

Ascent Buildings
214 Fountainhead Road
Portland, TN 37148
888-507-9568
ascentbuildings.net

Central Seam Plus

Technical / Installation Information



IMPORTANT NOTICE

READ THIS MANUAL COMPLETELY PRIOR TO BEGINNING THE INSTALLATION OF THE CENTRAL SEAM PLUS ROOFING SYSTEM. THE MANUFACTURER DETAILS MUST BE FOLLOWED AS A MINIMUM TO INSURE APPROPRIATE WARRANTIES WILL BE ISSUED.

ALWAYS INSPECT EACH AND EVERY PANEL AND ALL ACCESSORIES BEFORE INSTALLATION. NEVER INSTALL ANY PRODUCT IF ITS QUALITY IS IN QUESTION. NOTIFY MBCI IMMEDIATELY IF ANY PRODUCT IS BELIEVED TO BE OUT OF TOLERANCE, SPECIFICATION OR HAS BEEN DAMAGED DURING SHIPMENT.

IF THERE IS A CONFLICT BETWEEN PROJECT ERECTION DRAWINGS PROVIDED OR APPROVED BY THE MANUFACTURER AND DETAILS IN THIS MANUAL, PROJECT ERECTION DRAWINGS WILL TAKE PRECEDENCE.

Descriptions and specifications contained herein were in effect at the time this publication was approved for printing (8/25). In a continuing effort to refine and improve products, the manufacturer reserves the right to discontinue products at any time or change specifications and/or designs without incurring obligation. To insure you have the latest information available, please inquire. Application details in this manual may not be appropriate for all environmental conditions, building designs, or panel profiles. Projects should be engineered to conform to applicable building codes, regulations, and accepted industry practices. Insulation is not shown in these details for clarity.

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GENERAL INFORMATION – Important Information

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READ THIS MANUAL COMPLETELY PRIOR TO INSTALLATION.

IF THERE IS A CONFLICT BETWEEN PROJECT ERECTION DRAWINGS PROVIDED OR APPROVED BY CENTRAL STATES AND DETAILS IN THIS MANUAL, PROJECT ERECTION DRAWINGS WILL TAKE PRECEDENCE.

OSHA REGULATIONS

It is the responsibility of the erector to install this roof using safe construction practices that are in compliance with OSHA regulations. The manufacturer is not responsible for the performance of this roof system if it is not installed in accordance with the instructions shown in this manual. Deviations from these instructions and details must be approved in writing by the manufacturer.

BRACING

Diaphragm capabilities and purlin stability are not provided by the Central Seam Plus roof system. Therefore, other bracing may be required.

ROOF PITCH

The minimum recommended slope for the roof system is 1/4 on 12. A slope of less than 1/4 on 12 could cause severe ponding and will void material warranties.

ENGINEERING

Application and design details are for illustration purposes only, and may not be appropriate for all environmental conditions or building designs. Projects should be engineered to conform to applicable building codes, regulations, and accepted industry practices.

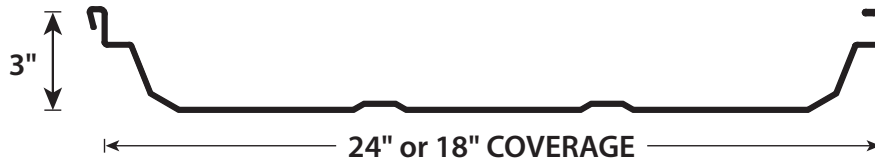
LIGHT TRANSMITTING PANELS

Light transmitting panels are not designed or intended to bear the weight of any person walking, stepping, standing or resting on them. THE MANUFACTURER DISCLAIMS ANY WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, that any person can safely walk, step, stand or rest on or near these light transmitting panels or that they comply with any OSHA regulation.

GENERAL INFORMATION – Preparatory Requirements

- 1.) A single pitch eave strut must be used.
- 2.) Make sure a rake angle or an alternate structural flat surface has been installed on top of the purlins to accept the “Rake Support”.
- 3.) The walls do not have to be erected before the roof is installed. However, for the purpose of this manual, we have assumed that the wall panels have been installed.
- 4.) All primary and secondary framing must be erected, plumbed and squared with bolts tightened according to accepted building practices.
- 5.) The substructure (eave to ridge) must be on plane with a tolerance of 1/4” in 20’ and 3/8” in 40’.
- 6.) Central Seam Plus can be erected on various types of construction. However, for the purpose of this manual, we have assumed that the roof will be installed on a new, pre-engineered metal building.
- 7.) Central Seam Plus roof panels are available in 24”, and 18” widths. However, for the purpose of this manual, we have assumed that the roof panels will be 24” wide.
- 8.) It is critical that the purlins or joists at the ridge and endlaps be exactly located as detailed in this manual and that they are straight from rafter to rafter. Any mislocation or bowing of these members can cause the fasteners at the endlaps or outside closures to foul the purlin or the back-up plate to foul the clip as the panels expand and contract.
- 9.) Peak purlin spacing - 16” (from the centerline of the building) for a 9” continuous vent.
- 10.) For the purpose of this manual, we have assumed that this is a standard roof. If your roof is to be UL 90 rated, see UL 90 requirements in the Central Seam Plus product guide.
- 11.) Read recommended erection practices before proceeding with roof installation.
- 12.) The manufacturer recommends the use of a screw gun with a speed range of 0 - 2000 RPM to properly install all fasteners referenced in this manual. Tools rated to 4000 RPM should never be used for self-drilling fasteners typically supplied with metal building components.
- 13.) Field cutting of the panels should be avoided where possible. If field cutting is required, the panels must be cut with nibblers, snips, or shears to prevent edge rusting. Do not cut the panels with saws, abrasive blades, grinders, or torches.

GENERAL INFORMATION – General Description



Coverage Width - 24" with minor ribs - prepunched 6 holes

18" with minor ribs - prepunched 5 holes

Minimum Slope - 1/4" : 12

Panel Attachment - Low, high (sliding)

Panel Substrate - Galvalume (standard)

Gauge - Standard: 24 Optional: 22

Textured Colors Available - No

Coatings – Fluoropon, Galvalume Plus

PRODUCT SELECTION CHART

FINISH	FLUROPON			GALVALUME PLUS		
PRODUCT	26 Ga.	24 Ga.	22 Ga.	26 Ga.	24 Ga.	22 Ga.
24" Wide	X	✓	!	X	✓	!
18" Wide	X	✓	!	X	✓	!

✓ – Available in any quantity.

X – Currently not available.

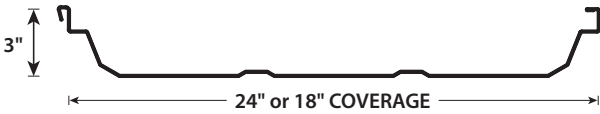
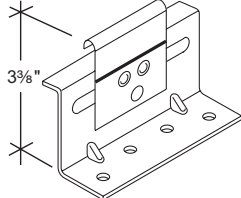
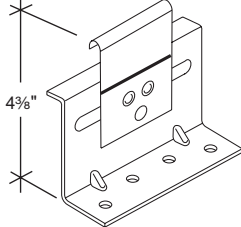
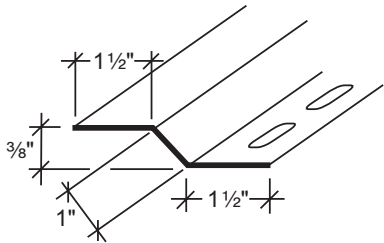
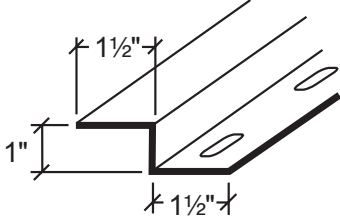
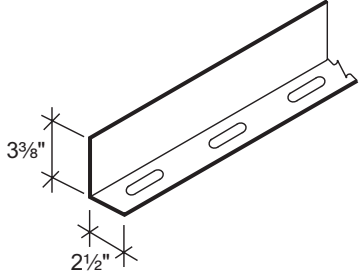
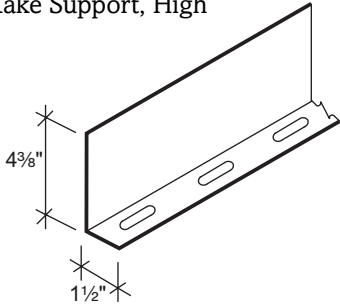
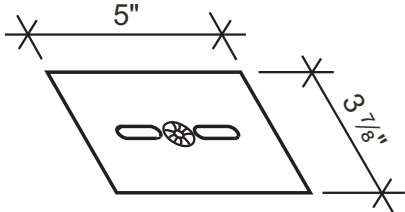
! – Special order only (extended lead times and cost).

The Galvalume Plus coating is subject to variances in spangle from coil to coil which may result in noticeable shade variation installed panels. The Galvalume Plus coating is also subject to differential weathering after panel installation. Panels may appear to be different shades due to this weathering characteristic. If a consistent appearance is required, Ascent recommends that pre-painted panels be used in lieu of Galvalume Plus. Shade variation in panels manufactured from Galvalume Plus coated material does not diminish the structural integrity of the product. These shade variations should be anticipated and are not a cause for rejection.

CAUTION:

Diaphragm capabilities and purlin stability are not provided by the **Central Seam Plus** roof system. Therefore, other bracing may be required to conform to A.I.S.C. or A.I.S.I. specifications.

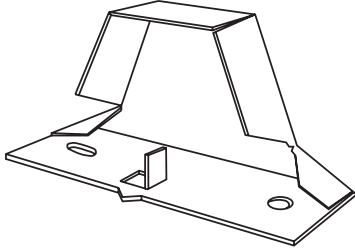
GENERAL INFORMATION – Product Checklist

Central Seam Plus 24" or 18" Panel • 24 or 22 gauge • Factory-applied mastic • Pre-punched  24" ○ 18" ○	2" Sliding Clip, Low  CL2122 ○ 2" Sliding Clip, High  CL2124 ○
Eave Plate, Low  CL7600 ○	Eave Plate, High  CL7616 ○
Rake Support, Low  CL7710 ○	Rake Support, High  CL7720 ○
Bearing Plate Standard  CL7500 ○	

**Total clip movement should be calculated for each project based on the anticipated temperature differential of the area in which the project is located.

** Floating clips have a maximum of 1" movement each direction. Articulating clips have a maximum movement of 1 1/4" each direction. The recommended panel run length is less when the system is installed over bar joist sub-framing.

Inside Closure



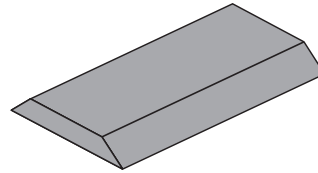
- 18-gauge Galvalume
- For use at eave

CL426 ○

Tape Sealer – Minor Rib
Pre-Cut Beveled

7/32" x 1 3/8" x 4"

- Used to fill void at minor ribs of the panel at the eave and valleys
- 144 Pieces per carton



CL512A ○

Tape Sealer

- Used at the eave plate, eave strut, outside closures, endlaps and trim connections
- Used at valleys and roof curbs

Tri-Bead
3/16" x 7/8" x 26'

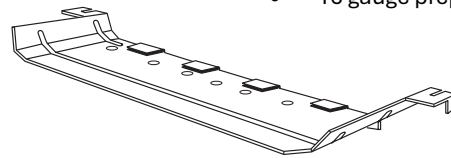
CL504A ○

Triple Bead
3/16" x 2 1/2" x 20'

CL502A ○

Back-up Plate

- For use at endlaps and at the ridge over hard board insulation
- Pre-punched
- 16 gauge prepainted

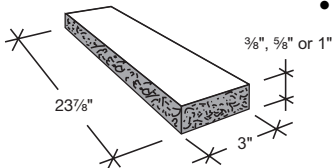


CL7760 (24") ○

CL7769 (18") ○

Thermal Spacer

- Polystyrene block used to increase the insulation capacity along the purlins
- Also available for 18" panels



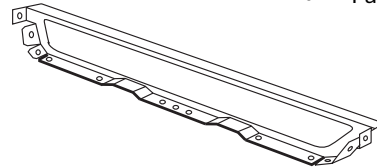
CL575 (1") – 23 7/8" ○

CL576 (5/8") – 23 7/8" ○

CL577 (3/8") – 23 7/8" ○

Outside Closure
(24" or 18")

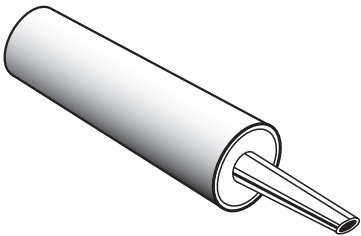
- For use at ridge, or high eave
- 24 gauge
- Painted to match roof color



CL430 (24") ○

CL432 (18") ○

Tube Sealant



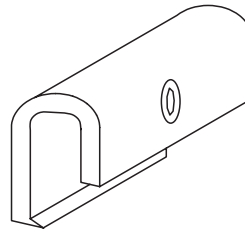
*Call to specify color

MRS10 (Color) ○

MRS10CLEAR ○

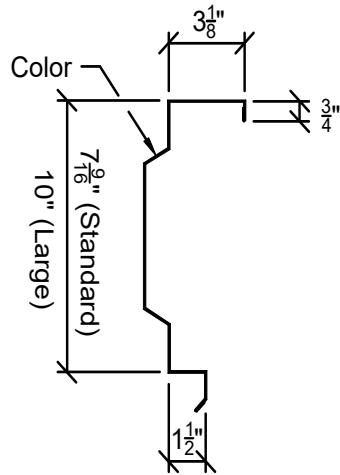
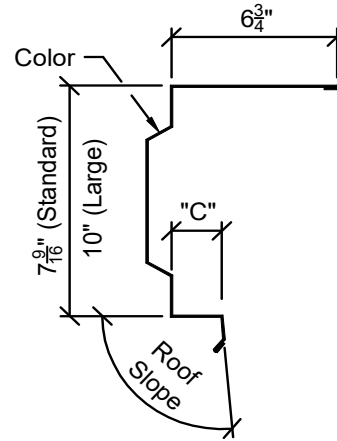
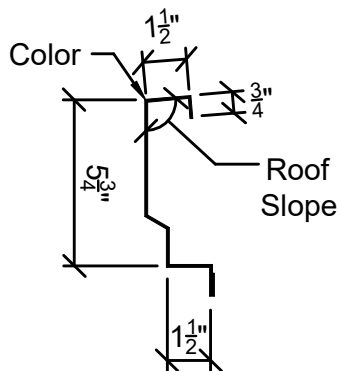
Wind Clamp

- Use at clip locations to provide additional panel uplift capacity.
- **Clamp usage to be determined by a registered professional engineer.**

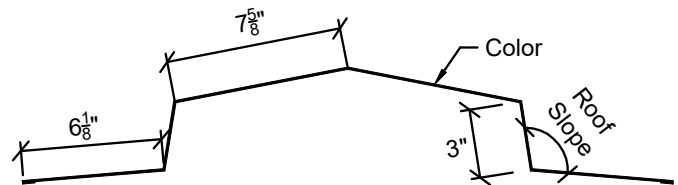
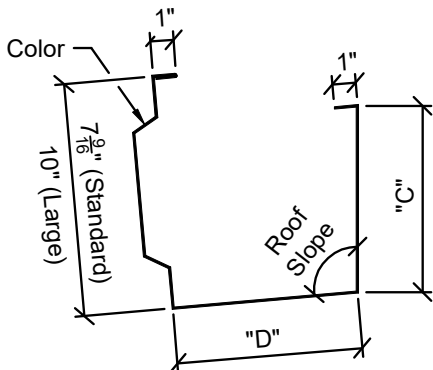


CL569 ○

Contoured Rake Trim

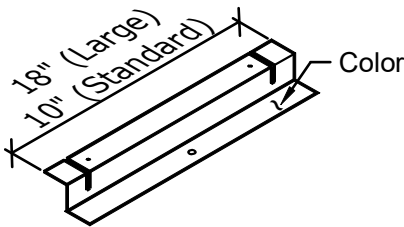
RA3 (Standard) ☐RA4 (Large) ☐Contoured High Side Eave Trim
Specify Roof PitchHI3 (Standard) ☐HI4 (Large) ☐Contoured Eave Trim
Specify Roof PitchET2 ☐Ridge Flashing
Specify Roof Pitch

- For use without ventilator 24" Peak purlin spacing

RC1 ☐Contoured Gutter
Specify Roof PitchGU3 (Standard) ☐GU4 (Large) ☐

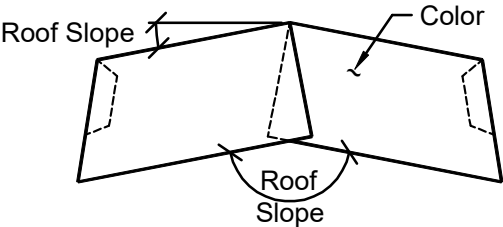
Gutter Strap

- GS3 Larger Gutter Strap does not ship with prepunched holes or slots



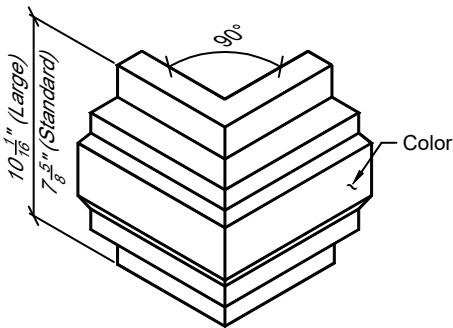
CL246 (Standard) ○
GS3 (Large) ○

Ridge End Cap



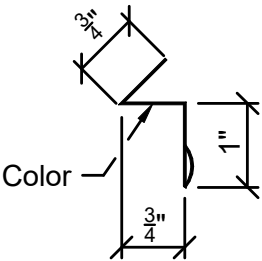
REC1 ○

Contoured Corner Box



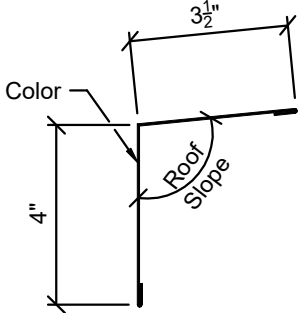
OCB1 ○
OCB2 ○

Rake Slide



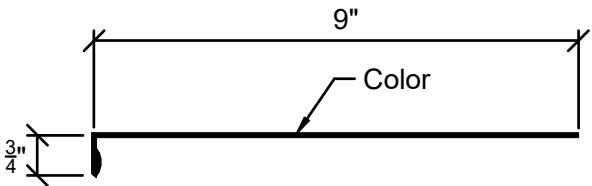
SSRS ○

Simple Eave Trim



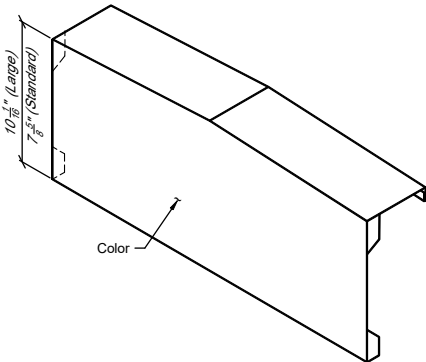
SSPC ○

Variable Termination



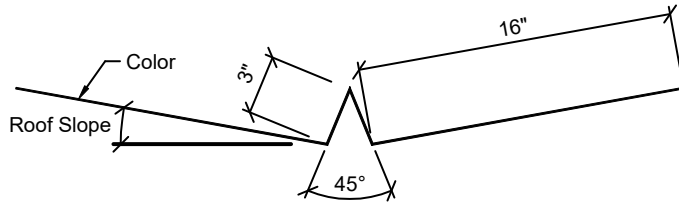
SSVT ○

Peak Box



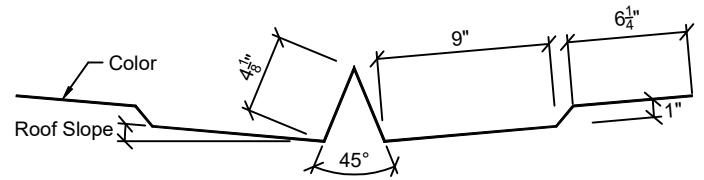
PB3 (Standard) ○
PB4 (Large) ○

Low Valley



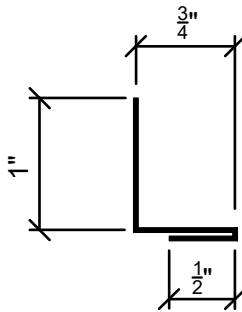
SSLVAL ○

High Valley



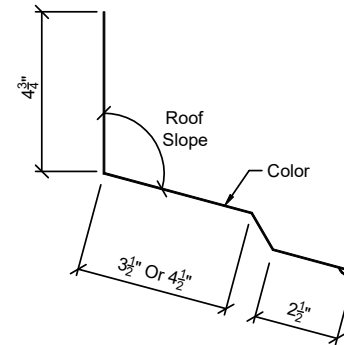
SSHVAL ○

Parapet Rake Cleat



SSPRC ○

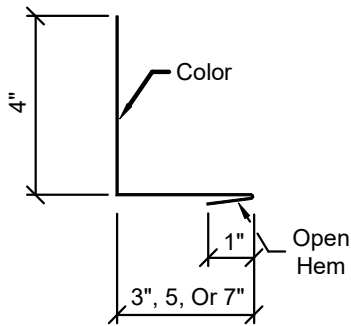
Parapet High Side Flash



SSEF3 (3 1/2") ○

SSEF4 (4 1/2") ○

Parapet Rake Flash

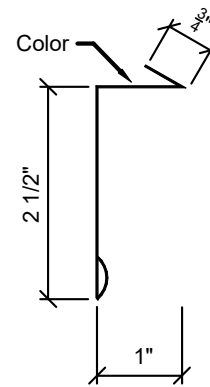


SSSF3 (3") ○

SSSF5 (5") ○

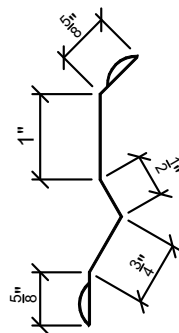
SSSF7 (7") ○

Counter Flash



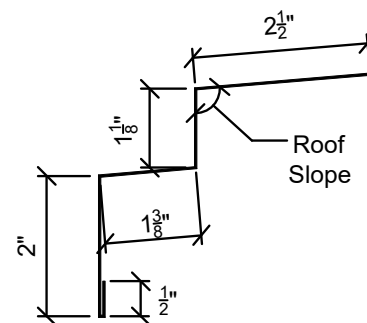
SSCF ○

Alternate Counter Flash



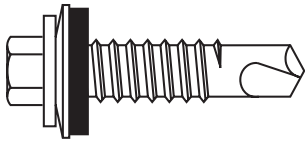
SSACF ○

Offset Panel Cap Trim



SSOPC ○

FSS1

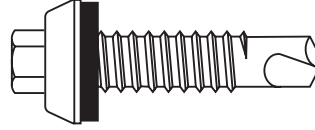


- Clip to purlin with up to 4" insulation thickness
- Eave plate to eave strut
- Inside closure to eave plate or eave strut
- Mid-Slope Fixed Plate to Purlin
- Light Transmitting panel trim

1/4"-14 x 1" Driller
5/16" Hex Washer Head with 5/8" O.D. Washer



FSS2

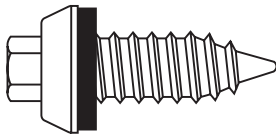


- Panel to eave plate, eave strut, or valley plate
- Rake trim to roof panel
- Outside closure
- Endlap

1/4"-14 x 1 1/4" Long Life Self Driller
5/16" Hex Washer Head with sealing washer
(Long life exterior fastener)



FSS3

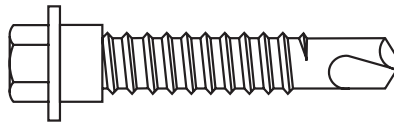


- Use in place of FSS2 and FLL4 at all stripouts

1/4"-14 x 1 1/4" Shoulder Tek 2
5/16" Hex Washer Head, no washer
(Long life exterior fastener)



FSS4

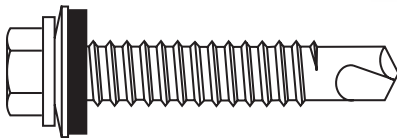


- Rake support to purlin
- Floating eave plate to eave strut

1/4"-14 x 1 1/4" Shoulder Tek 2
5/16" Hex Washer Head, no washer



FSS10

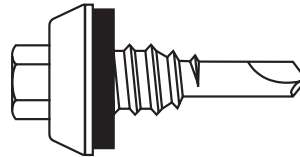


- Clip to Purlin with over 4" insulation thickness

1/4"-14 x 1 1/2" Driller
5/16" Hex Washer Head with sealing washer



FLL4

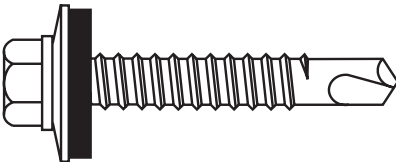


- Ridge and other flashing to outside closure
- Gutter to panel
- Gutter to strap
- Trim to trim connections

1/4"-14 x 7/8" Lap Tek Long Life Self Driller
5/16" Hex Washer Head with sealing washer
(Long life exterior fastener)



FT1

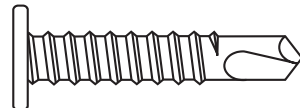


- Clip to joist
- Eave plate to beam

12-24 x 1 1/4" Tek 5
5/16" Hex Washer Head with 5/8" O.D. Washer



FU4



- Support plate to purlins at valley and hip conditions
- Rake angle to purlins

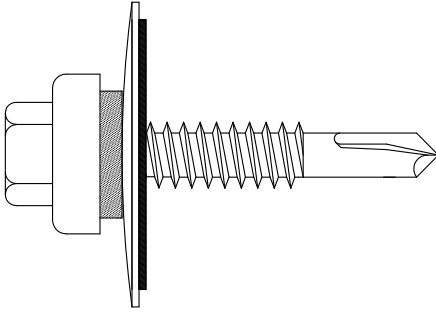


12 x 1" Pancake Head Driller
Pancake Head without Washer



FU8

- Light Transmitting Panel Fastener

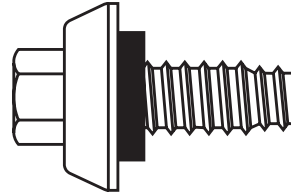


1/4"-14 x 1 1/4" Long Life Self Driller
5/16" Hex Washer Head with 1 1/8" O.D. Washer



FU10

- Special Application Fastener
- Endlap over solid deck or rigid insulation



1/4"-14 x 5/8" Long Life Type B
5/16" Hex Washer Head with Sealing Washer



FU13

- Gutter strap to snow gutter
- Trim to trim connections



1/8" x 3/16" Pop Rivet



FU14

- Snow gutter to eave plate
- Outside closure to back up angle at hip condition

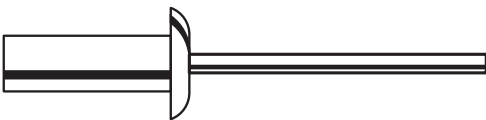


1/8" x 3/8" Pop Rivet



FU15

- Dekstrip to expansion ridge/expansion lap



3/16" x 9/16" Rivet Cendalum
Closed End Rivet



FU17

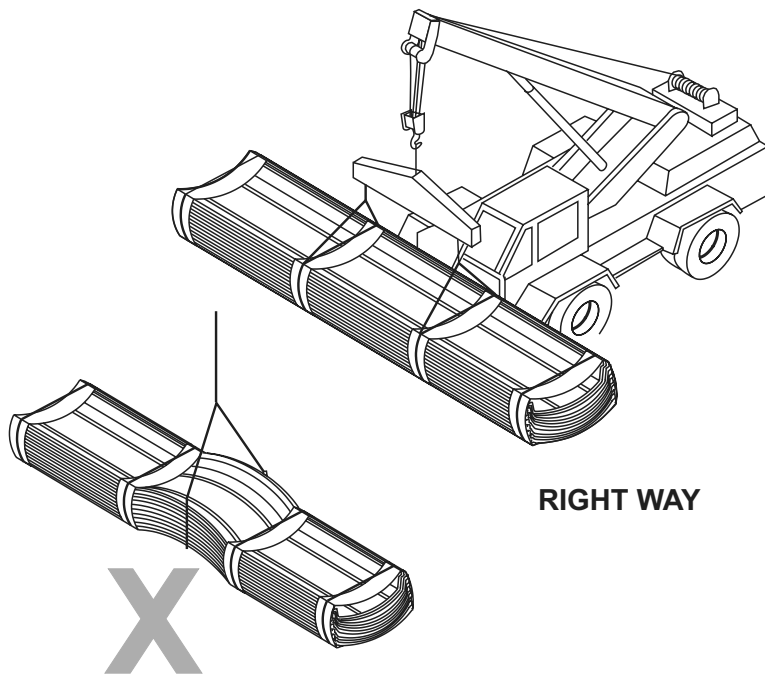
- Dekstrip to expansion ridge/expansion lap



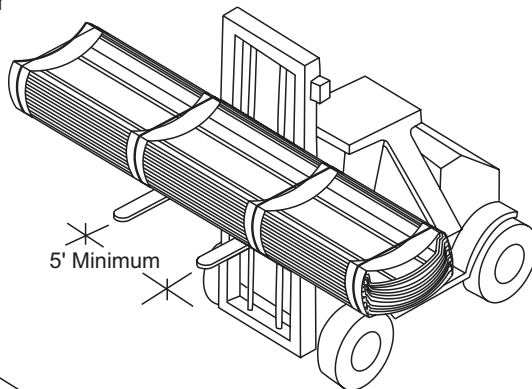
10 x 1/2" Aluminum Grommet Washer



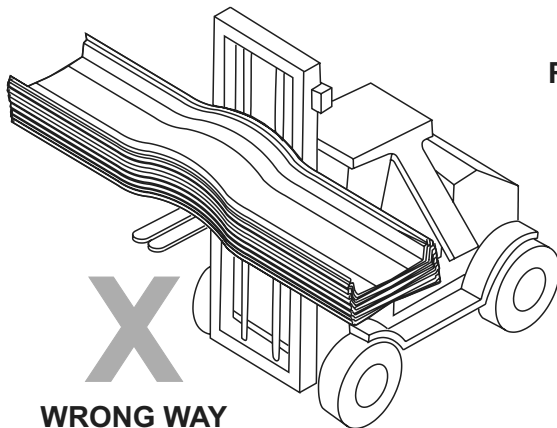
GENERAL INFORMATION – Unloading / Handling



RIGHT WAY

X
WRONG WAY

RIGHT WAY

X
WRONG WAY

UNLOADING

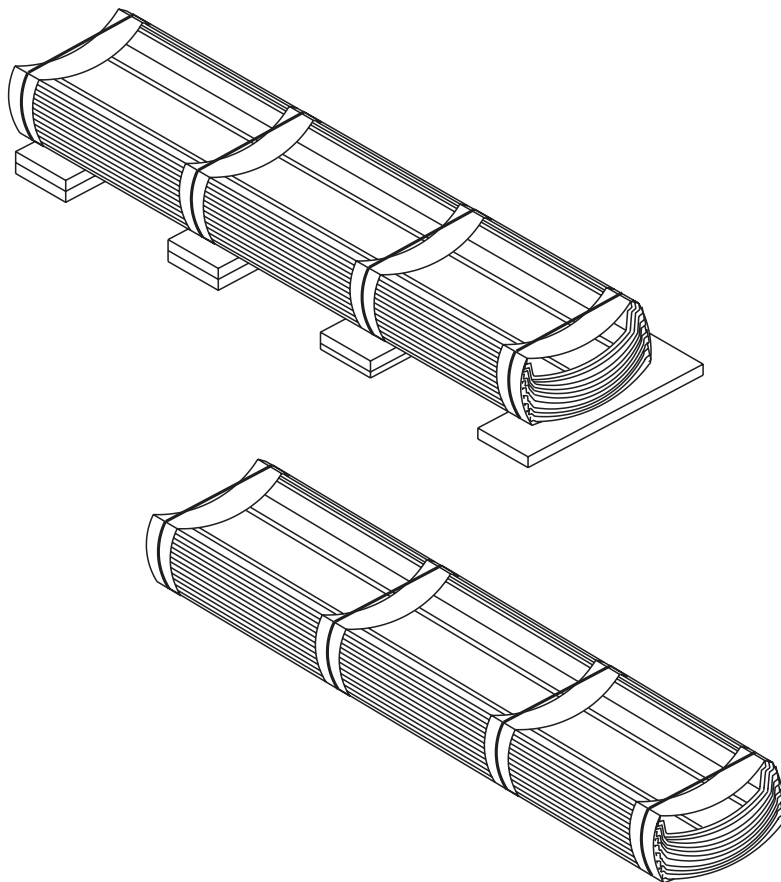
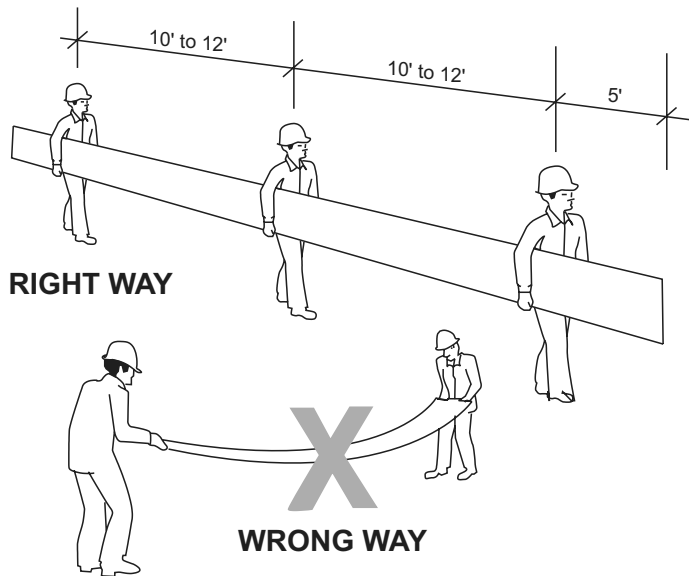
Upon receiving material, check shipment against shipping list for shortages and damages. The manufacturer will not be responsible for shortages or damages unless they are noted on the shipping list.

Each bundle should be lifted at its center of gravity. Where possible, bundles should remain banded until final placement on roof. If bundles must be opened, they should be retied before lifting.

When lifting bundles with a crane, a spreader bar and nylon straps should be used. **NEVER USE WIRE ROPE OR CHAIN SLINGS. THEY WILL DAMAGE THE PANELS.**

When lifting bundles with a forklift, forks must be a minimum of five feet apart. Do not transport open bundles. Drive slowly when crossing rough terrain to prevent panel buckling. **DO NOT DENT OR PING PANELS.**

CAUTION: Improper unloading and handling of bundles and crates may cause bodily injury or material damage. The manufacturer is not responsible for bodily injuries or material damages during unloading and storage.



HANDLING / PANEL STORAGE

Standing on one side of the panel, lift it by the seam. If the panel is over 10' long, lift it with two or more people on one side of the panel to prevent buckling.

Do not pick panels up by the ends.

NOTE: Protective gloves and safety glasses should always be used while handling panels. OSHA safety regulations must be followed at all times.

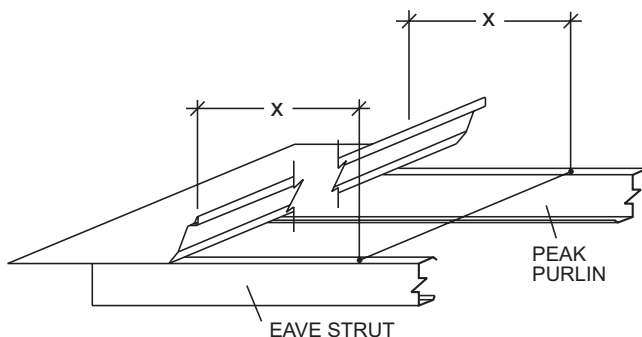
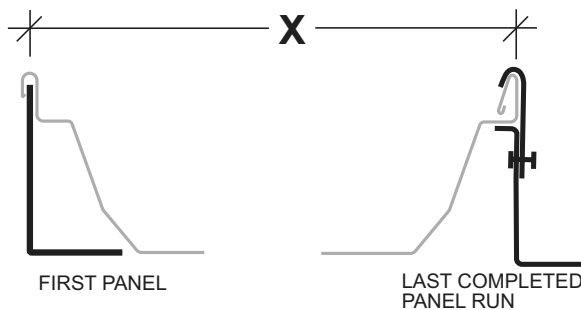
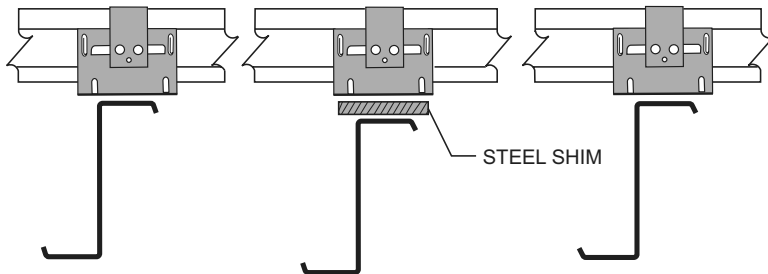
Store bundled sheets off the ground sufficiently high enough to allow air circulation beneath bundle and to prevent rising water from entering bundle. Slightly elevate one end of bundle. Prevent rain from entering bundle by covering with tarpaulin, making provision for air circulation between draped edges of tarpaulin and the ground. **PROLONGED STORAGE OF SHEETS IN A BUNDLE IS NOT RECOMMENDED.** If conditions do not permit immediate erection, extra care should be taken to protect sheets from staining or water marks.

Check to see that moisture has not formed inside the bundles during shipment. If moisture is present, panels should be uncrated and wiped dry, then restacked and loosely covered so that air can circulate between the panels.

BAND ONLY

This method is used on all orders, unless otherwise specified by customer. The panels are banded together, causing them to curl up. This enhances the strength of the bundles. Panels bundled in this manner may be handled by a forklift in lengths to 30'. The forklift should have at least 5' between forks. Lengths in excess of 30' must be lifted utilizing a spreader bar. Special care must be given during handling to avoid damage to the locking edges of the panels.

ERECTION SEQUENCE – Recommended Erection Practices



CORRECTING OUT-OF-PLANE SUBSTRUCTURE

Occasionally a purlin may be encountered that is lower (out-of-plane) than those adjacent to it. When a clip is attached to this purlin, it will go down further than those adjacent to it, distorting the seam. This can cause the next panel sidelap to be difficult to snap together in this area. To compensate for this lower purlin, a steel shim may be placed under the clip to bring it up to the proper height (in plane). This shim should be no thicker than 1/4". If 1/4" is not enough, then structural modification will be necessary.

Avoid "stair-stepping" of the panels at the eave. This will cause problems engaging back up plates at the endlap and ridge.

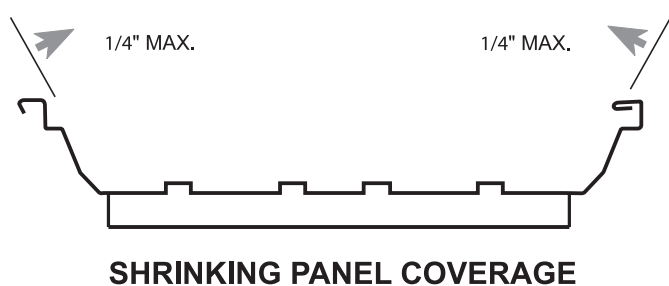
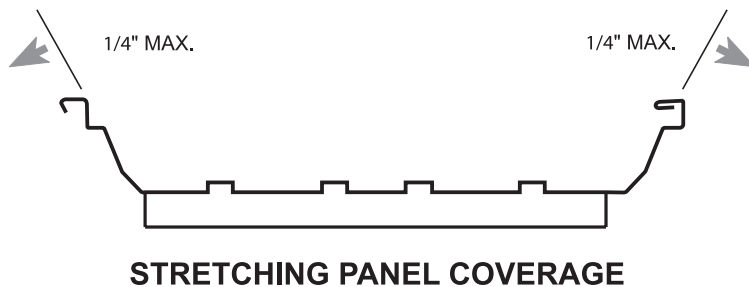
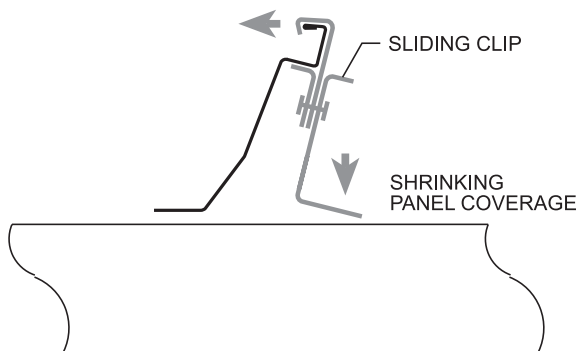
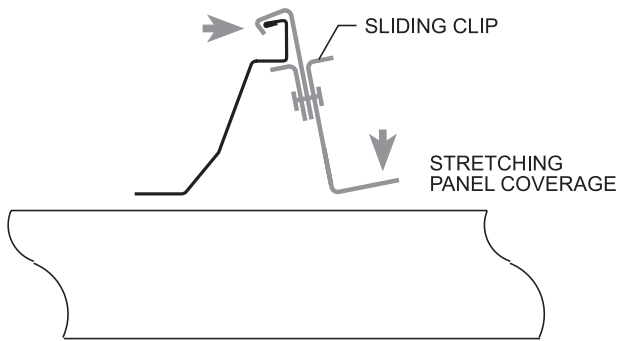
Any "stripped out" fasteners at the endlaps or outside closures should be immediately replaced with FSS3 fastener. Place a 1" long piece of (CL504A) tri-bead tape sealer over the "stripped out" hole before installing FSS3 fastener. This will allow the fastener threads to be coated with tape sealer and provide a good seal.

NEVER ALLOW PANELS TO COME INTO CONTACT WITH LEAD, COPPER, GRAPHITE, GASOLINE OR OTHER HARSH CHEMICALS AS THIS WILL VOID THE GALVALUME WARRANTY.

CHECK ROOF FOR PANEL ALIGNMENT

Check the roof every three or four runs for panel alignment as it is being erected. This can be accomplished by two different means.

1. Measure from the rake support to the seam of the last completed panel run. Take measurements at the ridge, eave, and all end laps.
2. Attach a stringline to the eave plate and ridge purlin, running parallel to the rake support. The stringline should stay ahead of the work and can be moved across the roof as construction progresses. Measure from the stringline back to the last completed panel run. Take measurements at the ridge, eave, and all endlaps.



ADJUSTING PANEL WIDTH

NOTE: Do not adjust panel width more than 1/2" on any panel area.

SLIDING CLIP

To stretch panel coverage, install the clip at the panel endlap or ridge with the base angled away from the panel. As the fastener is installed through the base of the clip and into the purlin, the clip base will rotate down to the purlin causing the top of the clip to move outward, stretching the panel coverage. Install the remainder of the clips as usual.

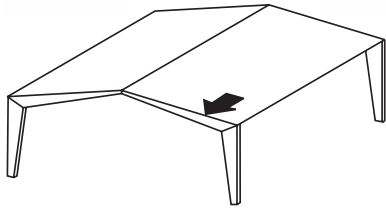
To shrink panel coverage, install the clip at the panel endlap or ridge with the base angled toward the panel. As the fastener is installed through the base of the clip and into the purlin, the clip base will rotate down to the purlin causing the top of the clip to move inward, shrinking panel coverage. Install the remainder of the clips as usual.

BACK-UP PLATES

To stretch panel coverage, bend the sides of the back-up plate out and install at endlap or ridge. Do not bend either side more than 1/4". Install clips as usual.

To shrink panel coverage, bend the sides of the back-up plate in and install at endlap or ridge. Do not bend either side more than 1/4". Install clips as usual.

ERECTION SEQUENCE – Step 1



RAKE SUPPORT

Attach the rake support on top of the rake angle with the proper self-drilling fasteners on 2'-0" centers with a fastener in the first and last prepunched slot. The vertical leg is to be installed square with the eave. Center fasteners in slots.

FASTENER REQUIREMENTS:

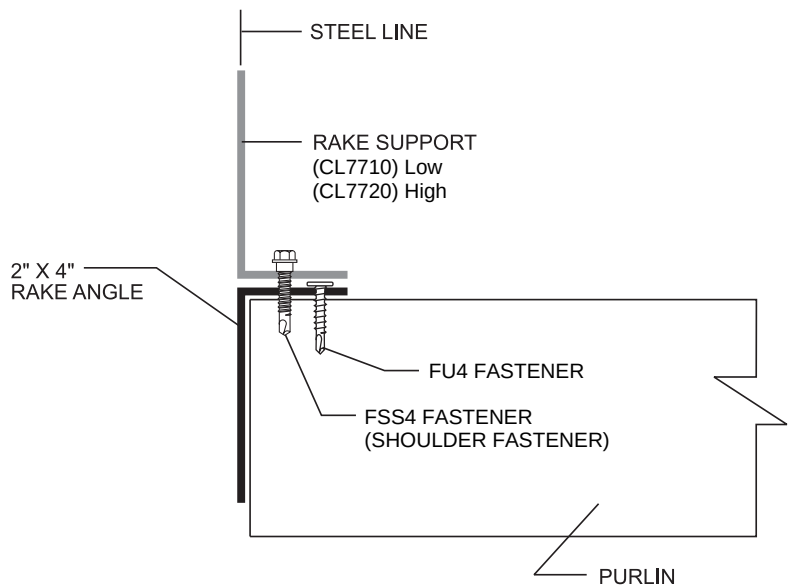
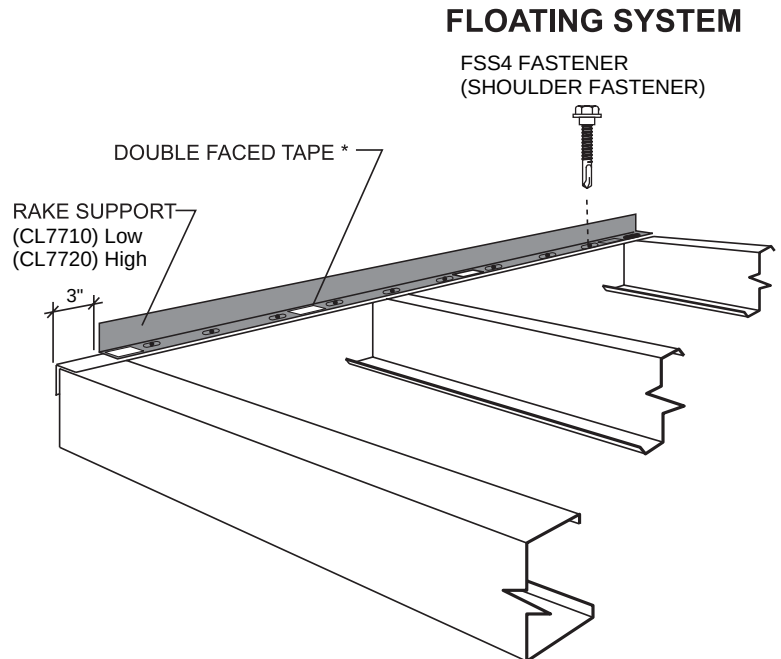
- **Floating System**
Purlins – FSS4 Fastener
Joist – FT1 Fastener

IT IS IMPORTANT THAT THE RAKE SUPPORT IS INSTALLED STRAIGHT AND SQUARE WITH THE EAVE AS IT CONTROLS THE ALIGNMENT OF THE ROOF SYSTEM.

Install 6" pieces of double-faced tape (not by building manufacturer) on 3'-0" centers to the top of the horizontal leg of the rake support. This will help hold the insulation in place at the rake.

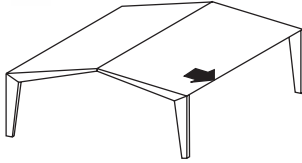
CAUTION (For Floating Systems Only): It is important that shoulder fasteners are installed through the **CENTER** of the slotted holes of the rake support to allow for expansion and contraction.

CAUTION: ALL PRIMARY AND SECONDARY FRAMING SHOULD BE ERECTED, PLUMBED, AND BOLTS TIGHTENED PRIOR TO SHEETING.



*Not by Building Manufacturer

ERECTION SEQUENCE – Step 2



HIGH SYSTEM EAVE

Wall Panels Installed Before Roof

Install high eave plates flush with the outside of the high crowns of the wall panels. Install FSS1 fastener in prepunched slot (1'-0" on center) of the eave plate.

The first eave plate will butt against the rake support. You may install all of the eave plates at this time. Be sure to butt each eave plate end to end without leaving a gap between the plates. Place an 8" length of triple bead tape sealer at each butt joint.

Install simple eave trim or offset panel trim to the top of the eave plates with FU13 fastener. Use three fasteners per 10' piece and four fasteners per 20' piece. Trim must be pulled tight to wall panels before fastening to eave plates.

Lay (CL504A) tri-bead tape sealer across the top of the flat eave trim, flush with the outside edge.

Install double faced tape along the length of the top leg of the flat eave trim. Double faced tape must be upslope from the (CL504A) tri-bead tape sealer.

Wall Panels Installed After Roof

Install simple eave trim to eave strut with FU13 fastener. Use two fasteners per 10' piece and three fasteners per 20' piece.

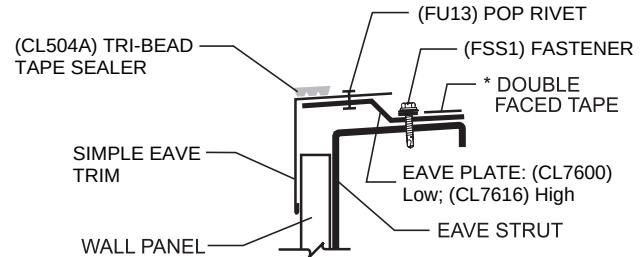
Install high eave plates flush with the outside of the offset panel cap trim. Install FSS1 fastener in each prepunched slot (1'-0" on center) of the eave plate.

The first eave plate will butt against the rake support. You may install all of the eave plates at this time. Be sure to butt each eave plate end to end without leaving a gap between the plates. Place an 8" length of triple bead tape sealer at each butt joint.

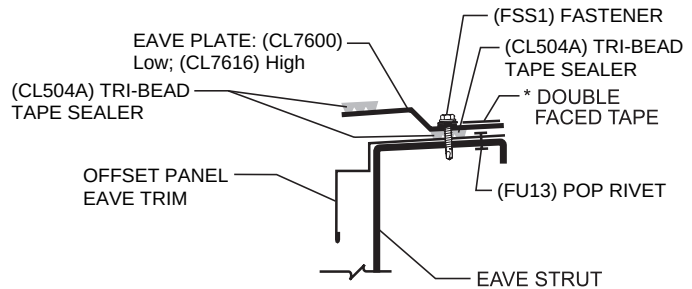
Lay (CL504A) tri-bead tape sealer across the top of the eave plates, flush with the outside edge. Install double faced tape along the length of the bottom leg of the eave plate.

Trim Laps

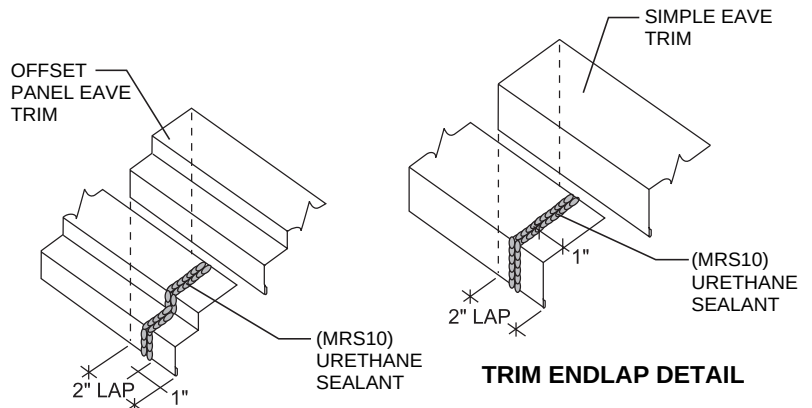
Lap simple eave trim or offset panel cap trim 2". Apply two beads of urethane sealant between the trim pieces, approximately 1" from the end of the bottom piece.



WALL PANEL INSTALLED BEFORE ROOF



WALL PANEL INSTALLED BEFORE OR AFTER ROOF

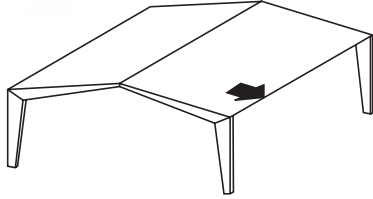


TRIM ENDLAP DETAIL

OFFSET PANEL TRIM ENDLAP DETAIL

*Not by Building Manufacturer

ERECTION SEQUENCE – Step 2 (Continued)



HIGH SYSTEM EAVE / METAL INSIDE CLOSURE

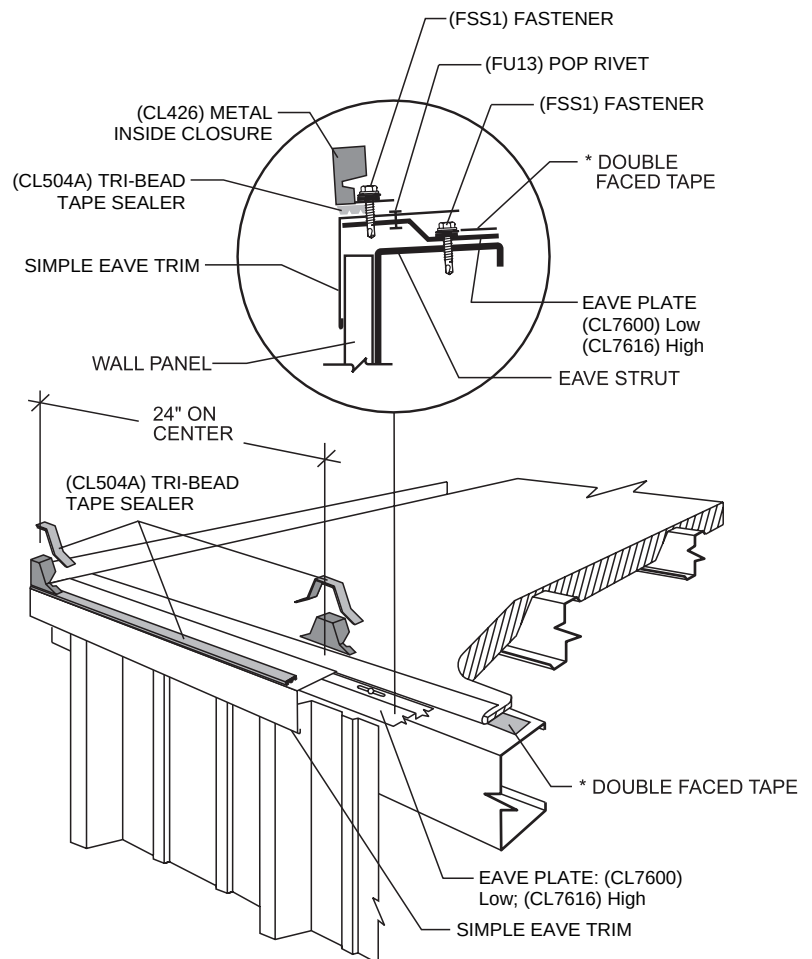
Using FSS1 fastener, attach the first inside closure to the eave plate, locating the face of the inside closure with the downslope edge of the eave plate. **NOTE THAT THE FIRST INSIDE CLOSURE MUST BE FIELD CUT IN HALF TO FILL THE VOID UNDER THE PARTIAL RIB.**

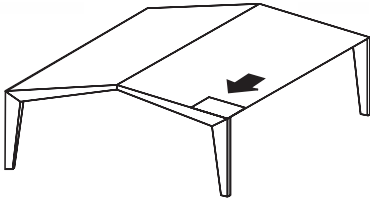
Locate additional closures on 24" centers from the first closure to maintain panel module, attaching each with FSS1 fastener. Install two fasteners per closure. The first fastener should be installed through the slotted hole to allow for any adjustment that may be required. Place (CL504A) tri-bead tape sealer on the top and side of each closure to complete the seal at the eave. These may be pre-taped before installation. **To maintain panel module, metal inside closures must be installed on 24" centers. Measure from tab to tab located on the metal inside closure.**

Roll out insulation from eave to peak, laying the side of the insulation on top of the rake support. The first roll should be 3' wide. This will keep insulation sidelaps 1' from panel sidelaps. Allow approximately 4" of insulation to hang past the double-faced tape (downslope) before sticking the insulation to the double-faced tape. Cut and remove the fiberglass approximately 4" and fold the vapor barrier back over the insulation (upslope).

NOTE: Refer to building erection drawings, bill of materials or shipping list for the type and style of eave trim.

CAUTION: The fiberglass insulation must not interfere with the (CL504A) tri-bead tape sealer which provides a positive seal at the eave.

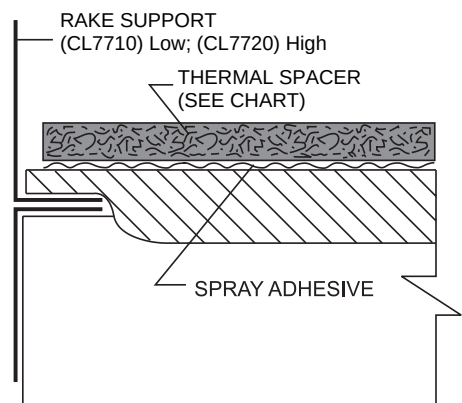
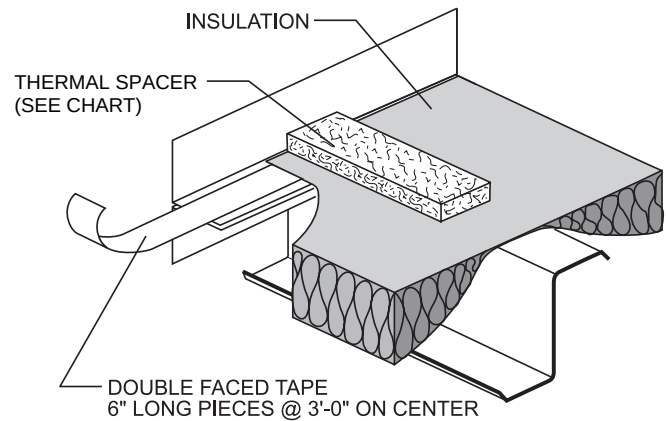
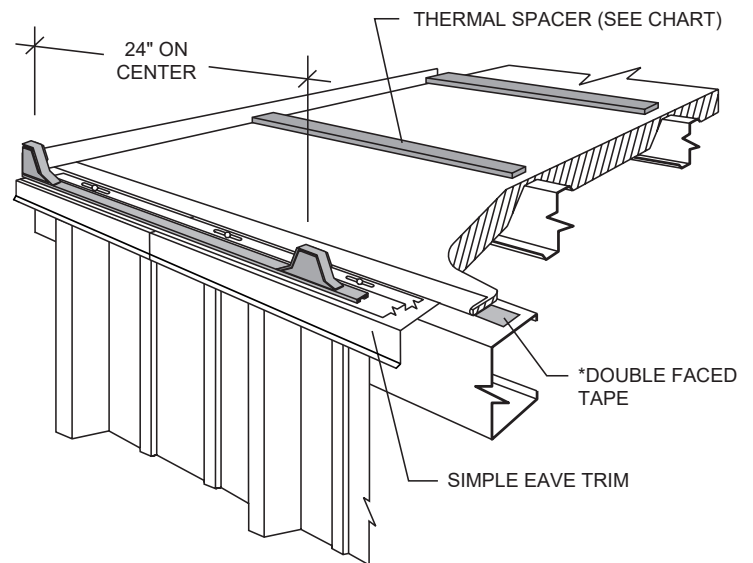


ERECTION SEQUENCE – Step 3**THERMAL SPACER (FOR HIGH SYSTEM ONLY)**

Position the thermal spacer on top of the insulation over each purlin and against the rake support prior to installing the roof panel.

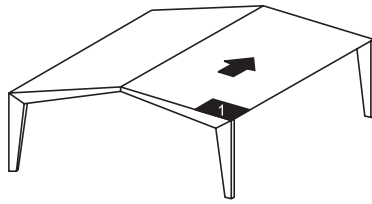
Thermal Spacer Options	
Thickness	Mark
1"	CL575
5/8"	CL576
3/8"	CL577

Using spray adhesive, (not by Ascent) adhere the thermal spacer to the insulation. The thermal spacer increases the insulation capacity along the purlins.



*Not by Building Manufacturer

ERECTION SEQUENCE – Step 4



FIRST PANEL

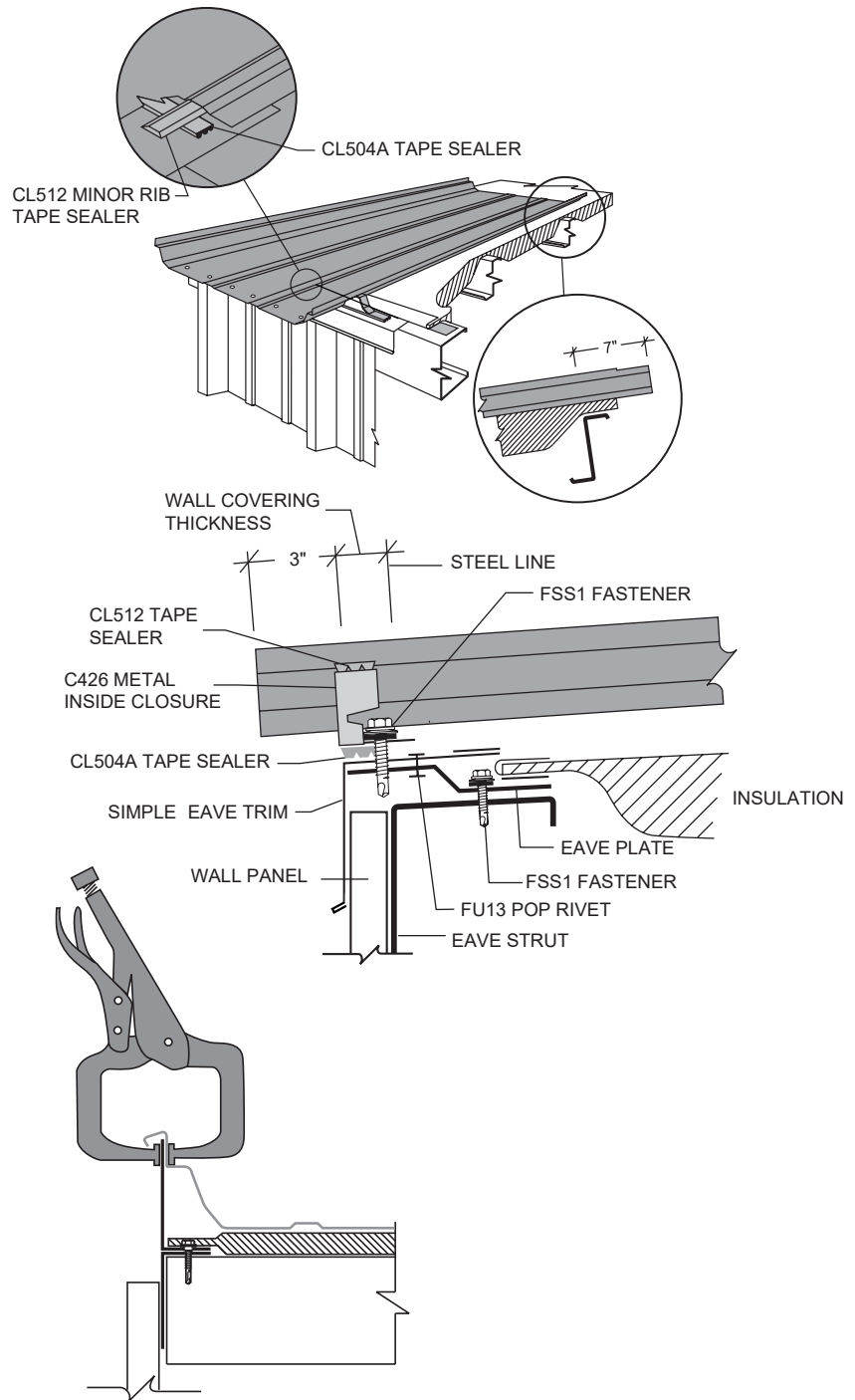
Apply minor rib tape sealer to the underside of the minor ribs of the panel. Position so that this tape sealer will cross the (CL504A) tri-bead tape sealer on the eave plate when the panel is installed.

Position the panel so that it overhangs the eave strut by the thickness of the wall covering plus 3". The upper end of the panel must be 7" beyond the web of the purlin.

PREPUNCHED PANEL HOLES AT THE EAVE ARE INTENDED TO BE PART OF THE GUTTER OVERHANG AND WILL BE HIDDEN BY THE GUTTER. FOR A BUILDING WITH EAVE TRIM, THE PREPUNCHED HOLES WILL BE USED TO ATTACH THE EAVE TRIM TO THE PANEL.

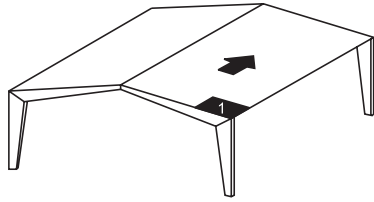
CAUTION: Heavier gauges, striations, embossing and installation over a solid deck minimize oil canning. Industry standard is a minimum 24 gauge material. Striations are standard to reduce oil canning. Oil canning is not a cause for rejection.

Lay the female lip of the panel over the rake support. To prevent wind damage, secure the female lip to the rake support with a "C" clamp or temporary fasteners. Fasteners must go through rake support (FSS2 fastener). The panel will not be fastened permanently to the rake support until the rake trim is installed.



*Not by Building Manufacturer

ERECTION SEQUENCE – Step 4 (Continued)



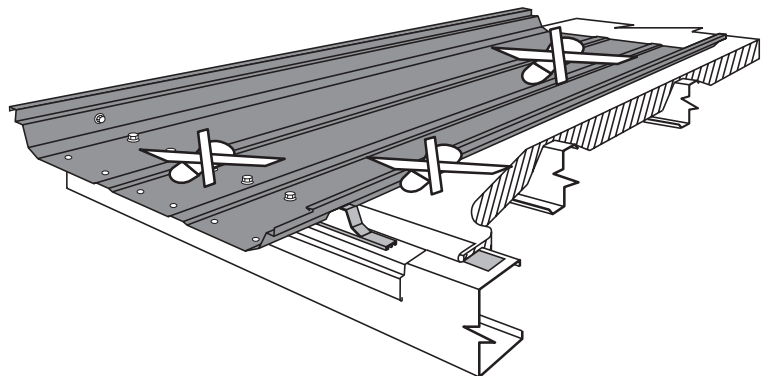
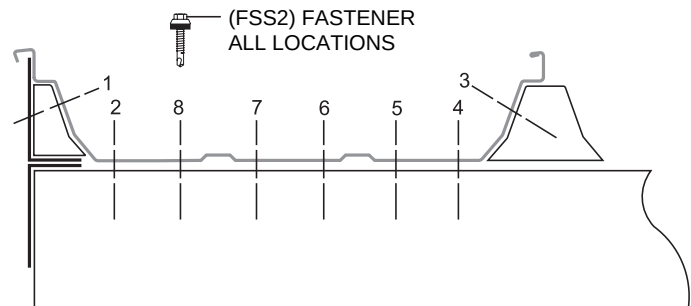
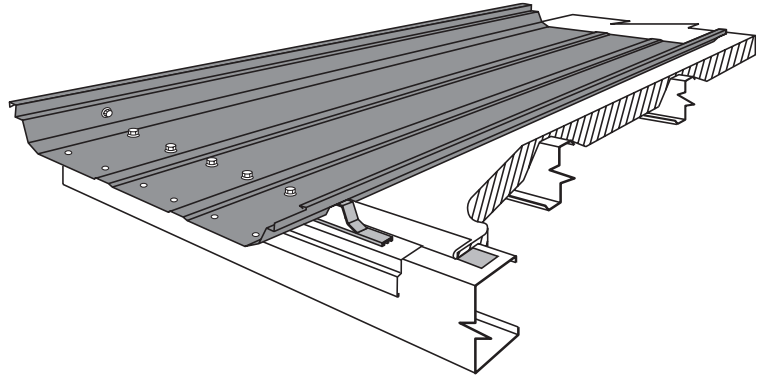
FIRST PANEL (Continued)

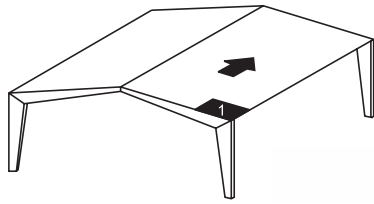
Attach the panel to the eave strut and metal inside closures with FSS2 fastener. Eight fasteners are required at this location.

NOTE: IT IS ESSENTIAL THAT THE ERECTOR MAINTAIN A 24" MODULE AT THE EAVE, WITH THE PROPER INSTALLATION OF THE INSIDE CLOSURES AND BY INSTALLING FASTENERS IN THE PROPER SEQUENCE.

CAUTION: Do not, under any circumstance, step on the panel at the seam or at the panel ends until the adjacent side, end panels or eave fasteners are fully attached. The roof panel may not support the weight of a man at these locations and could affect panel module.

CAUTION: The roof should be swept clean of any drill shavings at the end of each day to prevent rust.



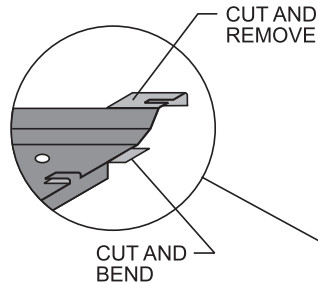
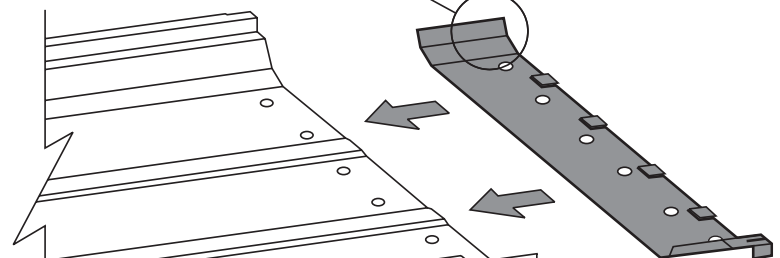
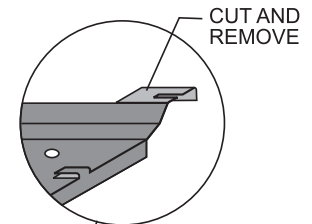
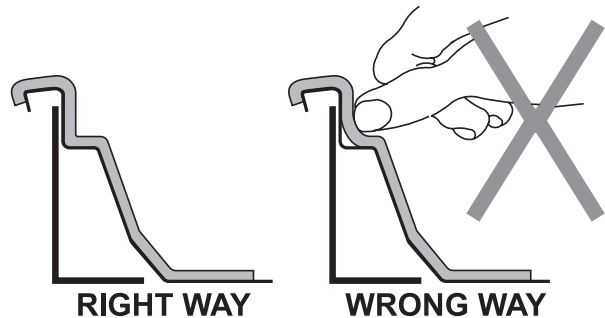
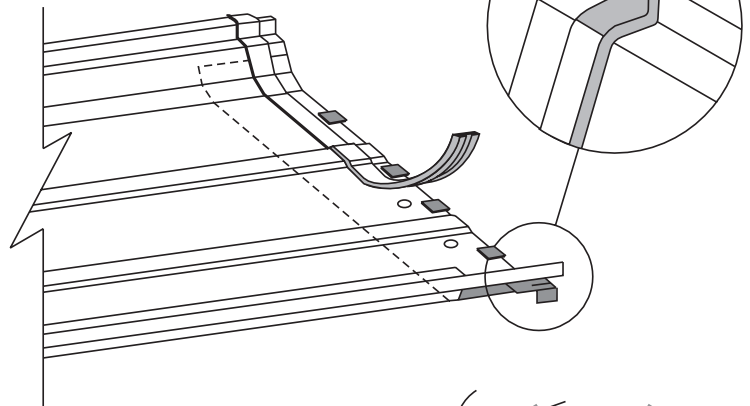
ERECTION SEQUENCE – Step 5**BACK-UP PLATE**

Slide a CL7760 (24") or CL7769 (18") back-up plate onto end of panel; make sure the teeth on top of the back-up plate are on top of the panel. Visually check to see that the holes in the panel align with the holes in the back-up plate.

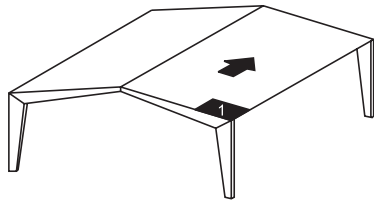
NOTE: All back-up plates on first panel run will require field modification to avoid fouling rake support.

Place (CL504A) tri-bead tape sealer over the entire width of the panel. It must be centered directly over the pre-punched holes, following the panel configuration.

CAUTION: Forcing the tape sealer back into the corners will lessen the thickness of the tape sealer where it is needed most.

FIELD MODIFY
(FIRST RUN ONLY)**LOW SYSTEM****HIGH SYSTEM**(CL504A) TAPE
SEALER ON
MALE LEG**RIGHT WAY****WRONG WAY**

ERECTION SEQUENCE – Step 6



CLIP INSTALLATION

Before installing the first clip, clamp the male side of the panel to the side of the back-up plate with a pair of locking pliers. This will help maintain panel module at the endlaps.

Install a clip on the male leg of the panel at the endlap. This should be the first clip installed as it controls the 24" module for the remainder of the panel. Install clips on all remaining purlins.

FASTENER REQUIREMENTS:

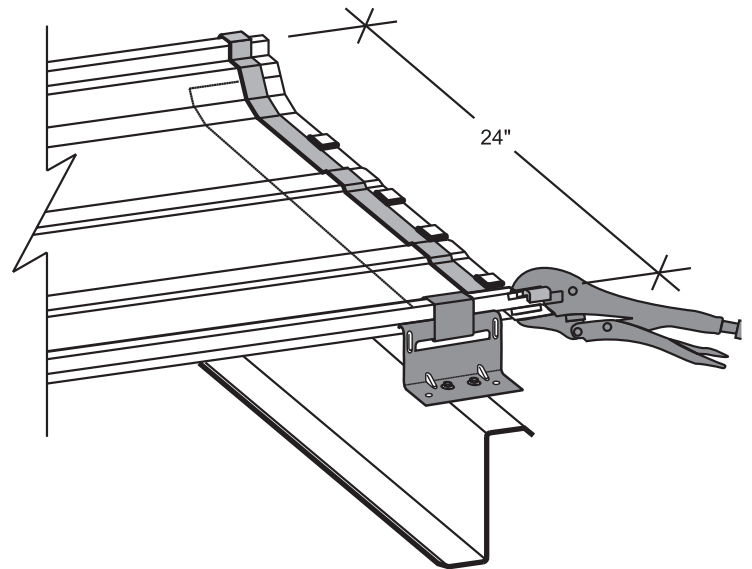
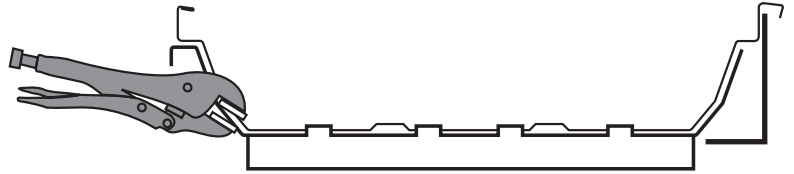
- **Purlins** – FSS1 Fastener
- **Joists** – FT1 Fastener
(Two fasteners per clip)

CAUTION: For UL 90 Roofs, see page 5 for special requirements.

CAUTION: The panel clip has factory applied mastic in the upper lip. This mastic is compressed when the clip is rotated in place. If, for some reason, a clip must be removed, a new clip must be used.

IMPORTANT: As each clip is installed, maintain a 24" panel module.

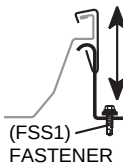
NOTE: The floating clip is designed so it can only be properly seated when the upper portion of the clip (the tab) is centered on the base.



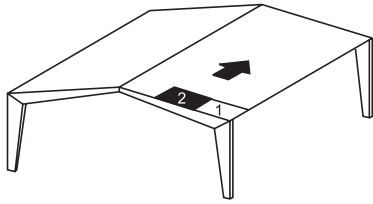
- Position the clip over the male leg of the panel as shown, and rotate clip downward.



- With the upper clip firmly seated, position the base firmly against the purlin flange.



- When properly positioned, the vertical legs of the upper and lower sections of the clip will be pointed upward, as shown.

ERECTION SEQUENCE – Step 7**ENDLAP PANEL**

NOTE: Step 7 applies only where more than one panel is used in a single slope.

Position female lip of upper panel over rake support, while holding male side of panel up away from the tape sealer. Using an awl, align the hole nearest the female side of the top panel with the corresponding hole in the lower panel and the back-up plate.

Once this is accomplished, rotate the male side of the upper panel down to rest on the locking pliers.

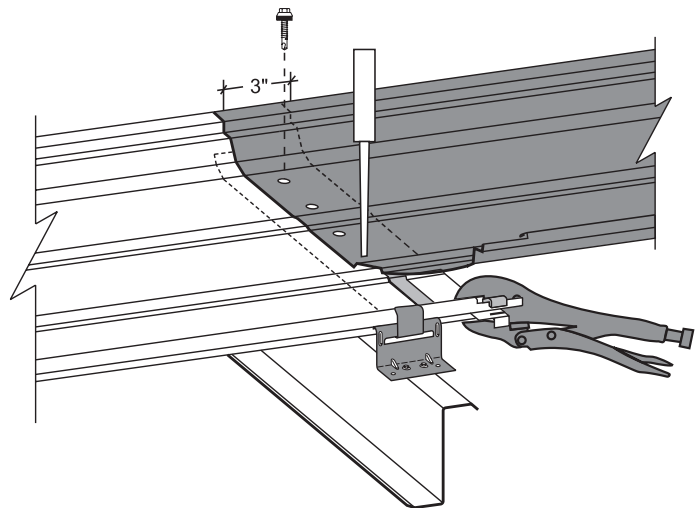
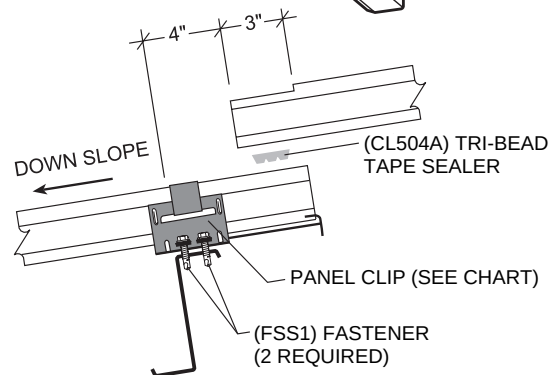
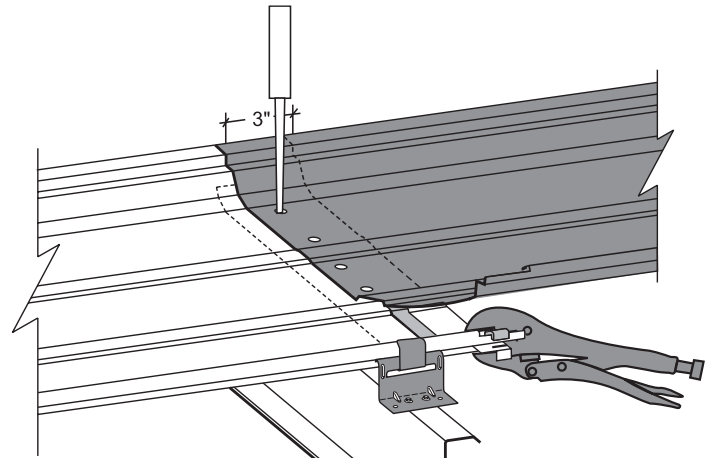
Make sure the panel notches are aligned.

Remove awl and insert in the middle hole nearest the male leg. Install FSS2 fastener in the hole by the female leg.

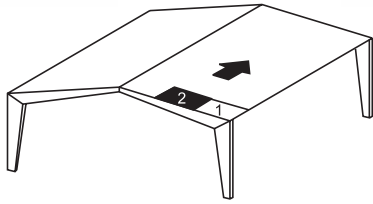
PANEL CLIP OPTIONS

CLIP TYPE	HIGH	LOW
Sliding	CL2124	CL2122

CAUTION: The roof should be swept clean of any drill shavings at the end of each day to prevent rust.



ERECTION SEQUENCE – Step 8

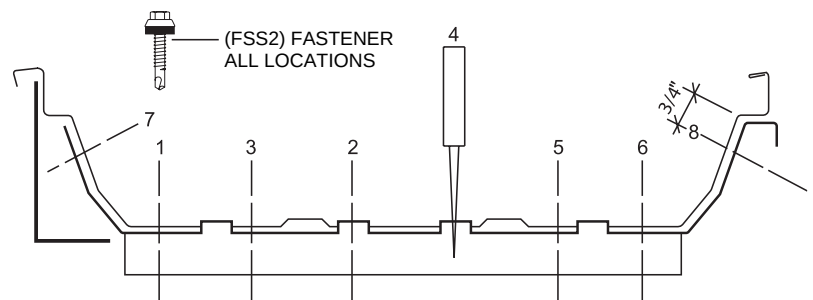
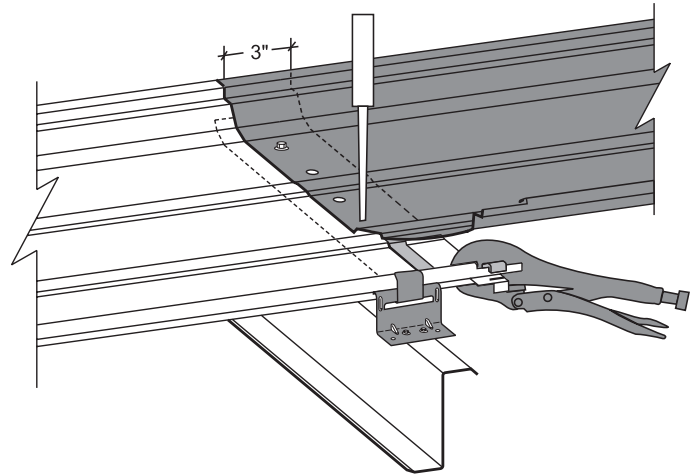


STANDARD ENDLAP

NOTE: Step 8 applies only where more than one panel is used in a single slope.

All holes in the upper and lower panels and the back-up plate should now be aligned. Make sure that the panel notches are aligned.

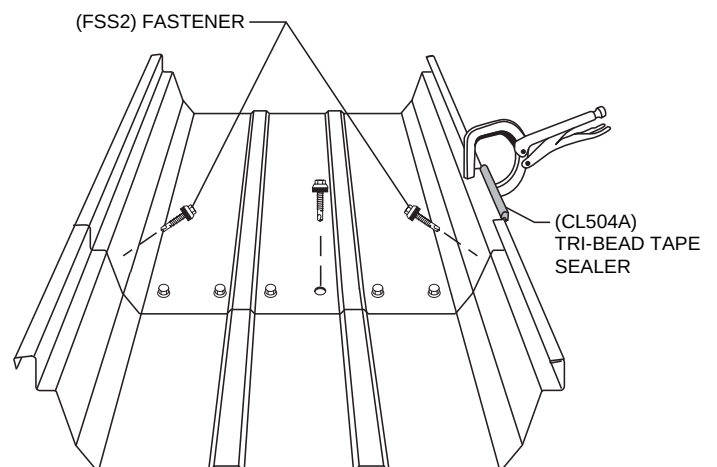
Install FSS2 fastener in sequence 2 and 3. Remove locking pliers and install remaining fasteners in sequence 4, 5, 6, 7, 8.

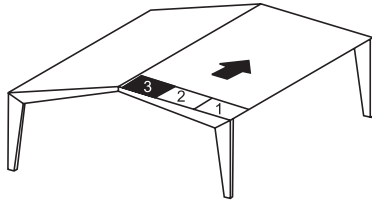


FASTENER SEQUENCE
FIRST RUN - ENDLAP

APPLY (CL504A) TRI-BEAD TAPE SEALER OVER THE NOTCHED PORTION OF THE MALE LEGS.

Repeat the endlap procedures as required for each panel until the ridge or high eave is reached.



ERECTION SEQUENCE – Step 9**RIDGE PANEL**

At the ridge, install a back-up plate as in Step 5. The back-up plate is necessary to maintain panel module.

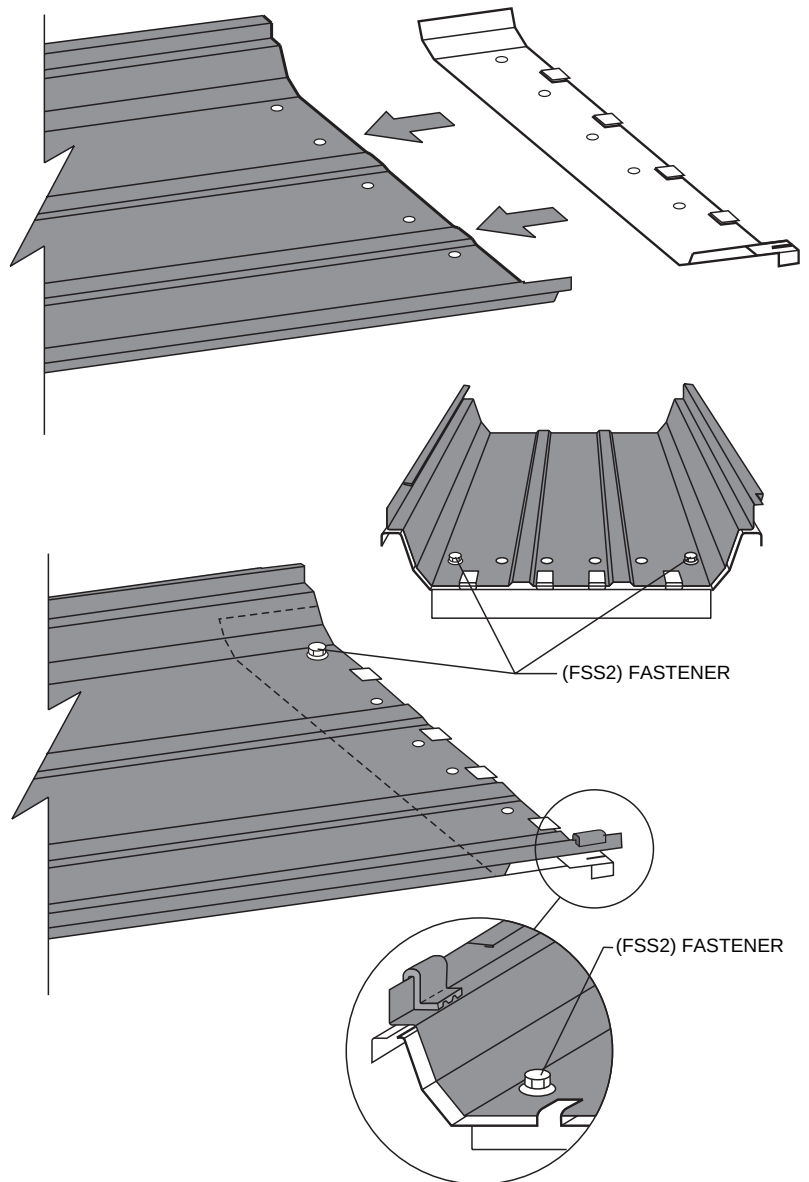
Temporarily fasten the panel to the back-up plate with FSS2 fastener in the prepunched hole adjacent to each panel rib.

At the ridge, install (CL504A) tri-bead tape sealer centered 1-1/2" from end of panel, which is also centered over prepunched holes. Be sure to place (CL504A) tri-bead tape sealer across profile of the male leg of panel.

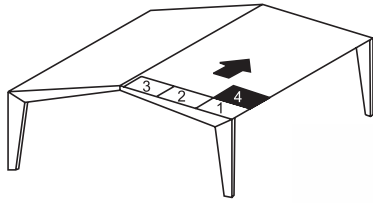
DO NOT INSTALL TAPE SEALER ACROSS PANEL AT RIDGE AT THIS TIME.

Install clips on ridge panel as in Step 6.

CAUTION: Placing the tape sealer over the male leg of the panel is important. Without it, water could be driven behind the outside closure by a strong wind.



ERECTION SEQUENCE – Step 10



SUBSEQUENT RUNS EAVE

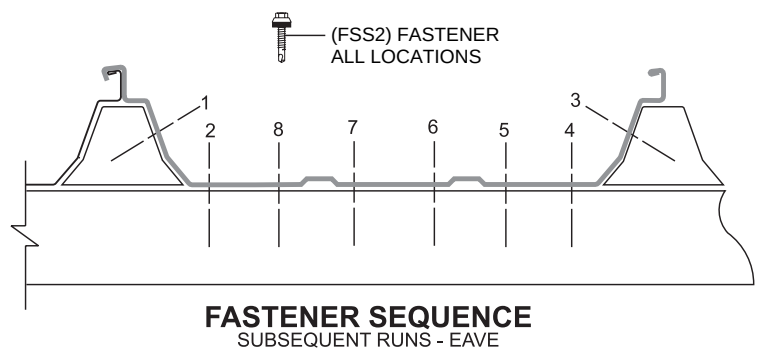
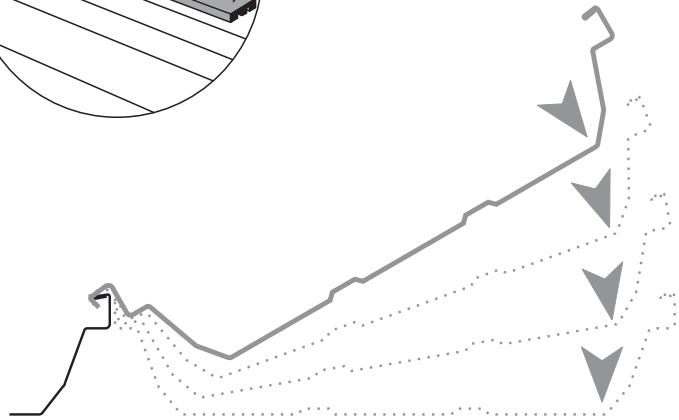
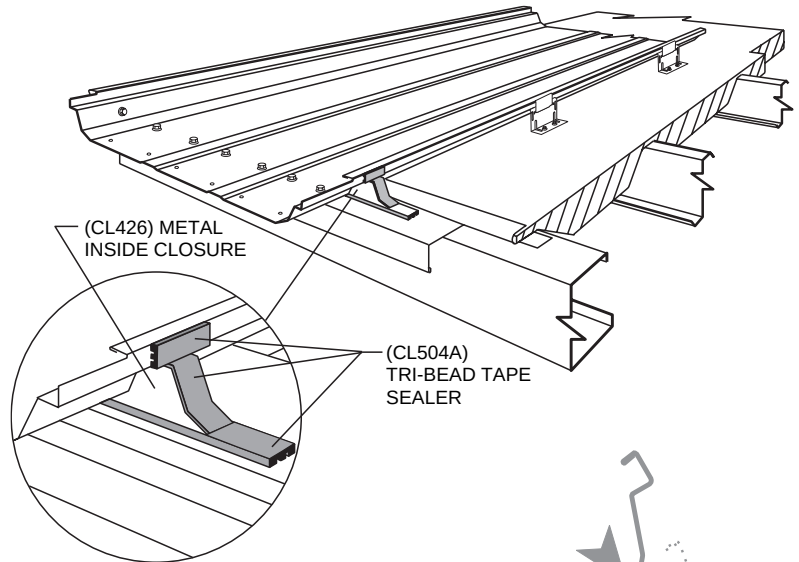
Apply tape sealer to the male leg of the first panel run directly over the inside closure.

This will prevent water infiltration through the end of the seam. Install the next run of insulation and another inside closure using FSS2 fastener. The second run of roof is now ready to install.

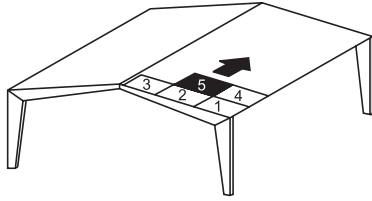
Holding the male side of the next panel up, lay the female lip on top of the male leg of the adjacent panel and align it flush at the eave. Rotate the panel down, visually checking that the female lip is engaged onto the male leg of the adjacent panel along its entire length. **IF THE PANEL MUST BE RAISED FOR FURTHER ALIGNMENT, CARE SHOULD BE TAKEN TO AVOID PULLING THE FACTORY APPLIED MASTIC FROM THE FEMALE LIP.**

Install FSS2 fastener at eave in the recommended sequence. Eight fasteners are required at this location.

CAUTION: The roof should be swept clean of any drill shavings at the end of each day to prevent rust.



ERECTION SEQUENCE – Step 11



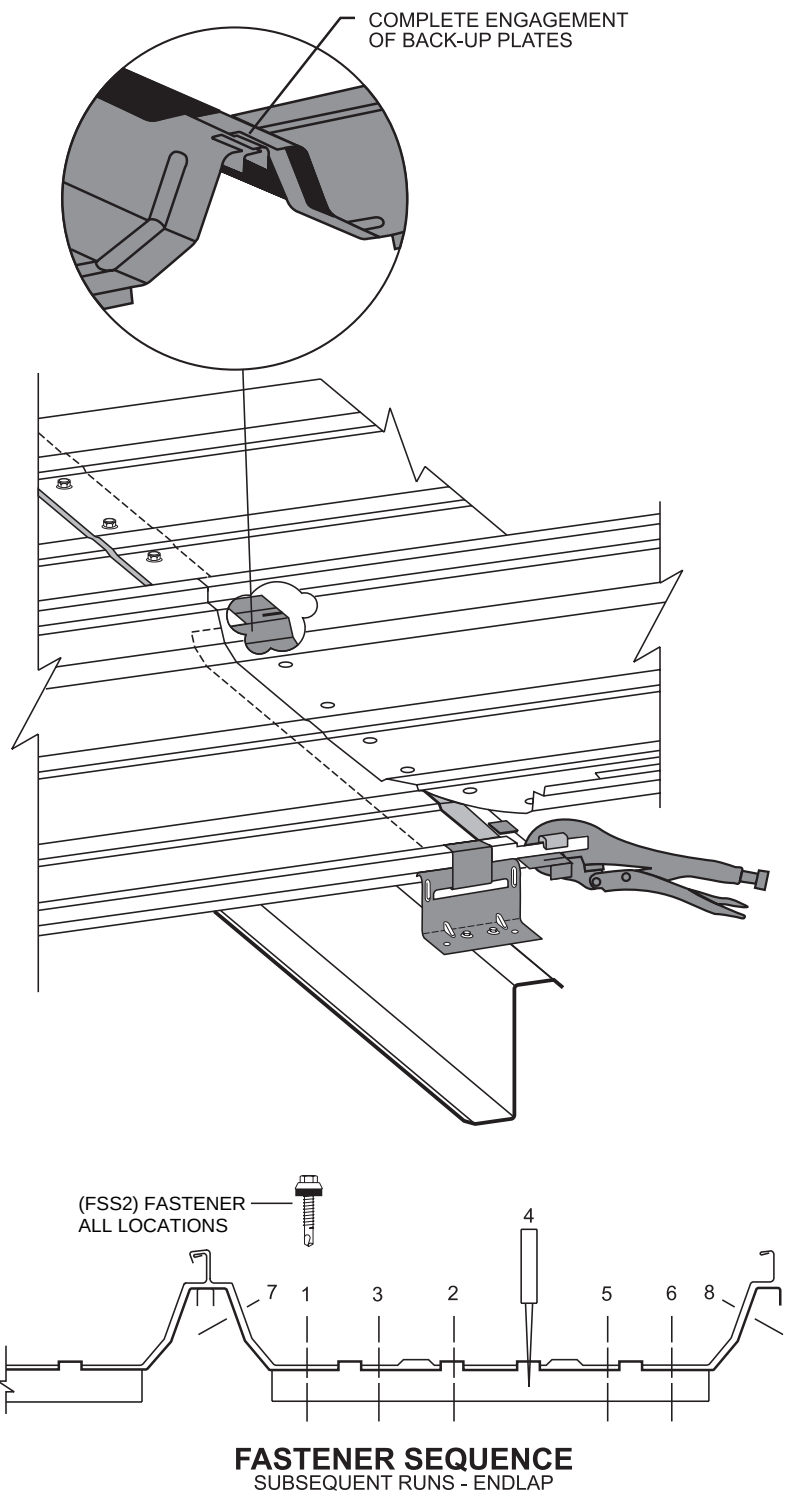
SUBSEQUENT RUNS ENDLAP

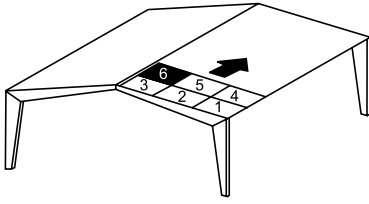
Install back-up plate and tape sealer as in Step 5. However, on this and all subsequent runs, care must be taken to engage the tab on the side of the back-up plate into the slot of the adjacent back-up plate. This procedure will assist in maintaining a 24" panel module.

Install clips as described in Step 6.

Install upper panel as described in Steps 7 & 8.

Repeat the endlap procedures as required for each panel until the ridge is reached.



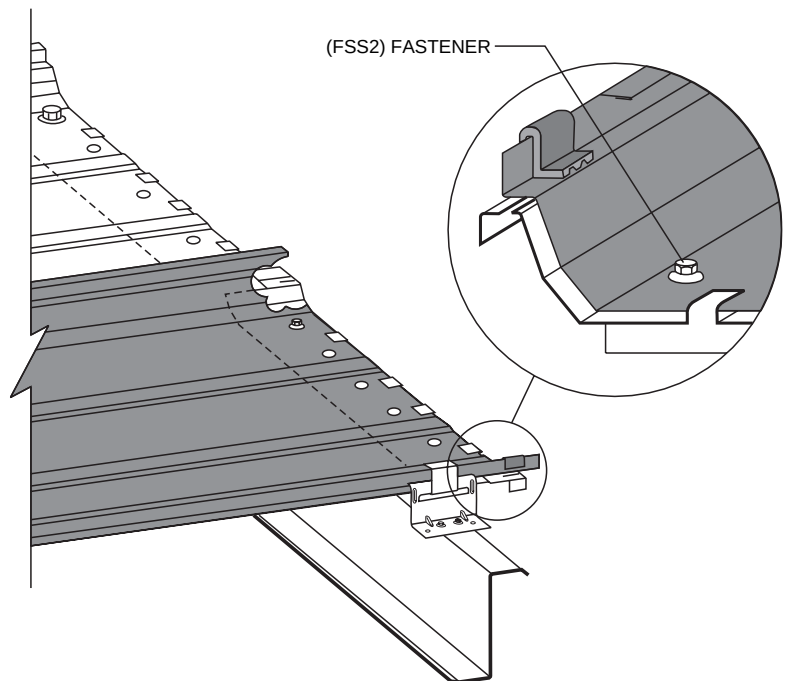
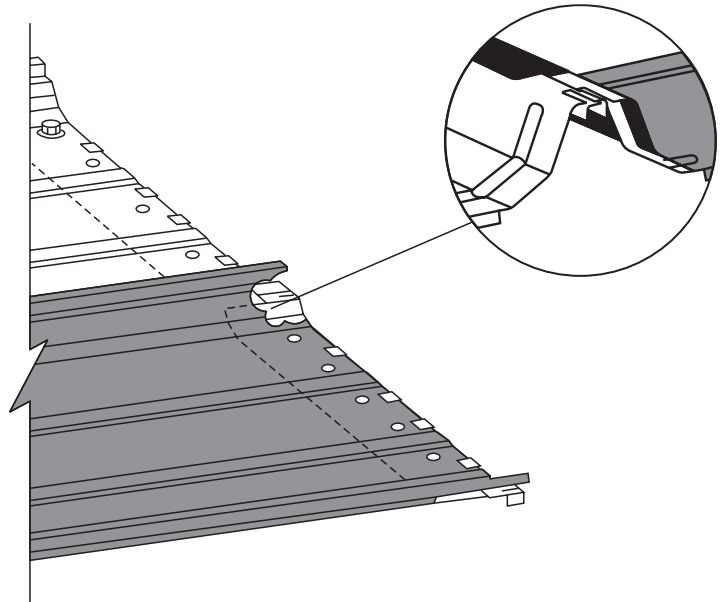
ERECTION SEQUENCE – Step 12**SUBSEQUENT RUNS RIDGE**

Install back-up plate, taking care to engage the tab on the side with the slot on the adjacent back-up plate.

Install temporary FSS2 fastener and (CL504A) tri-bead tape sealer as described in Step 9.

Install clips as described in Step 6.

CAUTION: Installing tape sealer to the male leg is important without it, water could be driven behind the outside closure by a strong wind.



ERECTION SEQUENCE – Step 13

SEAMING PANEL SIDELAPS

NOTE: The specific seamer you rent may be different than the one shown in this guide. Follow all directions provided by the seamer rental company you select. An approved list of seamer vendors can be found on our website.

The seamer comes in a specially designed box accompanied by a field manual and a hand seaming tool.

READ THE SEAMER MANUAL THOROUGHLY BEFORE STARTING THE SEAMING OPERATION. FAILURE TO ADHERE TO THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND DAMAGE TO THE SEAMER AND/OR PANELS. THE ERECTOR WILL BE HELD LIABLE FOR ANY COSTS INCURRED FOR REPLACEMENT OR REPAIR.

PRE-SEAMING INFORMATION

1. Locate seamer box. Assemble hand seaming tool.
2. Locate power source and check against power requirements in field manual.
3. Check seams for proper engagement.
4. Clean dirt, debris and excess sealant from seams and panel surfaces to avoid interfering with the seaming operation.
5. Panels do not have to be seamed as they are installed. However, to prevent panel separation by a strong wind, panels should be seamed as soon as possible.

ALL PANELS SHOULD BE SEAMED AT THE END OF EACH DAY.

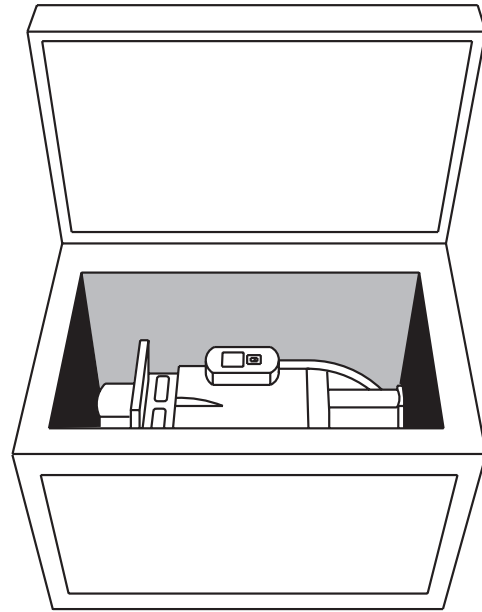
SEAMING OPERATION

To determine the direction of the seaming process, stand at the eave and look upslope. If the roof is being installed from left to right, the seamer will run from ridge to eave. If the roof is being installed from right to left, the seamer will run from eave to ridge.

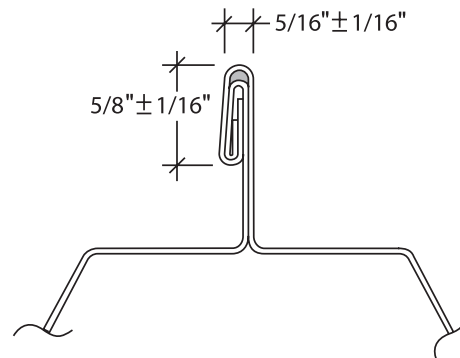
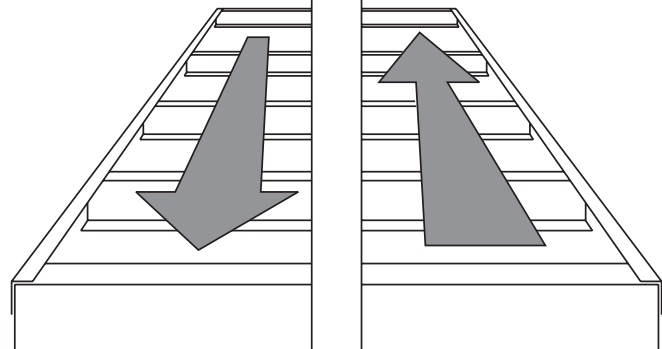
INSPECTION OF SEAM

A visual inspection of the seam should be made to determine if the seam is forming properly. Check seam against the cross section provided. **IF THE SEAMER IS NOT PRODUCING A FINISHED SEAM IDENTICAL TO THE CROSS SECTION PICTURED, STOP AT ONCE AND CALL THE MANUFACTURER.**

CAUTION: The use of any field seaming machine other than that provided by the manufacturer may damage the panels, void all warranties and will void all engineering data.



DIRECTION OF ROOF INSTALLATION → ← DIRECTION OF ROOF INSTALLATION



**Cross Section of Finished Seam
(Actual Size)**

ERECTION SEQUENCE – Step 13 (Continued)

SEAMING OPERATION

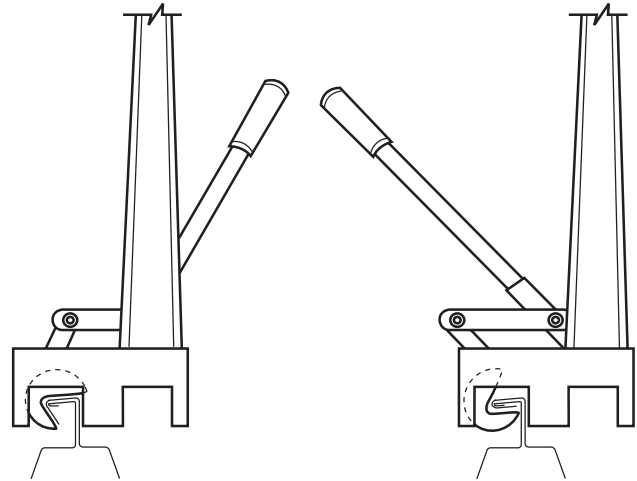
CAUTION: It is critical that the panel seams are crimped and folded as shown before using the electric seamer. Failure to follow these guidelines will result in damaged seams.

To begin seaming, set the hand tool on the seam. Align the edge of the hand tool with the end of the panel. Handles on hand tool should be vertical.

Pull handles apart to crimp female lip. This should be done four times along the seam for a total of 24".

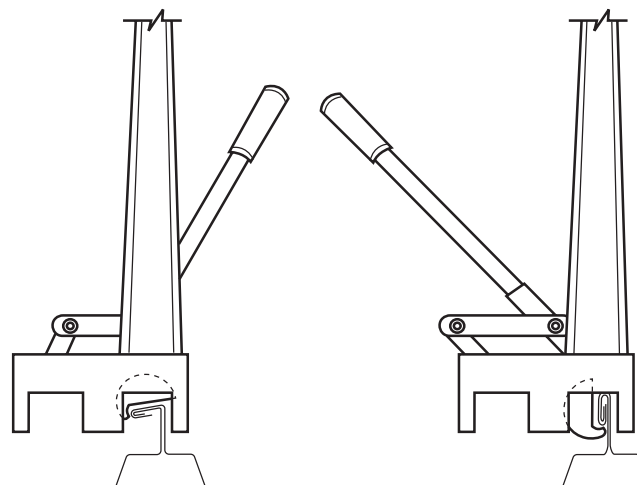
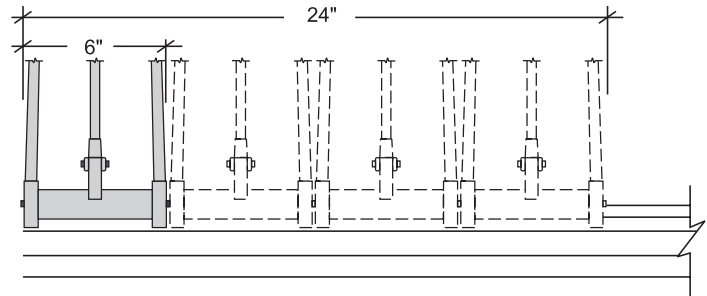
Return to the end of the panel to begin the second stage. Set hand tool onto seam backwards from before. Handles should be leaning away from open side of seam. Pull handles apart to flatten seam. This should be done one time which produces a finished 6" long seam. **The relationship of this 6" of finished seam to the 24" of crimped seam is critical to the proper alignment of the rolls in the electric seamer.**

CAUTION: Do not crimp panel seams. Damage to seams during electric seaming may result.



BEGINNING - FIRST PHASE

FINISHED - FIRST PHASE



BEGINNING - SECOND PHASE

FINISHED - SECOND PHASE

ERECTION SEQUENCE – Step 13 (Continued)

SEAMING OPERATION

The seam is now ready to accept the electric seamer.

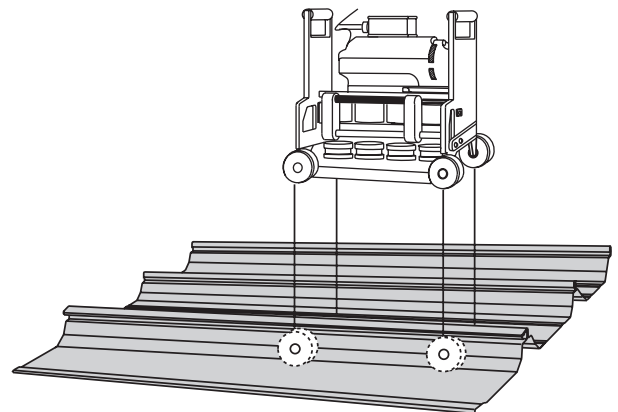
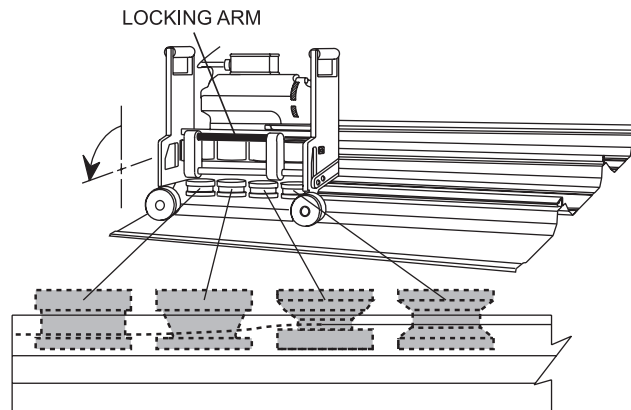
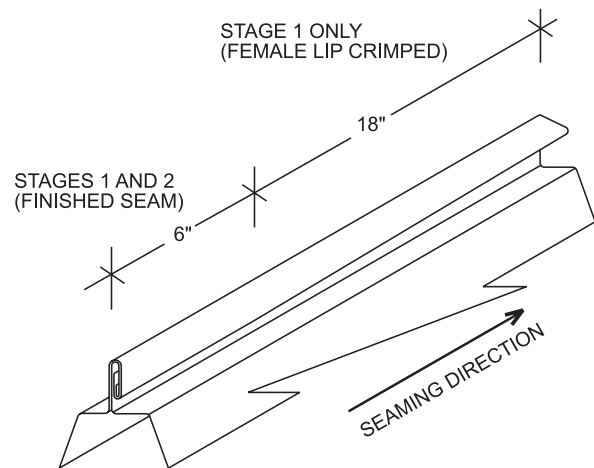
Set seamer on seam with the locking arm up and to open side of the seam. The rear wheels should be at the edge of the panel.

Check to see that the last roll of the seamer is on the finished portion of the seam and the other rolls are on the crimped portion of the seam. Push the locking arm down to engage the rolls and turn the seamer on.

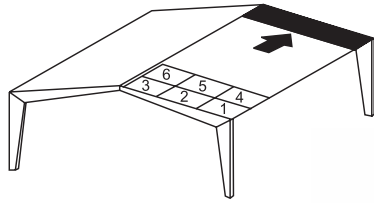
CAUTION: Seamer motor is equipped with 15 amp circuit breaker. Extension cord wire size must be 10 gauge and no longer than 200' from power source. The manufacturer will not be responsible for motor damage if above instructions are not adhered to.

Stop seamer about one foot from ridge. Disengage locking arm and remove the electric seamer.

Finish seam with hand tool by first crimping the remaining portion of female lip. Then, using the second stage of the hand tool, fold and finish the seam. Repeat this procedure for all panels.



ERECTION SEQUENCE – Step 14



LAST PANEL RUN

This roof system is designed to finish in the high on even footage buildings by using 24" or 18" panels on the last run.

With insulation in place, install rake support along steel line.

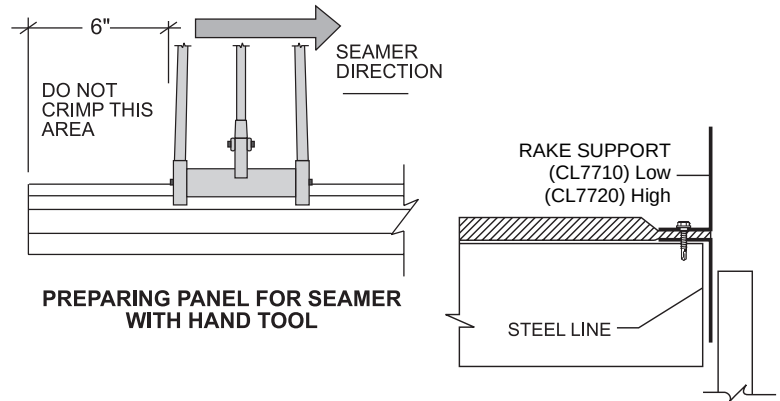
FINISHING ON MODULE

If your roof is finishing on module, the male leg of the last panel run will need to be flattened before installation, with the exception of the first and the last 6" of each panel. This will allow for proper panel engagement at endlaps once panels are installed. Use the hand tool to flatten the male leg 6" from the starting end. (Refer to legend plate on seamer to determine the end that the seamer will start from.) With locking bar up, place seamer on male leg so that the last two rolls of the seamer are on the flattened portion of the seam. The first two rolls will be under the unflattened portion of the seam. Lower locking bar and run seamer to within 6" of the end of the panel. Raise locking bar and remove seamer. Repeat this procedure for all panels. Install panels as usual. Use hand tool to finish the unflattened portion of the male leg at the eave, ridge and endlaps.

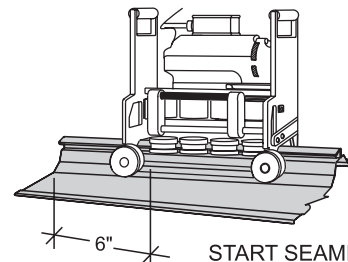
FINISHING OFF MODULE

If the panel ends 2" - 6" away from the rake support due to an out-of-square condition or other factors, simply install the panel clips and run seamer over male leg. This will lock the clips in place and flatten the male leg. This system allows for the roof to be trimmed in the high.

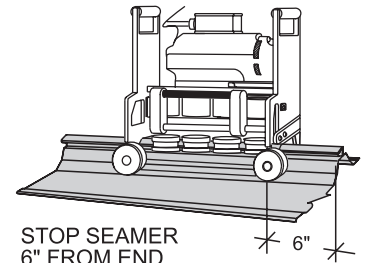
CAUTION: The seamer will not support itself while flattening the male leg on the last run. It must be supported during this operation.



PREPARING PANEL FOR SEAMER WITH HAND TOOL

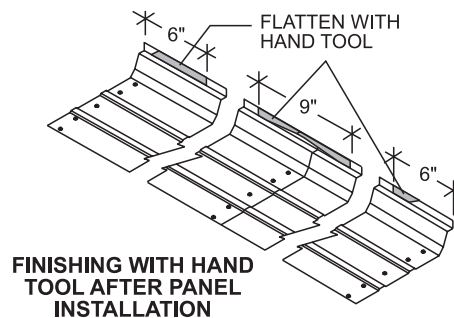


START SEAMER 6" FROM END OF PANEL

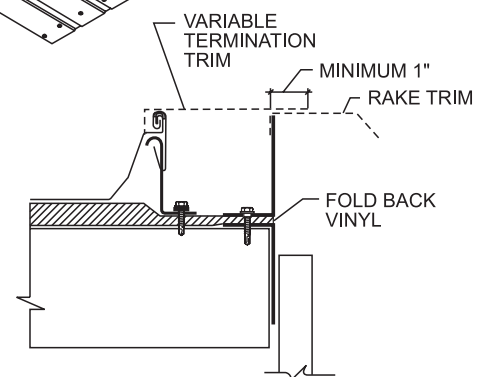


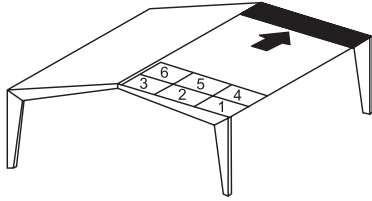
STOP SEAMER 6" FROM END OF PANEL

FLATTENING MALE LEG BEFORE PANEL INSTALLATION



FINISHING WITH HAND TOOL AFTER PANEL INSTALLATION



ERECTION SEQUENCE – Step 14 (Continued)**LAST PANEL RUN (OPTIONAL)**

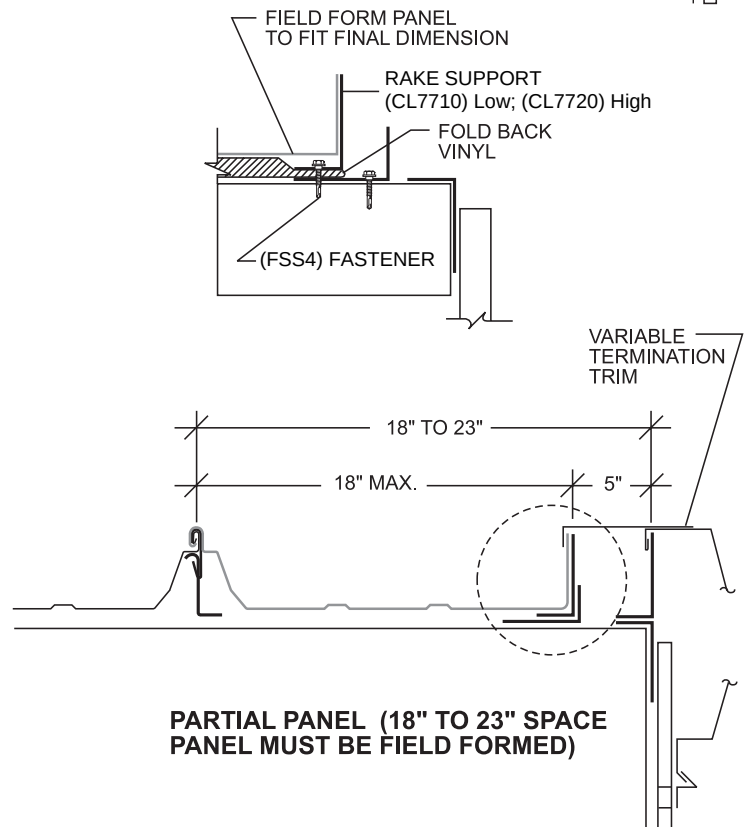
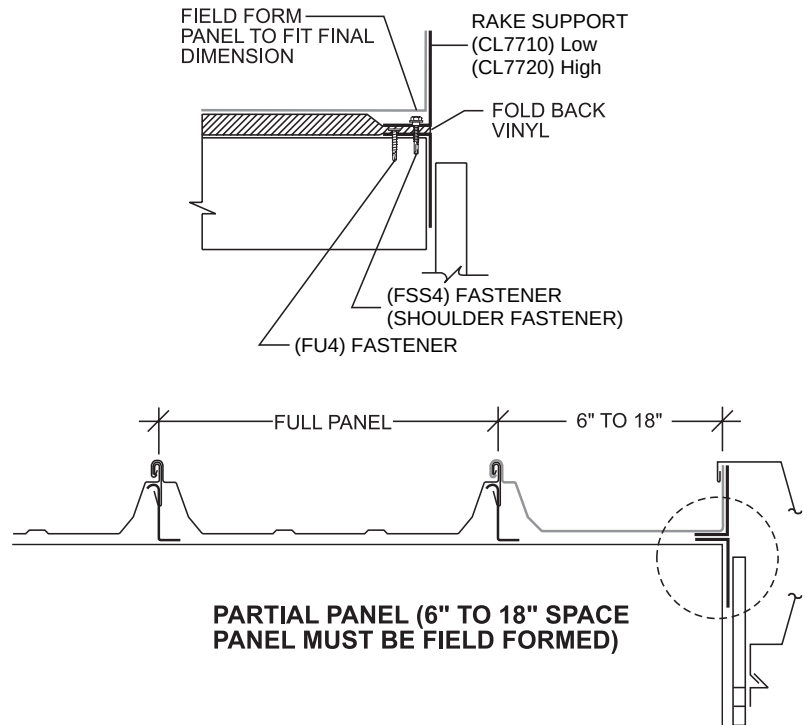
The roof is designed to finish in the high on even footage buildings. Odd length buildings and variations in erection practices may dictate that an alternate detail be used.

When terminating in an odd dimension, field cut and bend a 3" vertical leg on the panel.

After laying the last insulation run, install the field formed panel. Temporarily attach the formed leg of the panel to the rake support with locking pliers or temporary fasteners (FSS2).

The combination of field formed panel and Variable Termination Trim may be used to accommodate large dimensions as shown.

CAUTION: The roof should be swept clean of any drill shavings at the end of each day to prevent rust.



ERECTION SEQUENCE – Step 15

OUTSIDE CLOSURE

After all panel runs are installed and seamed, return to first panel run at the ridge. Remove temporary fasteners from panel and install (CL504A) tri-bead tape sealer across full width of panel, covering the prepunched holes.

Rotate outside closure into position contacting the female side of the panel first. Using an awl, align the first hole on the female side of the outside closure with the corresponding hole in the panel and back-up plate. Remove the awl and install FSS2 fastener in this hole.

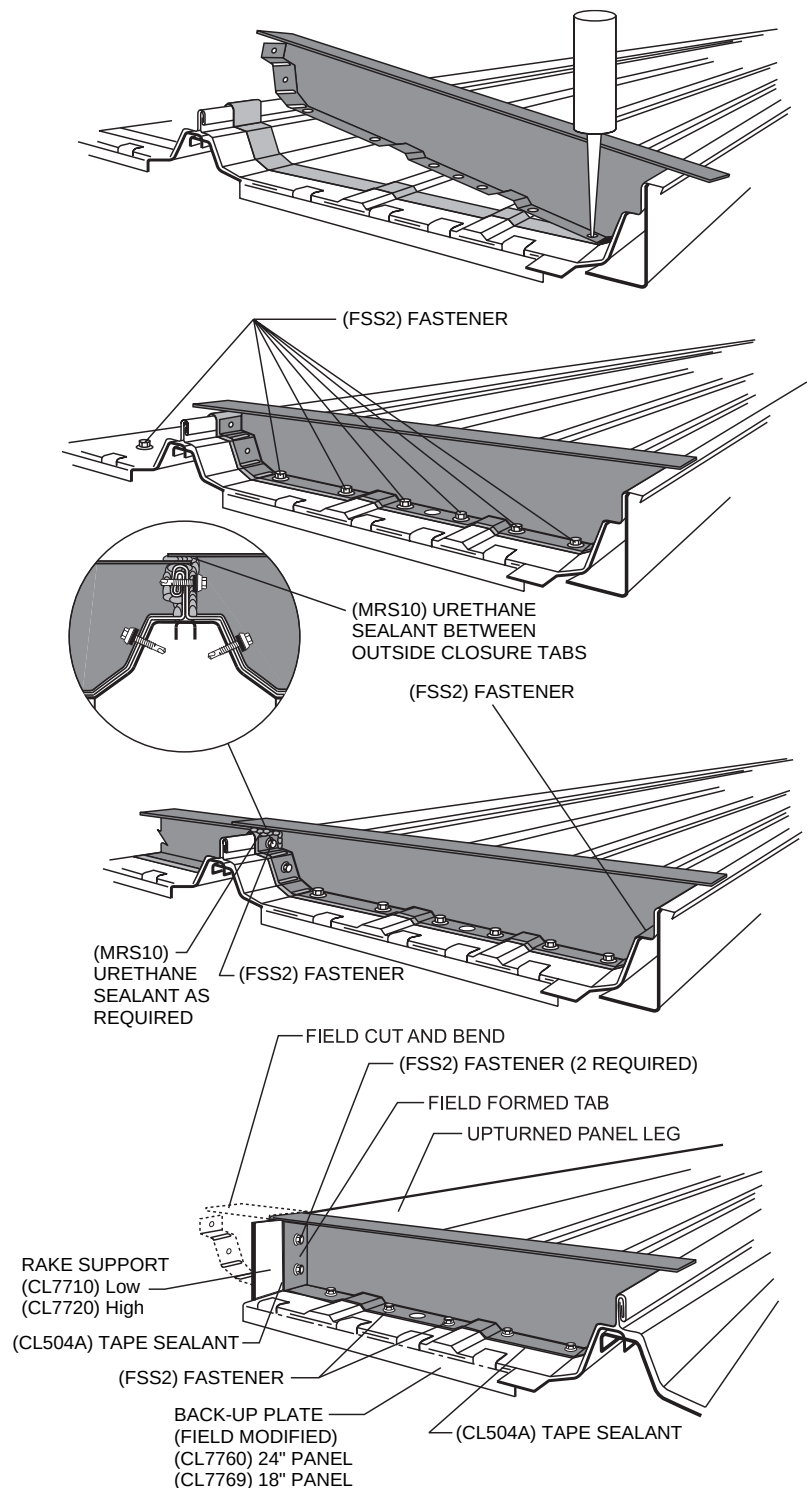
Push the other end of the outside closure into position and align the holes with the awl. Remove the awl and install FSS2 fastener in all remaining holes except for the hole at the panel seam. **Do not install the panel seam fastener at this time.**

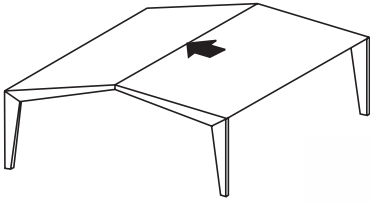
Install all outside closures on both sides of the ridge.

If the last panel run was field modified, the final outside closure on the last panel will require field modification as well. A tab should be formed on the end of the outside closure for attachment to the upturned leg of the roof panel (field formed). This tab should be attached to the panel with FSS2 fastener, two required.

Install FSS2 fastener in remaining hole at the panel seam of all outside closures. The fastener installed in the top hole must go through the panel seam and the corresponding hole of the adjacent outside closure.

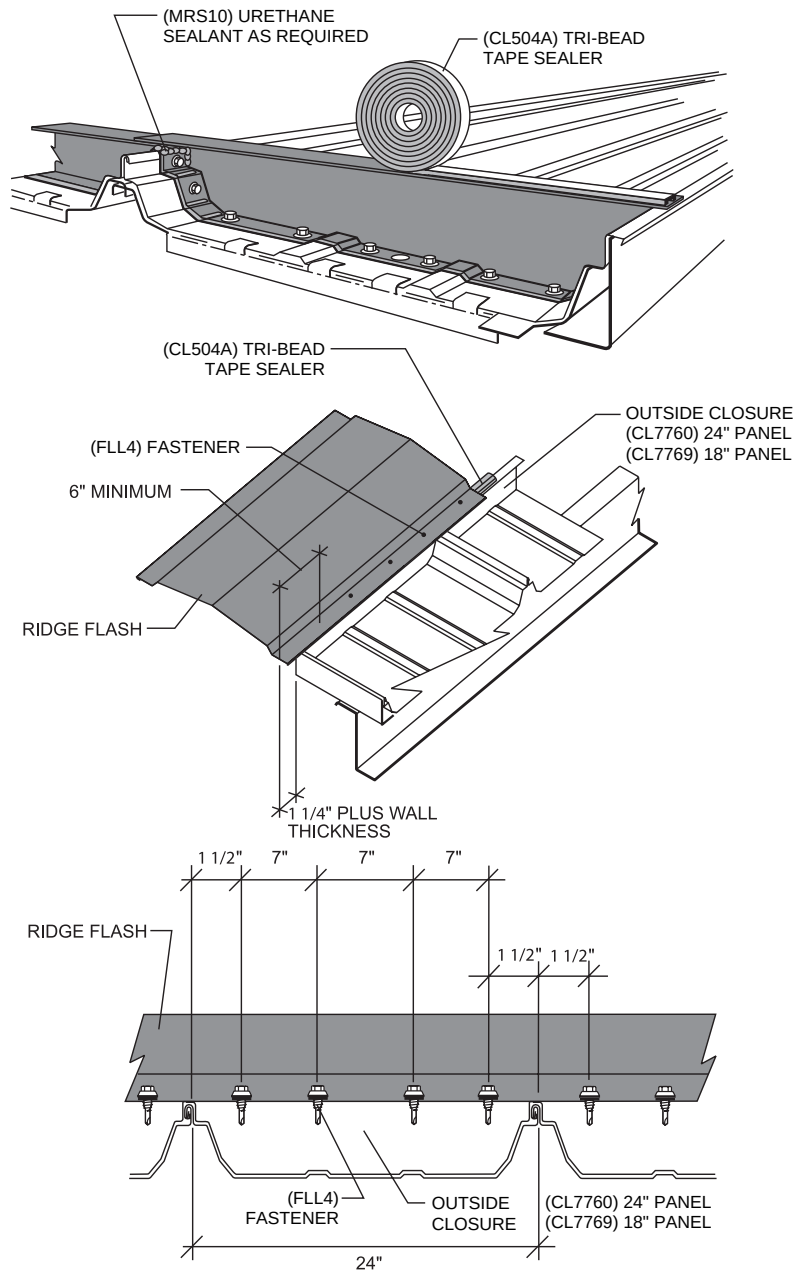
Use (MRS10) urethane sealant to fill any voids around panel seam on upslope side of outside closure.

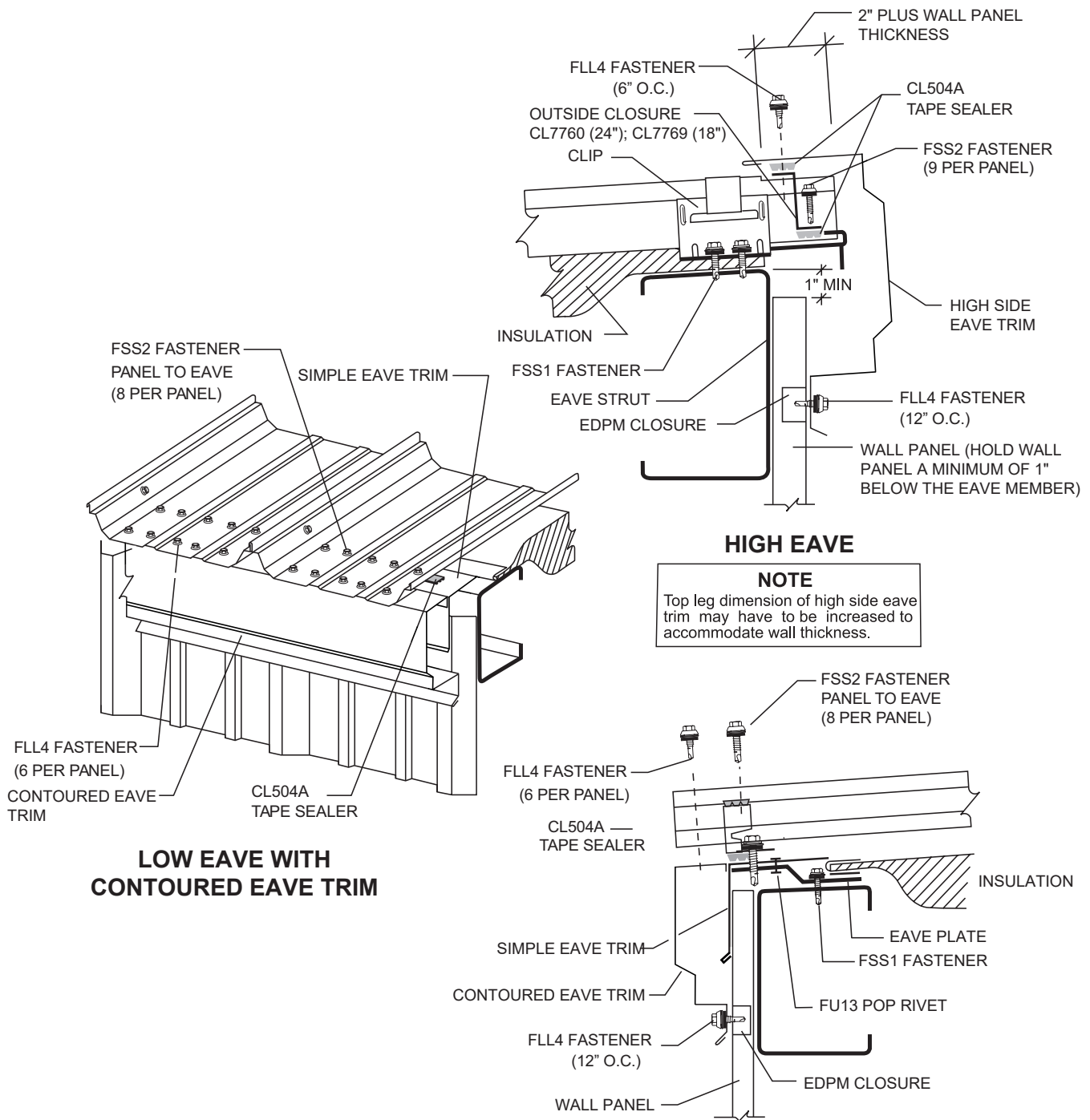


ERECTION SEQUENCE – Step 16**RIDGE-OUTSIDE CLOSURE / FLASHING**

Apply (CL504A) tri-bead tape sealer to the top of the outside closure.

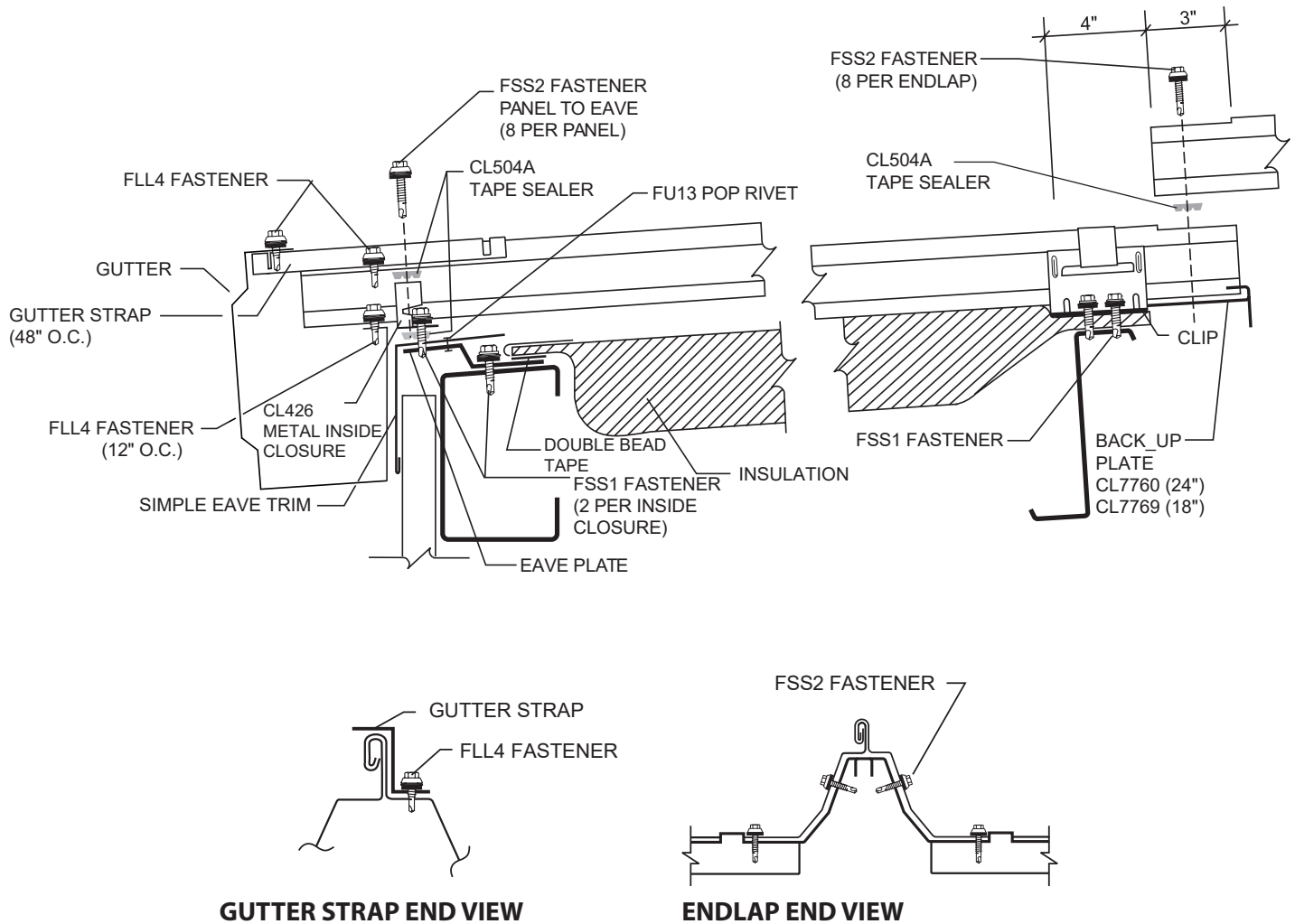
Install the ridge flashing starting and ending 1-1/4" plus wall thickness outside the steel line. Fasten the ridge flashing to the outside closures with FLL4 fastener. Install a fastener 1-1/2" from panel seam on both sides of panel. Install additional fasteners directly above minor ribs of panel. Four fasteners are required at each panel. Leave 6" unfastened on each end to allow for the rake trim to be installed later. **DO NOT FASTEN THROUGH THE LOCK OF THE STANDING SEAM.**



TRIM DETAILS – Eave

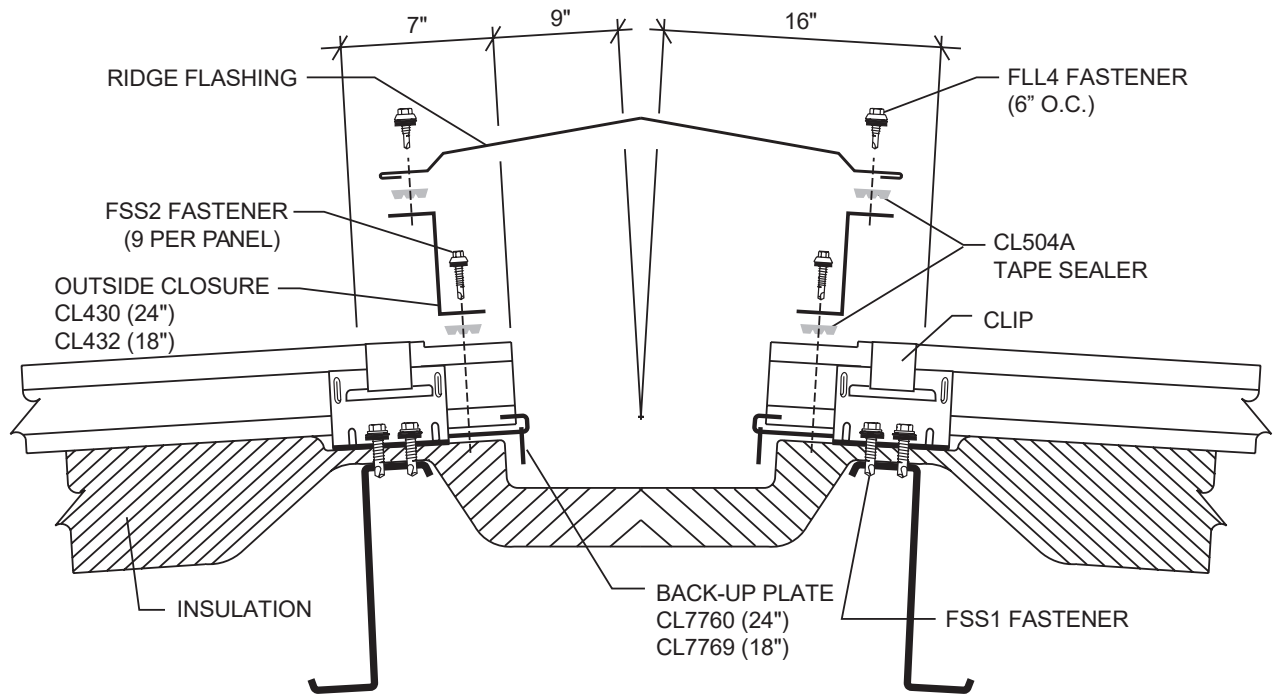
NOTE: THIS OPTIONAL SCULPTURED EAVE TRIM IS AVAILABLE. HOWEVER, UNDER CERTAIN CONDITIONS, IT MAY INDUCE STAINING OF WALL PANELS.

TRIM DETAILS – Eave to Endlap

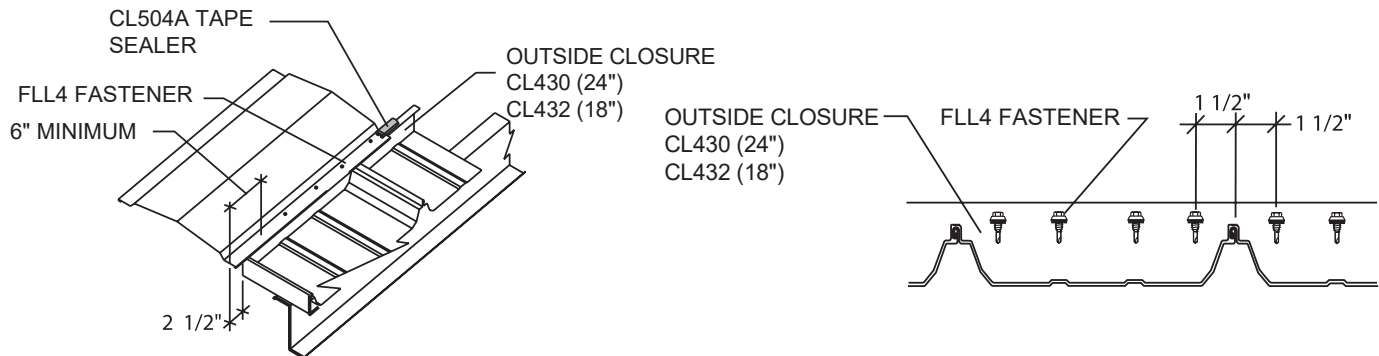


PANEL CLIP OPTIONS		
CLIP TYPE	HIGH	LOW
Sliding	CL2124	CL2122

NOTE: THE ABOVE GUTTER SHOULD NOT BE USED IN AREAS THAT EXPERIENCE SNOW LOADS OF 10 PSF OR HIGHER.

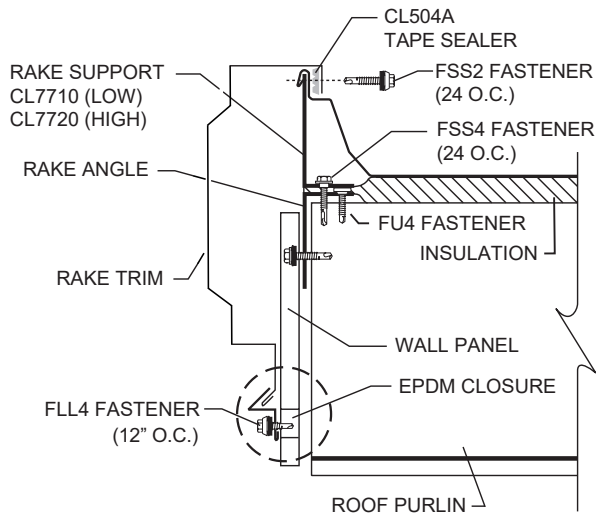
TRIM DETAILS – Ridge

Install the ridge flashing starting and ending 1 1/4" plus endwall thickness outside the steel line. Fasten the ridge flashing to the outside closures with FLL4 fastener. Install a fastener 1 1/2" from panel seam on both sides of panel. Install additional fasteners directly above minor ribs of panel. Four fasteners are required at each panel. Leave 6" unfastened on each end to allow for the rake trim to be installed later. **DO NOT FASTEN THROUGH THE LOCK OF THE STANDING SEAM.**

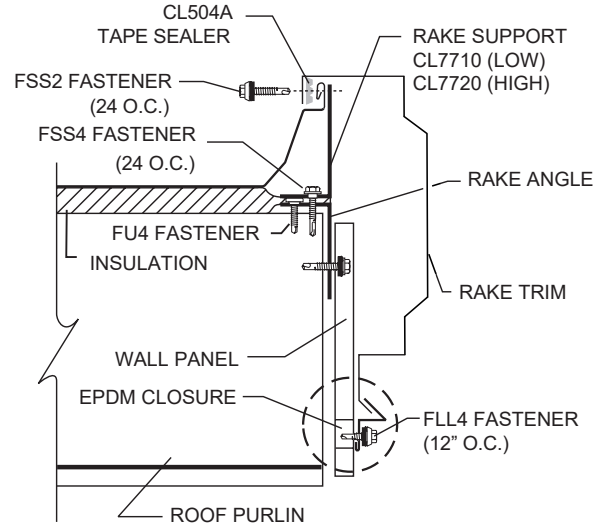


NOTE: If you do not have a peak box, install a ridge end cap for each end of the ridge flashing.

TRIM DETAILS – Rake



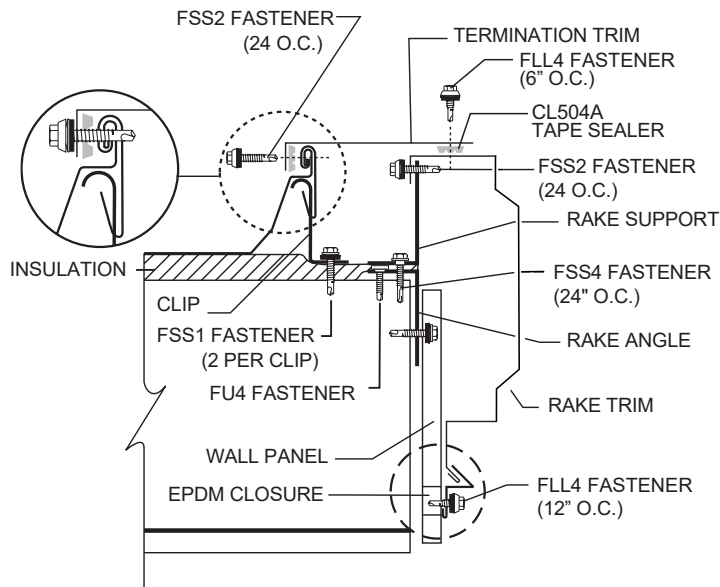
BEGINNING RAKE TRIM



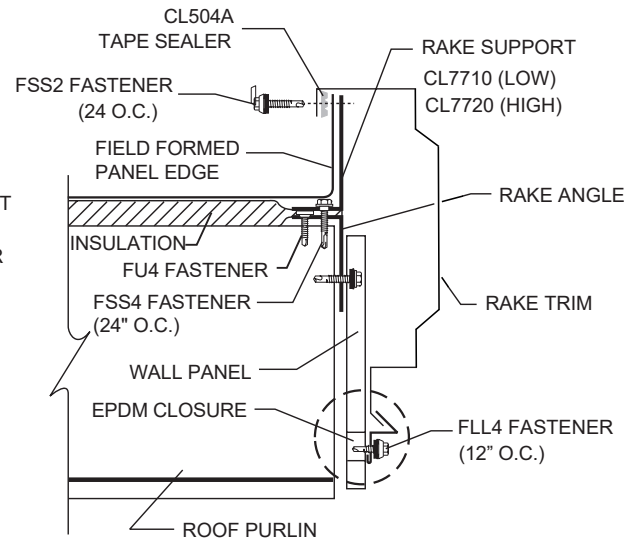
**TERMINATION RAKE TRIM
ON MODULE**



RAKE SLIDE
(FOR FLOATING SYSTEMS ONLY)



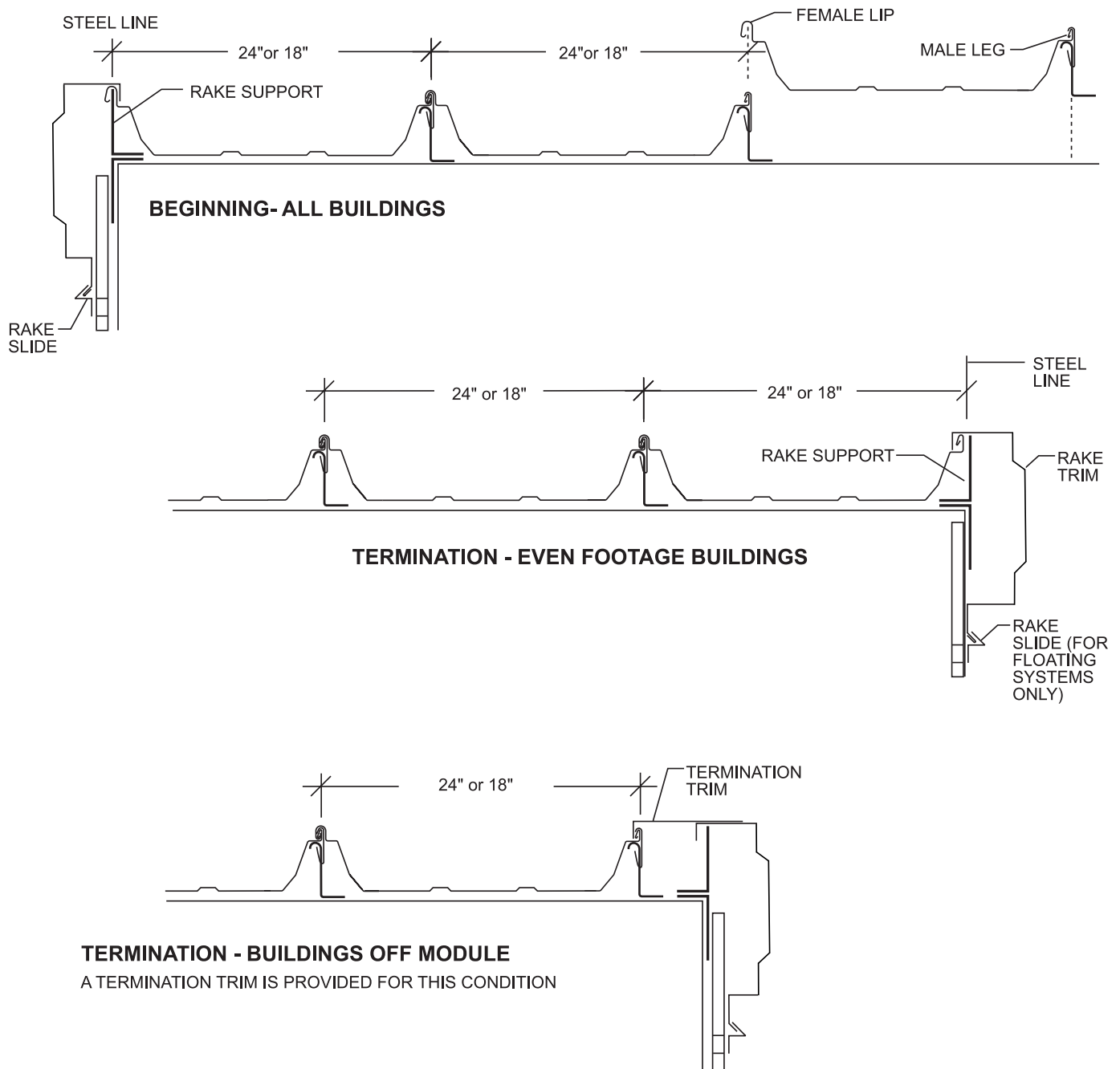
**TERMINATION RAKE TRIM
OFF MODULE**



**TERMINATION RAKE TRIM
OFF MODULE (OPTIONAL)**

SEE PAGES 13 AND 14 FOR FASTENER SELECTION

TRIM DETAILS – Rake to Rake



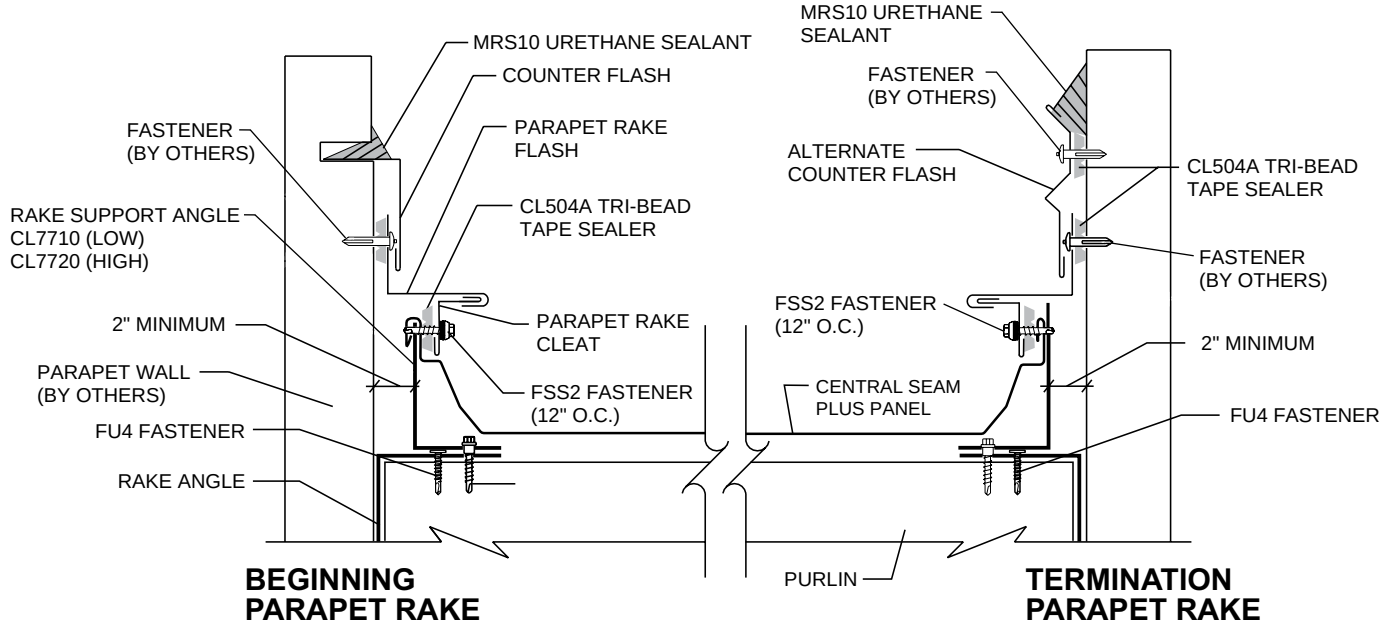
NOTE:

For an adequate understanding of how to design the **Central Seam Plus** roof system, it is important to read the section of this manual which includes all trim details.

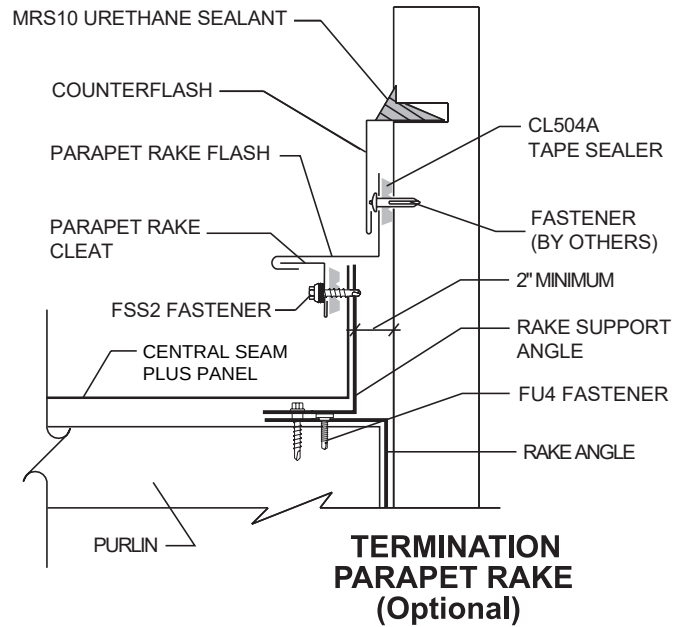
TRIM DETAILS – Rake Parapet

SAWCUT DETAIL (RECOMMENDED)

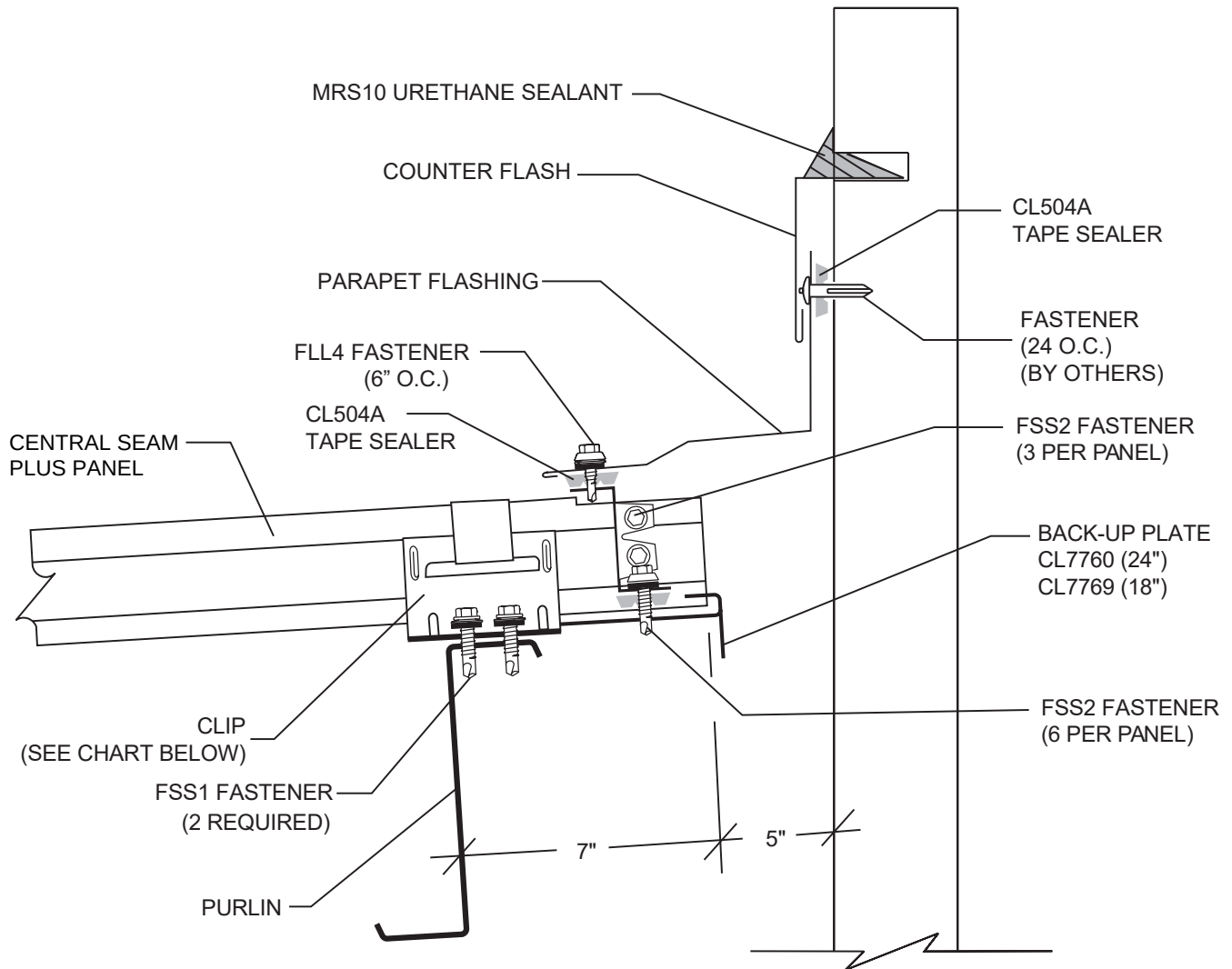
SURFACE MOUNT DETAIL



FINISHING OFF MODULE

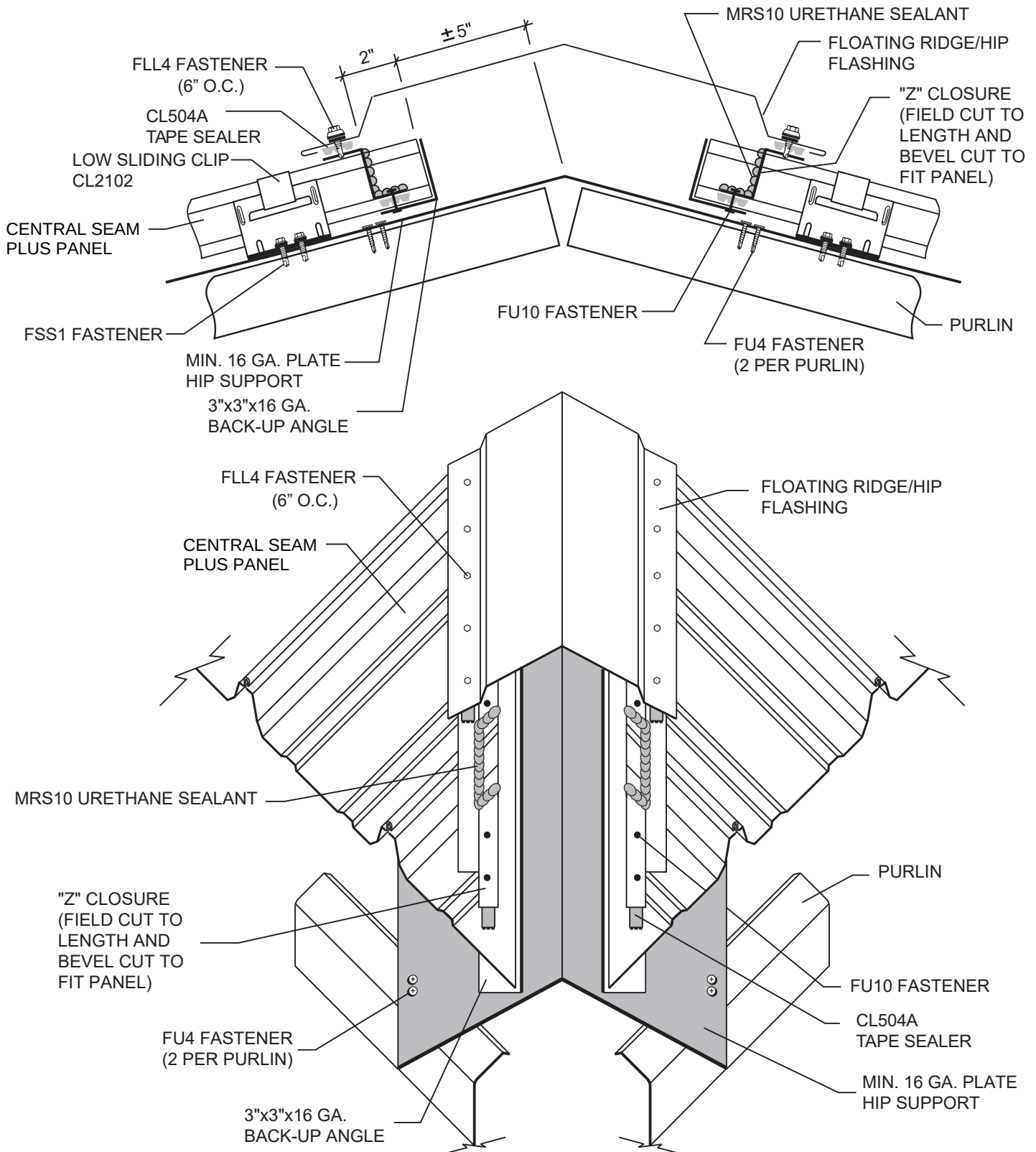


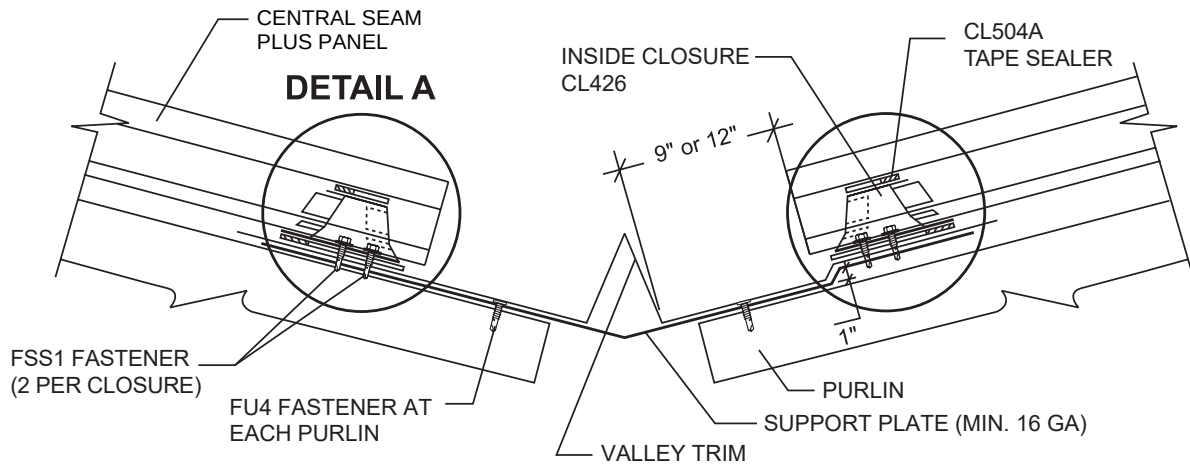
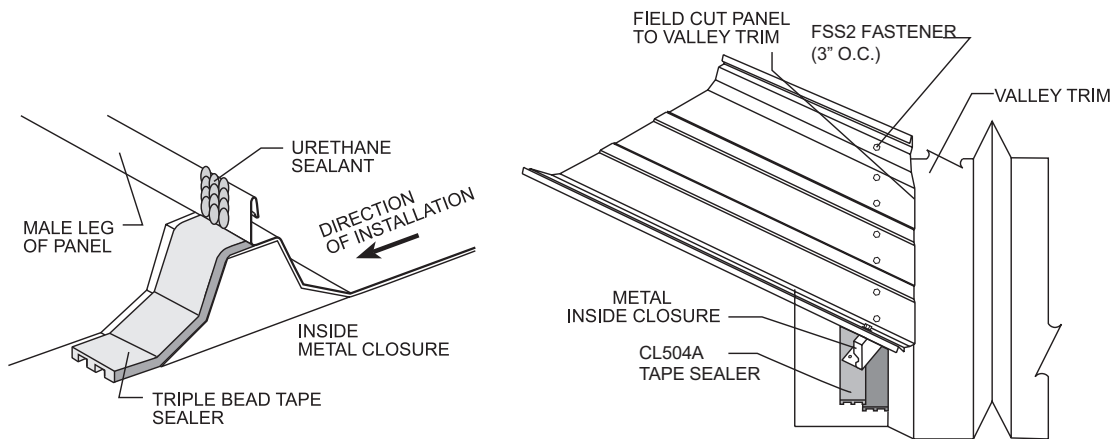
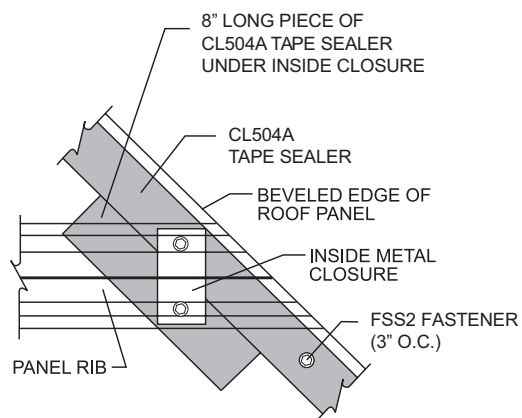
TRIM DETAILS – High Eave Parapet



PANEL CLIP OPTIONS		
CLIP TYPE	HIGH	LOW
Sliding	CL2124	CL2122

NOTE: HIGH SIDE PURLIN IS 12" DOWN SLOPE.

TRIM DETAILS – Floating Hip

TRIM DETAILS – Valley**LOW SYSTEM****HIGH SYSTEM****DETAIL A****DETAIL A (ISOMETRIC)****DETAIL A (PLAN VIEW)**

NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.