

Standard Details for Metal Roofing & Siding

Post Frame and Residential Structures



Disclaimer

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.

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**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.

Installation Instructions

Building Design and Construction

In order to ensure the anticipated performance and longevity, protect metal panels from potentially corrosive situations and materials. When treated lumber will be in direct contact with metal panels or flashings please note the following: Galvanized steel is compatible with the CCA (Chromated Copper Arsenate) pressure-treated lumber that was predominantly used before 2004, but not with the older Penta treated lumber or the new ACQ (Alkaline Copper Quaternary), CA (Copper Azole), or CBA (Copper Boron Azole). Stainless steel or other special treated fasteners should be used into these non-compatible pressure treated lumbers. Aluminum must be separated from contact with all treated wood since the soluble copper in the preservative is corrosive to aluminum. Likewise, dissimilar metals also require a protective barrier between them to prevent galvanic corrosion. Request FABRAL Technical Bulletins #803, 106, and 107 for more information on treated lumber and dissimilar metals.

Plastic, builders' felt, bituminous paint, caulking, or gasket material may be used to separate panels from treated wood and dissimilar metals. When using aluminum panels in direct contact with steel, use a separator as described above and fasten with Stainless Steel screws.

Fertilizer, lime, acids, feeds, manure, soils, and many other compounds also cause corrosion in metal panels. Contact between metal panels and any potentially corrosive materials should be prevented.

Porous insulation materials may absorb and retain moisture, and should not be used in direct contact with metal panels. Use a vapor barrier such as polyethylene plastic or 30-lb felt to prevent moisture from contacting both the insulation and the metal panel.

FABRAL's translucent panels are intended for siding applications only. In all situations, foot traffic should be avoided on translucent panels. Translucent panels used in roofing applications will break down in a short time and cause staining and premature corrosion of the metal panels below. If used on roofs, apply butyl caulking to separate the fiberglass panels from the metal. Translucent panels should be cleaned and sealed regularly, as recommended by the translucent panel manufacturer.

Purlins, Girts and Roof Deck

The substructure to which the metal panels are fastened must be properly spaced and sufficiently thick to provide a roof or wall system able to meet required design loads.

A 2" nominal lumber thickness provides the maximum pullout values for both screws and nails when the fasteners penetrate a minimum of 1" into the wood. Since 1" nominal lumber and solid decking are thinner, they provide somewhat lower pullout values. When using purlins, FABRAL recommends a maximum spacing of 24" on-center (note that 5V requires solid decking). Pullout values decrease if the fasteners protrude completely through the purlins. Kiln-dried softwood is recommended for purlins or decking (pine, fir, hemlock, and spruce). Hardwoods are difficult to fasten into without splitting and contain tannic acids that are corrosive to metal panels. Green (non-kiln-dried) lumber may warp, twist, and shrink as the wood seasons fully, causing waviness in the panels as well as loosening and leaking of the fasteners.

Solid decking is highly recommended for all residential applications. When using solid decking or sheathing, always use 30-lb felt or underlayment and plan on using closer fastener spacing and larger diameter #14 screws. (Refer to the tables on page 31).

On re-roofing projects where the condition of the old decking

is in question, or where existing shingles will be left in place, new 2x4 purlins should be fastened through the decking and into the rafters. This will provide a solid framework for attaching the metal panels. For more detailed information on Re-roofing applications, consult FABRAL Technical Bulletin #721, Re-Roofing With Metal. Load tables are available for all FABRAL panels; contact FABRAL for additional information.

Roofing

Panel sidelaps should face away from wind driven rain. To accomplish this, begin by installing the first sheet square with the eave and gable at the down wind end of the roof, farthest away from the source of prevailing winds.

In applications requiring a panel endlap, please refer to the detailed instructions in this booklet. For best results, lap panels as shown and install in the indicated sequence. **All endlaps require sealant. When weather-tightness is critical, use sealant tape in all sidelaps.**

To provide a drip edge, allow an overhang of 1 to 2 inches at the eave. At the gable edge, use a gable or sidewall flashing. This will keep weather out, prevent lifting in high winds, and provide a neat, finished appearance. The trim and roofing sheet should be fastened every 12 to 24 inches along the gable edge.

Roof Pitch

The metal roofing panels shown in this manual require a minimum slope of 2½" per foot to ensure proper drainage. Refer to the rain-carrying table in this booklet for the maximum allowable panel length per slope that will provide adequate drainage. For longer slopes and lower roof pitches, contact FABRAL for other suitable profiles.

Bending and Bowing

Aluminum roofing and siding sheets are rollformed from hardened, tempered metal for maximum strength. If a sheet must be bent, a gentle 90-degree bend is the maximum recommended. Metal should not be re-bent once it has been formed, nor should it be folded back on itself. When a metal roofing sheet must be installed on a curved roof, screws should be installed at every overlapping rib at the sheet ends to resist the natural tendency of the metal to spring back. The standard fastening pattern is permitted over the rest of the sheet. When installing the metal panels shown in this booklet over a curved arch, the minimum radius of the arch is 18' for aluminum panels and 24' for steel panels. Use sealant tape or butyl caulking at all sidelaps and endlaps. Additional care and fasteners must be provided when securing the top and bottom purlins on an arched rafter building to prevent the curved panels from pulling the purlins loose from the rafters. Ring-shank pole barn nails, heavy wood screws, lag screws, or bolts are often used for attaching these purlins.

Siding

Siding should be installed using the standard fastening and overlap patterns to ensure optimum performance. For strong, neat corners use hemmed corner flashings. **Do not run siding sheets all the way to the ground. Instead, provide a protective base of concrete, masonry, treated wood, or similar material and terminate the siding sheets 6" above grade.**

If siding sheets are installed horizontally, use sealant tape or butyl caulking at the vertical laps to ensure weather-tight joints. Install panels from the bottom up so that water is directed away from, and not into, the lap joints.

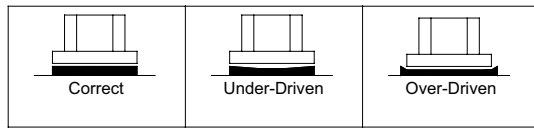
Installation Instructions

Fastening

FABRAL can supply either screws or nails for fastening into dimension lumber. Woodgrip screws for use with steel panels are galvanized and then coated with an organic polymer for optimum corrosion resistance. For best results with aluminum panels, use #300 series stainless steel screws.

The FabrOseal® galvanized ring-shank nail, with its premium long-life silicone rubber gasket, assures a lasting seal and is the best nail available for steel panels when screws are not the method to be used by the installer.

The correct way to fasten steel panels with nails is to drive the nail through the top of the rib so the washer is compressed securely against the metal. Nail placement must be in the ribs for roofing applications to minimize the potential for roof leaks. Over-driving the nail can split the washer and dimple the metal, causing leaks.



Wood screws with combination metal and neoprene washers should be installed in the flat area of the panel adjacent to the ribs, and tightened such that the washer is compressed as illustrated above. This will ensure a lasting, leak-proof seal. See pages 4 to 5 for the correct fastener locations. Refer to the fastening schedules in this booklet for the correct fastener locations.

Flashing and Trim

Always begin flashing installation from the bottom and work up, so that upper flashings are lapped on top of lower flashings. This will prevent moisture from leaking under the flashings and into the structure. Endlap flashings a minimum of 6" and seal the lap joints with sealant. Extend flashings 4-6" beyond the building, cut along the bend lines, apply sealant, and fold the side flaps in and the top flaps down to cap off the ends. Secure with pop-rivets or stitch screws.

Some roof conditions, such as valleys, may require a longer endlap and/or a larger flashing to properly drain moisture from the roof. Factors that influence flashing size, shape, and endlap requirements include roof pitch, roof geometry, slope length, and climatic factors (such as heavy snowfall or rainfall).

Whenever possible, begin trim installation at the downwind end of the roof, farthest away from the source of prevailing winds, to allow flashing laps to face away from wind-driven rain. Refer to the details in this book for the proper location of fasteners and sealants.

The flashings and trims shown in this book are standard parts. Custom trims are available to meet your specific design needs. If you need a special trim, please furnish a drawing of the desired shape, including dimensions and angles, to your Fabral dealer to obtain pricing and availability.

Refer to the SMACNA Architectural Sheet Metal Manual for additional information about detailing and installing flashings.

Safety

Always work safely when installing metal products and use extreme caution on the roof at all times. Wear gloves and safety glasses to reduce the risk of injury, and use hearing protection when operating power tools. Always be sure that ladders are safely positioned and

properly secured. Safety harnesses or other special equipment may be required; be sure to Consult OSHA guidelines for compliance with all safety requirements.

Do Not walk on panels until all the fasteners are installed. Metal roofing panels are slippery when wet, dusty, frosty, or oily -- Do Not attempt to walk on a metal roof under these conditions. Wear soft-soled shoes to improve traction and to minimize damage to the paint finish. Always be aware of your position on the roof relative to any roof openings, roof edges, co-workers, and penetrations. Installing metal panels or flashings on a windy day can be dangerous and should be avoided if possible.

Cutting Aluminum Panels

To make a cut parallel to the ribs, score the panel deeply with a sharp utility knife and bend back-and-forth along the score, breaking the metal off cleanly. For cuts across the ribs, use straight-cut snips, electric or pneumatic shears, a portable profile shear, or an electric nibbler. Some installers prefer using a circular saw with a metal cutting blade (a fine-tooth hardwood blade, or a standard combination blade reversed in the saw works also). Light oil or soap on the blade will make cutting easier.

Cutting and Drilling Steel Panels

Steel panels may be cut with metal snips, electric or pneumatic shears, a portable profile shear, or an electric nibbler. Some installers prefer using a circular saw to cut metal panels. Do Not use self-consuming abrasive blades because of the following: 1. Abrasive blades burn the paint and galvanizing at the cut edge, leaving edges that are jagged and unsightly and rust more quickly 2. Abrasive blades produce hot metal filings that embed in the paint and cause rust marks on the face of the panel 3. All saw cut panels must be turned face down and cut in a location down-wind and well away from the building and other panels to avoid embedment of metal filings on other panels 4. All saw cut panels must be thoroughly wiped to ensure the removal of all metal filings. If saw cutting cannot be avoided, select a carbide-tipped blade specially designed for cutting light-gage ferrous metal panels. These blades are now available at many home centers and lumber yards. Pre-drilling wall panels gives uniform alignment of screw rows. Be sure to remove drill filings once panels are installed to avoid rust marks from the filings.

Building Maintenance

A metal roof should be inspected annually and cleaned as necessary to maintain its beauty and performance. Any debris or residue, including leaves, twigs, and dust should be cleaned off promptly to prevent moisture entrapment against the metal, which may lead to finish deterioration or premature corrosion. Flashings may need to be re-sealed periodically in order to maintain optimum weathertightness.

Proper Storage

Store metal panels indoors when possible; if outdoors, cover and elevate. Elevate one side higher for water drainage. Never cover in plastic; use a tarp that can breathe. Allow for air circulation. If a bundle gets wet, break bands and separate sheets; allow sheets to dry completely and only restack if completely dry. Product should be stored for a maximum of 2-4 weeks before being installed.

Paint System & Warranties

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

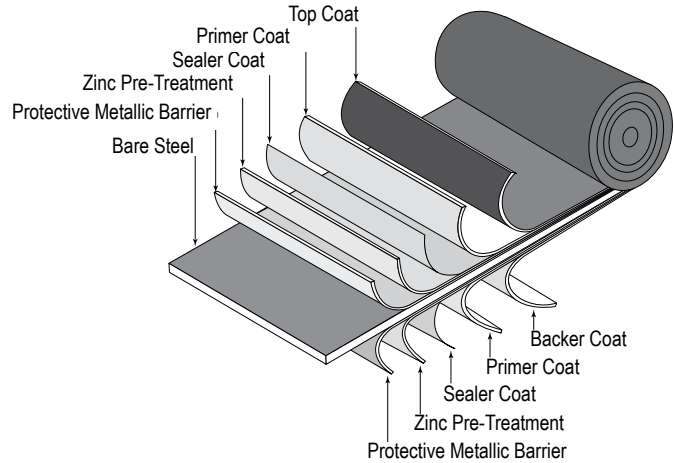
- Lifetime film integrity for walls & roofs
- 30-year against fade & chalk
- 10-year edge rust against acid rain

For profiles: Grand Rib 3®, Alu-Tuff II, 5V Crimp, ProClad, StrongClad, Mighti-Rib®

The Enduracote™ PLUS Warranty

- Lifetime film integrity for walls & roofs
- 30-year against fade & chalk
- 15-year edge rust against acid rain
- 25-year non-perforation against acid rain for walls; 20-years for roofs

For profiles: Grand Rib 3® PLUS, Alu-Tuff, 1 1/2" SSR, Climaguard™



Example of the Grandrib3® layer system

Other Warranties

Polyester Paint Warranty

- 25-year limited film integrity
 - 10-year against fade & chalk
- For profiles: MP Panel, Shelterguard®, 5-Rib

Aluminum-Zinc Alloy Warranty

- 20-year limited non-perforation
- For Bare Galvalume® Products

Aluminum Product Guarantee

- 30-year corrosion guarantee



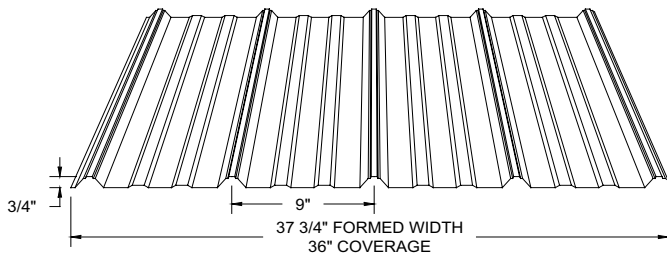
The Energy Star® Program

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.

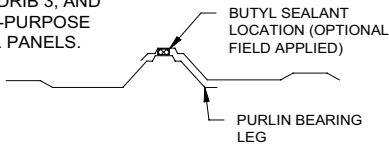
Steel Panel Profiles

Grandrib 3[®]

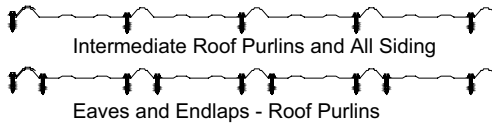
29 Gauge steel, Plain, and Painted Galvanized



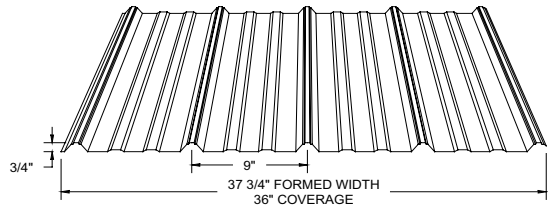
CORRECT SIDELAP FOR ALU-TUFF, GRANDRIB 3, AND MULTI-PURPOSE STEEL PANELS.



SCREW PATTERNS

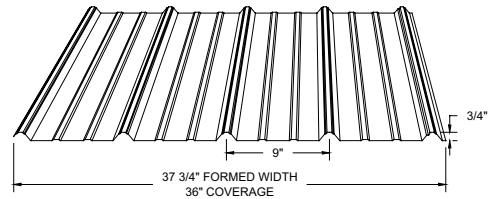


MP Panel[™]

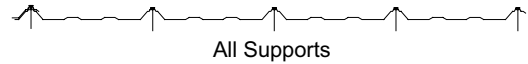


Screw patterns are the same as the Grandrib 3

Alu-Tuff



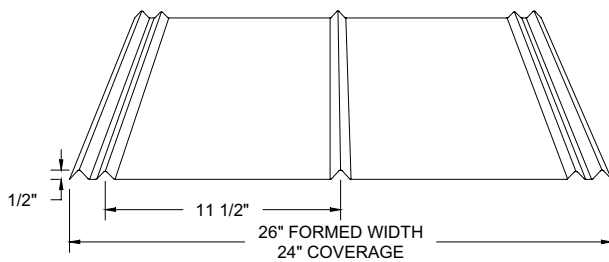
NAIL PATTERNS



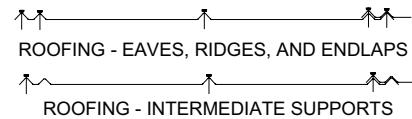
80 screws per square or 1 pound of nails per square
See page 32 for a table showing screw spacing

5V Crimp

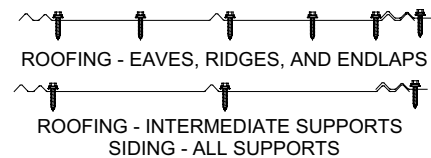
USE ON SOLID DECKING



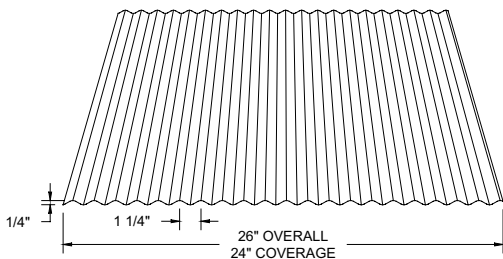
NAIL PATTERN



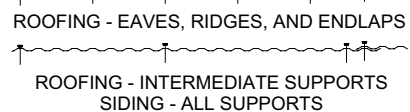
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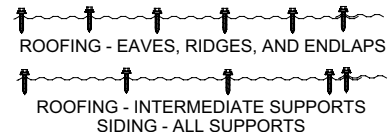
1 1/4" Corrugated



NAIL PATTERN



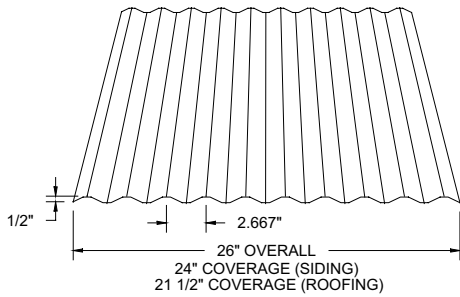
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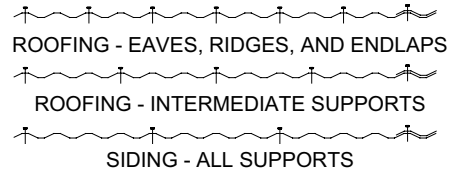
*Not all profiles are available in all areas. Please contact Fabral for availability.

Steel Panel Profiles

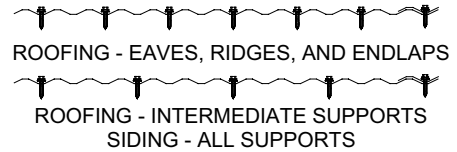
2 1/2" Corrugated



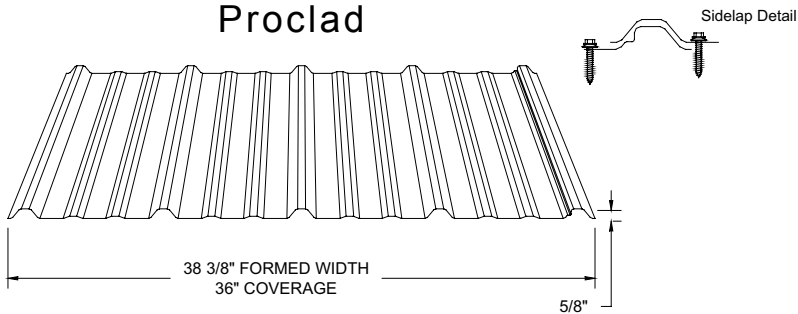
NAIL PATTERN



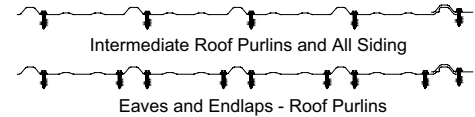
SCREW PATTERN



Proclad



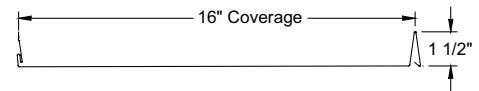
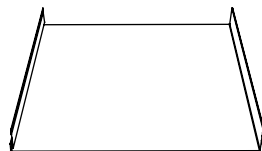
SCREW PATTERNS



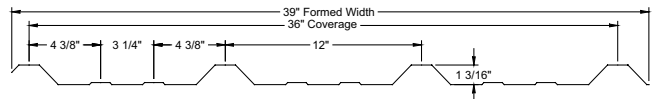
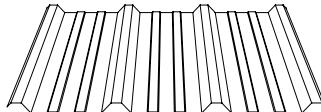
*Not all profiles are available in all areas. Please contact Fabral for availability.

Other Steel Profiles Available

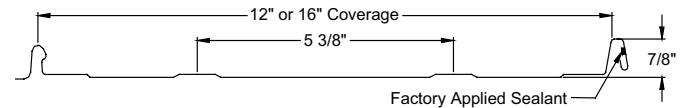
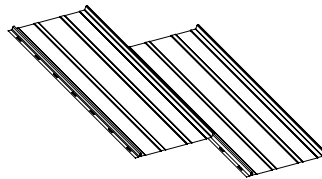
1 1/2" SSR
24 Gauge Standing Seam Roofing



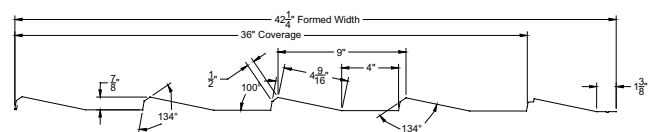
Mighti-Rib®
26 Gauge Roofing & Siding



Climaguard™
26 Gauge Roofing

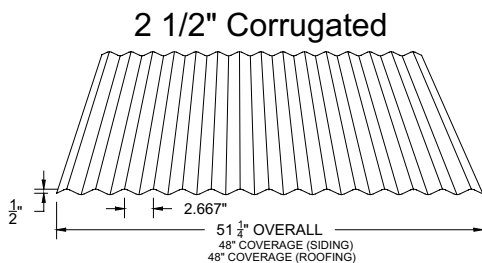
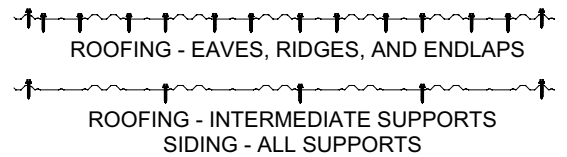
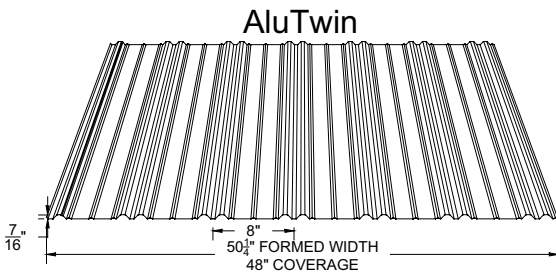
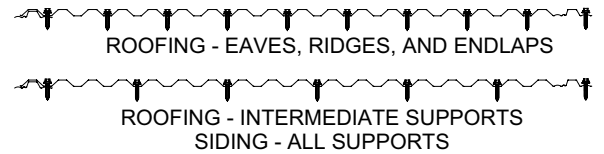
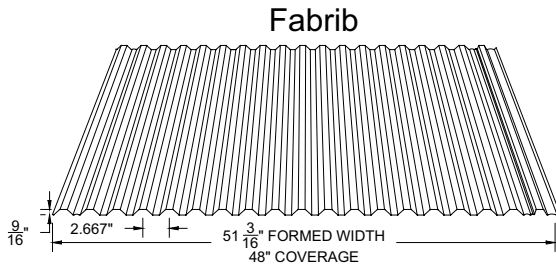
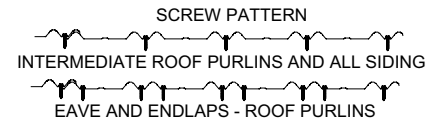
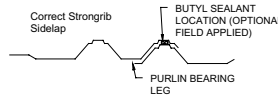
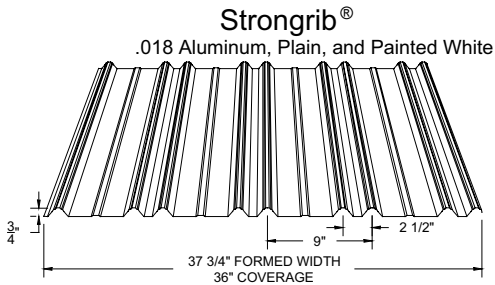
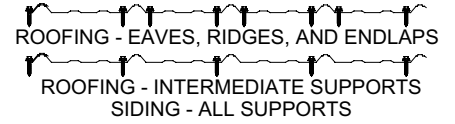
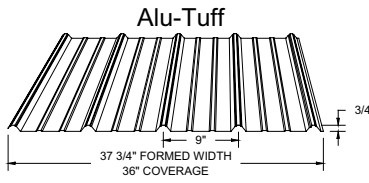
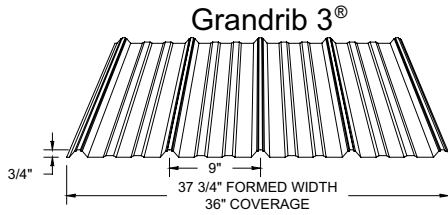


Grandbeam®
26 Gauge Roofing & Siding



*The panels above are available at certain locations and have their own particular details, flashings, and accessories. Please contact Fabral for more information.

Aluminum Panel Profiles



*Not all profiles are available in all areas. Please contact Fabral for availability.

Post Frame Estimating & Roof Types

Estimating Metal Roofing, Siding & Flashings

Panel lengths are to be determined by the truss top chord or actual field measurements. Remember to add for overhangs at the eaves; subtract for a gap at the ridge. Siding should be kept up away from the ground with a skirt board.

Number of Panels

The coverage of the panel being used will determine the number of panels at a length (i.e.: 3' coverage panel on a 30 ft. long building would require 10 panels on each side of the ridge or 20 panels at the particular length.)

Horizontal Measurement to a Roof

Divide the building width in half, then multiply by the slope factor (i.e.: 40' wide building with 4/12 slope. 40 divided by 2 equals 20' times 1.054 equals 21'-1" in slope dimension.) Allow for 1/2" to 1" gap at peak and 1" to 2" eave overhang.

Roof Pitch	Slope Factor
3/12	1.031
4/12	1.054
5/12	1.083
6/12	1.120
8/12	1.202
10/12	1.302
12/12	1.414

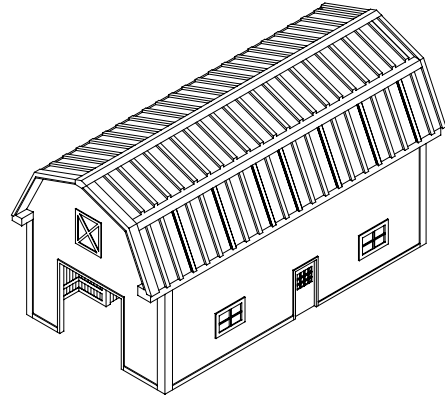
Flashing Conditions

Roof - Eave, Ridge, Gable, Sidewall, Endwall, Valley, Hip, Transition, Gambrel, Soffits

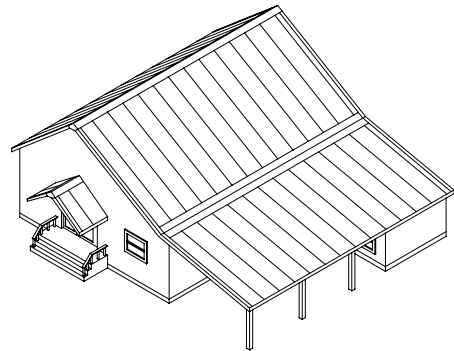
Siding - Base Perimeter, Corners, Inside Corners, Man Doors, Windows, Sliding Doors, Overhead Doors

Please contact Fabral's Engineering Department for all your estimating & specification needs.

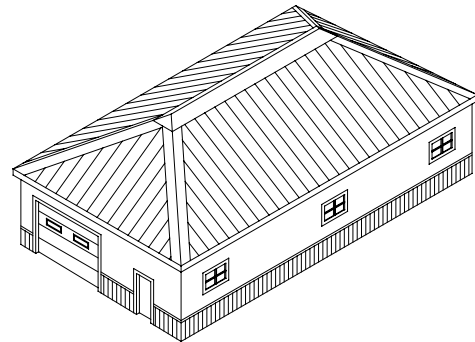
1-800-916-1413
1-800-322-1030 Fax



Gambrel Roof

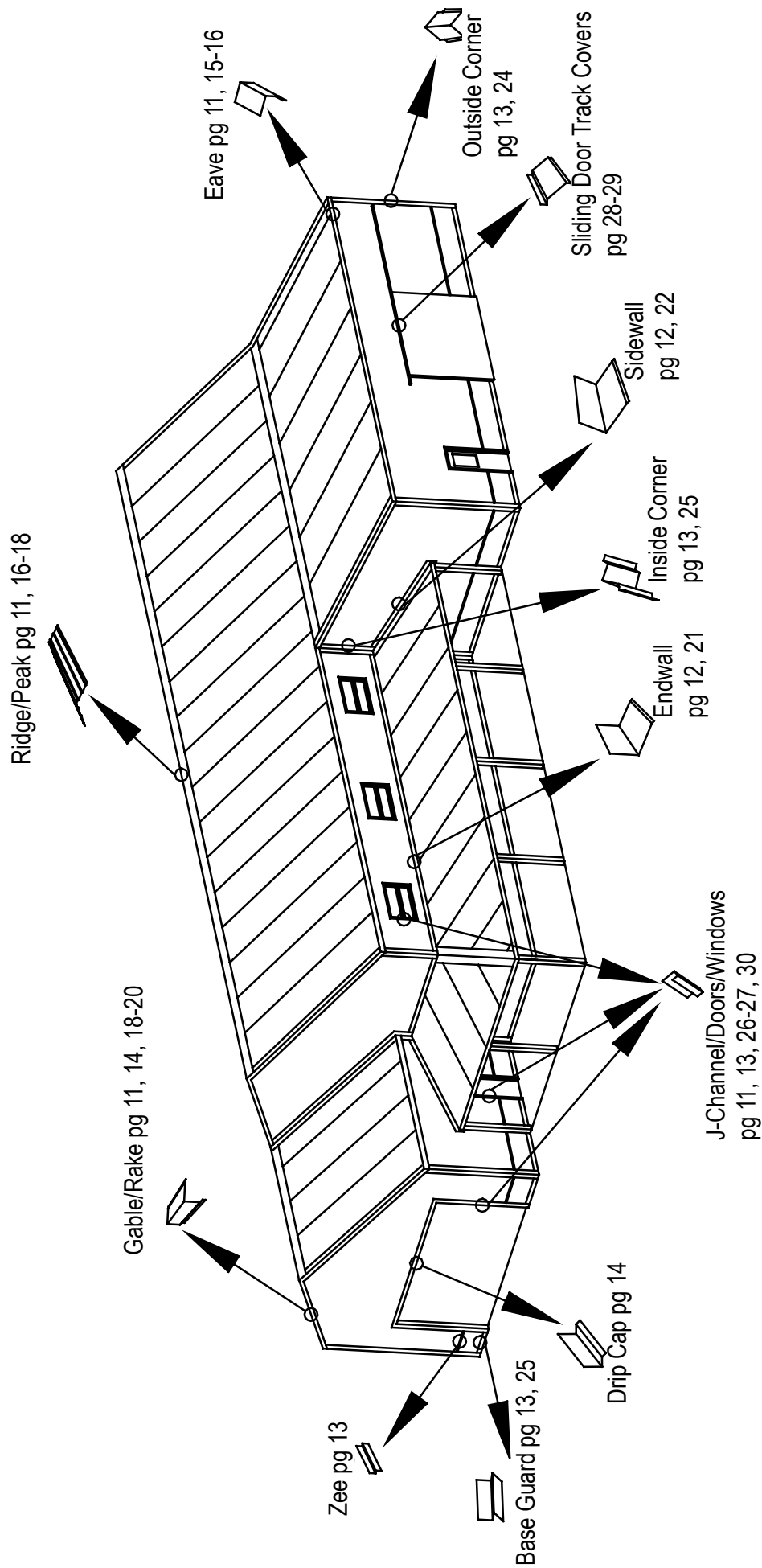


Transition Roof



Hip Roof

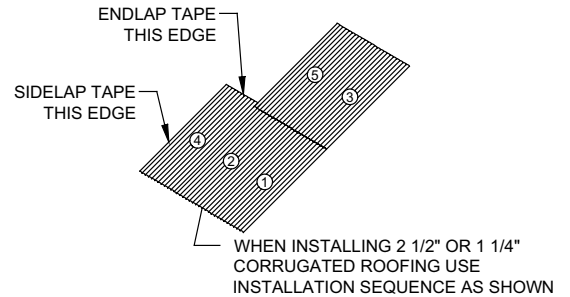
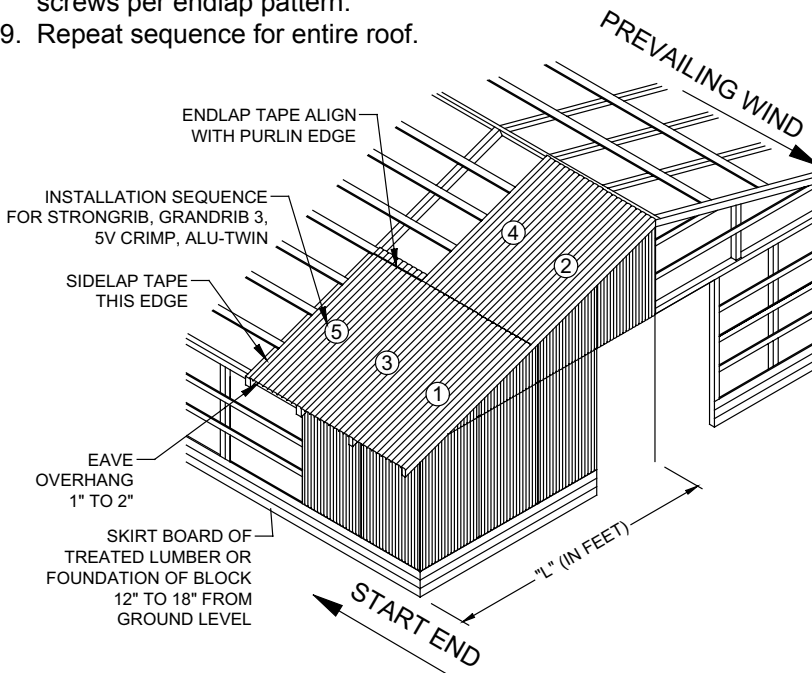
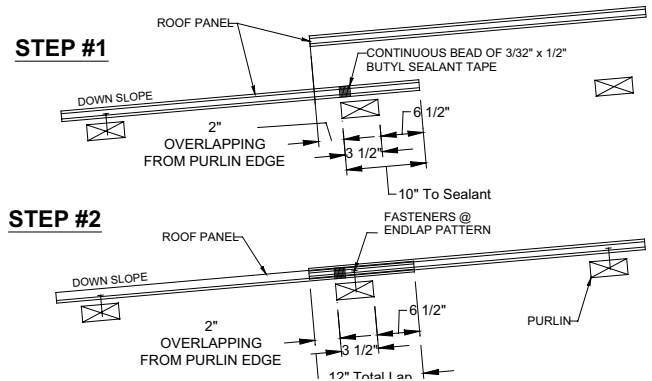
Post Frame Building Details



Post Frame Flashing Details

ENDLAP

1. Apply 3/32" x 1/2" butyl endlap sealant on bottom panel just below centerline of purlin (see endlap diagram for location) on panel #1.
2. Apply sidelap sealant on panel #1 and connect to endlap sealant.
3. Place panel #2 so it overlaps panel #1, 12" as shown. Install screws per endlap fastening pattern.
4. Apply sidelap sealant on panel #2 to connect to sidelap sealant of panel #1.
5. Place panel #3 over sidelap of #1 and #2.
6. Apply endlap sealant on panel #3.
7. Apply sidelap sealant on panel #3 and connect with endlap sealant.
8. Place panel #4 over endlap of panel #3. Install screws per endlap pattern.
9. Repeat sequence for entire roof.



ALLOWABLE PANEL LENGTHS (ft.) ALONG THE SLOPE FOR 4" RAINFALL PER HOUR

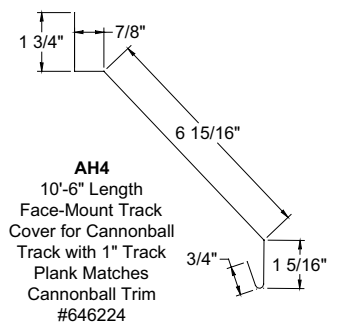
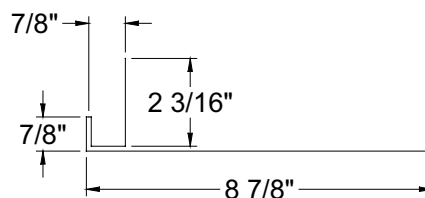
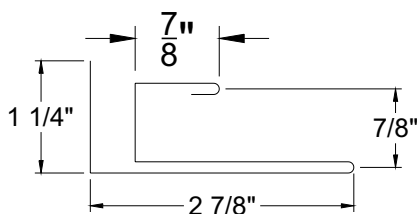
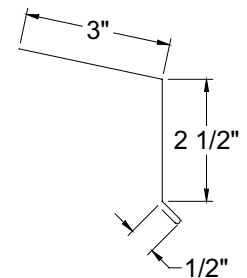
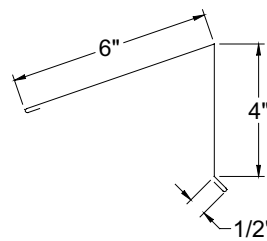
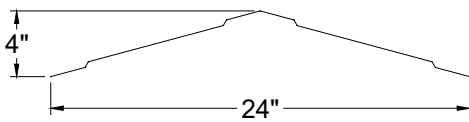
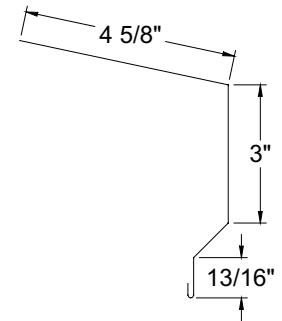
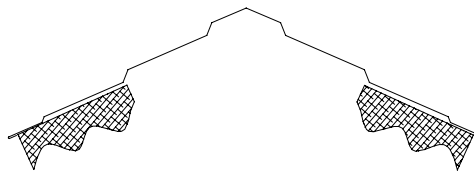
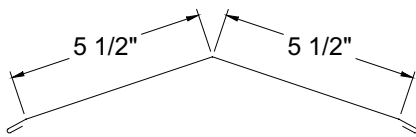
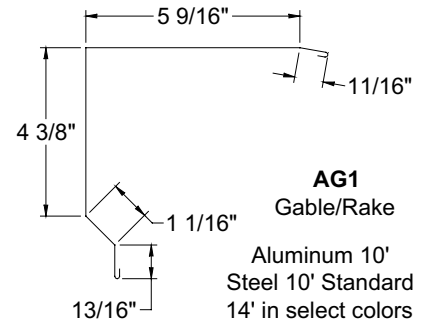
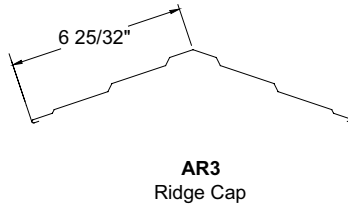
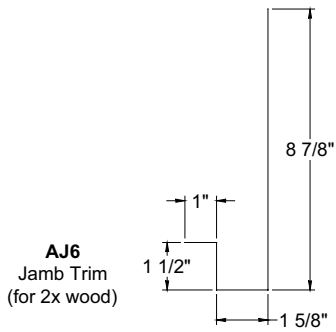
Panel Name	Minimum Slope	Roof Slope					
		2 1/2:12	3:12	3 1/2:12	4:12	5:12	6:12
Alu-Tuff	2 1/2:12	58	61	64	67	73	78
Grandrib 3	2 1/2:12	58	61	64	67	73	78
Prime Rib	2 1/2:12	39	41	43	45	49	53
5V	2 1/2:12	43	45	47	49	54	58
2 1/2" Corrugated	2 1/2:12	28	29	31	32	35	38
1 1/4" Corrugated	2 1/2:12	16	16	17	18	20	21
Alutwin	2 1/2:12	37	39	41	43	46	50
Fabrib	2 1/2:12	32	34	36	38	41	44

Notes For Rain-Carrying Tables

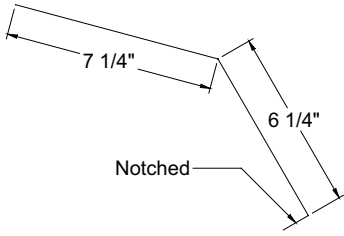
1. All values based on a 1-hour duration storm of 4"/hr. intensity.
2. Values represent the point at which the panel ribs will flood.
3. Size and frequency of penetrations can greatly reduce the amount of water removed from a roof.
4. All panel endlaps must be caulked.
5. When weather-tightness is critical, use sealant tape in all sidelaps.

Standard Post Frame Flashing/Trims

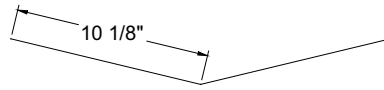
All flashing is 10' 6" in length & available in steel & aluminum, unless otherwise noted. Please contact Fabral for specifics on the trim available in your area.



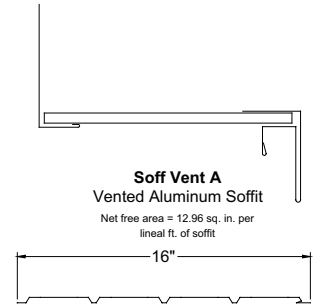
Standard Post Frame Flashing/Trims



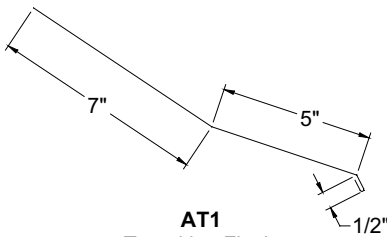
AGRN4
For Grandrib 3 40¹/₄" Length
Notched Gambrel Flash



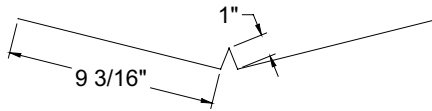
RV1
Valley Flash
Customer to specify roof pitch



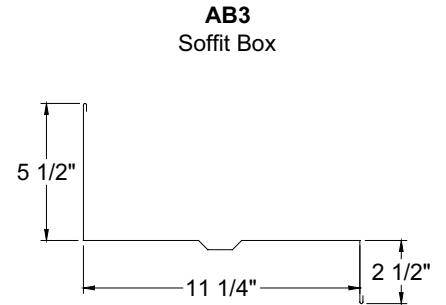
Soff Vent A
Vented Aluminum Soffit
Net free area = 12.96 sq. in. per
lineal ft. of soffit



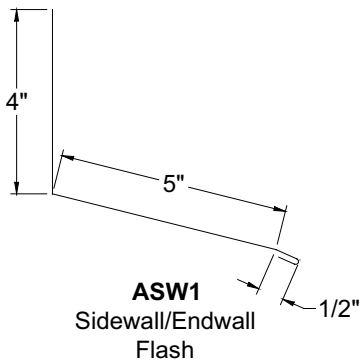
AT1
Transition Flash
Typical for 8/12 to 4/12
(otherwise specify pitches)
Steel Only



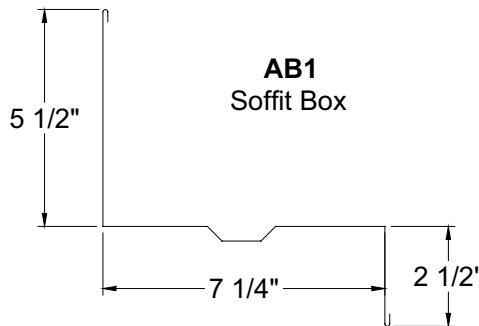
RV2
W-Valley Flash
Steel Only
Customer to specify roof pitch



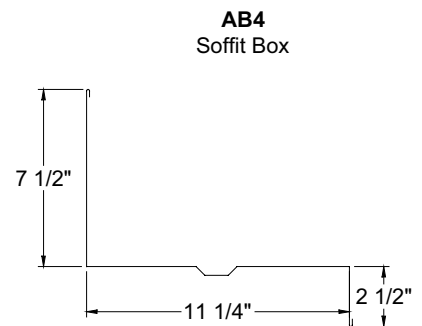
AB3
Soffit Box



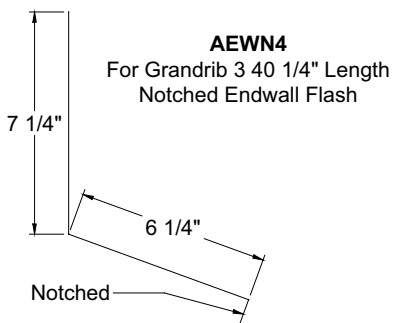
ASW1
Sidewall/Endwall
Flash



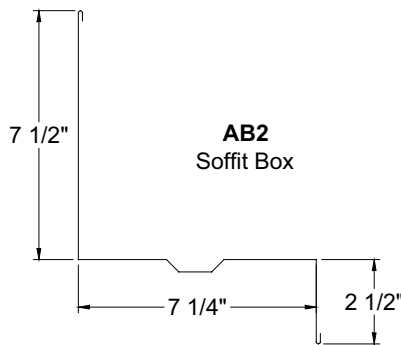
AB1
Soffit Box



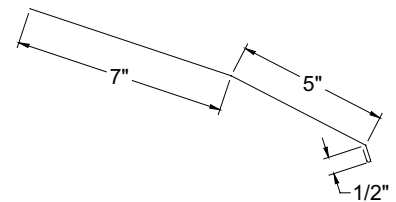
AB4
Soffit Box



AEWN4
For Grandrib 3 40 1/4" Length
Notched Endwall Flash

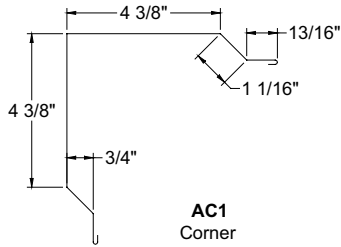


AB2
Soffit Box

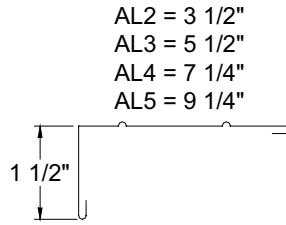


AT2
Gambrel Flash
Typical for 3/12 to 15/12
(otherwise specify pitches)

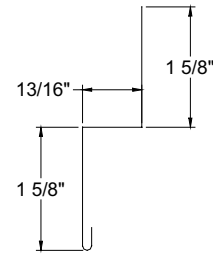
Standard Post Frame Flashing/Trims



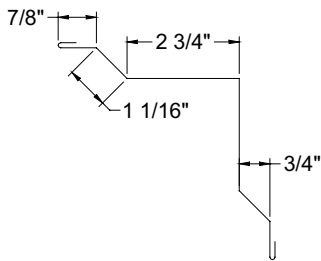
AC1
Corner
Aluminum 10'
14'-6" in select
colors



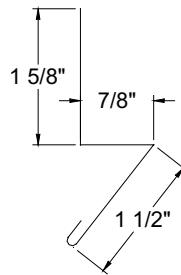
AL2,3,4,5
Angle Flashing



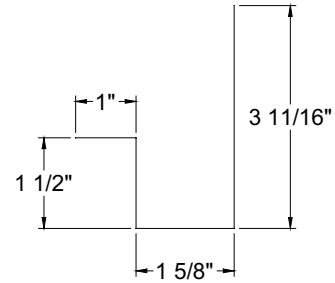
AZ2
Zee



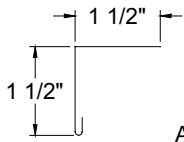
AC2
Inside Corner



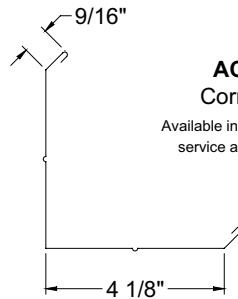
ABG1
Base Guard



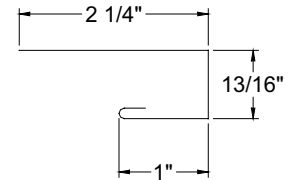
AJ4
Jamb Trim
Steel Only
(For 2x wood)



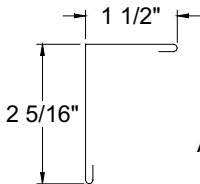
AL6
Angle Flashing



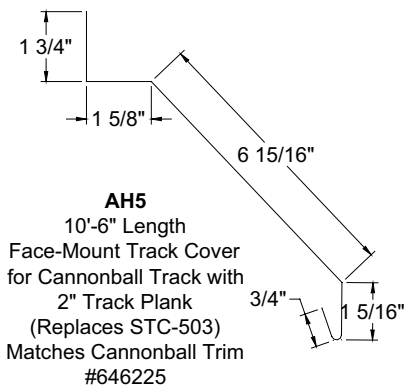
AC3
Corner
Available in Lancaster
service area only



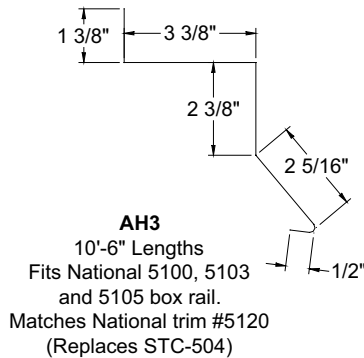
AJ3
J-Channel
For Grandrib 3, Strongrib and all
other Agri panels



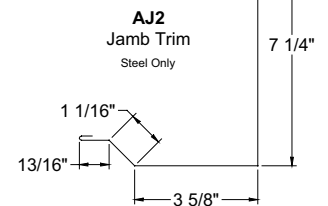
AL7
Angle Flashing



AH5
10'-6" Length
Face-Mount Track Cover
for Cannonball Track with
2" Track Plank
(Replaces STC-503)
Matches Cannonball Trim
#646225

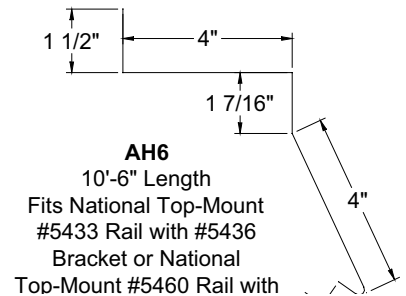
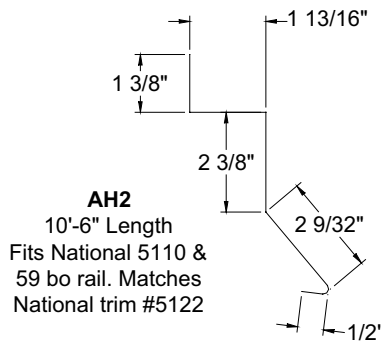
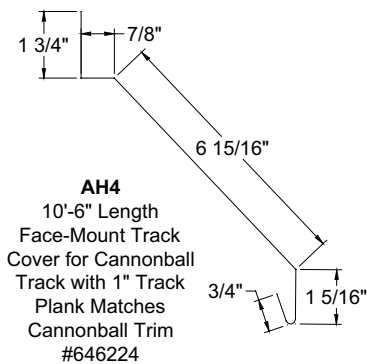
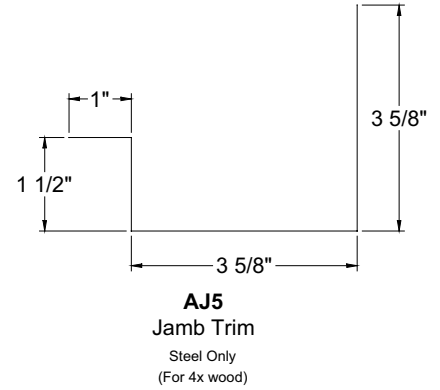
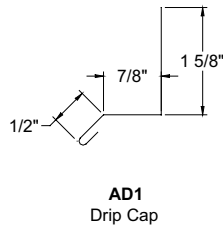
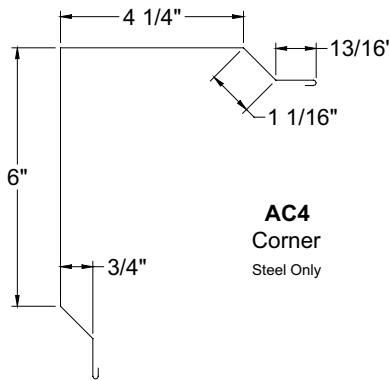


AH3
10'-6" Lengths
Fits National 5100, 5103
and 5105 box rail.
Matches National trim #5120
(Replaces STC-504)



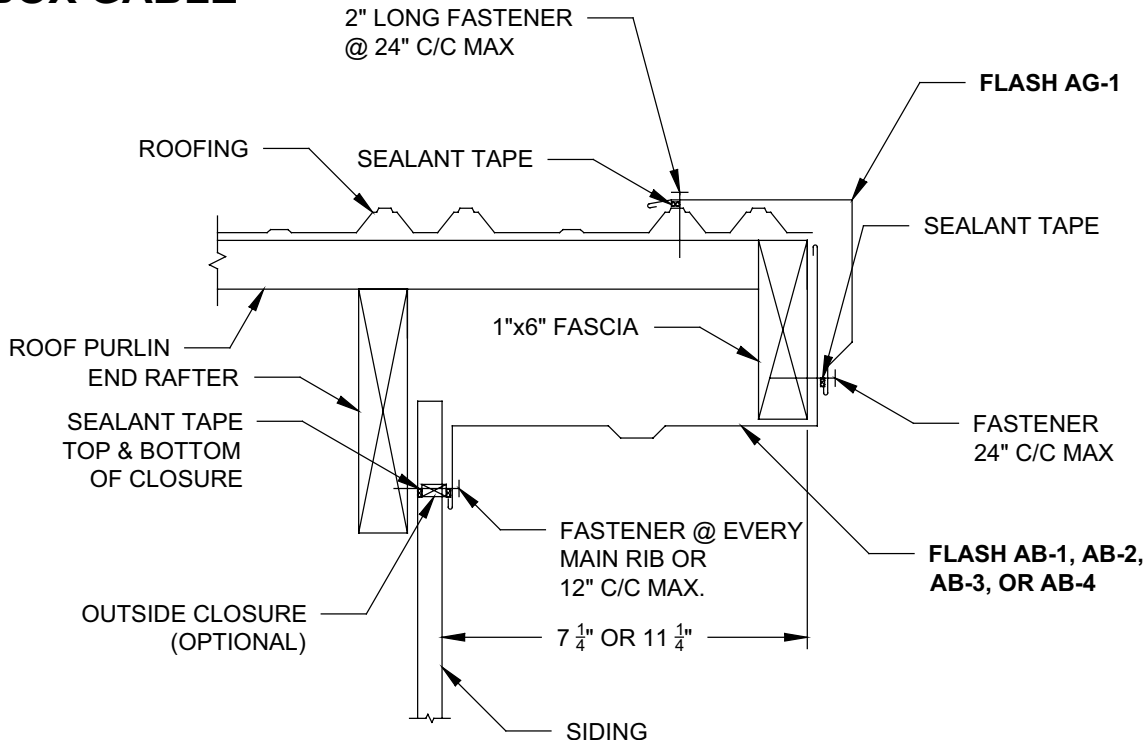
AJ2
Jamb Trim
Steel Only

Standard Post Frame Flashing/Trims



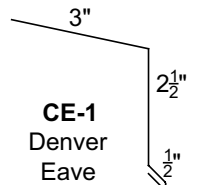
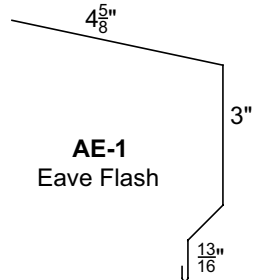
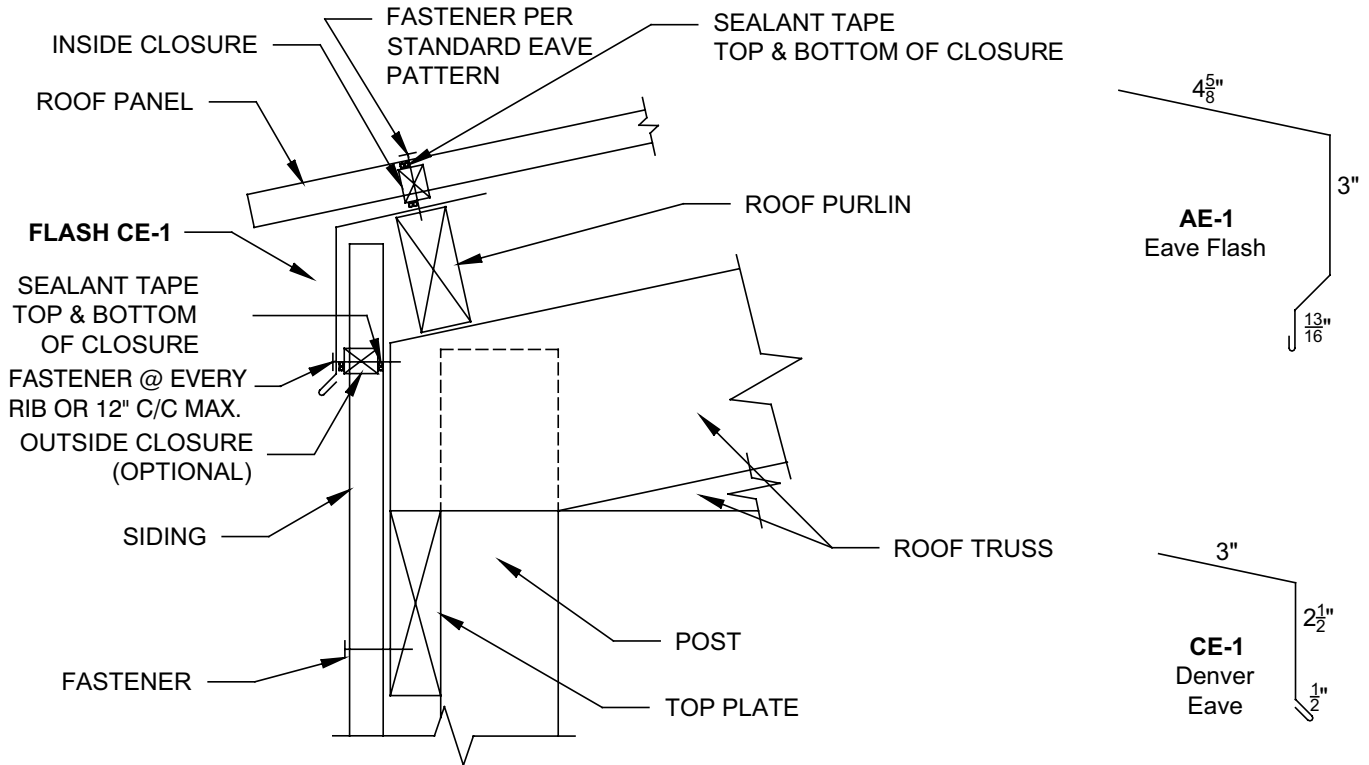
Post Frame Flashing Details

BOX GABLE

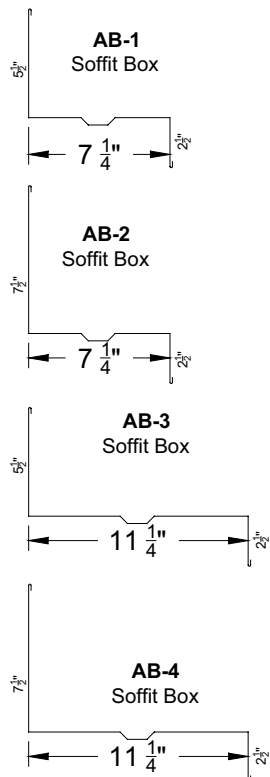
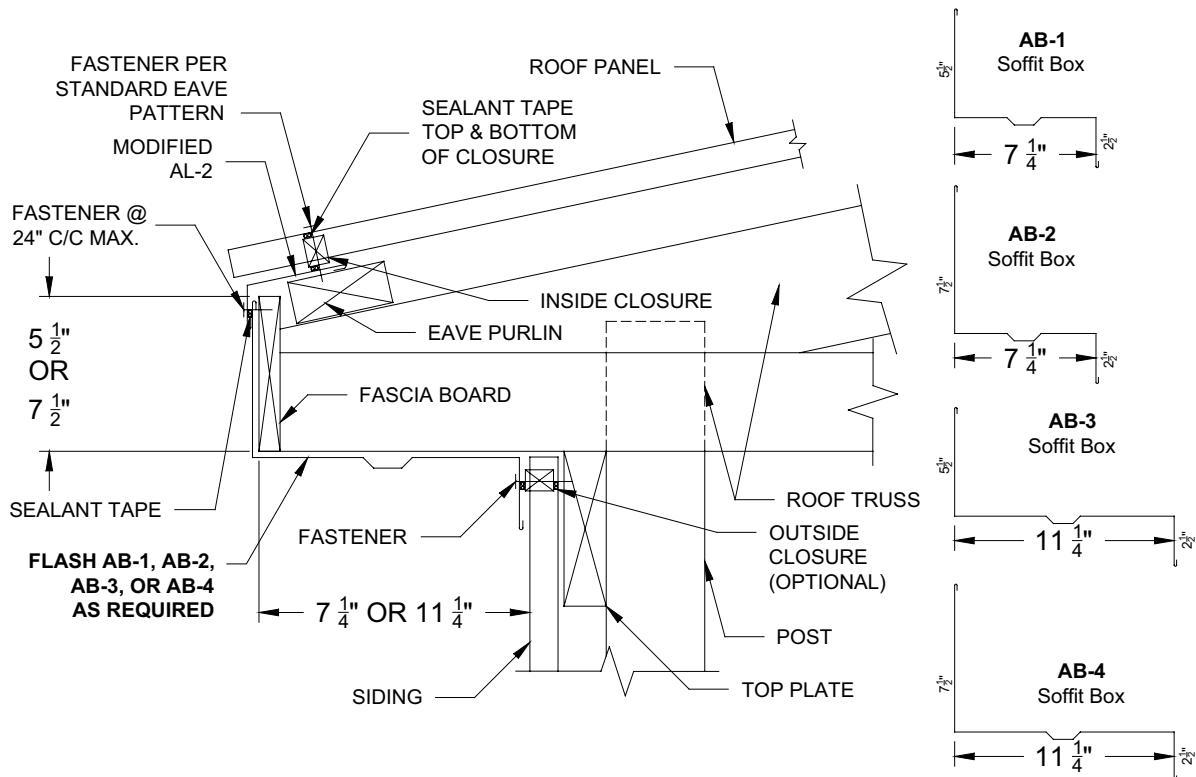


Post Frame Flashing Details

EAVE



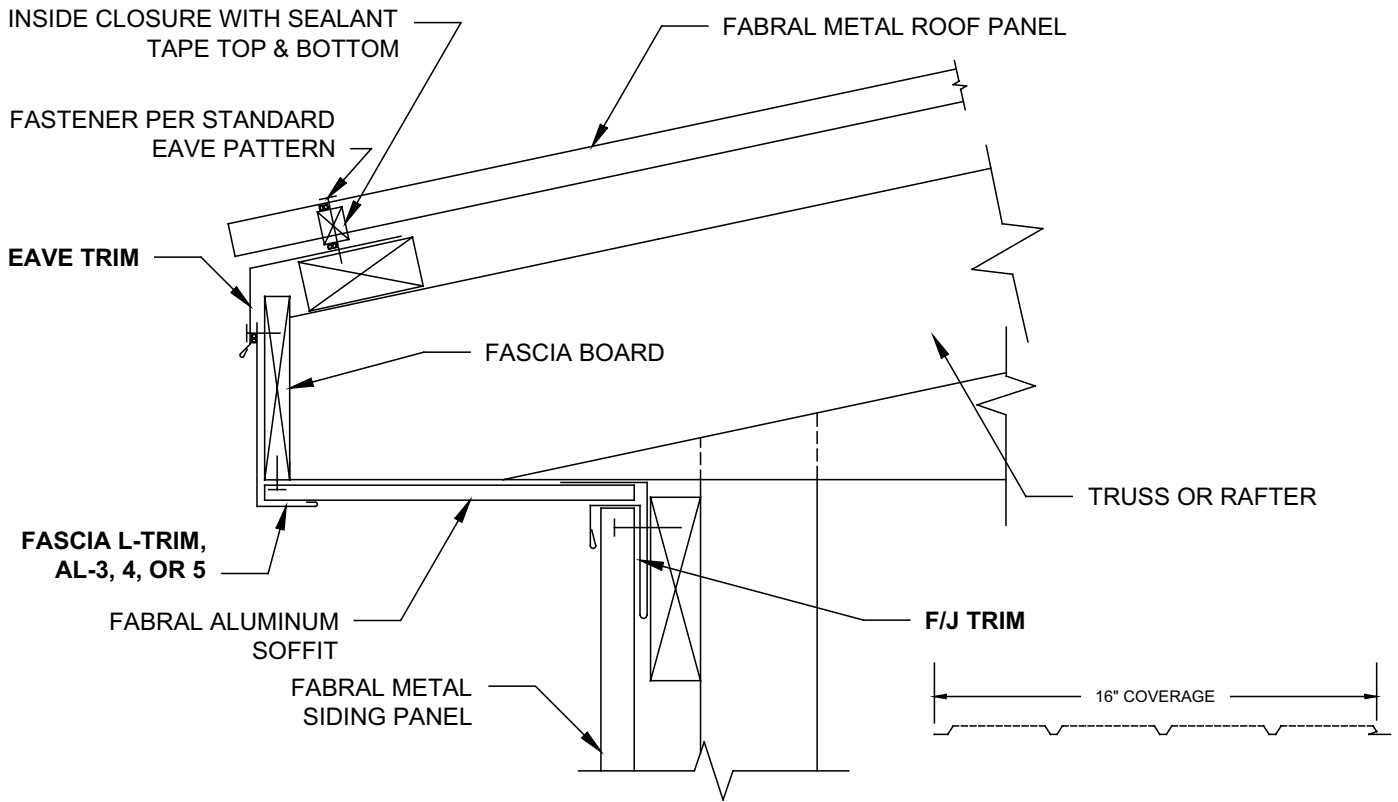
BOX EAVE



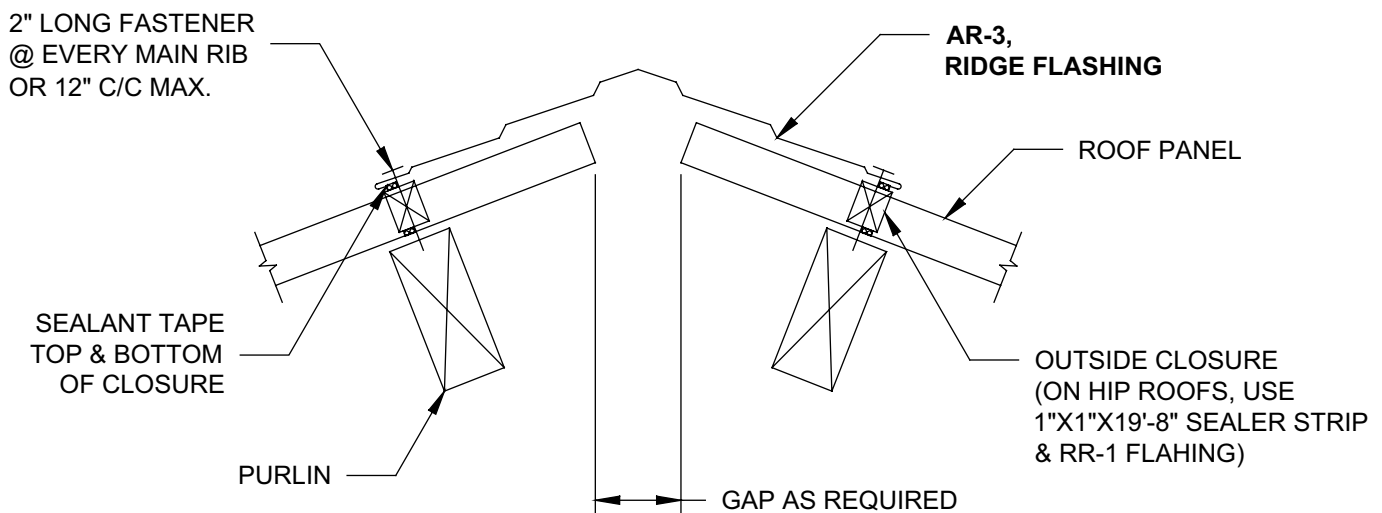
PROVIDES 8" OR 12" OVERHANG WITH GRANDRIB 3, ALU-TUFF, OR STRONGRIB SIDING

Post Frame Flashing Details

VENTED EAVE



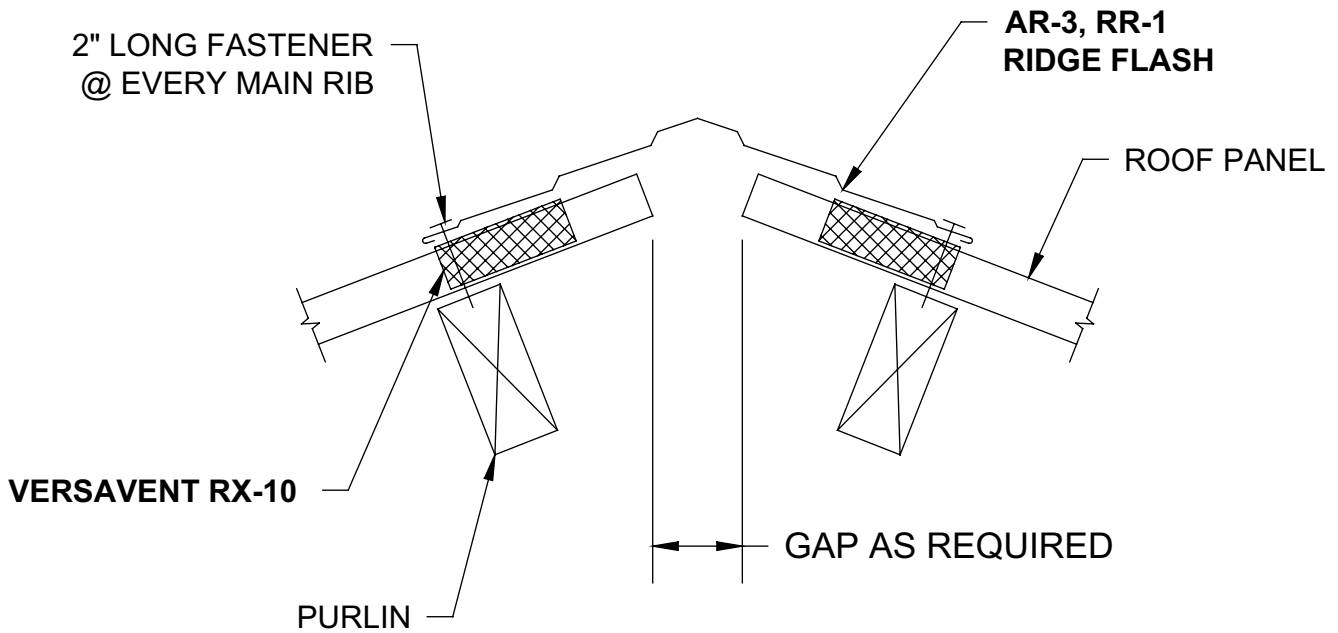
RIDGE/PEAK - NON VENTED



If closures are omitted, Fabral suggests using screen wire between panels and ridge gap area to keep insects and birds out of attic area. Closures and sealant are recommended for optimum weather resistance.

Post Frame Flashing Details

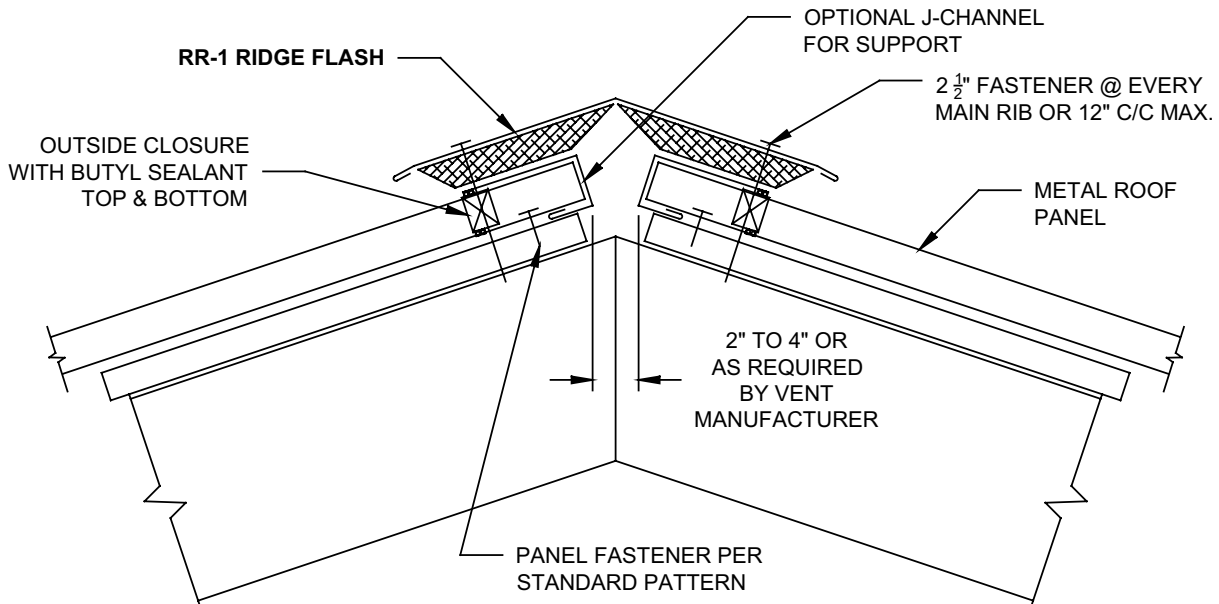
VENTED RIDGE



**VersaVent RX-10 Factory Applied To Ridge Cap
Vent Material and Ridge Cap Install As A Unit**

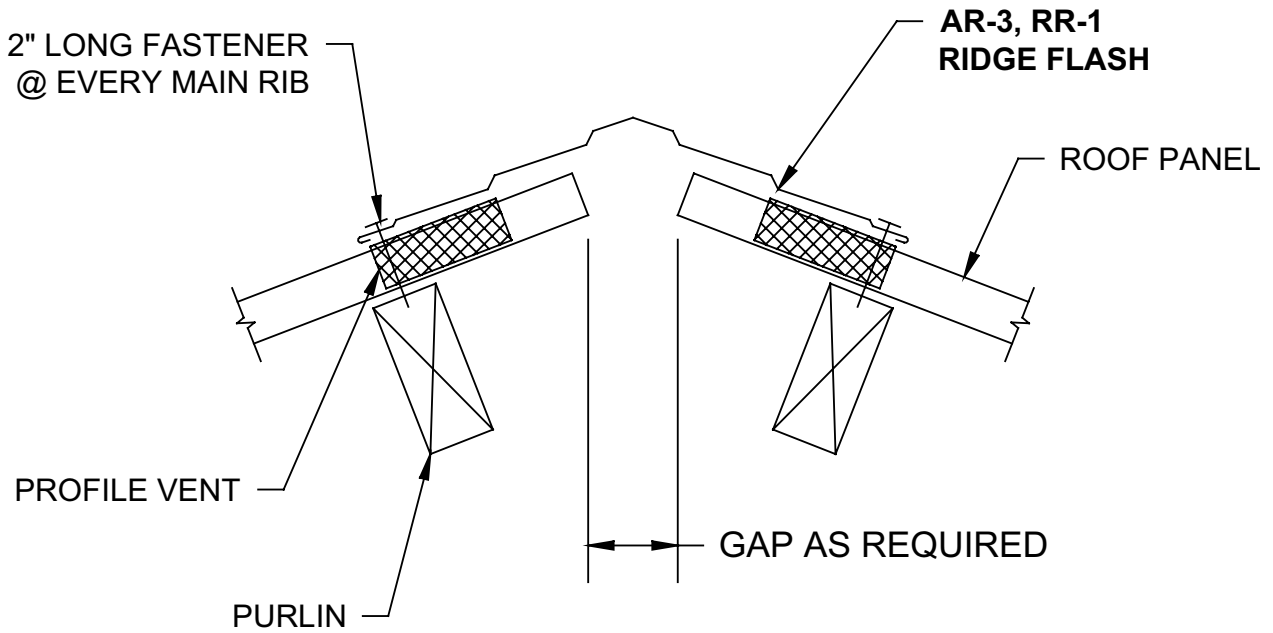
ALTERNATE VENTED RIDGE

Fabral RR-1 Ridge Flash with CoraVent (shown). The RR-1 can be modified to fit many other solid, plastic vents. Other solid, plastic vents (ie..Ridge Master,...) are available from local lumberyards or dealers. The metal ridge flashing may have to be customized to fit the particular vent. Mesh vents or fiber-type vents are not recommended because a metal ridge can not be fastened securely. They are not rigid enough to give good support or appearance to the metal flash. Coravent is available from Fabral.



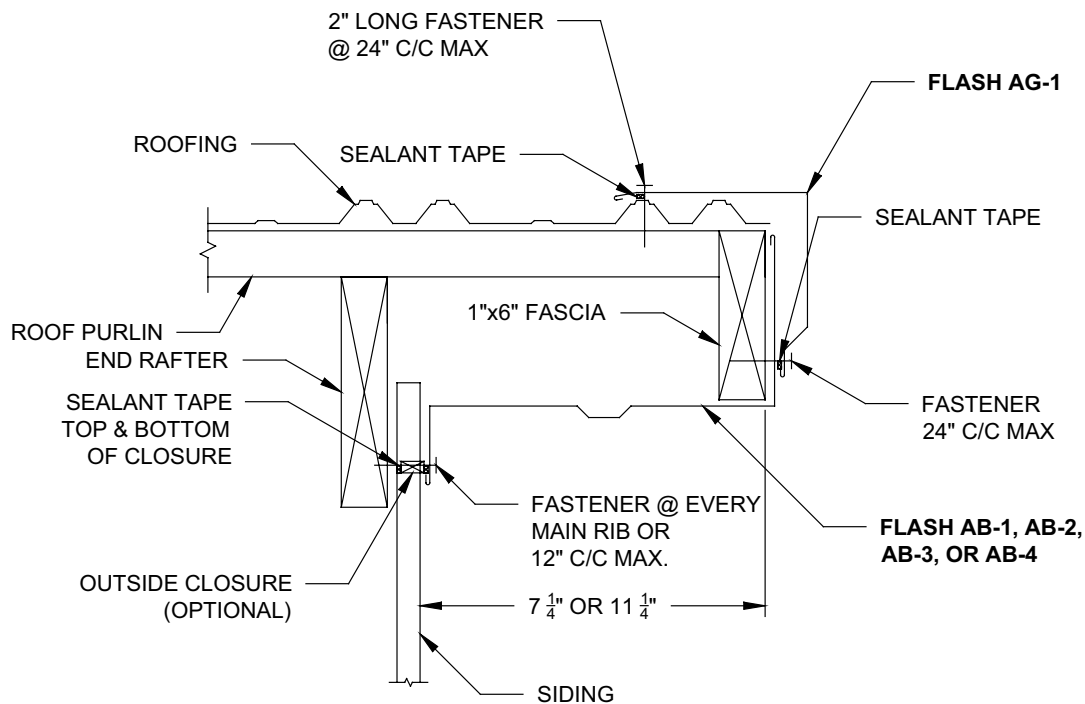
Post Frame Flashing Details

ALTERNATE VENTED RIDGE



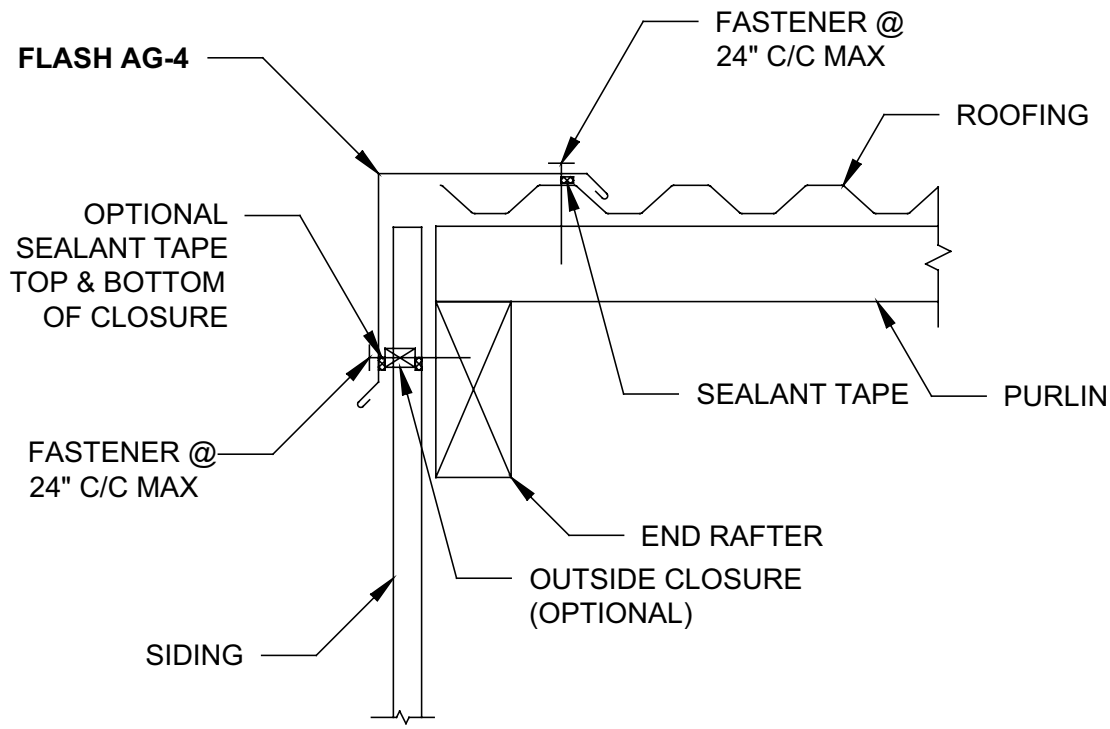
Profile Vent is pre-notched and self adhesive. Fabral stocks Profile Vent for Grandrib 3, Alu-Tuff, and 5v Crimp.

GABLE - STRONGRIB, GRANDRIB 3

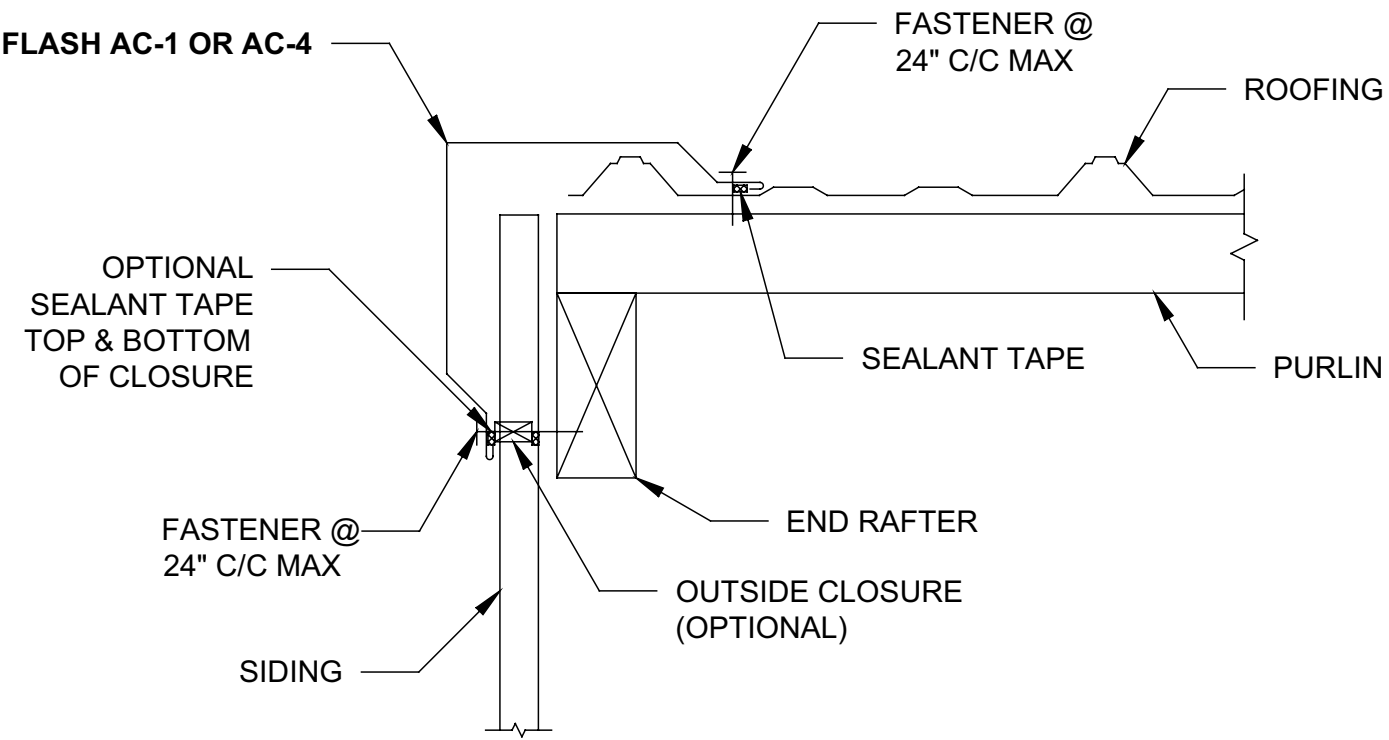


Post Frame Flashing Details

GABLE - FABRIB

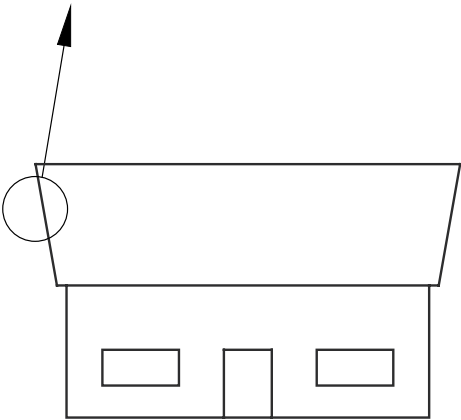
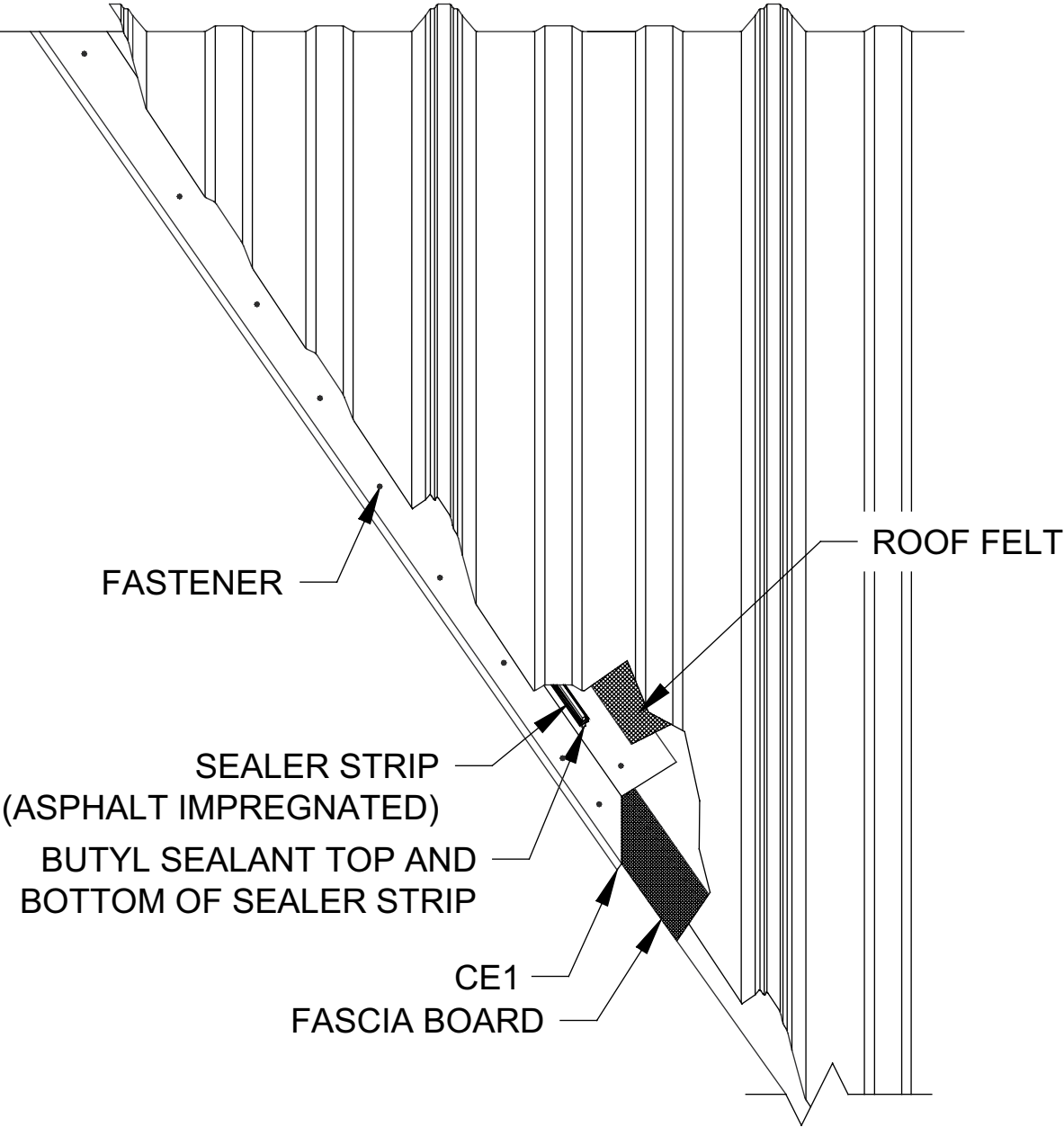


GABLE - GRANDRIB 3, STRONGRIB



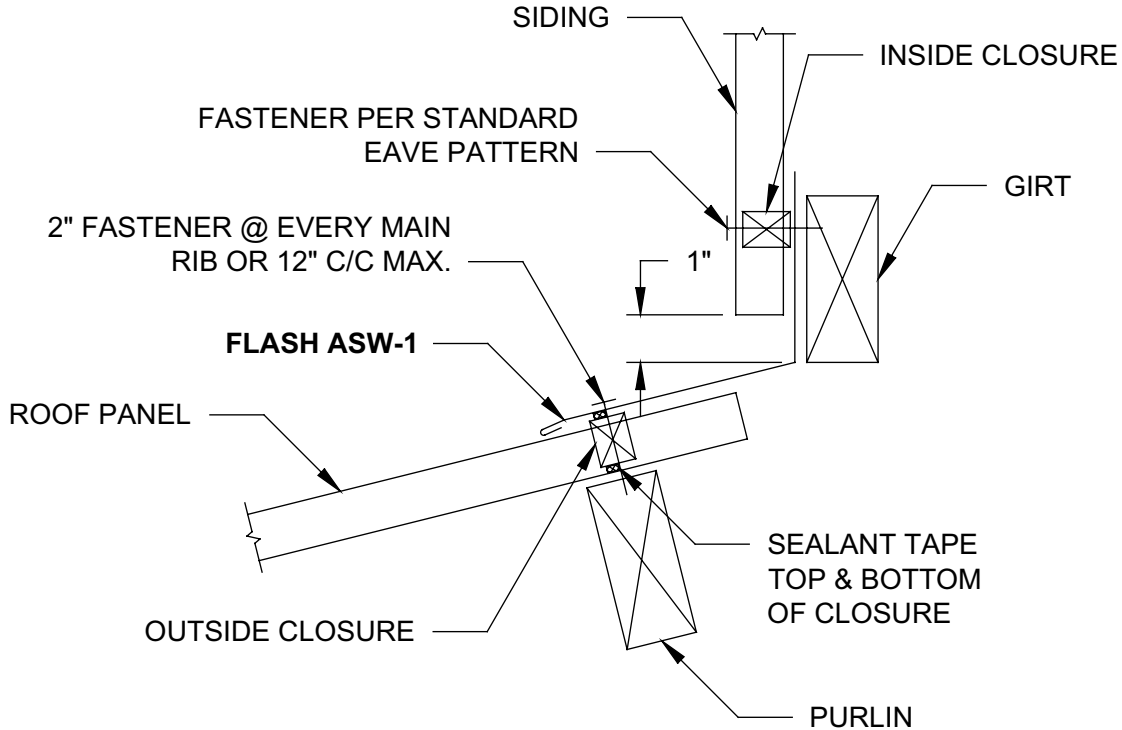
Post Frame Flashing Details

FLYING GABLE DETAIL

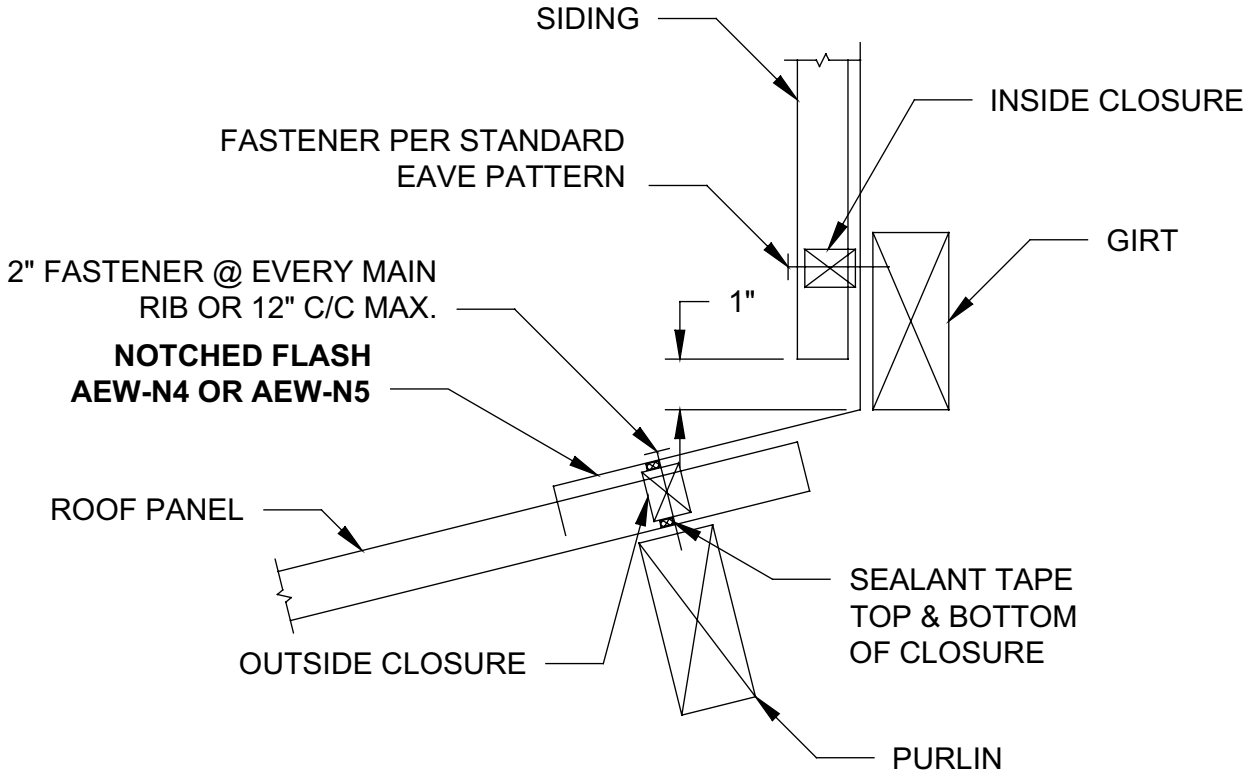


Post Frame Flashing Details

ENDWALL

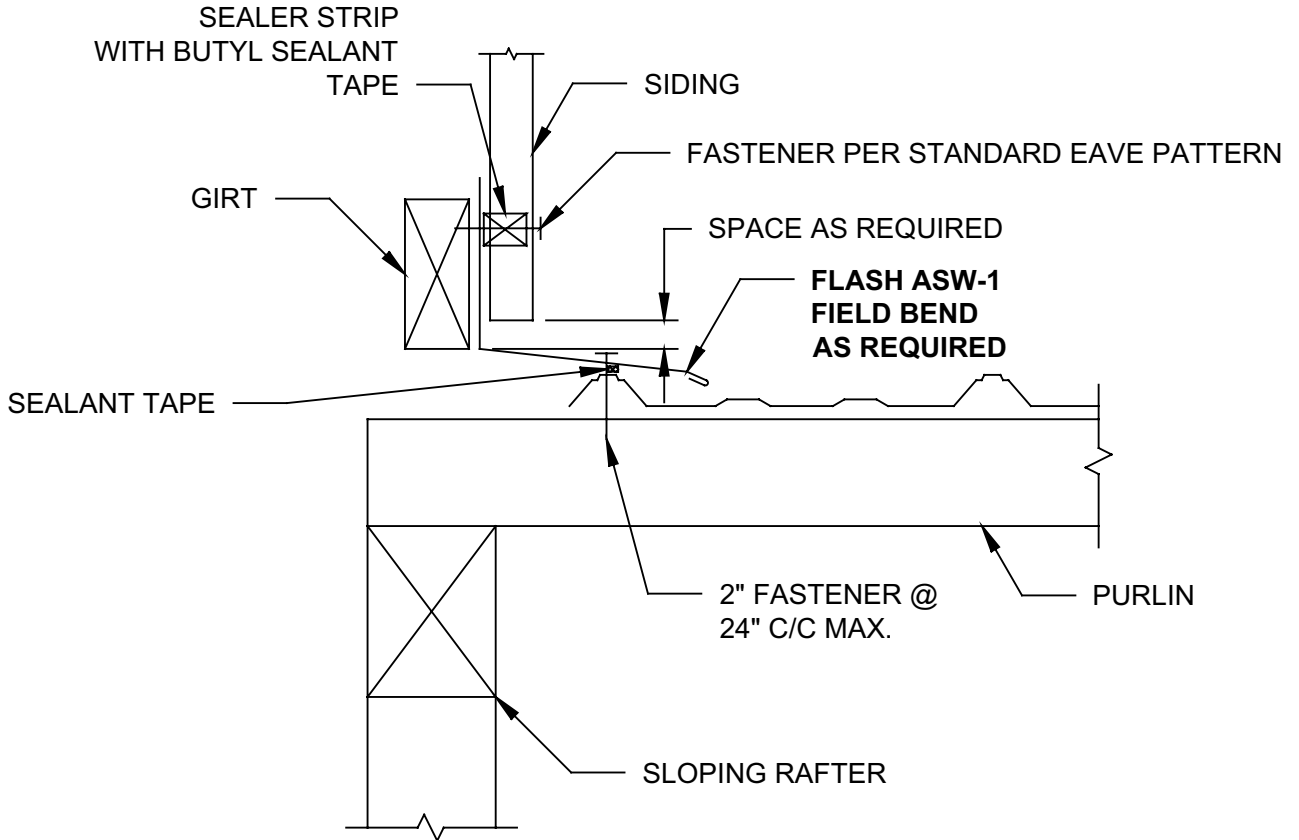


ENDWALL - NOTCHED

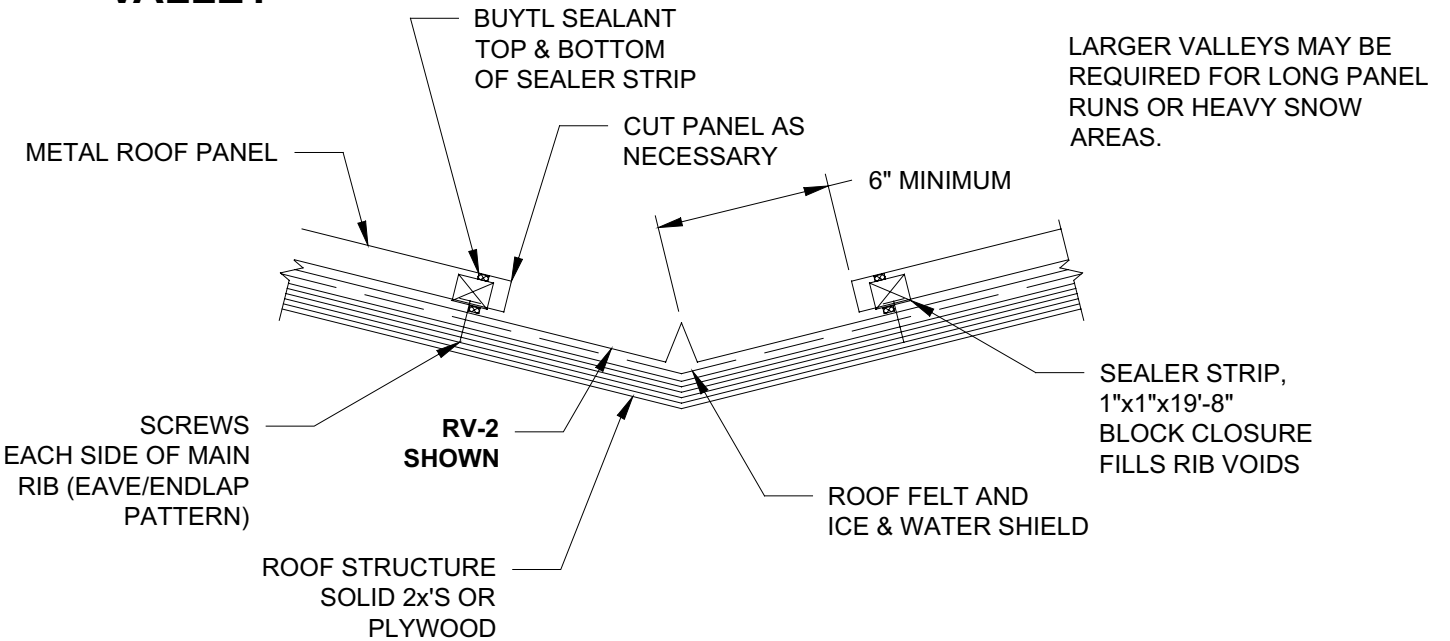


Post Frame Flashing Details

SIDEWALL



VALLEY

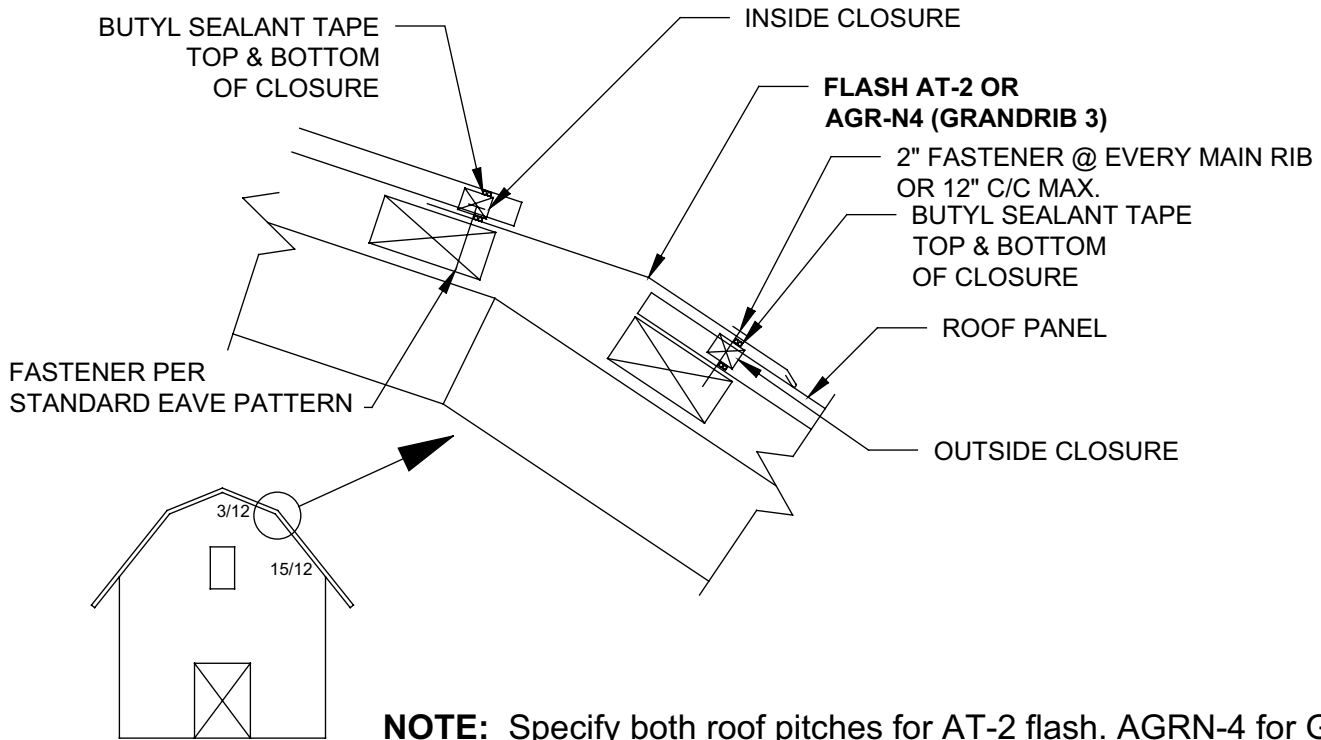


NOTE: VALLEY FLASH MUST HAVE SOLID SUPPORT.

FOR ADDITIONAL INFORMATION ON THE VALLEY DETAIL REFER TO PAGES 42 AND 43 OF THIS BOOK.

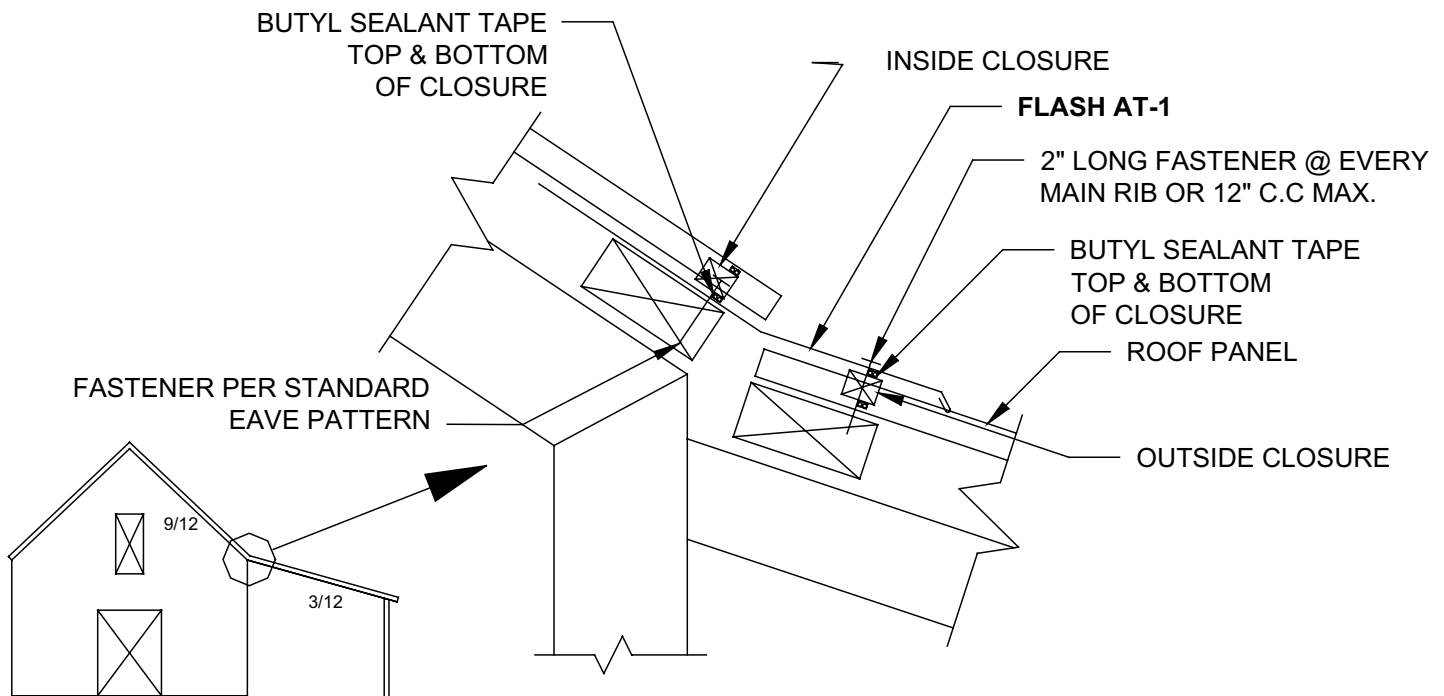
Post Frame Flashing Details

GAMBREL



NOTE: Specify both roof pitches for AT-2 flash. AGRN-4 for Grandrib 3 and AGRN-5 for Strongrib are for 3/12 to 15/12 Gambrel's

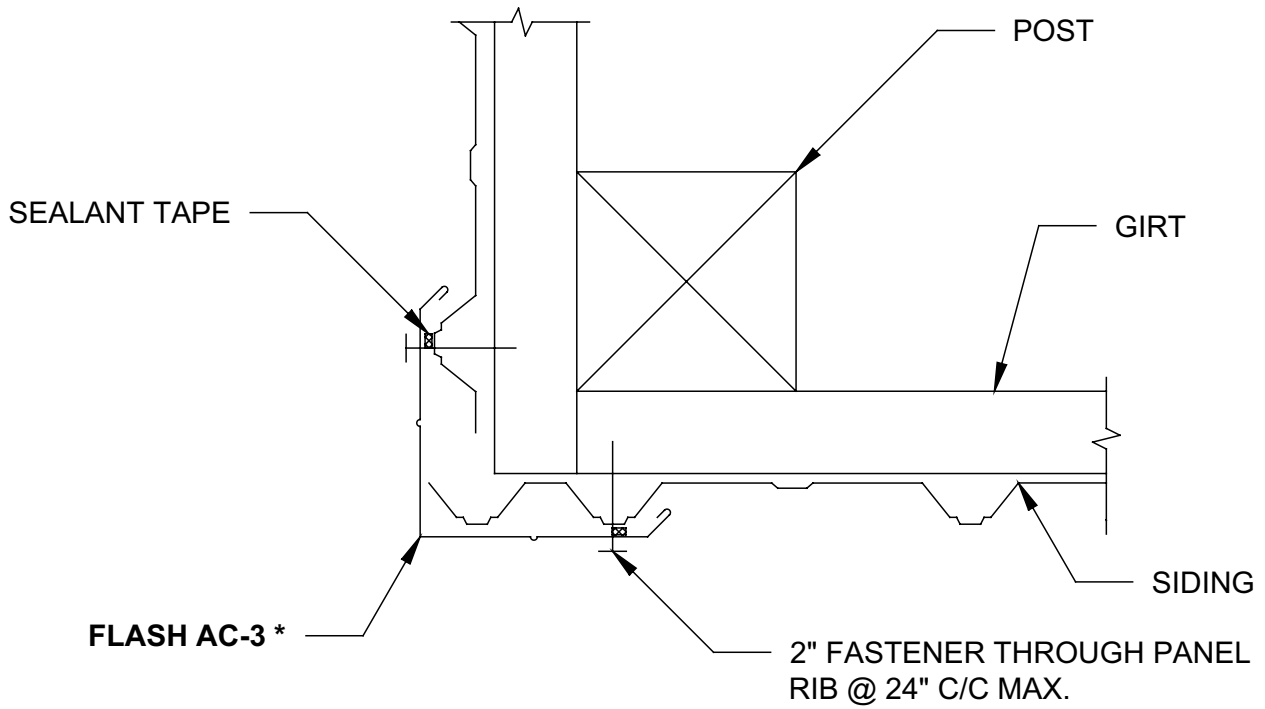
TRANSITION



NOTE: Specify both roof pitches when ordering AT-1. Standard is 9/12 to 3/12.

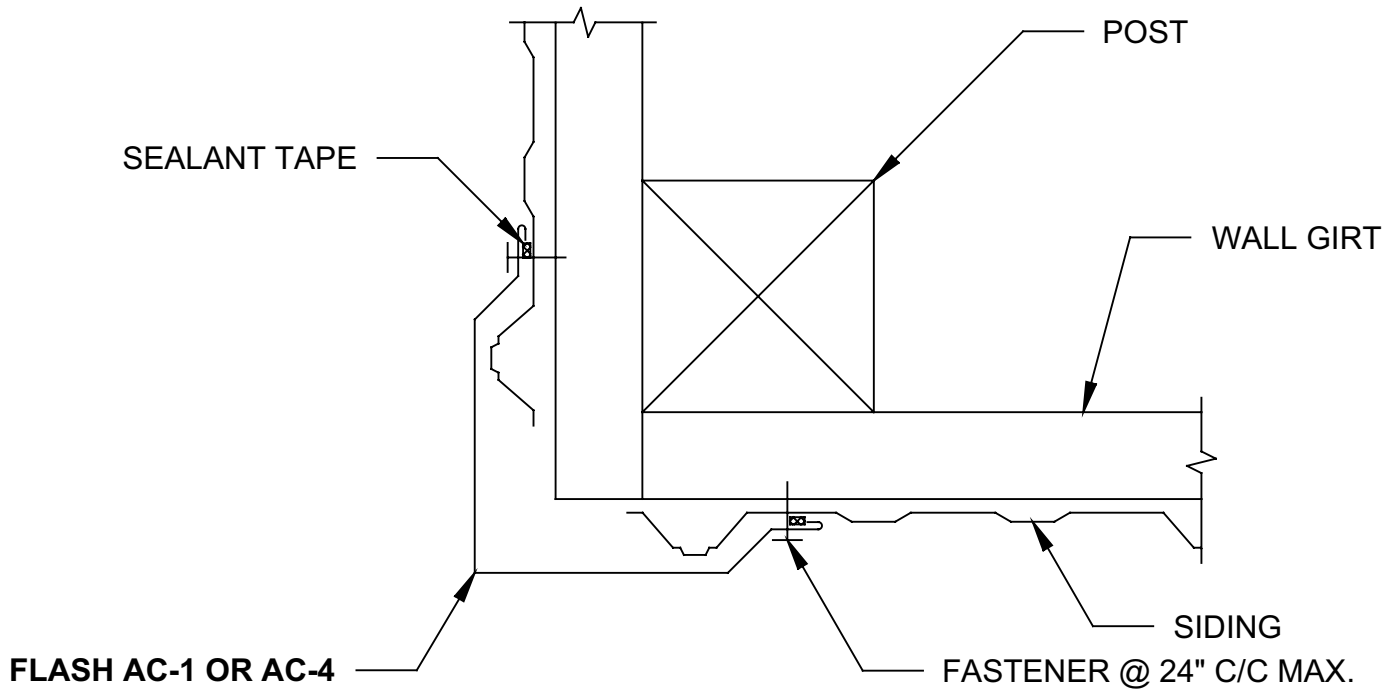
Post Frame Flashing Details

OUTSIDE CORNER



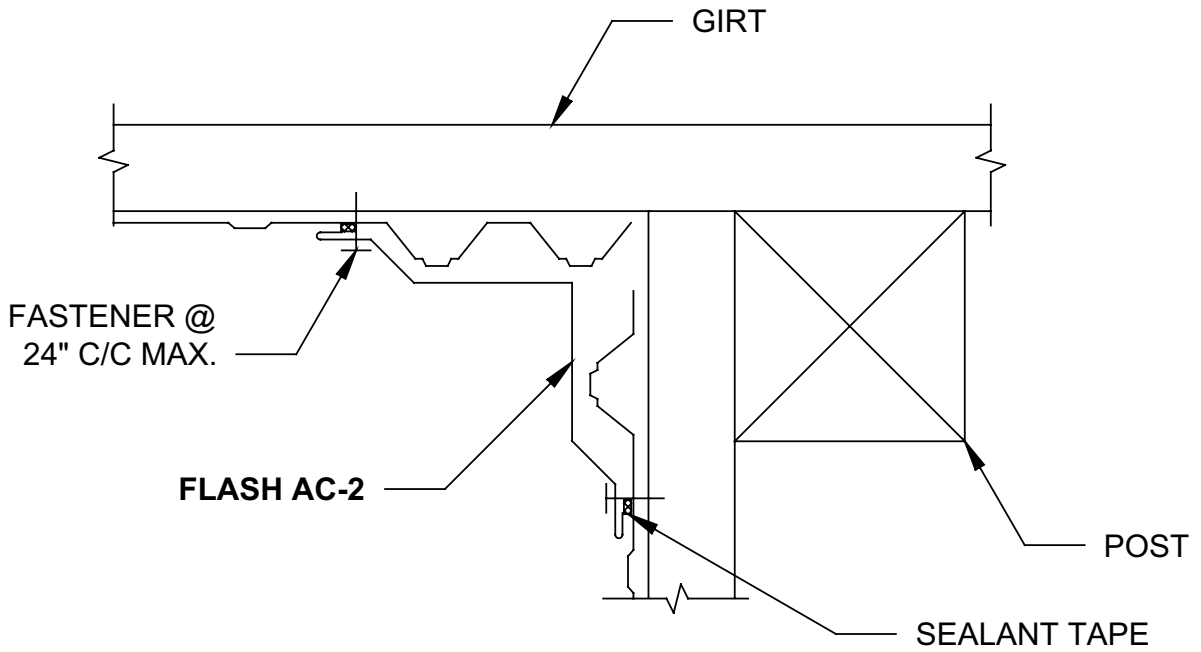
*** Available in Lancaster service area only.**

OUTSIDE CORNER

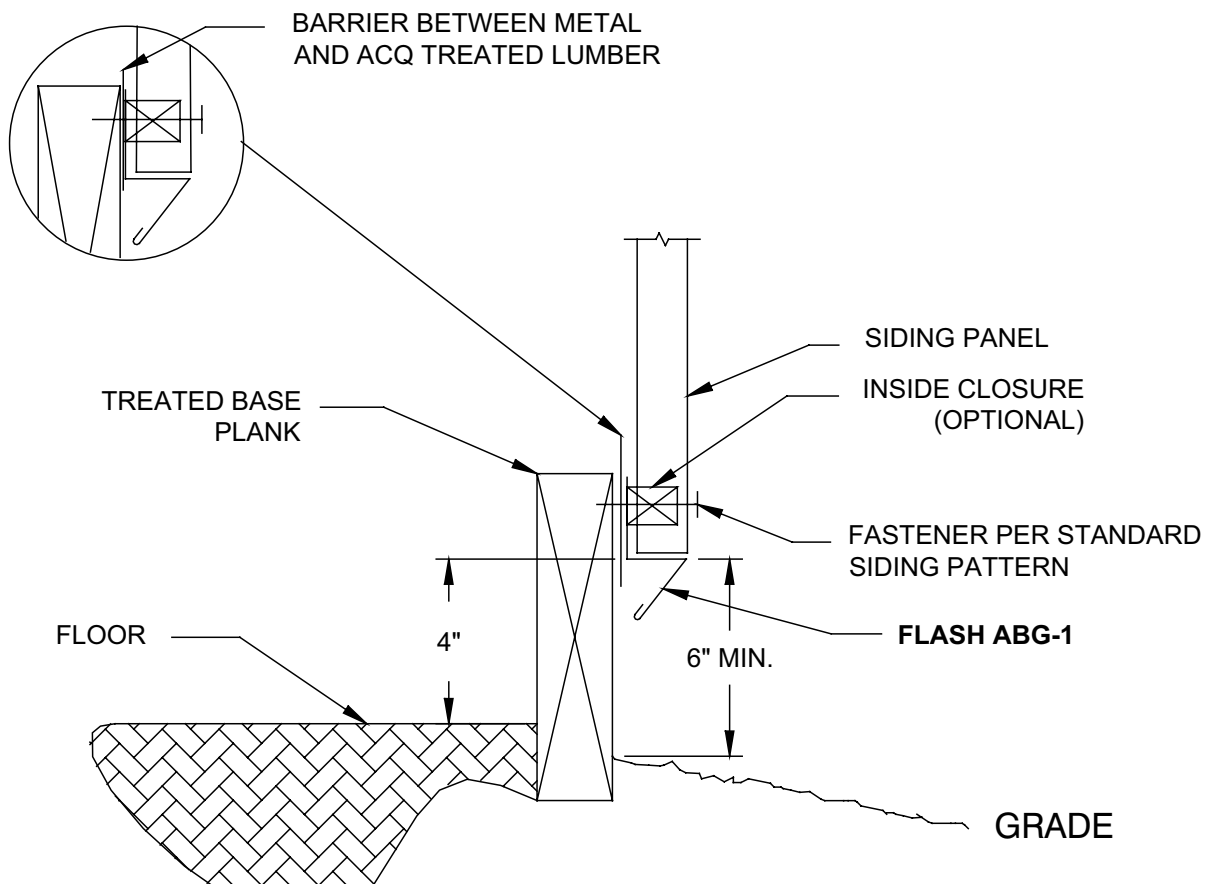


Post Frame Flashing Details

INSIDE CORNER

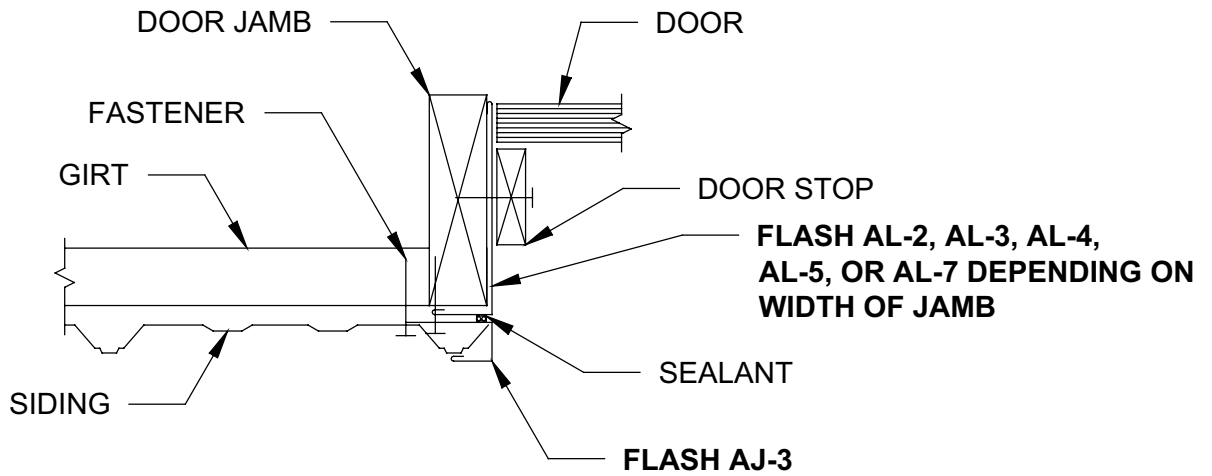
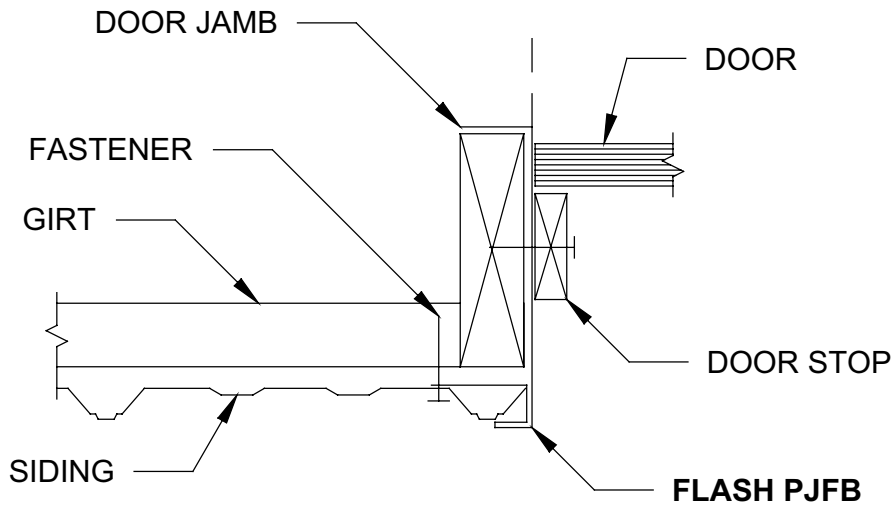


BASE GUARD

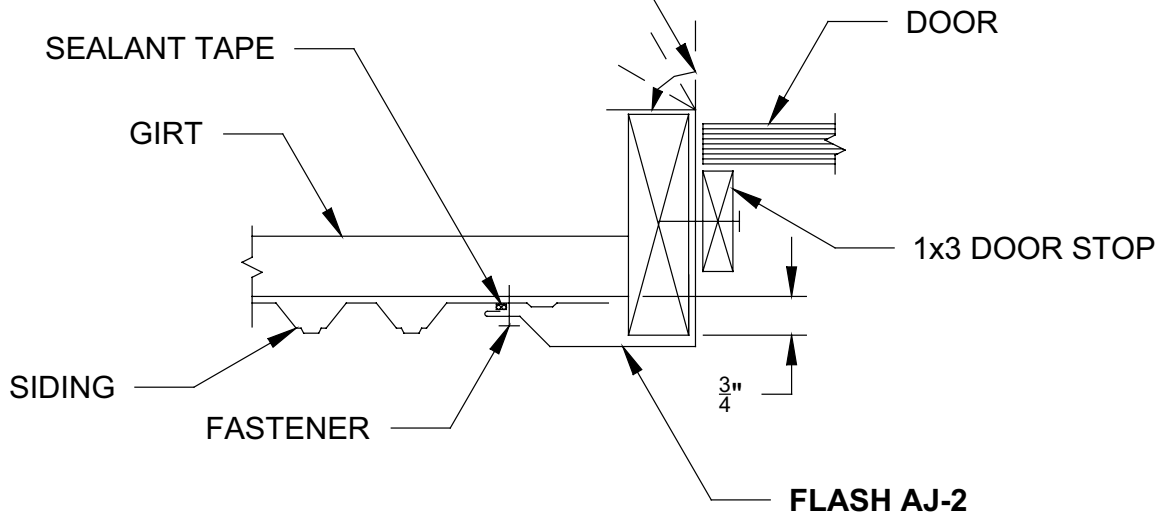


Post Frame Flashing Details

DOOR JAMBS

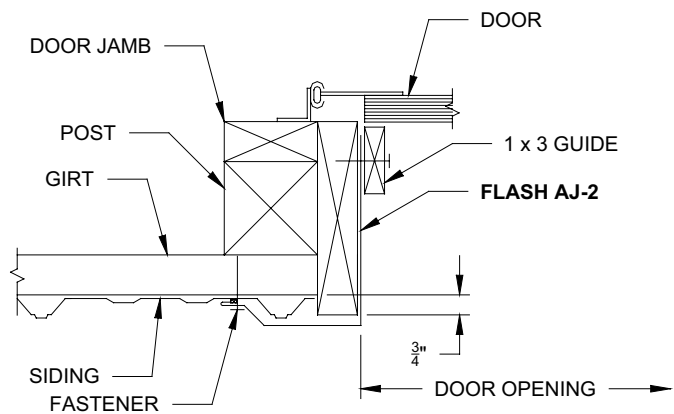
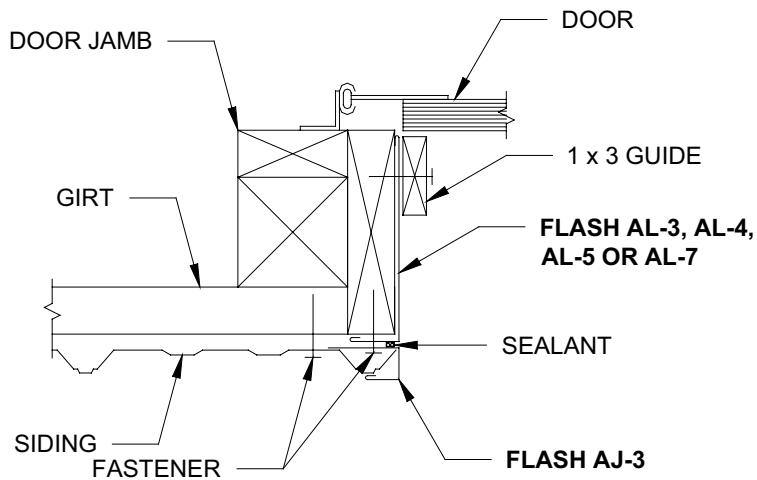
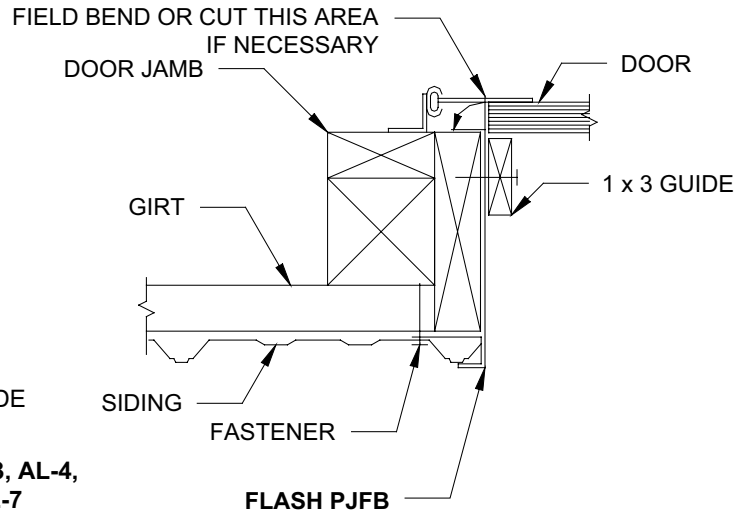
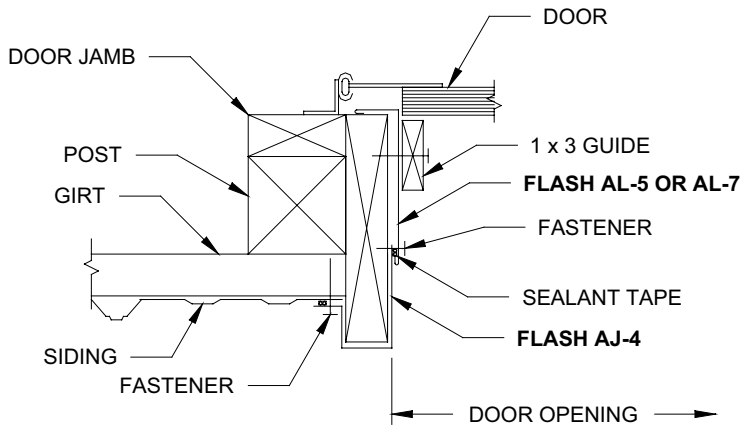
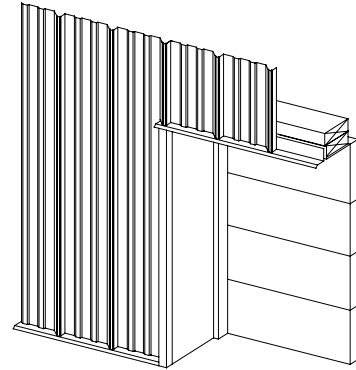


FIELD BEND OR CUT THIS AREA
IF NECESSARY



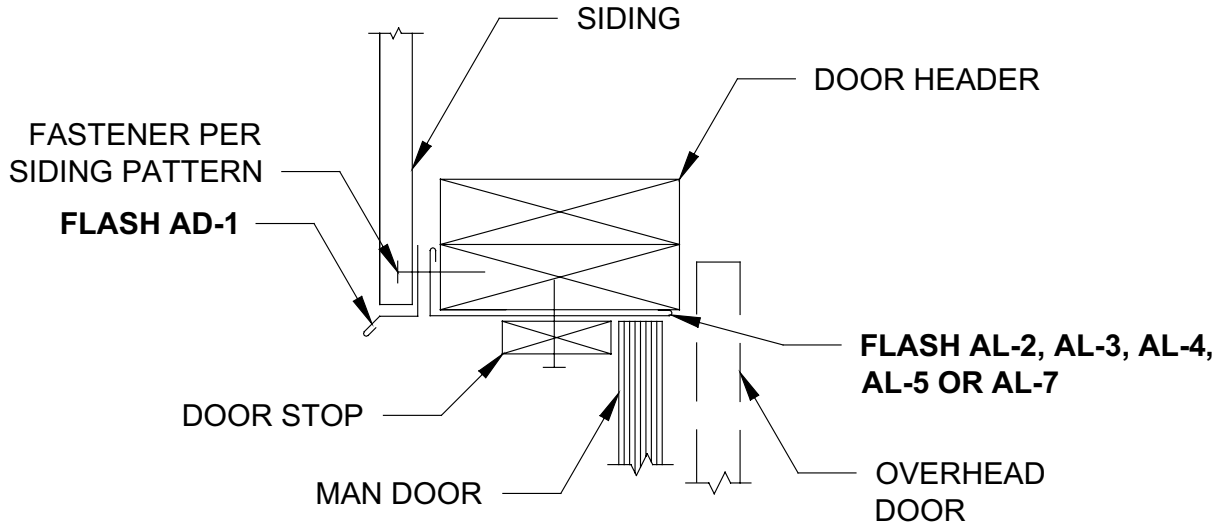
Post Frame Flashing Details

OVERHEAD DOOR JAMBS

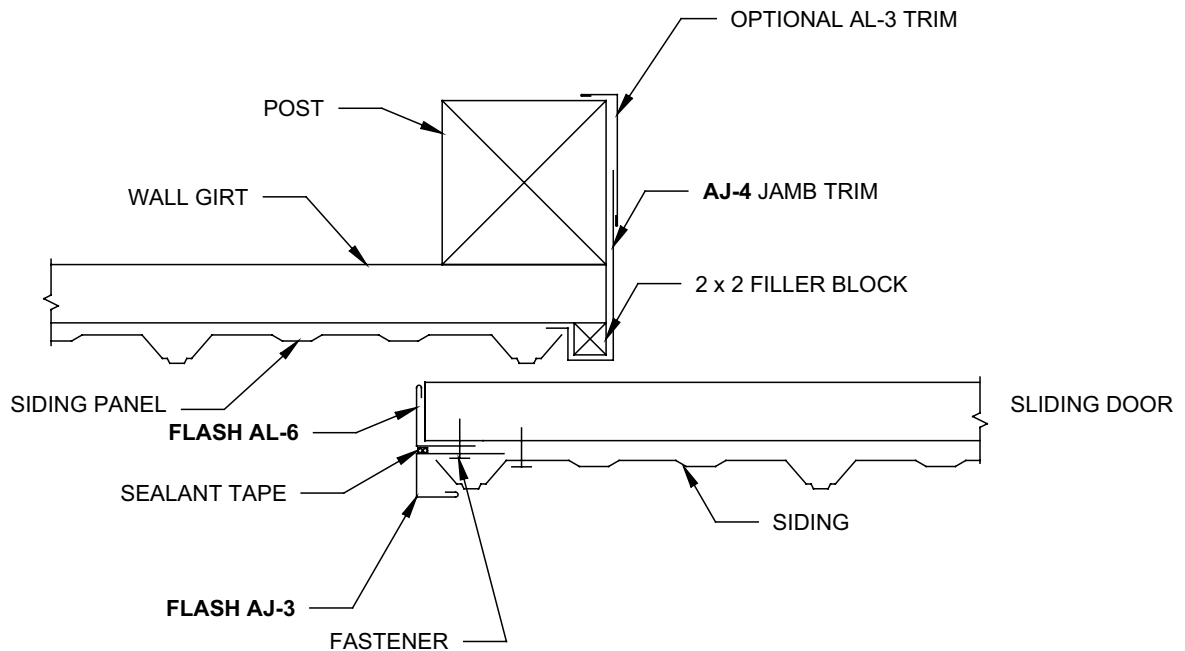


Post Frame Flashing Details

DOOR HEADER

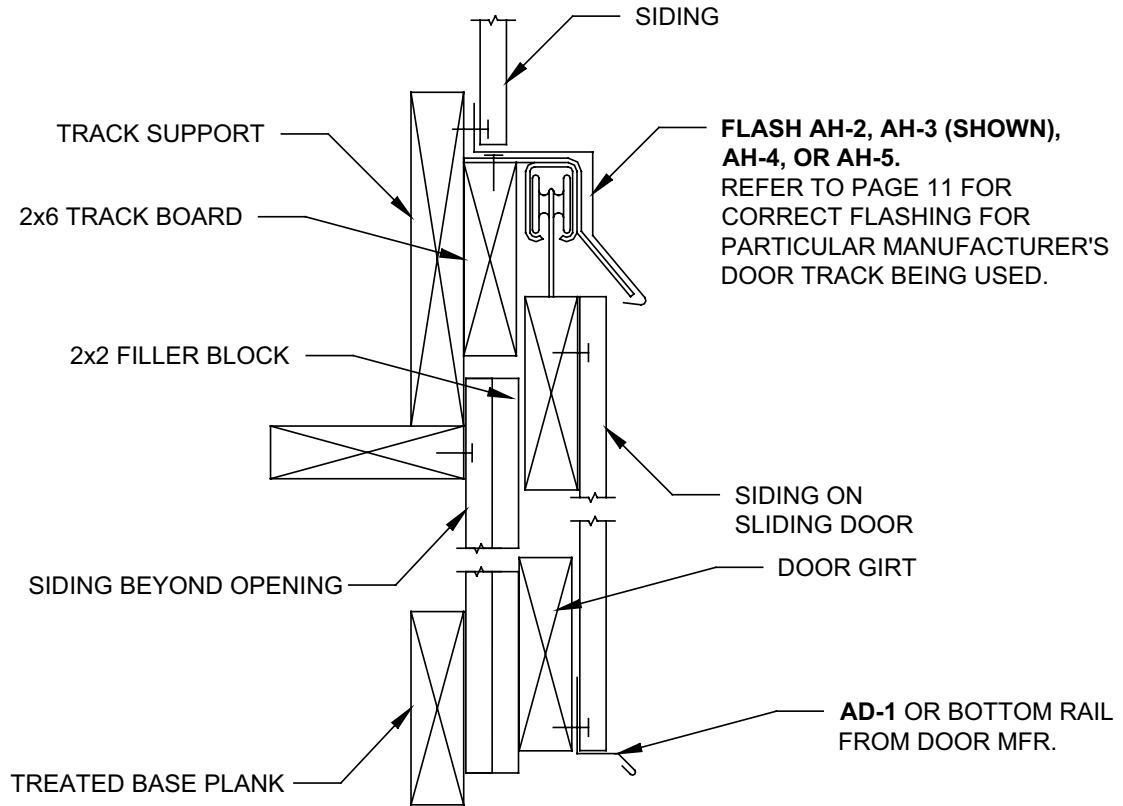


SLIDING DOOR JAMB DETAIL

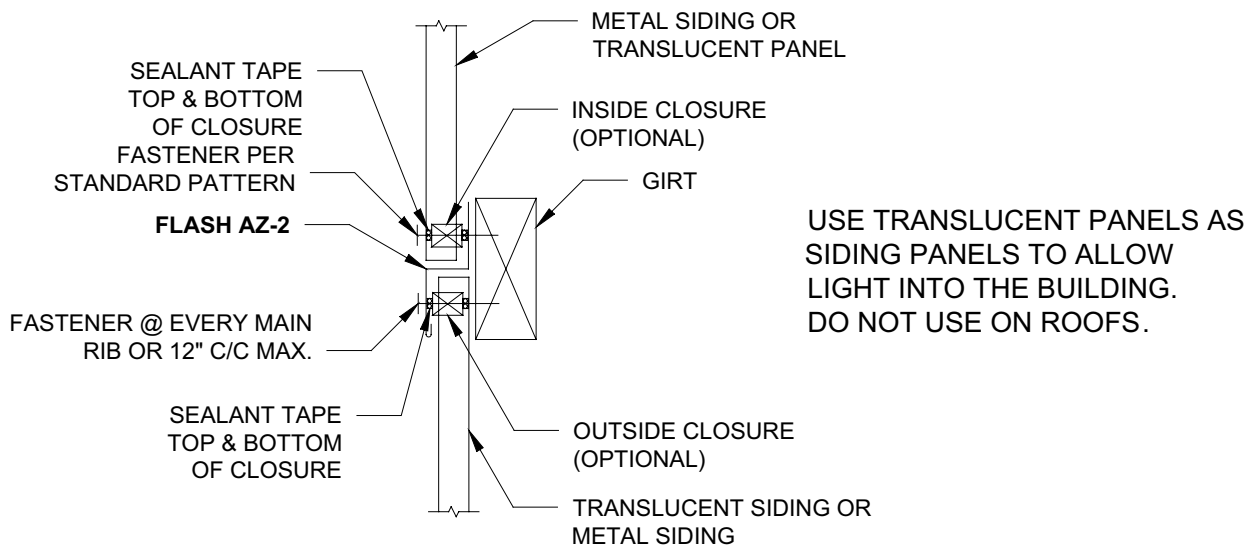


Post Frame Flashing Details

SLIDING DOOR HEADER DETAIL



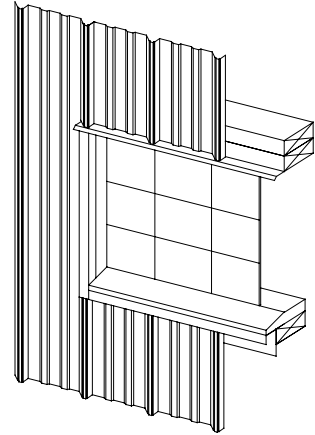
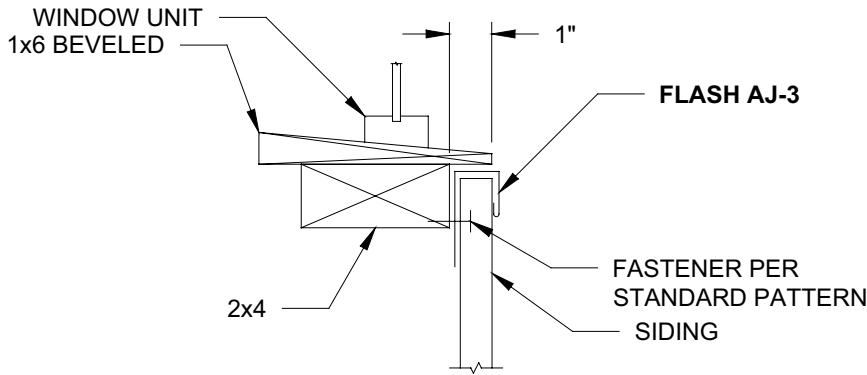
TRANSLUCENT PANEL



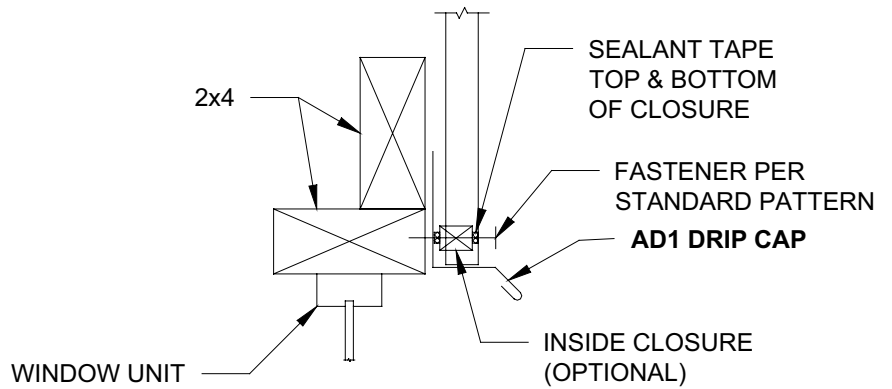
Post Frame Flashing Details

WINDOW DETAILS

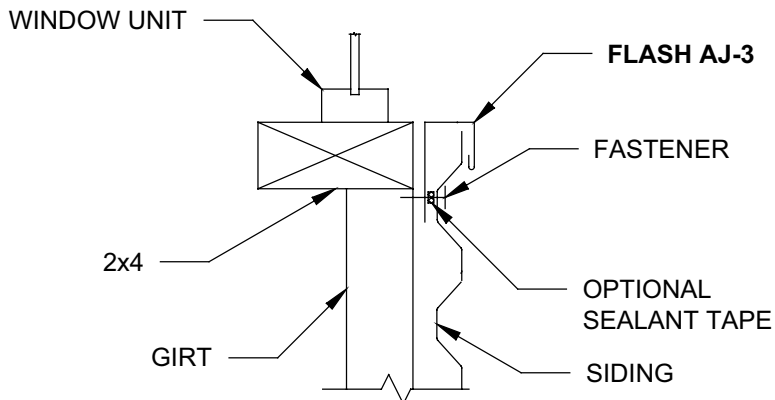
SILL



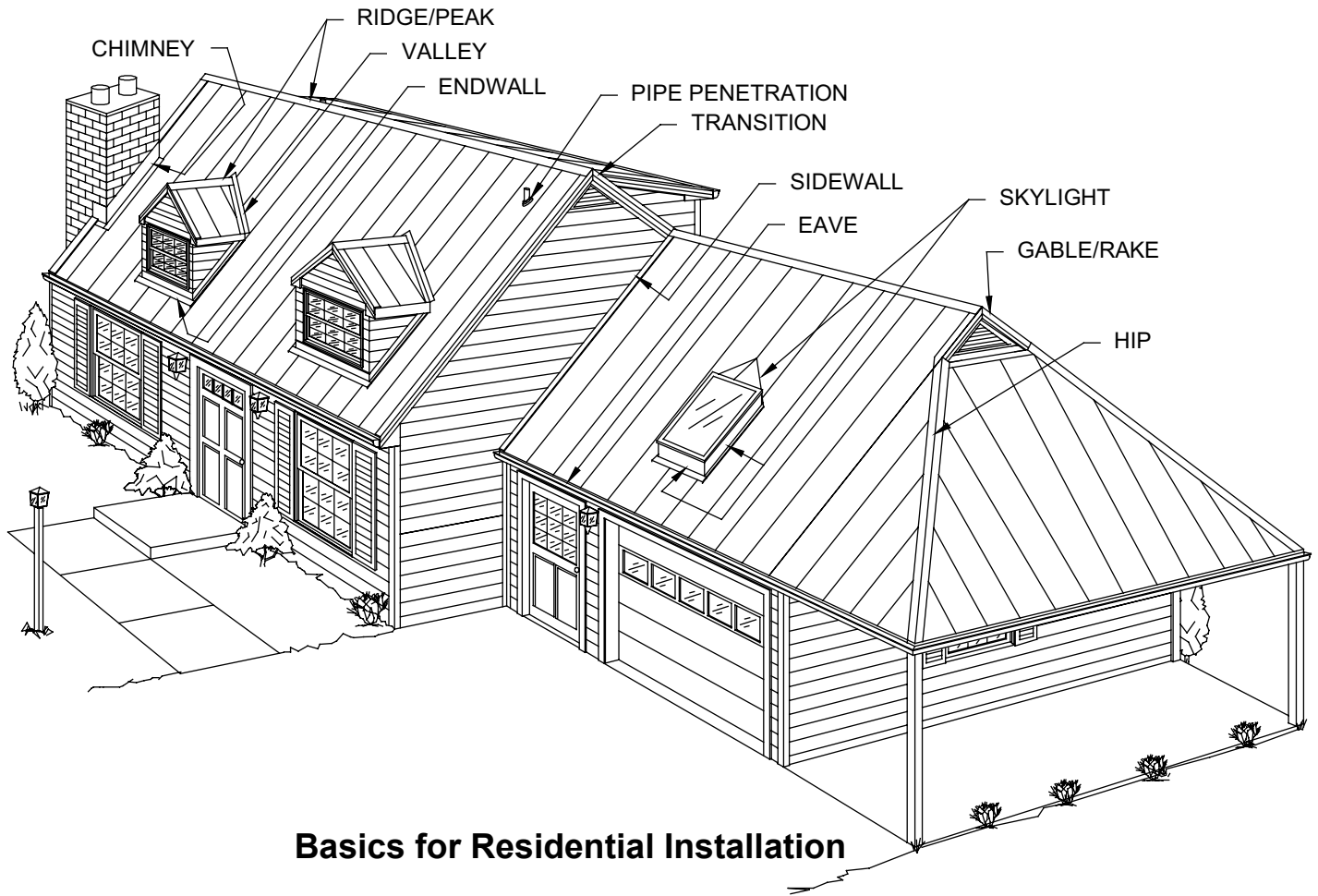
HEAD



JAMB



Residential Building Details



1. Determine the thickness and type of substrate to be used to support the metal roofing.
Solid decking is highly recommended for all residential applications (i.e., plywood, OSB).
2. Refer to the Load-Span tables to select the proper fastener and spacing to meet loads on your structure.
Nails are NOT recommended for residential applications.
3. Consult local building codes and restrictions to determine acceptable methods of construction for residential applications in your area.
4. Solid decking with 30# felt or Pro Master® underlayment for residential applications is recommended. Ice & water shield or similar self-adhesive membrane is recommended at all valleys, dormers, chimneys, transitions, skylights and other critical areas.
5. When re-roofing with metal panels over an existing shingle roof, 2x4 purlins or 1x4 furring strips run parallel with the ridge of the roof and must be securely fastened into the roof rafters or trusses.
6. Request Fabral's technical bulletins # 720 and # 721 for more details on residential roofing.

Residential Load Table

GRANDRIB 3®

Load-Span Tables For 29 Gauge Grandrib 3® & Alu-Tuff

Allowable Wind Uplift Loads (psf)

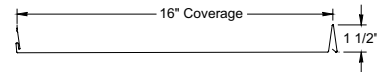
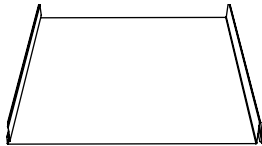
Spacing of Fastener Rows

Substrate	Fastener	9"	12"	15"	18"	21"	24"
3/4" Plywood	#14 Woodtite	275.6	206.7	165.4	137.8	118.1	103.4
5/8" Plywood	#14 Woodtite	160	120	96	80	68.6	60
1/2" Plywood	#14 Woodtite	135.9	101.9	81.5	67.9	58.2	51.0
23/32" OSB	#14 Woodtite	115.9	86.9	69.5	57.9	49.7	43.5
19/32" OSB	#14 Woodtite	100.7	75.5	60.4	50.3	43.1	37.8
7/16" OSB	#14 Woodtite	61.5	46.1	36.9	30.7	26.3	23.1
Solid 2x SPF	#14 Woodtite	293	220.0	176.0	146.7	125.7	110.0
Solid 1x Pine	#14 Woodtite	207.1	155.3	124.2	103.5	88.7	77.7
Solid 2x SPF	#9 WoodFast	218.7	164.0	131.2	109.3	93.7	82.0
Solid 1x Pine	#9 WoodFast	168.4	126.3	101.0	84.2	72.2	63.2
	Screws per Square	190	150	120	100	90	80

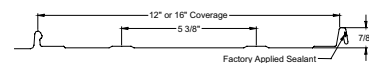
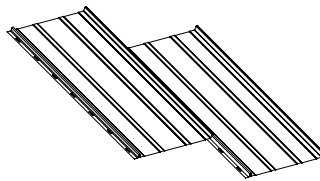
The Above Loads and fastener quantities are based on the standard fastening schedule shown on page 5 of this book, with the fastener having an embedment depth of 1" into the solid wood or penetrating the plywood or OSB. Contact FABRAL for additional design information on our products.

Other Residential Profiles

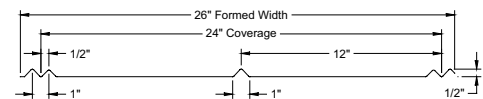
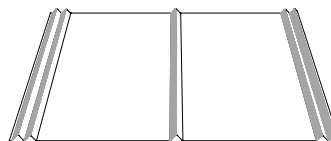
1 1/2" SSR
24 Gauge Standing Seam Roofing



Climaguard™
26 Gauge Roofing



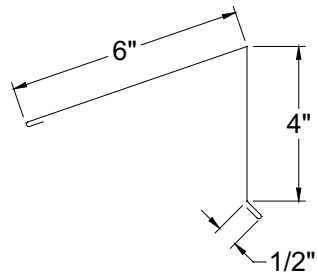
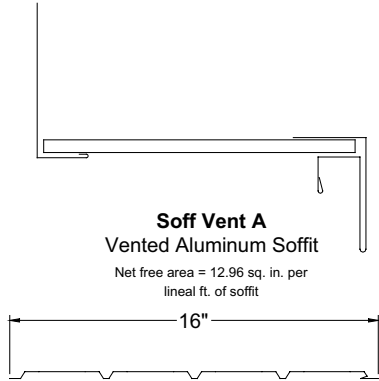
5V Crimp
26 Gauge Roofing



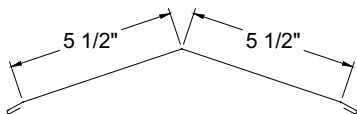
The above Fabral profiles have their own detail manuals, flashings, and accessories. Please contact Fabral for additional information.

Standard Residential Flashings/Trim

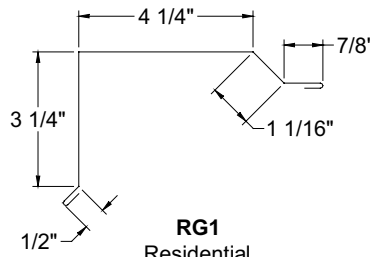
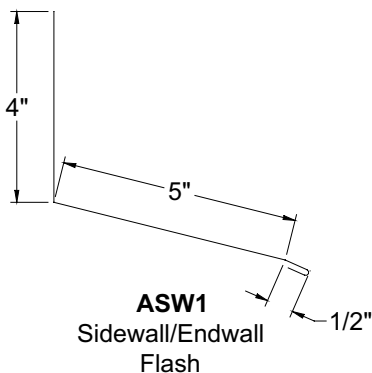
All flashing is 10' 6" in length & available in steel & aluminum, unless otherwise noted. Please contact Fabral for specifics on the trim available in your area.



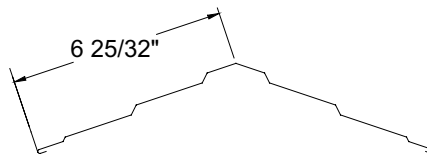
CP1
Monoslope
Ridge
Steel Only
Customer to specify roof pitch



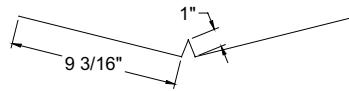
RR1
Universal
Ridge/Hip
Flash
Steel Only
Customer to specify roof pitch



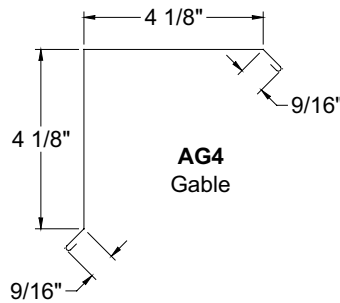
RG1
Residential
Gable



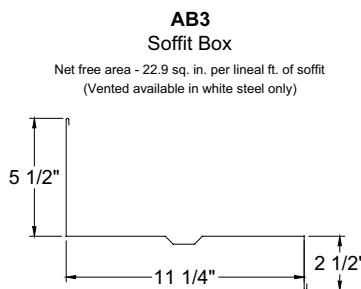
AR3
Ridge Cap



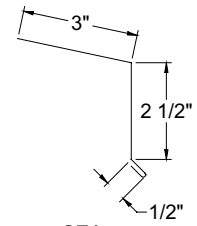
RV2
W-Valley Flash
Steel Only
Customer to specify roof pitch



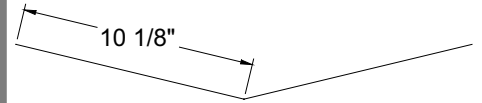
AG4
Gable



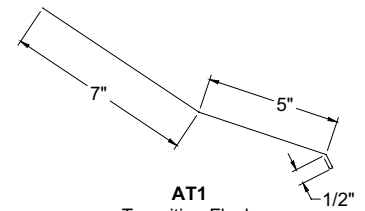
AB3
Soffit Box
Net free area - 22.9 sq. in. per lineal ft. of soffit
(Vented available in white steel only)



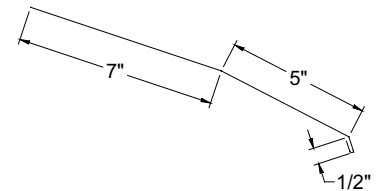
CE1
Denver Eave
Steel Only
Customer to specify roof pitch



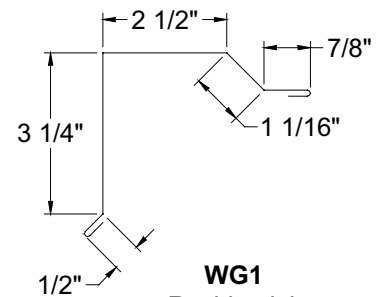
RV1
Valley Flash
Customer to specify roof pitch



AT1
Transition Flash
Typical for 8/12 to 4/12
(otherwise specify pitches)
Steel Only



AT2
Gambrel Flash
Typical for 3/12 to 15/12
(otherwise specify pitches)

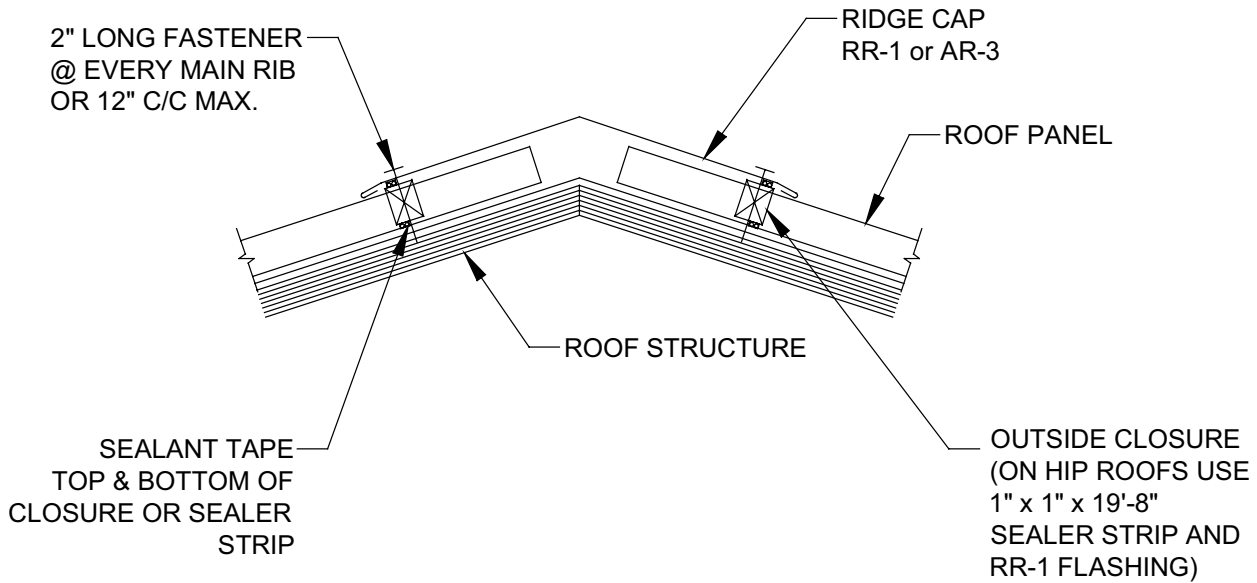


WG1
Residential
Gable

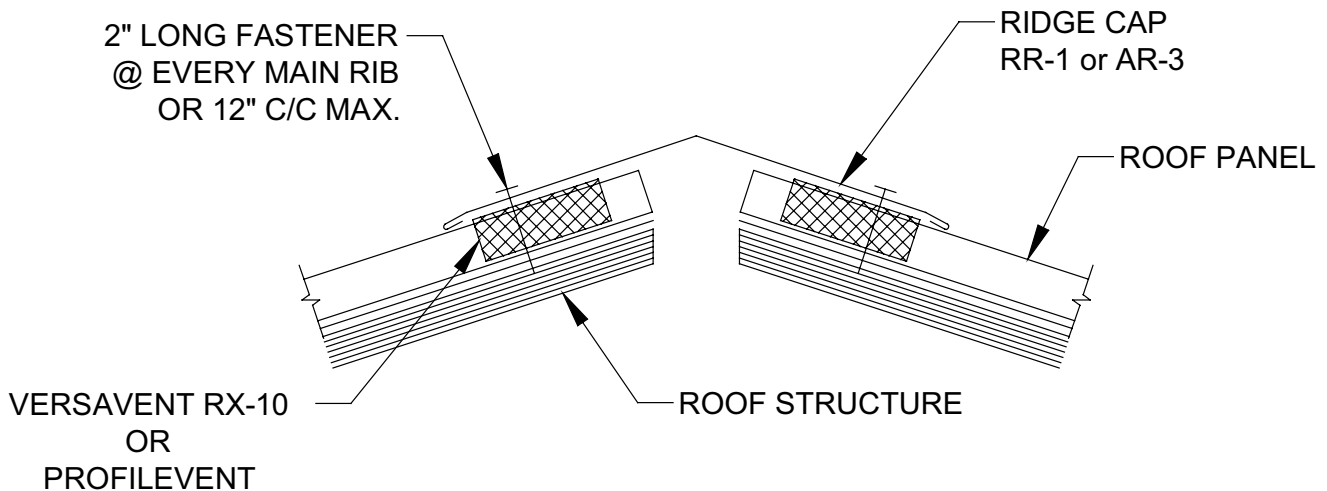
Residential Flashings Detail

All residential flashings are formed for a 4/12 pitch unless otherwise requested by the customer.

RESIDENTIAL RIDGE/HIP

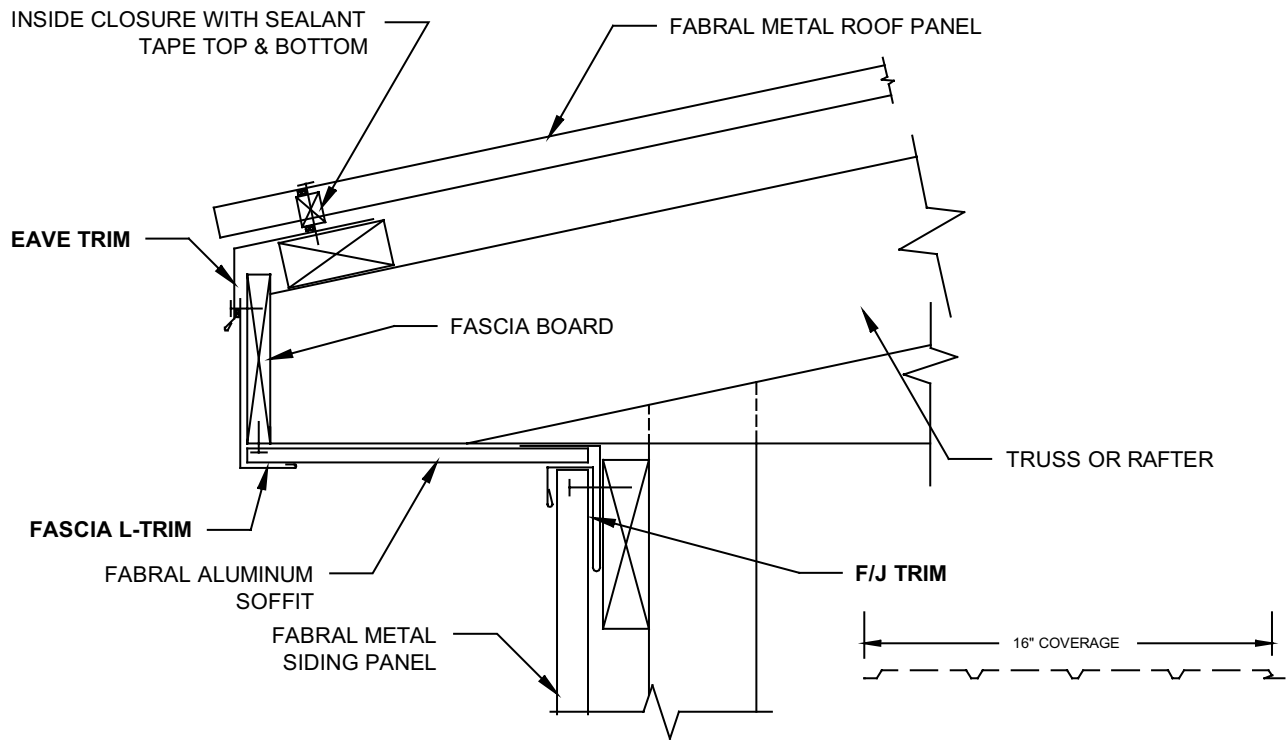


RESIDENTIAL VENTED RIDGE

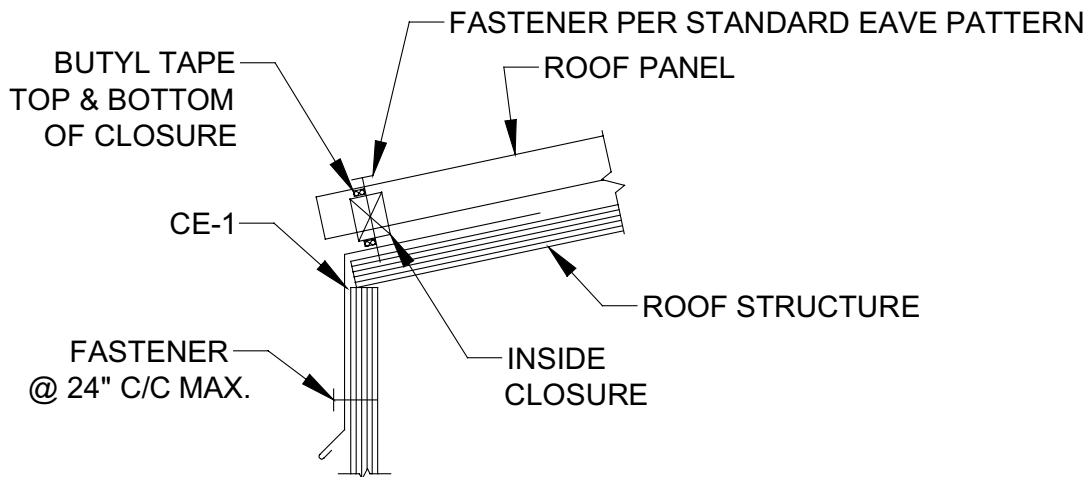


Residential Flashings Detail

RESIDENTIAL VENTED EAVE

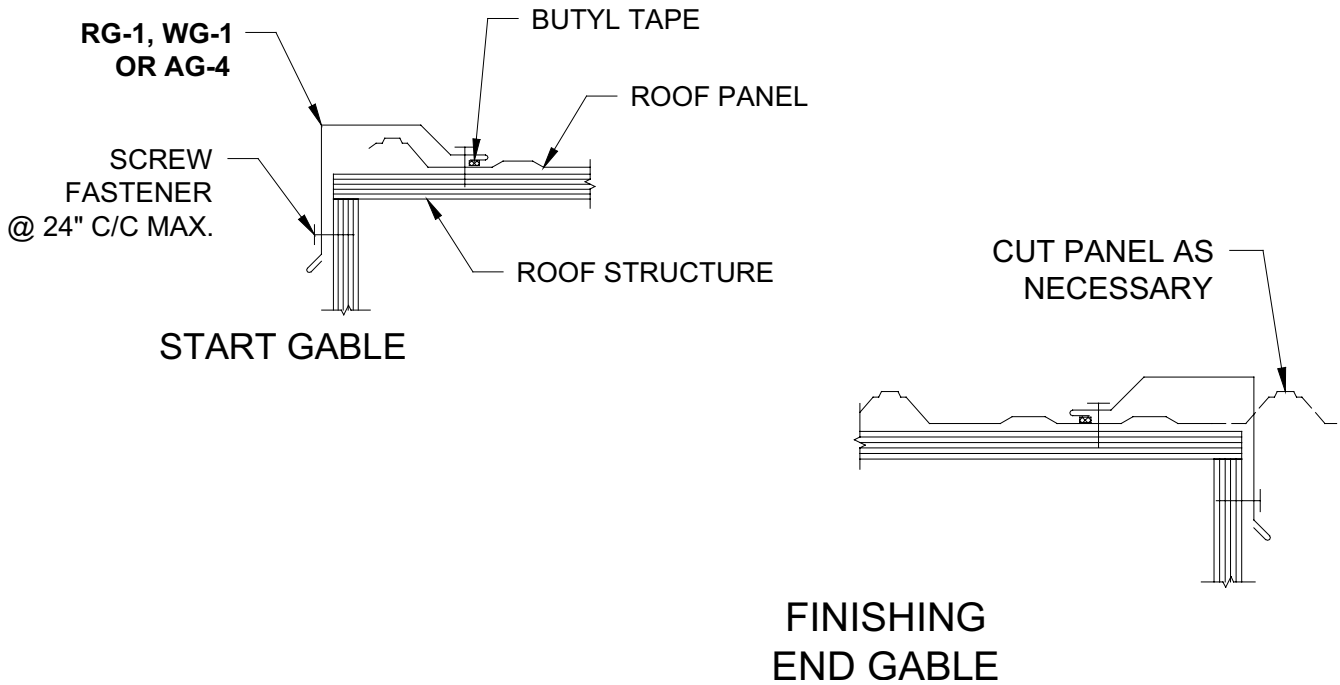


RESIDENTIAL EAVE

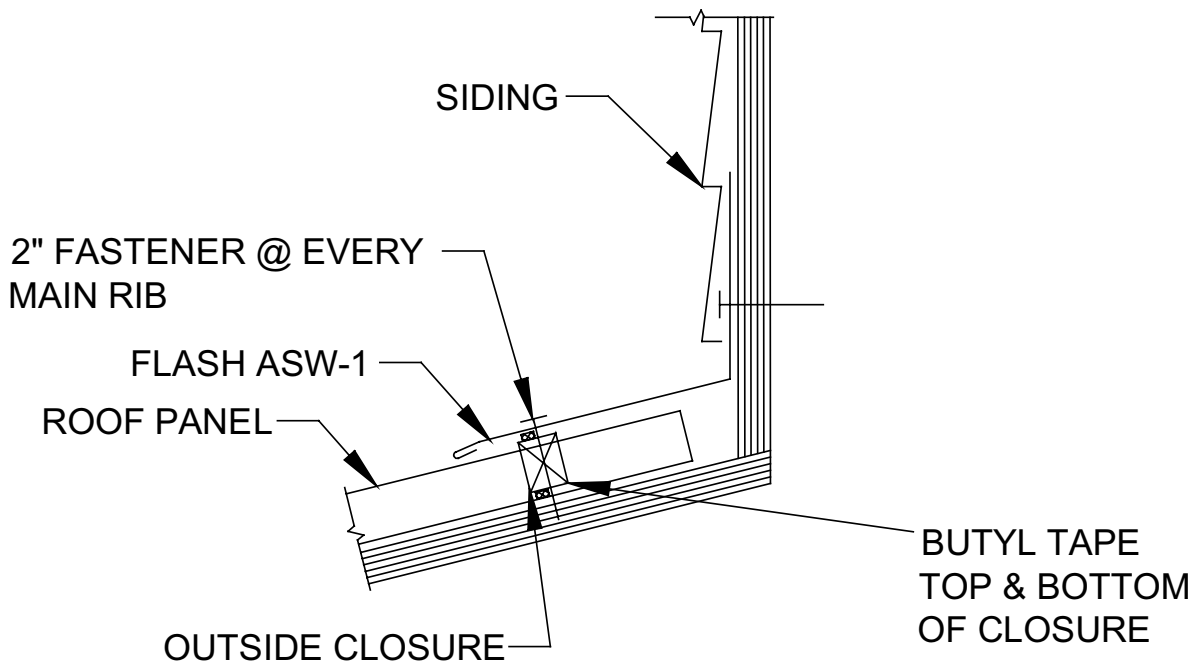


Residential Flashings Detail

RESIDENTIAL GABLE

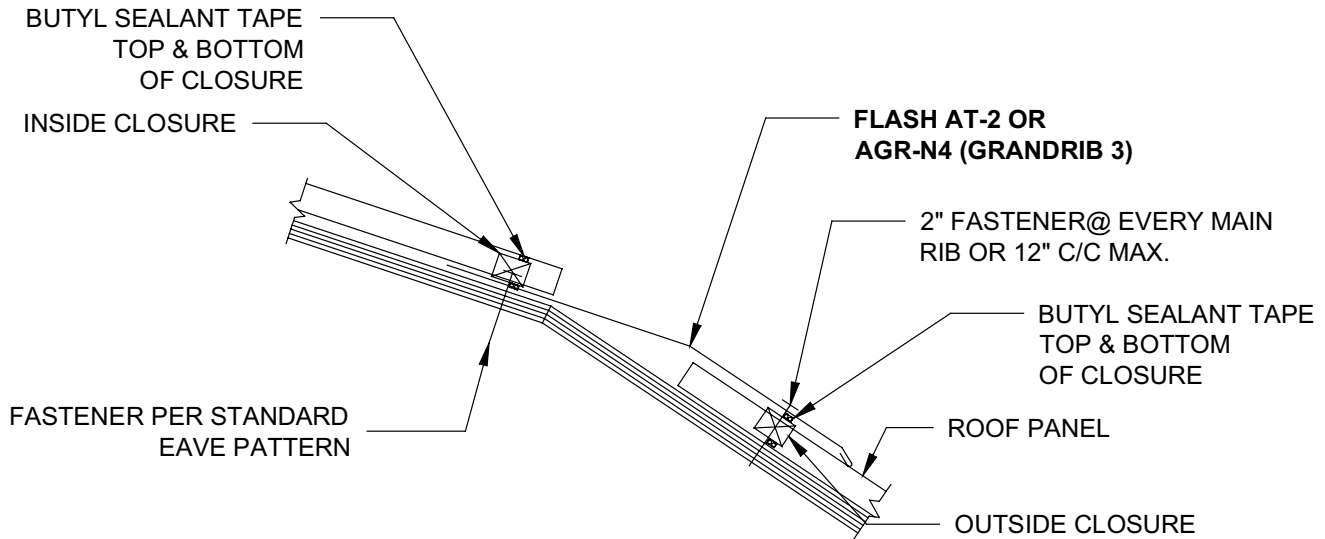


RESIDENTIAL ENDWALL

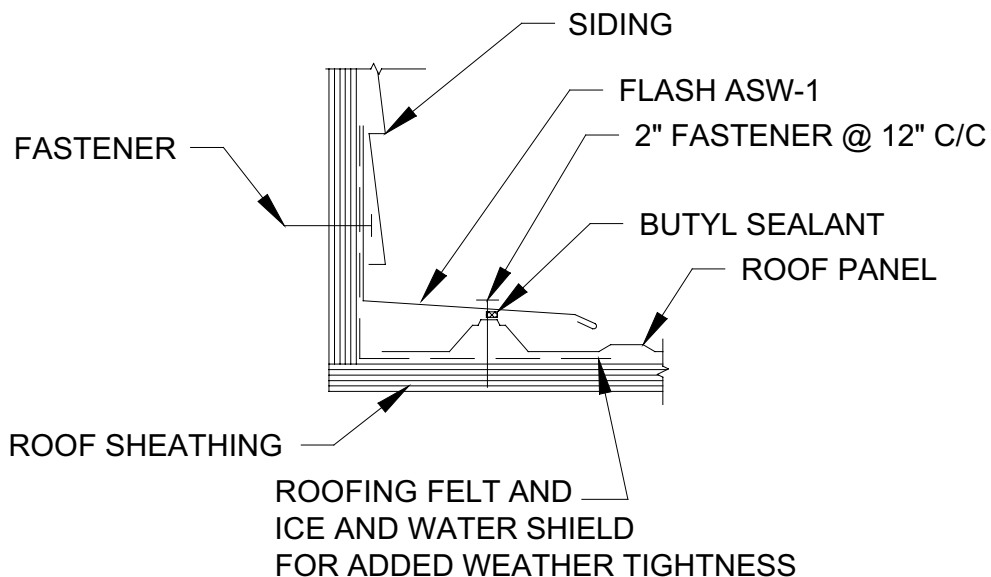


Residential Flashings Detail

RESIDENTIAL GAMBREL

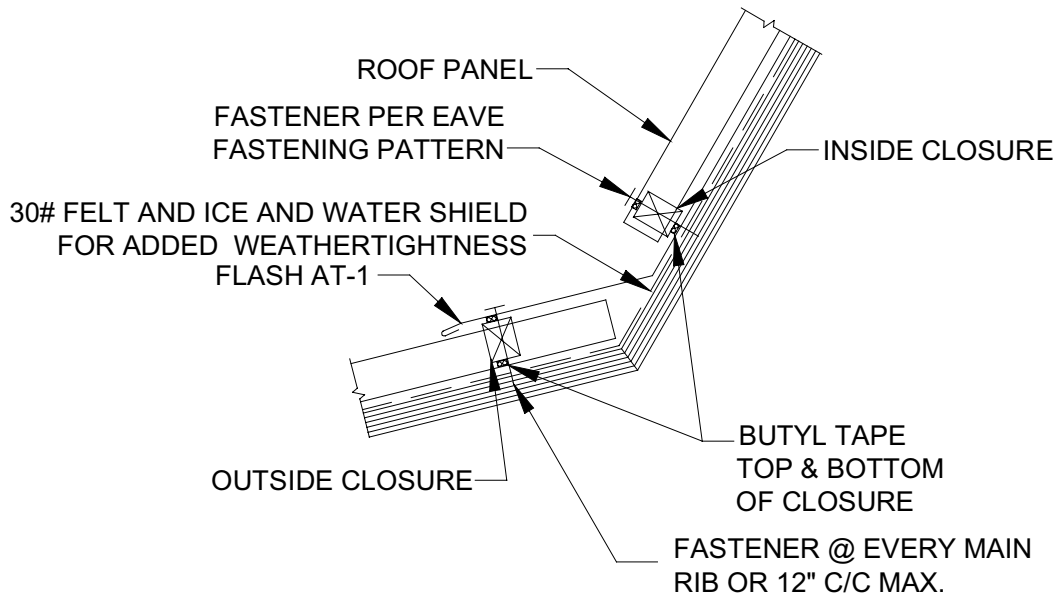


RESIDENTIAL SIDEWALL

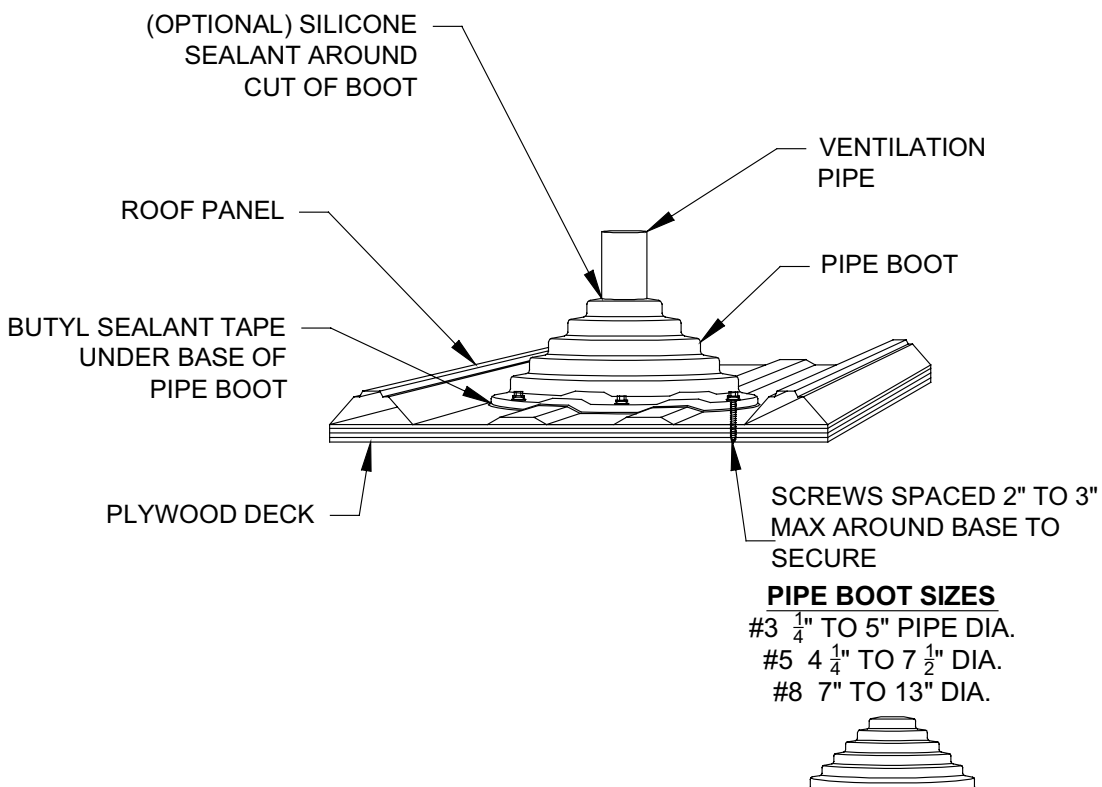


Residential Flashings Detail

RESIDENTIAL TRANSITION

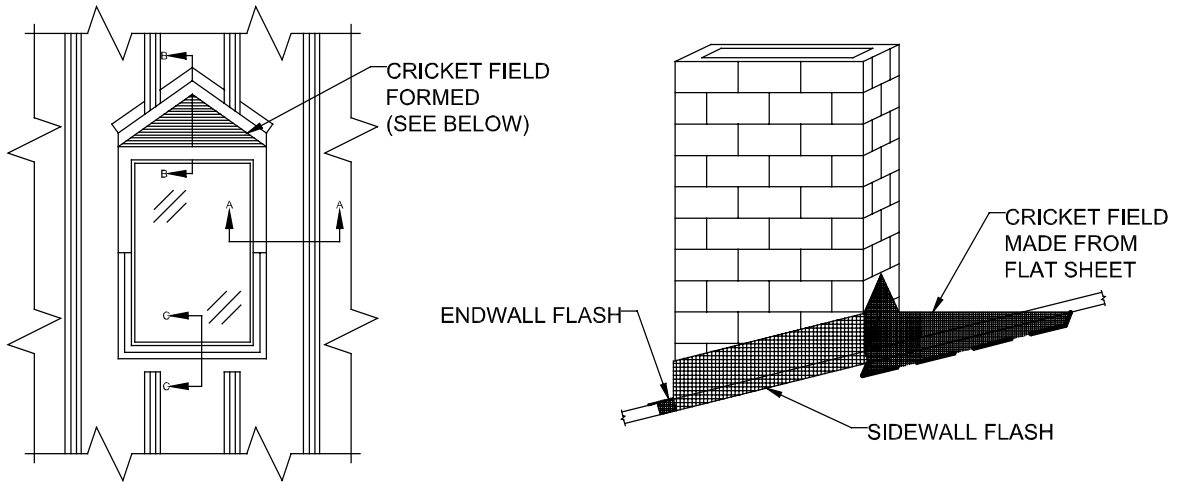


RESIDENTIAL PIPE BOOTS



Residential Flashings Detail

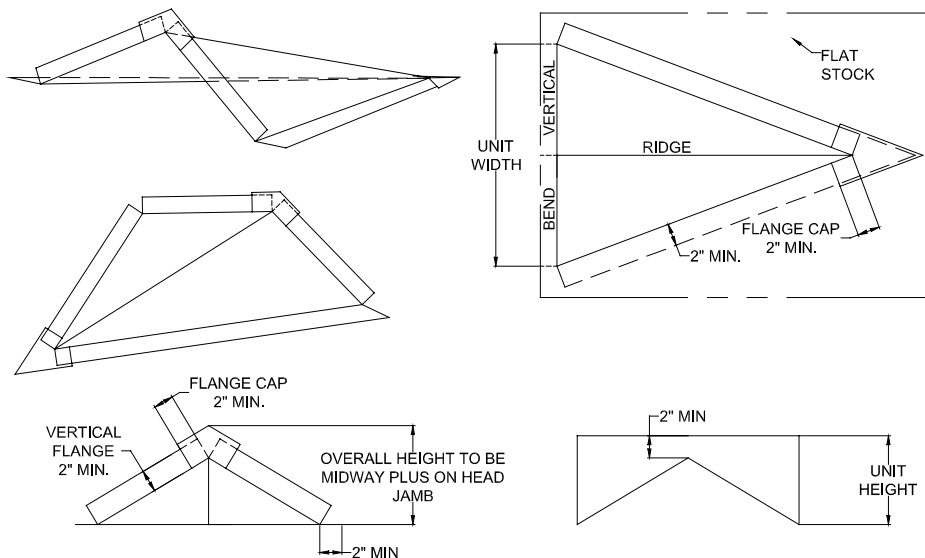
SKYLIGHT & CHIMNEY DETAILS



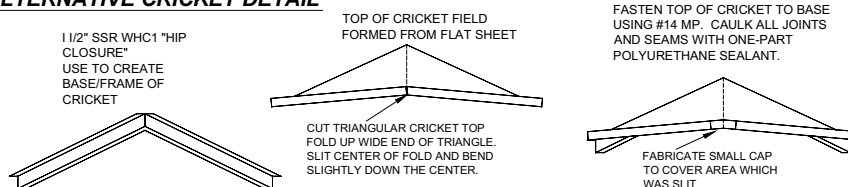
NOTE: SEE CROSS SECTIONS A-A, B-B, C-C

For optimum weatherhightness, use ice and water shield or similar around penetrations.

CRICKET FIELD FORMING

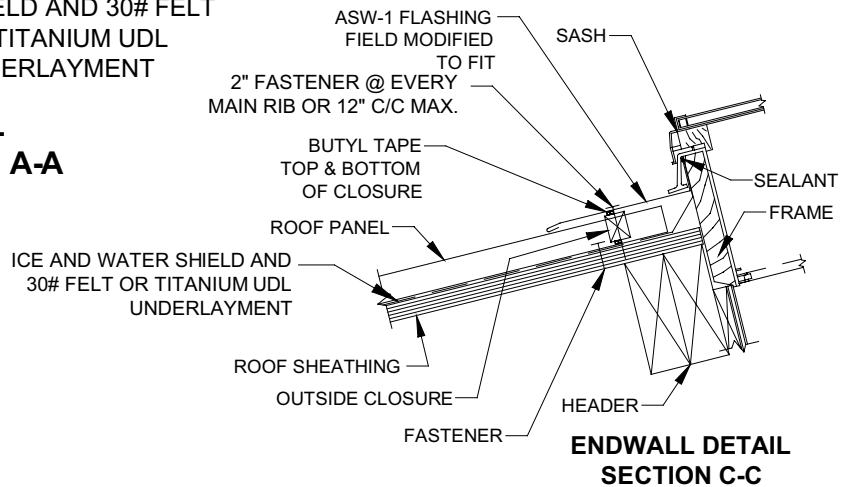
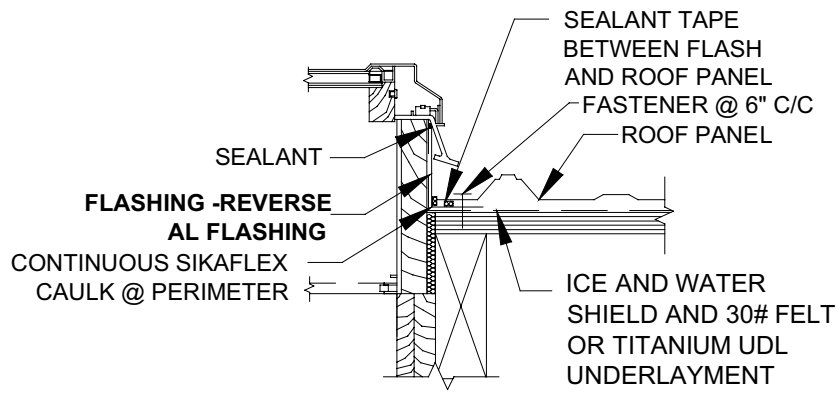
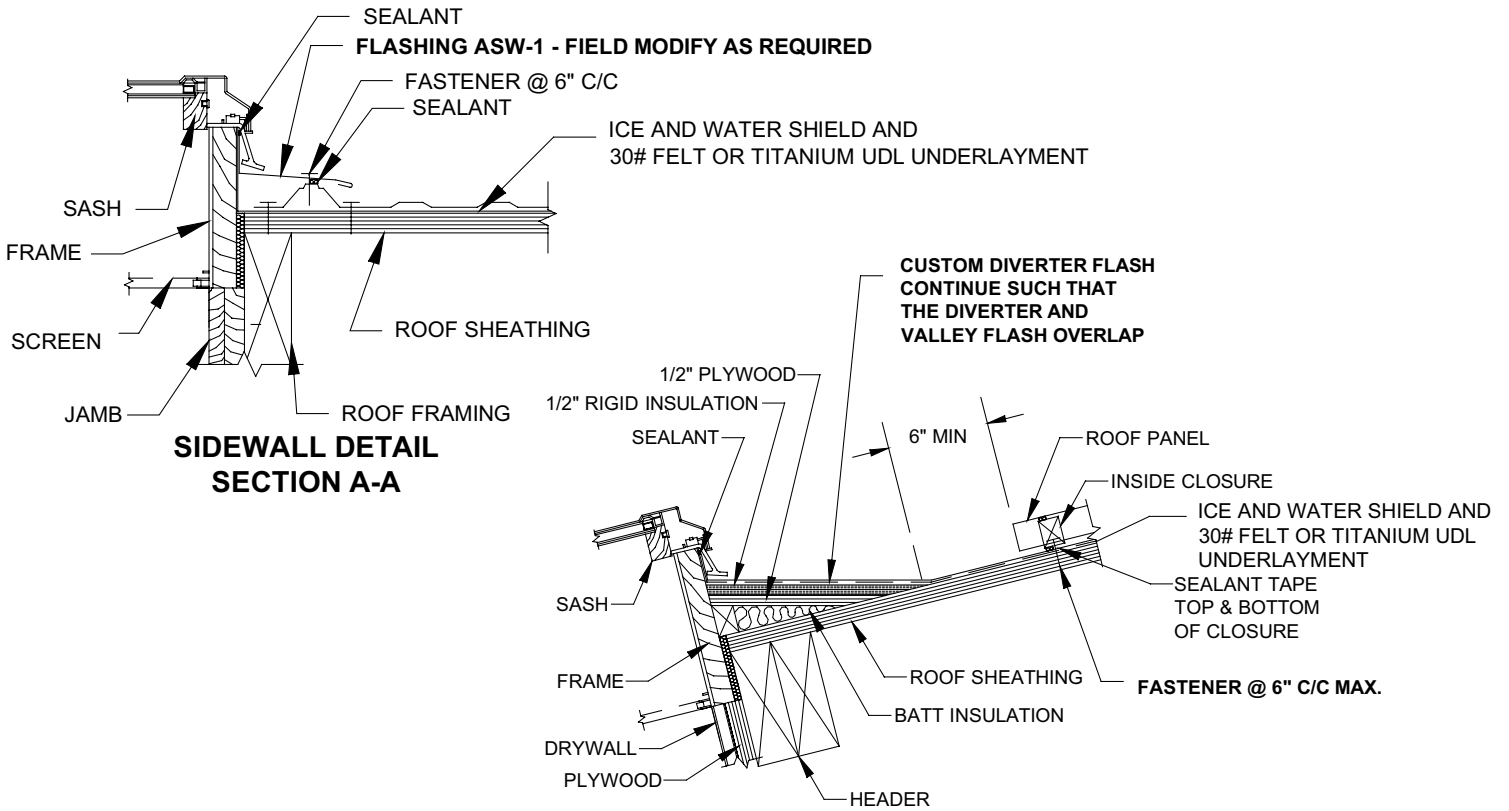


ALTERNATIVE CRICKET DETAIL



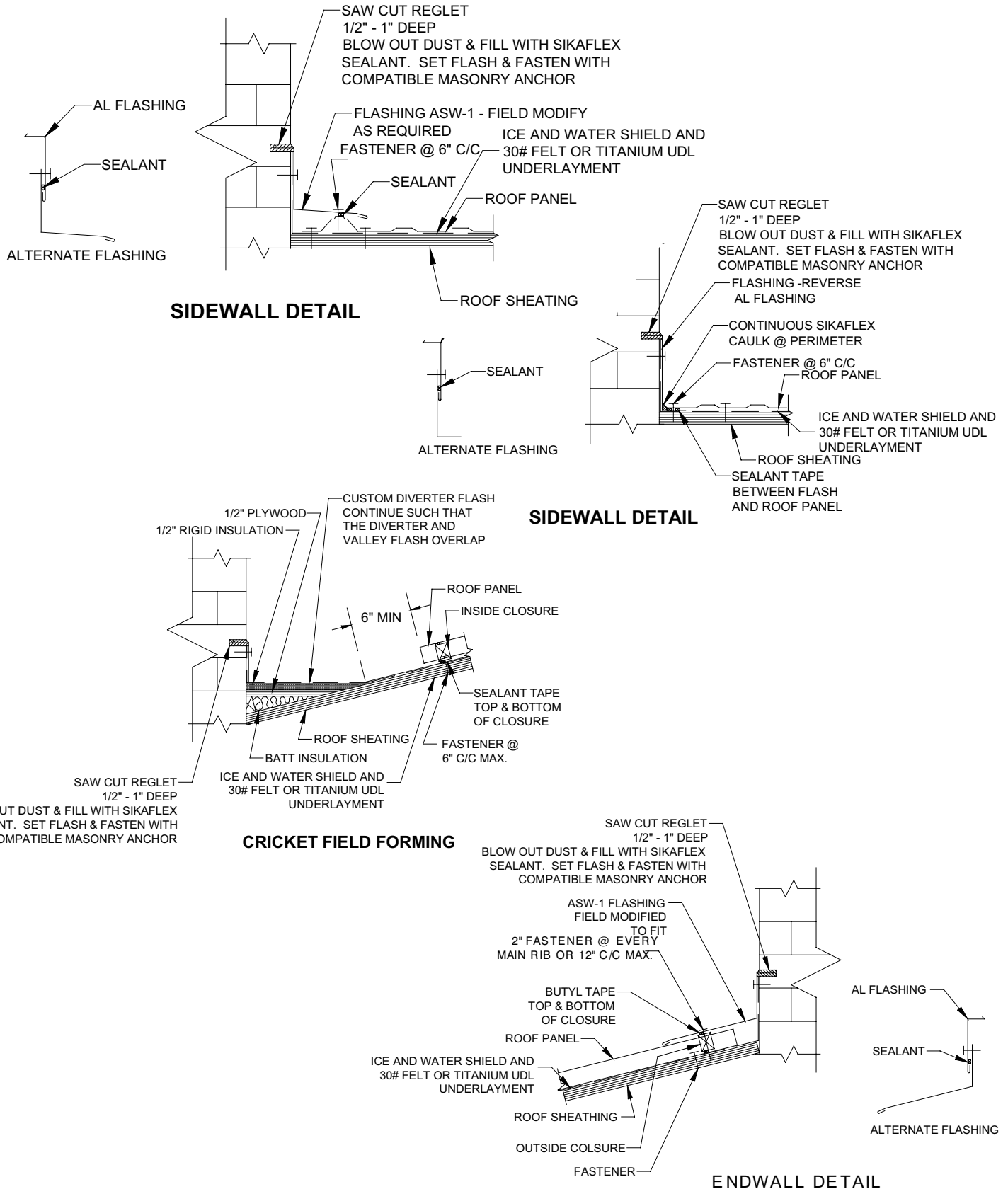
Residential Flashings Detail

SKYLIGHT DETAILS



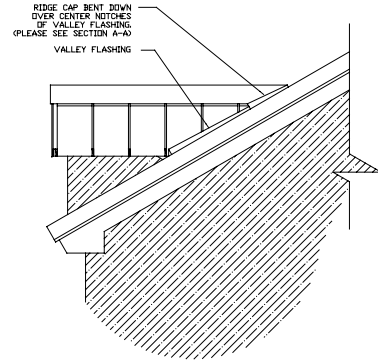
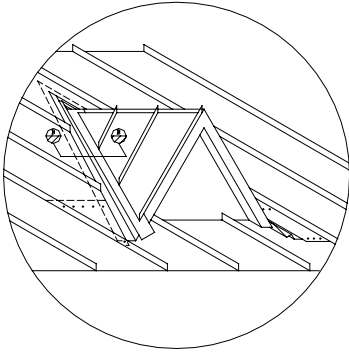
Residential Flashings Detail

CHIMNEY DETAILS

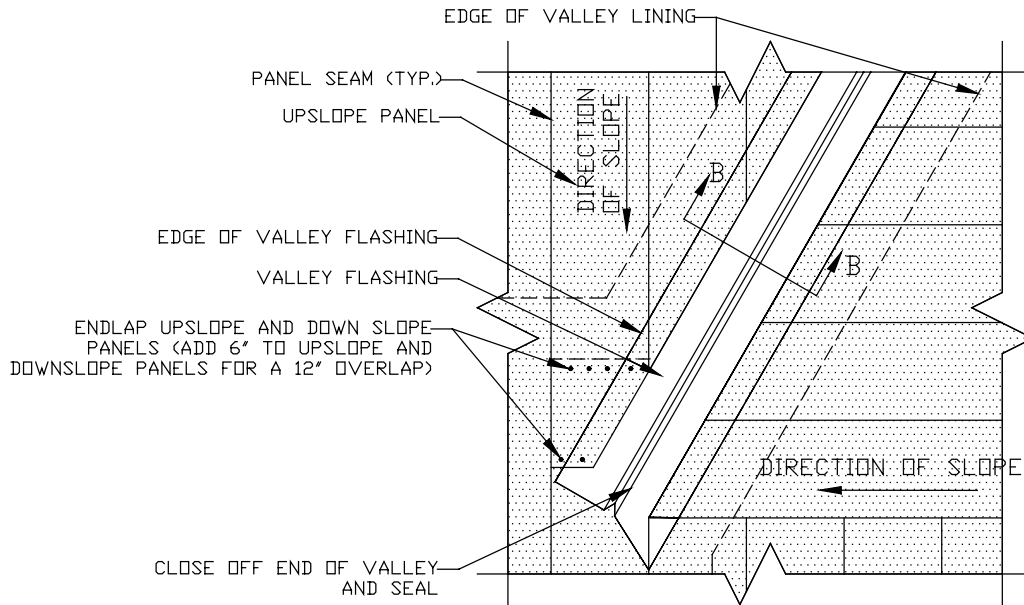


Residential Flashings Detail

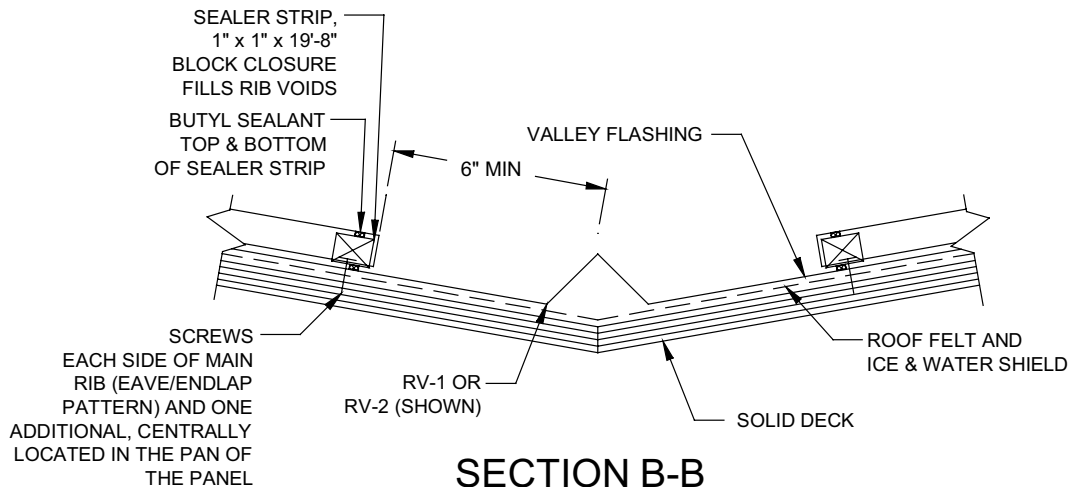
DORMER DETAILS



DORMER DETAIL- SIDE VIEW



PLAN VIEW OF SIDE OF DORMER

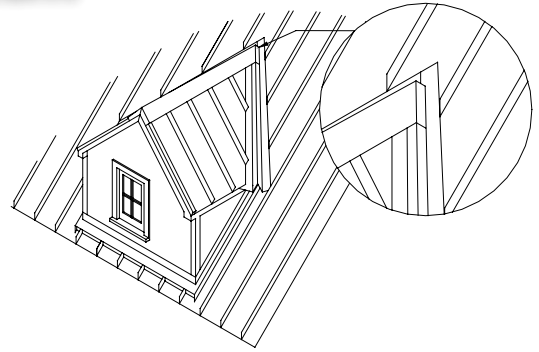


SECTION B-B

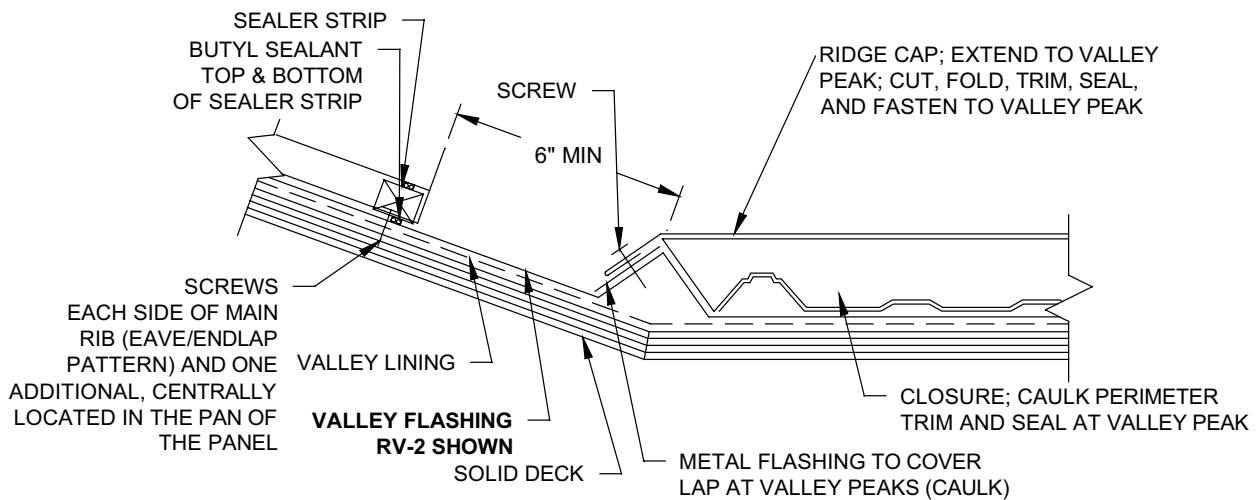
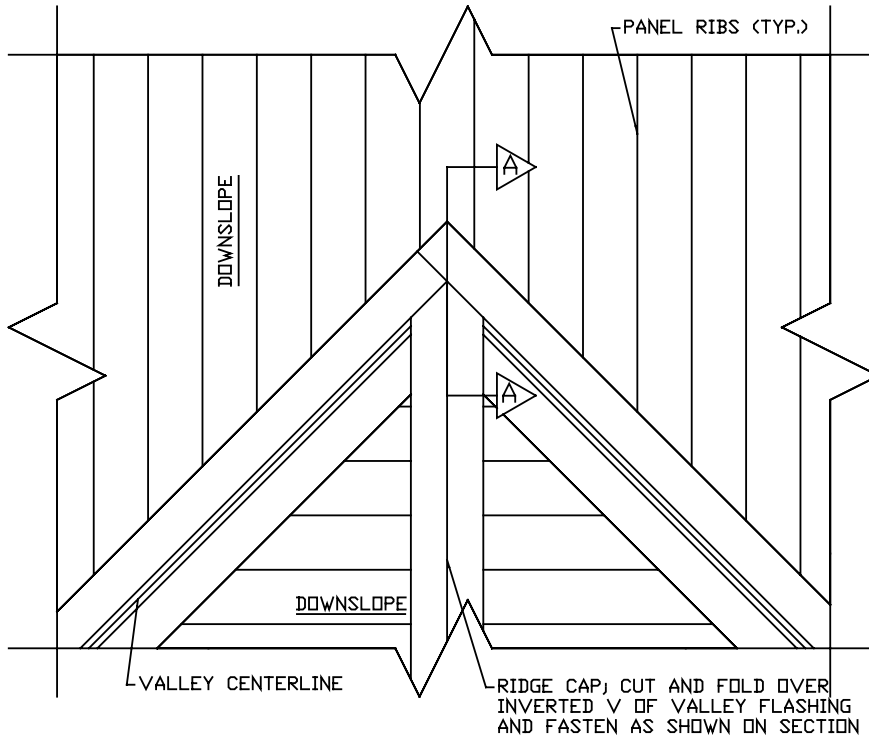
SOLID SUPPORT IS REQUIRED UNDER THE VALLEY. EPDM LINING IS RECOMMENDED UNDER LAPPED PANELS AND VALLEY FLASHING. LINING MUST CONTINUE DOWN TO EAVE LINE.

Residential Flashings Detail

DORMER DETAILS

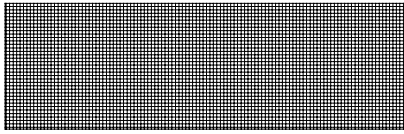


CUT VALLEY PEAKS TO JOIN CLEANLY AND SEAL; COVER JOINT WITH ADDITIONAL FLASHING AND SEAL



SECTION A-A

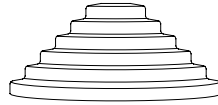
Accessories



Flat Sheet

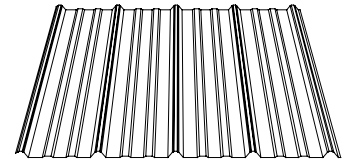
Flat 29 gauge painted and plain galvanized sheets available in full width (40-13/16" x 10' or 10'6"). Flat sheets are made in grade 33 steel for better hemming, forming and for flexibility for field forming.

Used for field forming crickets around chimneys, skylights, and penetrations. Also used for field forming special flashing as necessary.



Pipe Boots

Pipe Flashing	Item No.	Pipe Size Min	Pipe Size Max
Gray EPDM			
Base Diameter			
7 3/4"	3	1 1/4"	5"
10 3/4"	5	4 1/4"	7 1/2"
16 1/2"	8	7"	13"

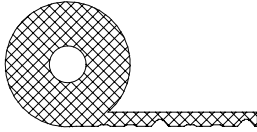


Translucent Panels Fiberglass

Grandrib 3 - White, Green - 8', 10', 12'
Strongrib - White - 10', 12'
Fabrib - Green - 12'
(availability by location - check with sale service rep.)

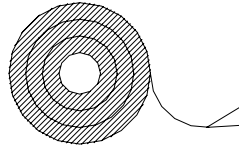
SunSky Polycarbonate

Grandrib 3 & Alutuff
Clear & White - 8', 10', 12'
(Available Everywhere)



Profile Vent

Grandrib 3 & Alu-Tuff (shown), 5V Crimp
Grandrib 3 net free area = 10.66 sq. in. per lineal ft. of ridge (5.33 per side)



Sealant Tape

3/16" x 1/4" x 40'
3/32" x 1/2" x 50'

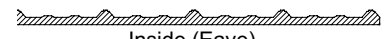


Asphalt Impregnated Sealer Strip

1"x1"x19'-6.8" long

USE AT VALLEYS AND HIPS

Closures



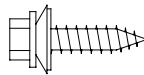
Inside (Eave)



Outside (Ridge)

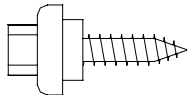
Grandrib 3, Strongrib, 1 1/4" Corrugated, 2 1/2" Corrugated, 5V Crimp, and Fabrib available by location - check with sales service rep.

Fasteners



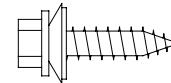
#9-16 WoodFast

1/4" hex head, EPDM/metal washer, Oxyseal Long-Life Coating
Available in 1", 1 1/2", 2", 2 1/2" and 3"
- Plain or Painted



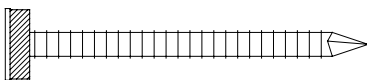
#10-16 Ultimate WoodTite

5/16" cast Zinc hex head
Available in 1", 1 1/2", 2", 2 1/2" and 3"
USE WITH **GALVALUME** PANELS



#9-16 WoodFast

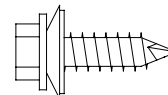
300 Series Stainless Steel
Available in 1", 1 1/2", and 2"
1/4" hex head, EPDM/metal washer
USE WITH **ALUMINUM** PANELS



Fabroseal with 1/4" washer for roofing - 2", 2 1/2" & 3"

Regular neoprene washer for siding - 1 1/2", 1 3/4", 2", & 2 1/2"

Plain Zinc coated and Painted



#14-10 WoodTite

5/16" hex head, EPDM/metal washer, Oxyseal Long-Life coating. Plain or Painted 1", 1 1/2", 2" **USE AS STITCH SCREW & TO FASTEN METAL TO PLYWOOD OR OSB**