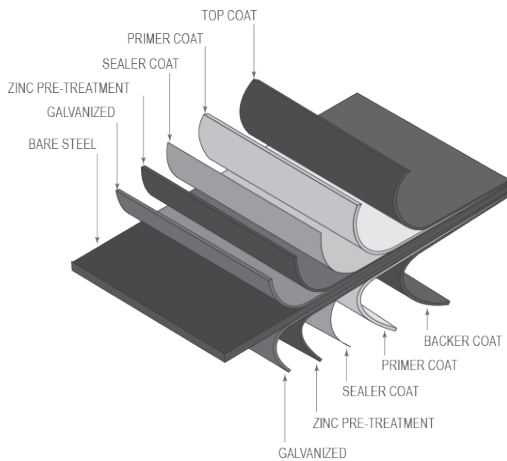
- Lifetime film integrity for walls & roofs
- 30-year against fade & chalk for walls and roofs
- 20 year non-perforation warranty

For profiles: Grandrib 3, 1 1/2" SSR, Climaguard, Mighti-Rib, Horizon S, Horizon S 100, Horizon 16, Ultra-Loc, Ultra-Rib

Product Warranties are available upon request

## ENDURACOTE®

PREMIUM DEFENSE  
Against the Elements



## The ENERGY STAR® Program

The ENERGY STAR Program promotes highly reflective roof systems that reflect solar energy. These roof systems allow buildings to stay cooler and, in turn, use less electricity for air conditioning; less electricity means a reduction in power generation and a reduction of pollutants discharged at power plants. Fabral has attained ENERGY STAR approval for many of its Enduracote® system colors. Ask for Technical Bulletin #724 titled "ENERGY STAR Approval", for program details and a list of approved Enduracote® colors.

*All Fabral Enduracote Colors are ENERGY STAR® Approved*

Please contact your Fabral representative for more information about Fabral warranties and paint systems.

# COMPLETE CONTACT INFORMATION

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## Contact by Phone - Nationwide Plant Locations

|                |                |                |                                  |
|----------------|----------------|----------------|----------------------------------|
| Lancaster, PA  | (800) 477-2741 | St. Joseph, MN | (800) 873-3440                   |
| Cedar City, UT | (800) 432-2725 | Spokane, WA*   | (800) 456-9124<br>(800) 477-8028 |
| Gridley, IL    | (800) 451-3974 |                |                                  |
| Marshfield, WI | (800) 528-0878 | Tifton, GA     | (800) 749-8144                   |

## Contact by Email

[info@fabral.com](mailto:info@fabral.com)

[Fabral.com/contact](http://Fabral.com/contact)

## Live Tech Chat

[Fabral.com](http://Fabral.com)

\*Both numbers service Northern California, Oregon, Washington areas

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# GENERAL NOTES

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# GENERAL NOTES

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# FABRAL®

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