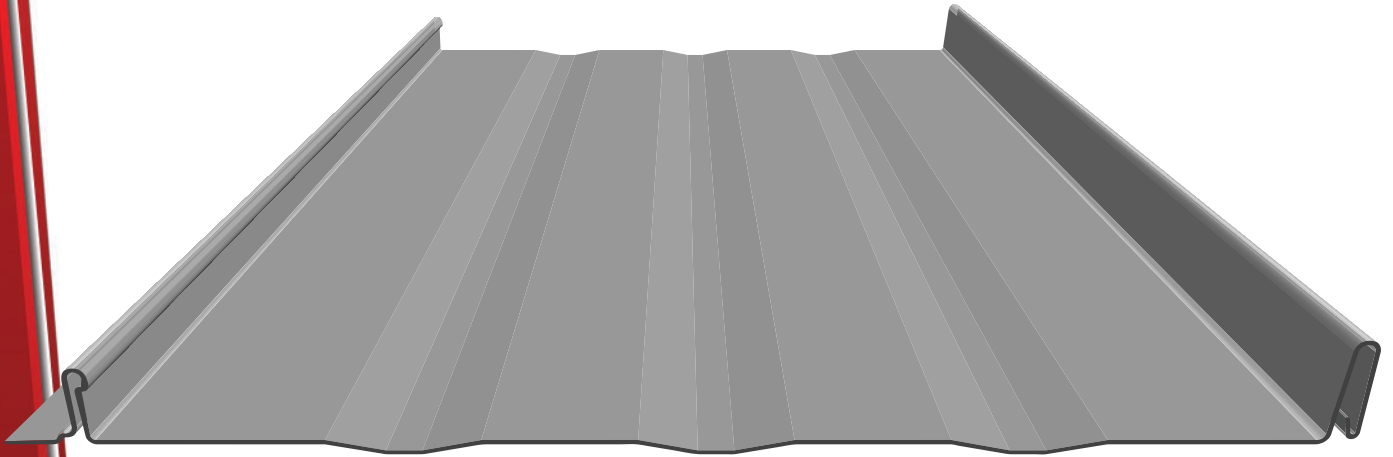


# *Nu-Slim*



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# IMPORTANT INFORMATION

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This manual contains suggestions and guidelines on how to install Nu-Slim panels. The drawings in this guide are for illustration purposes only and may not apply to all building designs or product applications. The installation details shown are proven methods of construction, but are not intended to cover all instances, building requirements, designs, or codes. It is the responsibility of the designer/installer to ensure that the details meet particular building requirements. The designer/installer must be aware of, and allow for, expansion/contraction of roof panels. The details may require changes or revisions due to each project's conditions.

There are certain minimum live, snow, dead, collateral, and wind loads that a roof must generally be designed to support. Consult local building officials to determine the appropriate building design load requirements. A professional engineer should be consulted for all roof system designs. It is the buyer's responsibility to verify all

applicable code requirements, check all measurements, and determine suitability of product for the job. The buyer is also responsible for determining lengths and quantities needed. Prior to ordering and installing materials, all dimensions should be verified with field measurements. Implied warranties of merchantability and fitness for a particular purpose are disclaimed. All Nu-Slim instructions assume that a qualified firm or individual has been contacted regarding application of this product. Failure to comply with stated recommendations relieves the manufacturer of responsibility for any damage or deterioration of the product incurred and voids any applicable warranty.

MBS reserves the right to modify, without notice, information in this guide. If you have questions regarding proper installation on Nu-Slim or information not included in this guide, please contact your salesperson.

# FASTENER SPACING

Maximum fastener spacing\* for 16" wide 26 gauge panels with wind loads up to 80 mph:

<u>DECK THICKNESS</u>	<u>SPACING</u>
1/2"	18" o.c
5/8"	21" o.c
3/4"	24" o.c

**To follow UL580 testing for a Class 90 rating, fasteners should be spaced at 4.9" on center.**

\*Slot on leg may not coincide with above chart.

## TOOLS & EQUIPMENT

- Snips+
- Tape Measure
- Electric Metal Shear\*+
- Caulking Gun
- Cordless Drill
- Blind Rivet Tool
- Chalk Line
- 6" Hand Seamer+
- Hemming/Folding Tool+
- Gloves+
- Notcher+

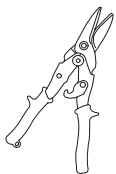
\*We do not recommend the use of a power circular saw to cut panels. Use of a power saw could:

- Increase the instance of edge rust.
- Cause hot metal shavings on panel surface to damage panel finish

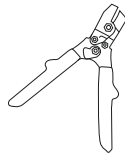
We recommend that the installer have prior experience and knowledge of the listed tools and their uses in working with metal roofing.

+MBS does carry in stock.

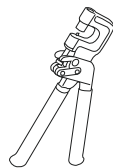
## CONCEALED FASTENER TOOLS



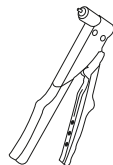
Hand Snips



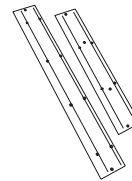
Notcher



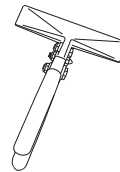
Rivet Hole  
Punch



Hand Riveter



Folding  
Tools



6" Hand  
Seamer

## FOOT TRAFFIC

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When walking on the roof panels is unavoidable, walk in the flats of the panel. Walking on the ribs can cause damage to the panels.



## FIELD CUTTING

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Shavings created by saw cutting or drilling may cause the panel to rust and will void warranties in affected areas.



## ROOF PREPARATION TIPS

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- Nu-Slim is designed to be installed over solid decking. We recommend a minimum 1/2" plywood sheathing.
- Make sure any existing decking is smooth, level, and in good condition. Replace any decking not meeting those requirements.
- If there is an existing asphalt shingle roof it must be removed.
- Make sure the roof is clear of any debris that might interfere with installation.
- Use of underlayment is recommended.
- Use an alignment or "chalk" line where the first panel is installed. Metal Building Supply, Inc. recommends that this line be vertical and 1/4" from the rake edge of the roof deck and square with the eave. Other methods of confirming the squareness can also be used.

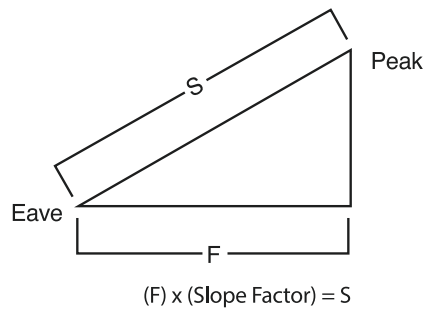
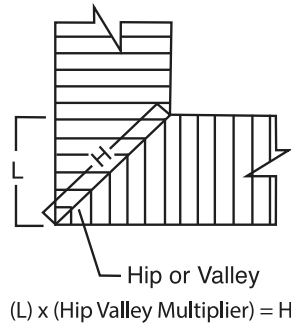
# SUBSTRATE PENETRATION

In warm weather and tropical climates, red rosin paper should be applied over the felt paper to prevent the felt paper from sticking to the panels and tearing the vapor retarder. The red rosin paper will allow for better thermal expansion. In cold

weather climates it is recommended that you use an ice and water shield at the valley and eave. This needs to be applied over the substrate before the underlayment is installed.

ROOF SLOPE FACTOR CHART					
SLOPE	SLOPE FACTOR	HIP/VALLEY MULTIPLIER	SLOPE	SLOPE FACTOR	HIP/VALLEY MULTIPLIER
3:12	1.0308	1.4362	8:12	1.2019	1.5635
4:12	1.0541	1.4530	9:12	1.2500	1.6008
5:12	1.0833	1.4743	10:12	1.3017	1.6415
6:12	1.1180	1.5000	11:12	1.3566	1.6853
7:12	1.1577	1.5296	12:12	1.4142	1.7320

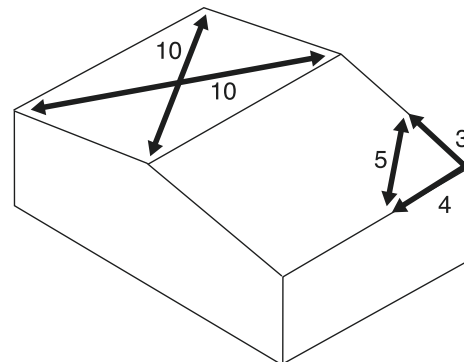
Note: This chart to be used as a quoting guide only. It is always recommended to field measure all lengths before placing an order.



# SUBSTRUCTURE CONDITION

Panel distortion may occur if not applied over properly aligned and uniform substructures.

The installer should check the roof deck for squareness before installing Nu-Slim panels.



# PANEL INSTALLATION OVERVIEW

---

Familiarize yourself with all installation instructions before starting work. Before beginning installation you should examine the substrate or framing to ensure that all supporting members are straight, level, and plumb to avoid any panel distortion. Substructures should be designed to meet all necessary code requirements.

Some field cutting and fitting of panels and trims is to be expected by the installer and minor field corrections are a part of normal installation work.

It is the responsibility of the installer to ensure a suitable substrate prior to the application of Nu-Slim. Underlayment must be nailed or stapled down. Distortion in the panel caused by an uneven substrate, ripples, or laps in the vapor barrier, debris, protruding nails and staples, button cap nails, etc., are not defects in the materials and are not the responsibility of Metal Building Supply, Inc.

All trims, closures, and accessories shown on the installation drawings are available from Metal Building Supply, Inc. unless noted otherwise.

Oil canning in the flat area of the panels is common to

the industry and does not affect the integrity of the panel. Therefore, oil canning is not a reason for rejection.

The panels should be installed plumb, straight, and square to the eave. To keep the bottom edge of the roof perfectly straight and even, the panels must be installed square to the bottom edge. Begin by checking the roof for square; if it is square, you may pull the layout marks directly from the edge of the rake.

If the roof isn't perfectly square, install the first panel parallel to your square line, making sure that the first rib does not hang over the gable edge of the roof sheathing. (Any overhang can prevent the gable trim from fitting tight against the rake.)

NOTE: Copper metallic panels must be installed in the same direction!

# TRIM INSTALLATION OVERVIEW

---

On runs of more than 10' 3" that require more than one length of trim, overlap the pieces by 3". The material is thin enough that the overlaps are not noticeable. Trim is attached with rivets or gasketed screws; take care to drive the screws enough to flatten the neoprene washer but not enough to deflect the roofing or the trim.

The tricky part is finishing the ends of each trim run. It may take a bit more time, but cutting and folding the ends of the trim will give the roof a more finished look.

When hooking the hem, measure over on hem 3" from end of trim piece. Cut hem 1/8" up from the bend to 3" mark. Cut off back of hem. On lap piece, open up hem with screwdriver. Insert piece. Slide together. Use rivets and sealant on lap where needed.

Remove strippable film from panels and trims before installation.



Strippable film on panels and trim must be removed within 30 days of manufacture date. Strippable film that is left on for more than 30 days may be hard to peel off and is not a reason for a refund or replacement from the manufacturer. Any material with strippable film is not to be stored in direct sunlight for any amount of time.

# PANEL INSTALLATION

1. Align the female edge of the first panel with the chalk line that was snapped at the rake edge. This line can be 0" – 1 3/4" from the rake. Panel should overhang eave 1 1/2". See Figure 1.
2. Panels should be installed perpendicular to ridge for ridge trim attachment. Check panel alignment. If panel is properly aligned proceed to step 3.
3. Attach rake cleat to roof with a 1" wafer head fastener spaced at 48" on center. Then fasten the panel along the male edge fastening flange with a 1" wafer head fastener. Special care has to be taken not to overdrive the screws in the male edge fastening flange. The screw flange is slotted to allow for slight panel movement during normal expansion and contraction. To avoid panel distortion and to allow for maximum expansion and contraction of the panel, the screws should be snugged against the flange, but not so snug that the flange deflects under the screw head. To allow for movement of the panel towards the eave or ridge, place the fastener in the middle of the 5/8" slot. See fastener spacing on page 4.
4. Align the second panel female edge with the starter panel male edge. See Figure 2. Panels must be flush to one another. Remember, panels should extend over eave trim by 1 1/2".
5. Lightly compress and snap panels together at seam. Snap panels from eave to ridge. Screw the second panel in place using a 1" low profile wafer head screw in the male edge fastening flange.
6. Continue to apply panels as in steps 4 and 5.

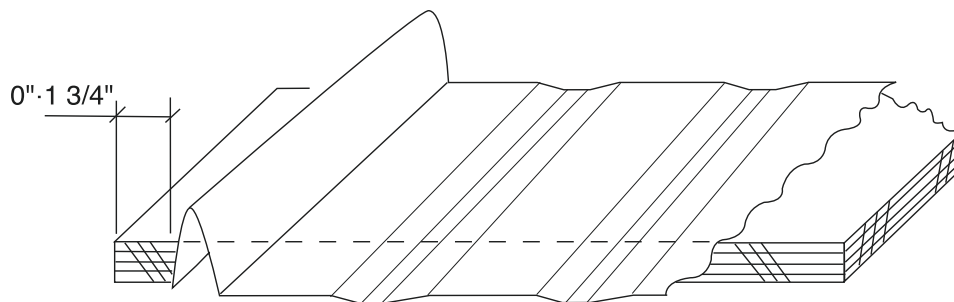
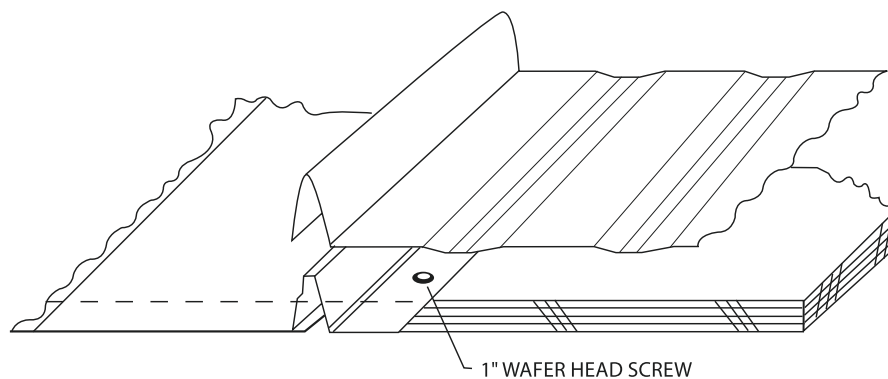


FIGURE 1



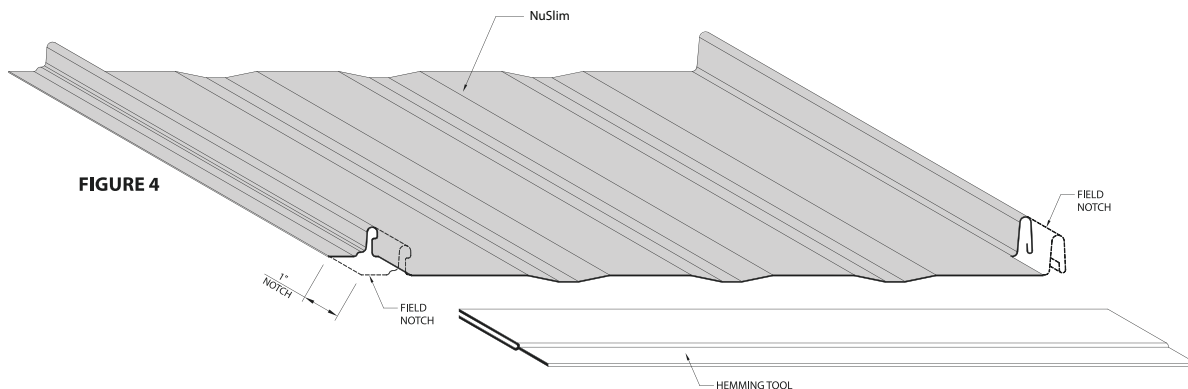
1" WAFER HEAD SCREW



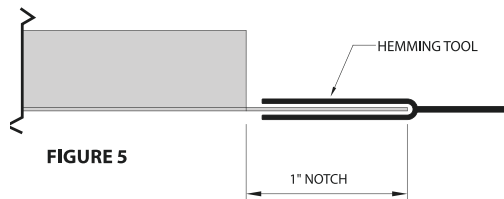
# EAVE TERMINATION WITHOUT FASTENERS

Panels can also be terminated with a hemming tool to provide a smoother appearance. When using the drip edge condition to terminate the eave, panels must be ordered 2" longer than your eave length to account for the drip edge lip and the panel's hem.

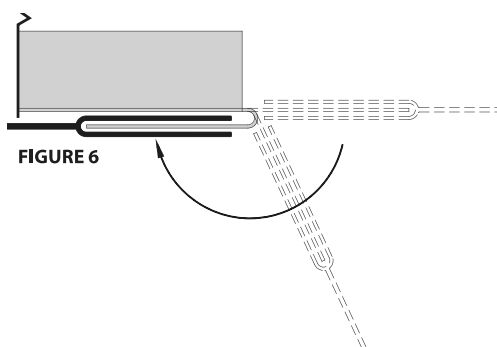
**STEP 1:** Create a tab in the panel by cutting a notch in both sides of the panel. Cut through the male and female legs/ribs 1" up from panel end. Then cut on inside of major ribs with metal shears. See Figure 4.



**STEP 2:** Place the hemming tool over the newly created tab in the panel as shown in Figure 5.

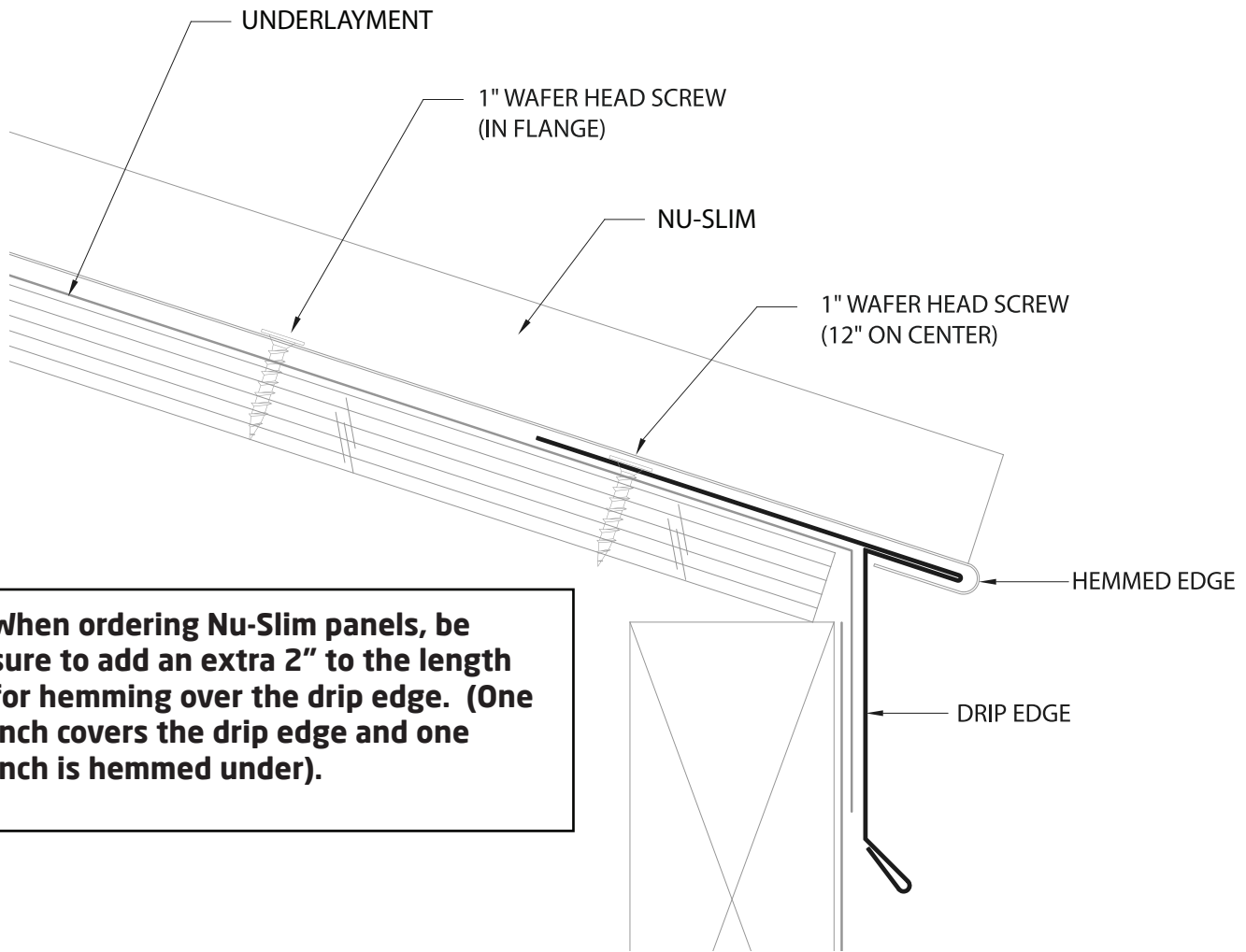


**STEP 3:** With the hemming tool bend the tab down and under to 180° as shown in Figure 6.



**STEP 4:** The panel is then ready to be installed over the Drip Edge trim, using the lip on the Drip Edge trim to secure the panel in place at the eave as shown on page 10.

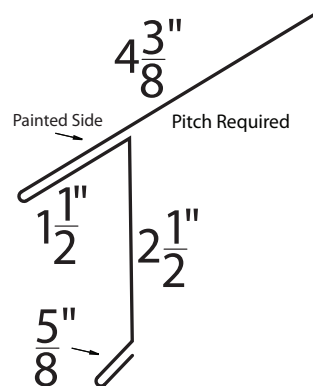
# CONCEALED FASTENER - Drip Edge Trim Condition



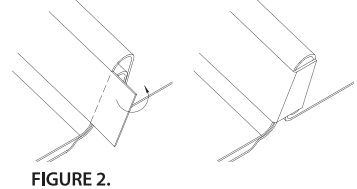
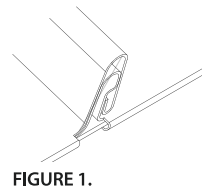
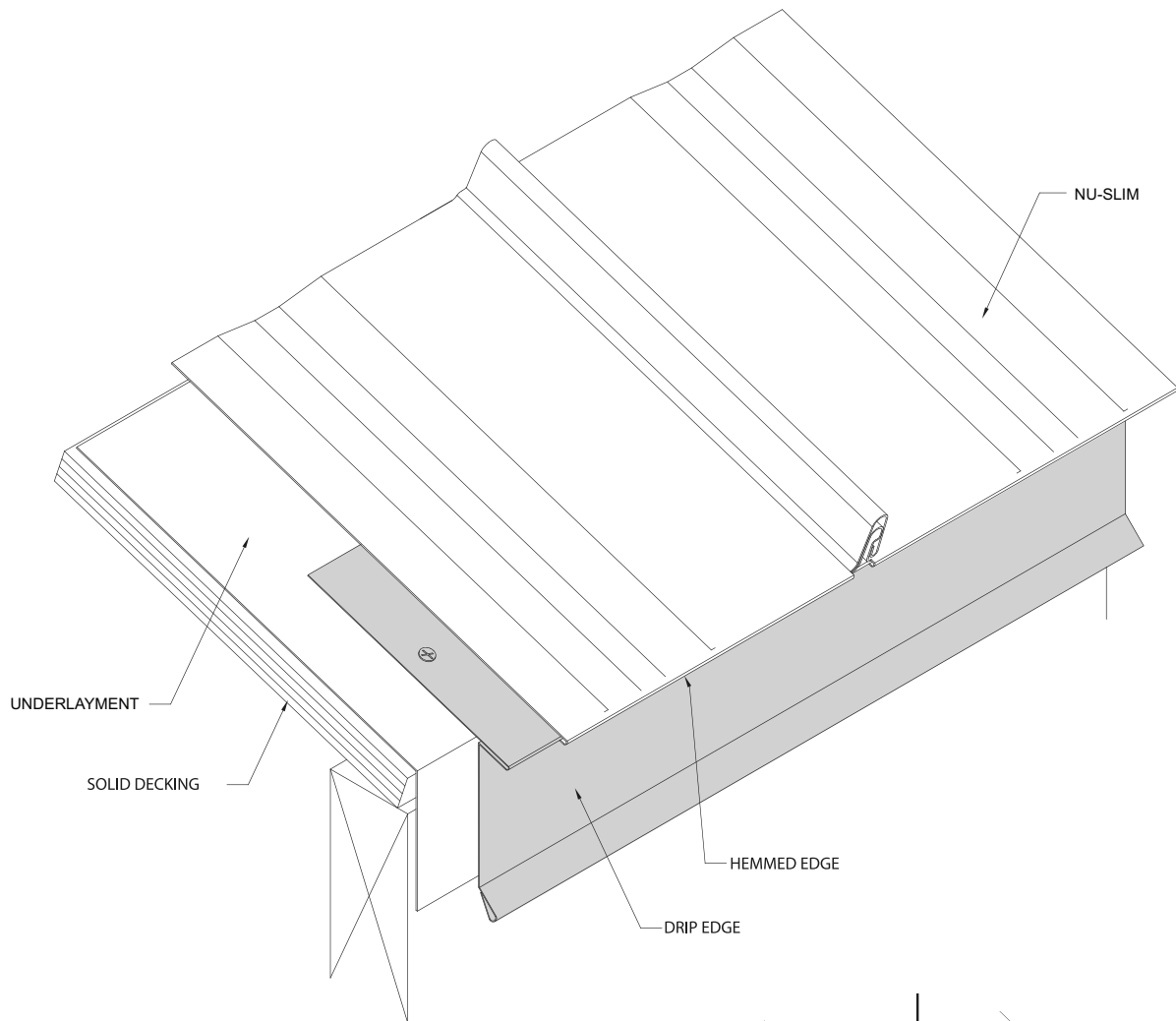
**When ordering Nu-Slim panels, be sure to add an extra 2" to the length for hemming over the drip edge. (One inch covers the drip edge and one inch is hemmed under).**

## REQUIRED TRIMS:

DRIP EDGE CFDE



# CONCEALED FASTENER - Drip Edge Trim

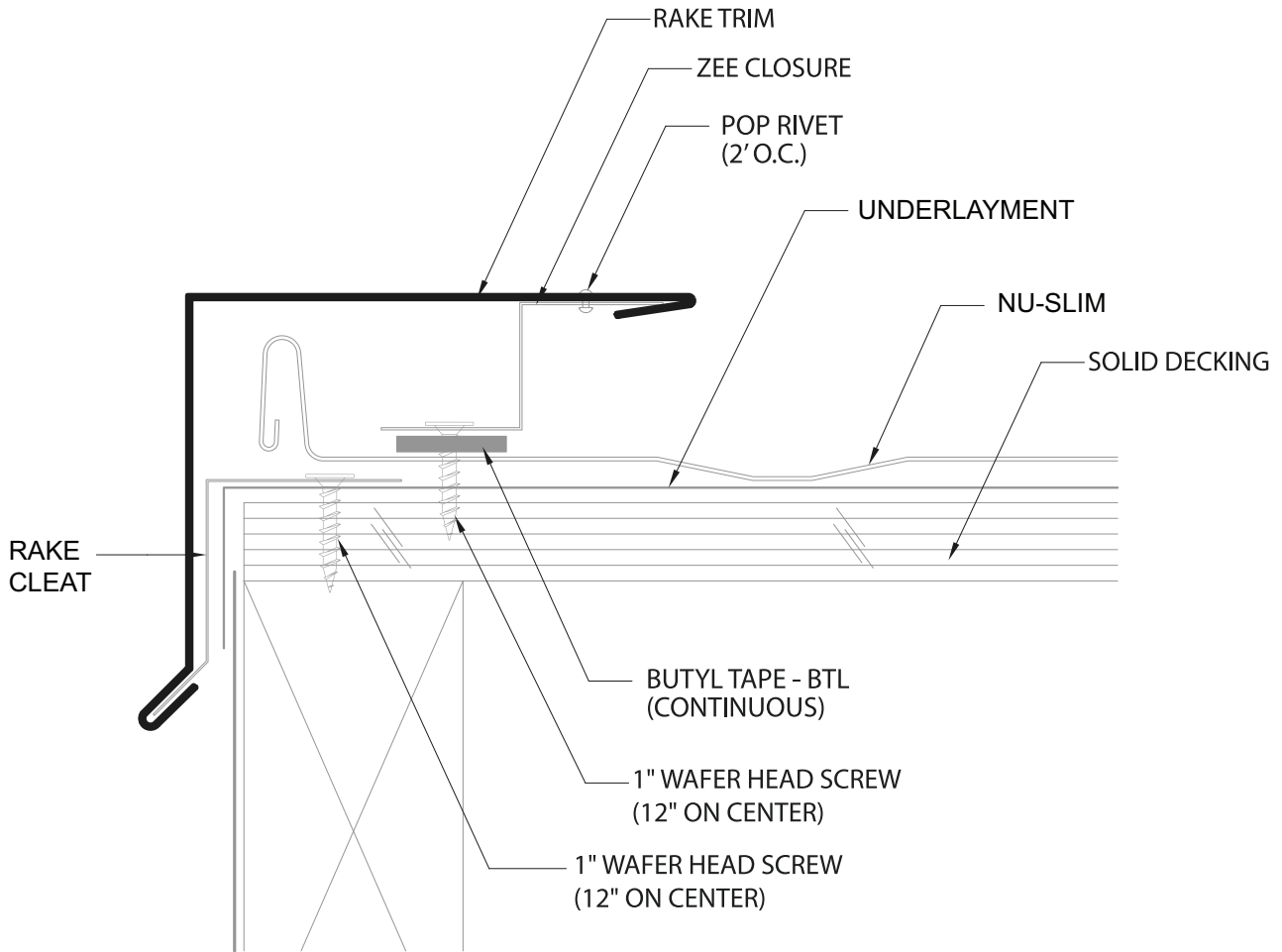


## DIRECTIONS:

NOTE: See page 9 for detailed information on eave termination without fasteners

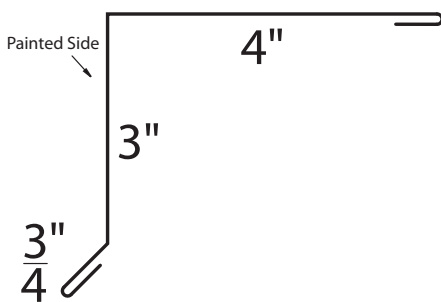
1. Screw the drip edge to the decking.
2. Notch the Nu-Slim panels at the rib (1 inch from the end of the panel).
3. Using the Nu-Slim folding tool, fold the panel at the notching so that the unpainted sides of the panel are facing each other.
4. Slide panel over drip edge, snap in panel, and screw into decking.
5. Repeat steps 2-4 for each Nu-Slim panel along the drip edge.
6. Seal end thoroughly as in Figure 1, or leave tab when notching and folding over the end for a more finished look as in figure 2.

# CONCEALED FASTENER - Rake Trim

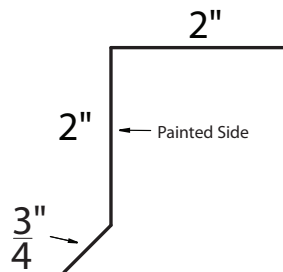


## REQUIRED TRIMS:

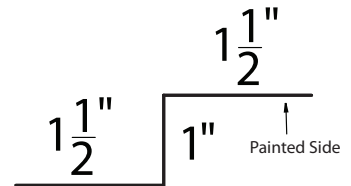
RAKE CFRAS



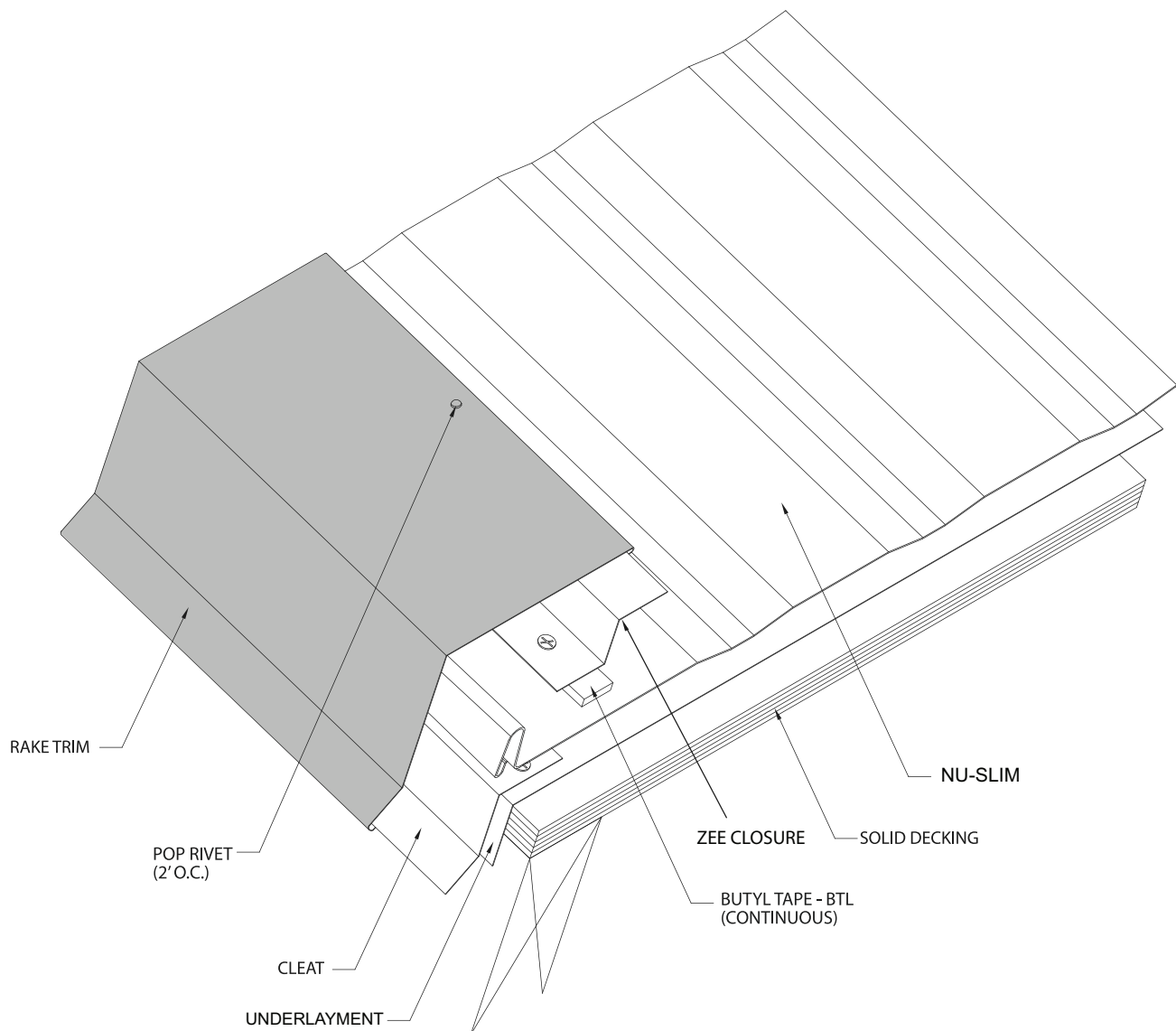
RAKE CLEAT CFRAC



ZEE CLOSURE CFZS



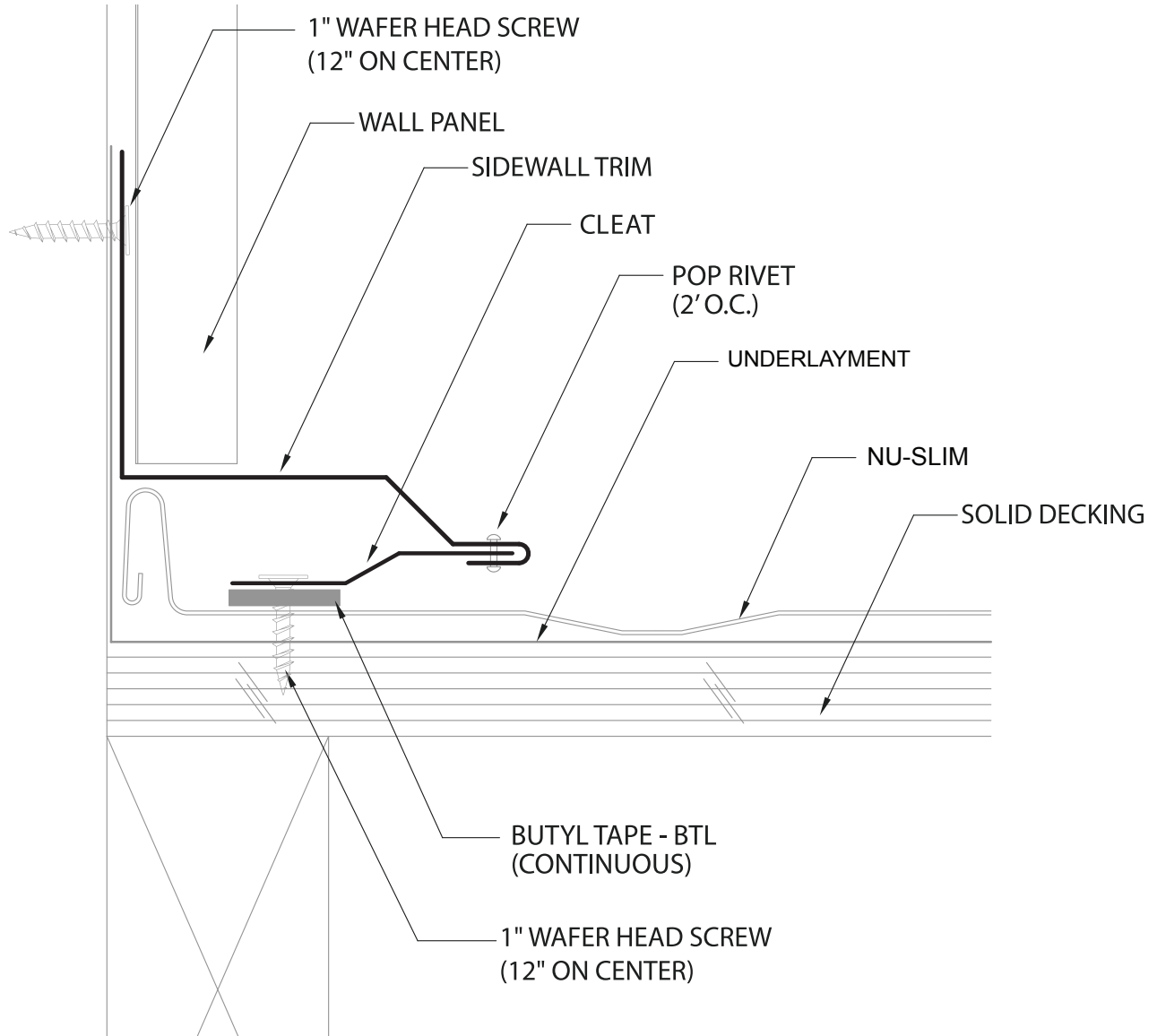
# CONCEALED FASTENER - Rake Trim



## DIRECTIONS:

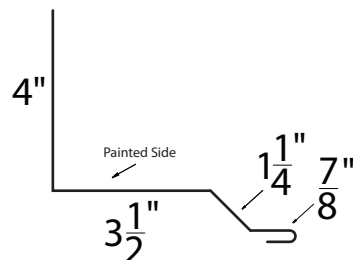
1. Install the cleat along the rake of the roof and install Nu-Slim panel on top of the cleat. The edge of the panel should meet with the edge of the rake.
2. Install zee closure on top of the panel. Use butyl tape beneath to ensure proper sealing. Run the zee along the length of the rake and screw down to the panel.
3. Install the rake trim to the cleat and zee closure by snapping the open hems of the rake trim over the cleat and zee. Pop rivet the rake to the zee along the joints and every 5 feet along the rake. Overlap trims a minimum of 2" with butyl tape between laps.

# CONCEALED FASTENER - Sidewall Trim

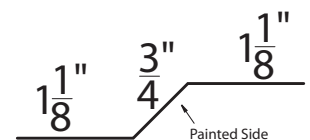


## REQUIRED TRIMS:

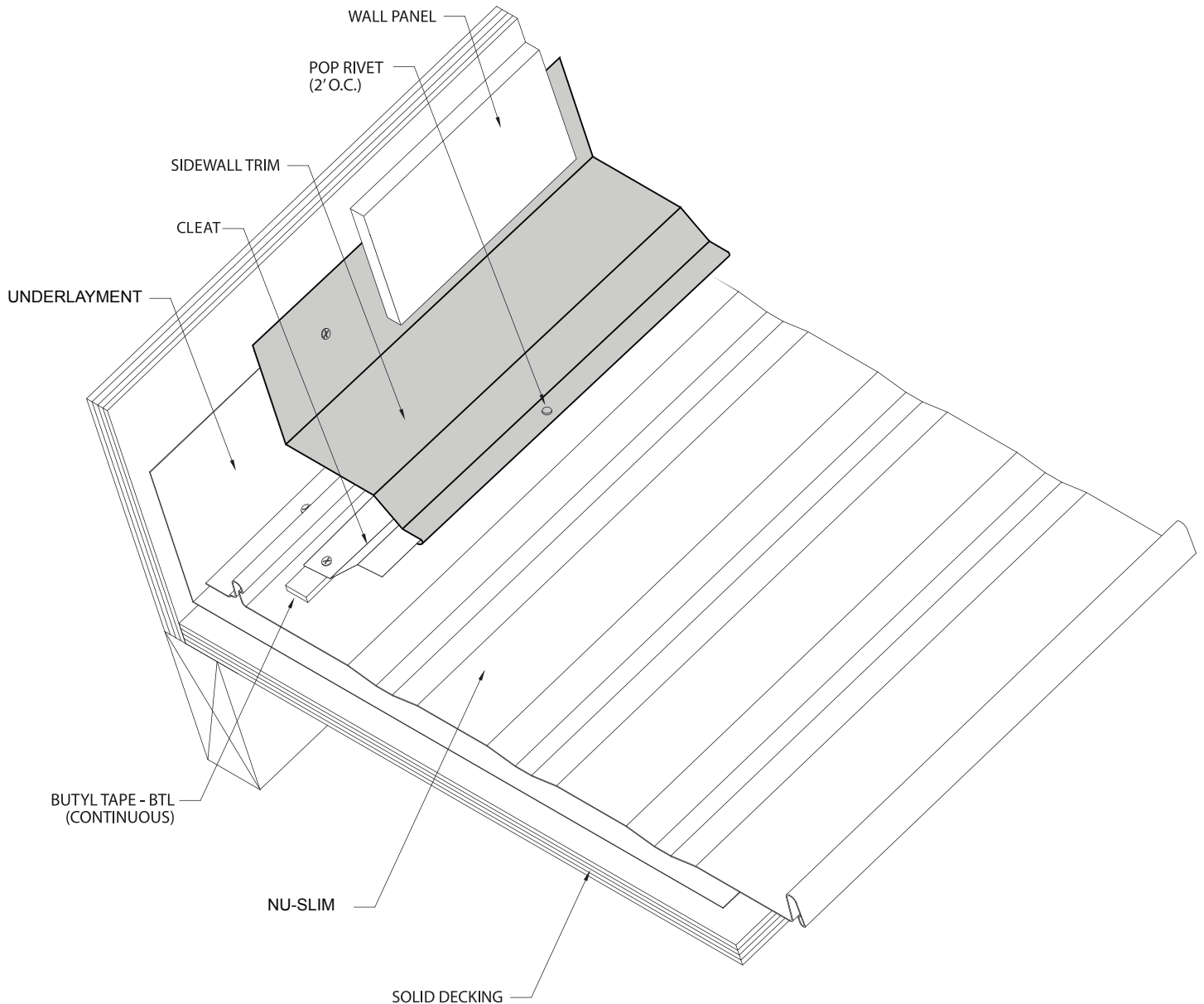
SHORT SIDEWALL - CFSW



CLEAT - CFCL



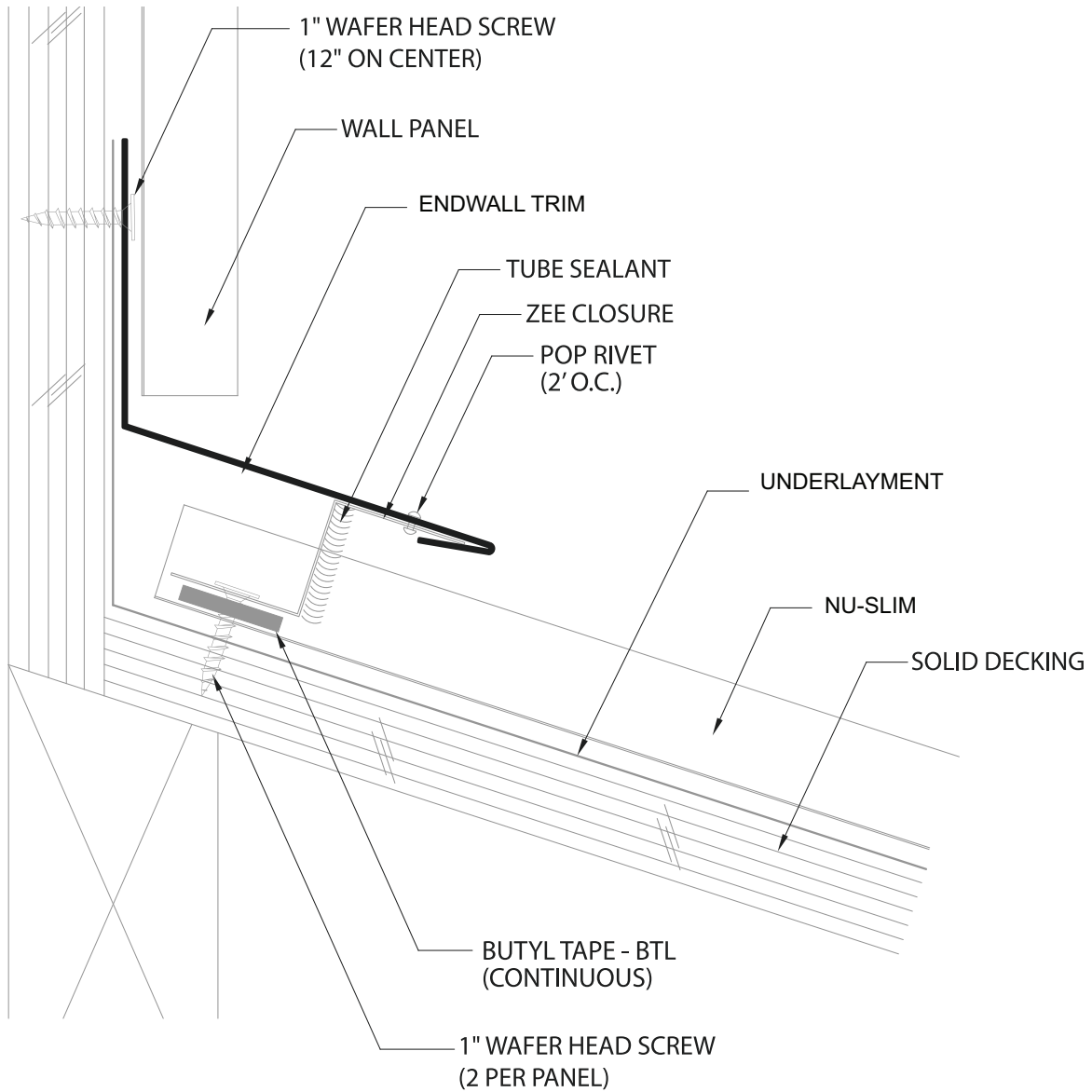
# CONCEALED FASTENER - Sidewall Trim



## DIRECTIONS:

1. Install Nu-Slim panels to the sidewall. Install cleat on top of the panel along the sidewall using butyl tape to ensure proper sealing.
2. Slide the open hem of the sidewall trim over the cleat and screw into sidewall. Pop rivet the sidewall trim to the cleat.
3. Repeat steps 1 and 2 for each panel along the sidewall.
4. Install Nu-Slim panels over the sidewall. Overlap trim a minimum of 2" with butyl tape between laps.

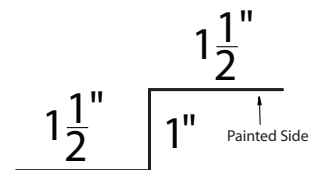
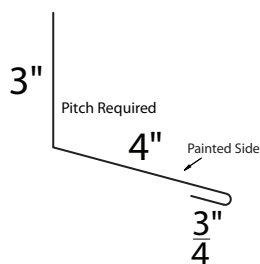
# CONCEALED FASTENER - Endwall Trim



## REQUIRED TRIMS:

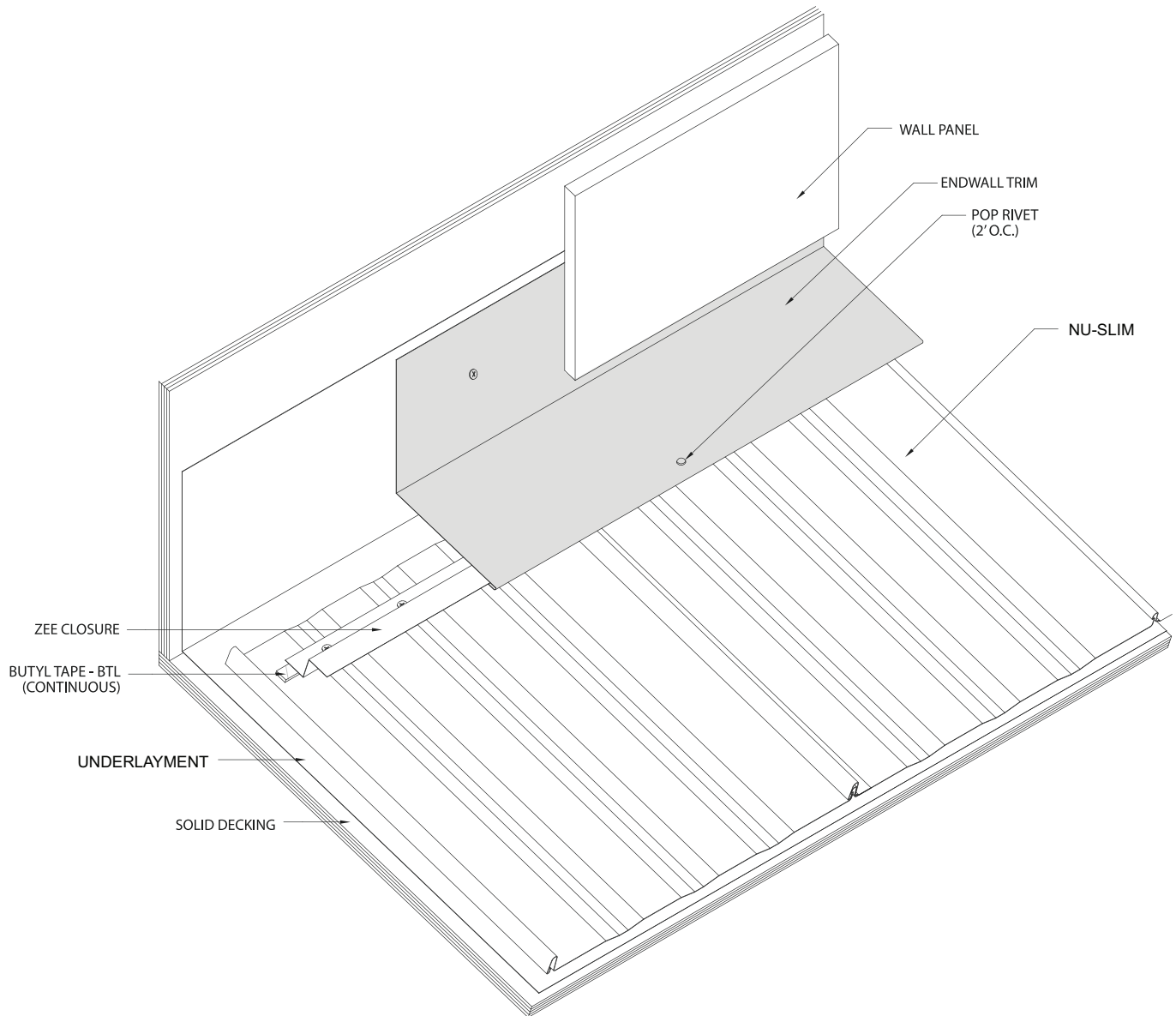
ENDWALL - CFEW

ZEE CLOSURE - CFZS





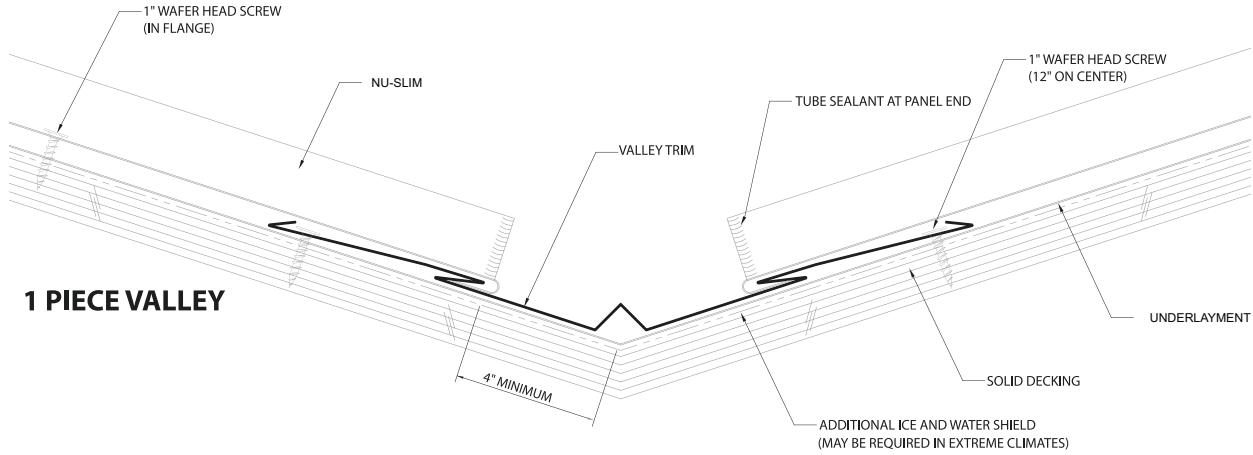
# CONCEALED FASTENER - Endwall Trim



## DIRECTIONS:

1. Install Nu-Slim panels up to the endwall. Install zee closure on top of the panel along the endwall using butyl tape to ensure proper sealing. Zee closures will need to be cut in 15-1/2" lengths and screwed to the panel. Use a drill at high rpm to avoid damaging butyl tape seal when fastening screws. Seal cut edge of zee closure with tube sealant.
2. Slide the open hem of the endwall trim over the zee and screw into endwall. Overlap trims a minimum of 2" with butyl tape between laps. Pop rivet the endwall trim to the zee closure.
3. Repeat steps 1 and 2 for each panel along the endwall.
4. Install wall panels over the endwall.

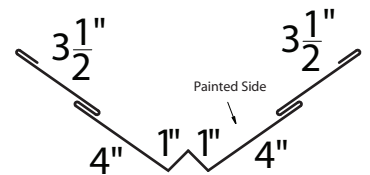
# CONCEALED FASTENER - Valley Trim



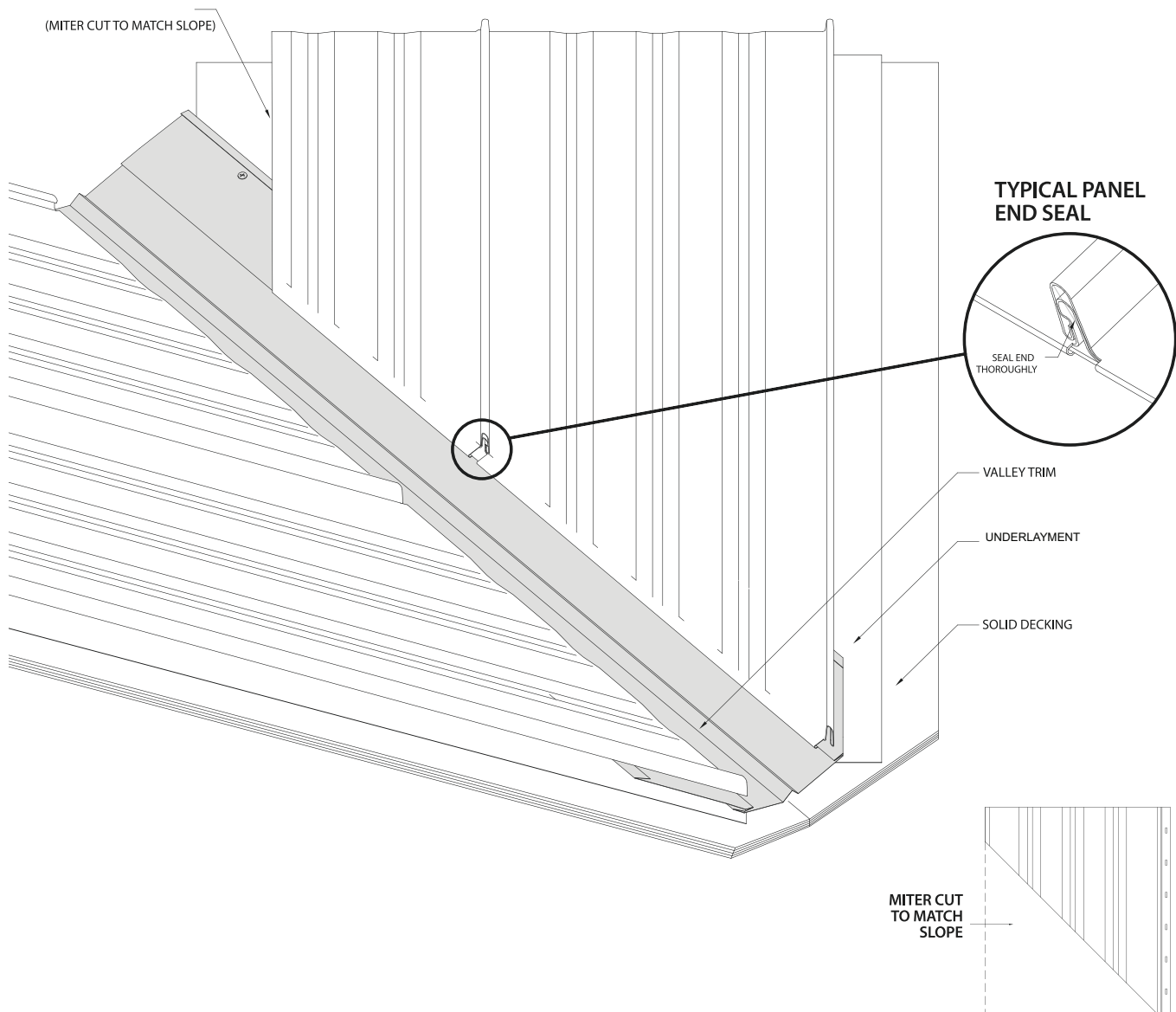
**1 PIECE VALLEY**

## REQUIRED TRIMS:

VALLEY CFVT



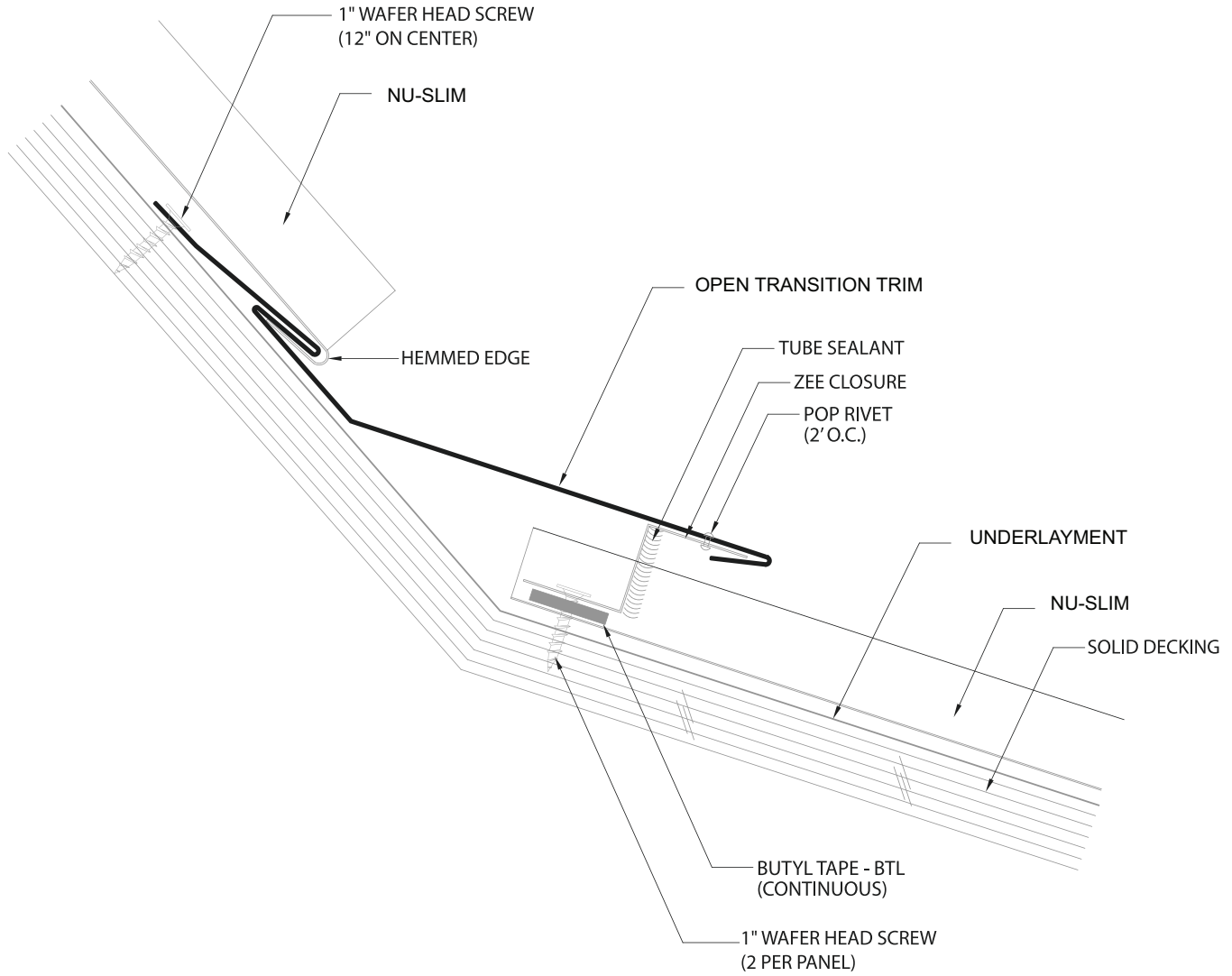
# CONCEALED FASTENER - Valley Trim



## DIRECTIONS:

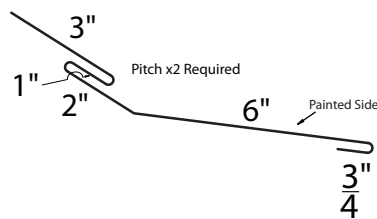
1. Using the folding tool, hem the end of the valley 1 inch and slide over drip edge (if drip edge is being used).
2. Install valley to decking, placing screws as far up as possible on the 3-1/8" section of the valley.
3. Hem the panel at a 45° angle (or according to the valley pitch) where it meets the valley and slide under the open hem on the valley.
4. Slide panel over valley, snap in panel, and screw into decking.
5. Repeat step 3 for each panel as it meets the valley. Overlap trims a minimum of 2" with butyl tape between laps.
6. Use tube sealant at panel end.

# CONCEALED FASTENER - Open Transition Trim

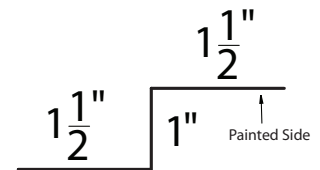


## REQUIRED TRIMS:

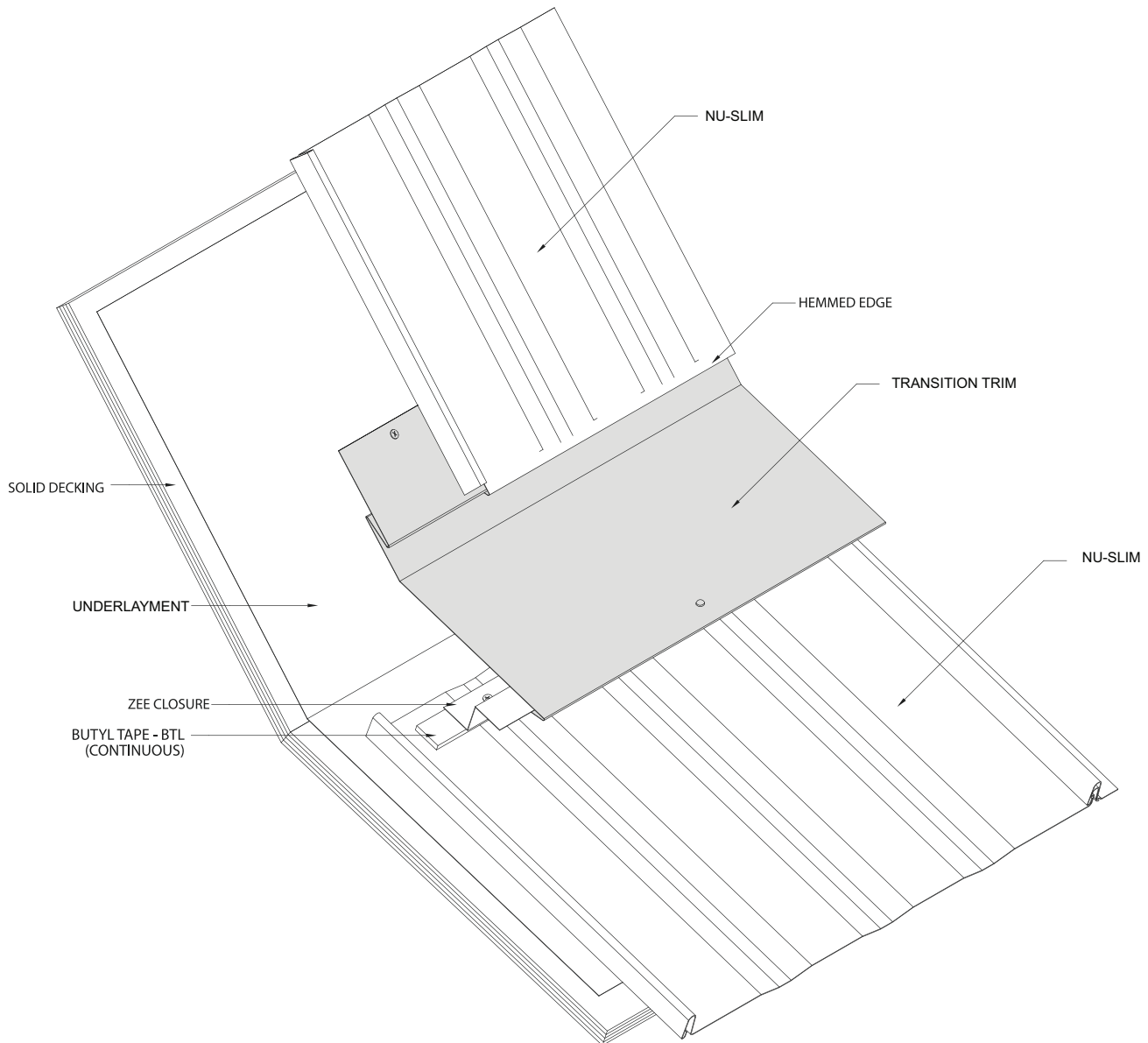
OPEN TRANSITION CFOT



ZEE CLOSURE - CFZS



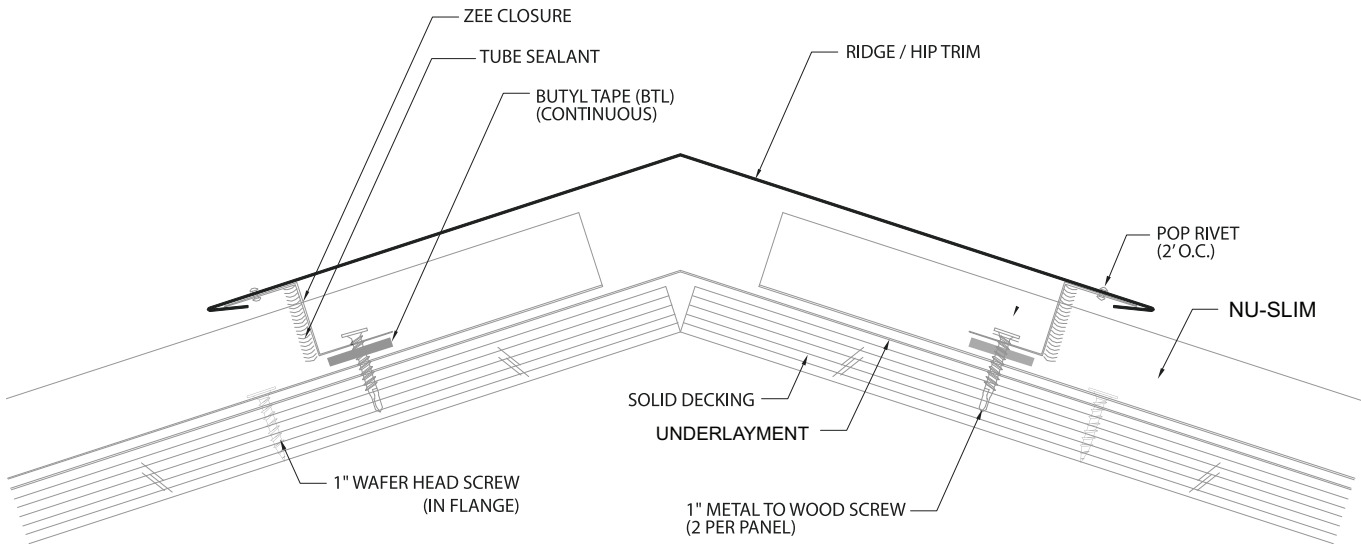
# CONCEALED FASTENER - Open Transition Trim



## DIRECTIONS:

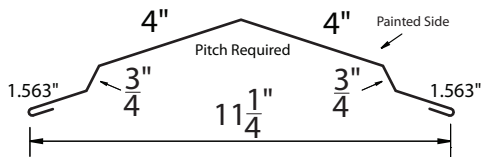
1. Install the bottom Nu-Slim panels and attach zee closures. Zee closures will need to be cut in 15-1/2" lengths and screwed to the panel. Use butyl tape to ensure proper sealing. Seal cut edge of zee closure with tube sealant.
2. Slide the open hem of upper decking. Overlap trims a minimum of 2" with butyl tape between laps.
3. Notch and hem panel 1" and slide over open hem on open transition trim. Screw panel to decking.
4. Pop rivet trim to zee on lower portion of the trim.
5. Repeat steps 1 through 3 for each panel along the transition.

# CONCEALED FASTENER - Ridgecap Trim



## REQUIRED TRIMS:

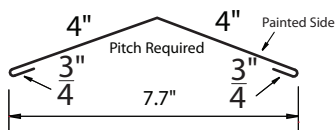
RIDGE CAP CFRC



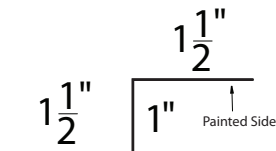
FLAT RIDGE CAP CFFR



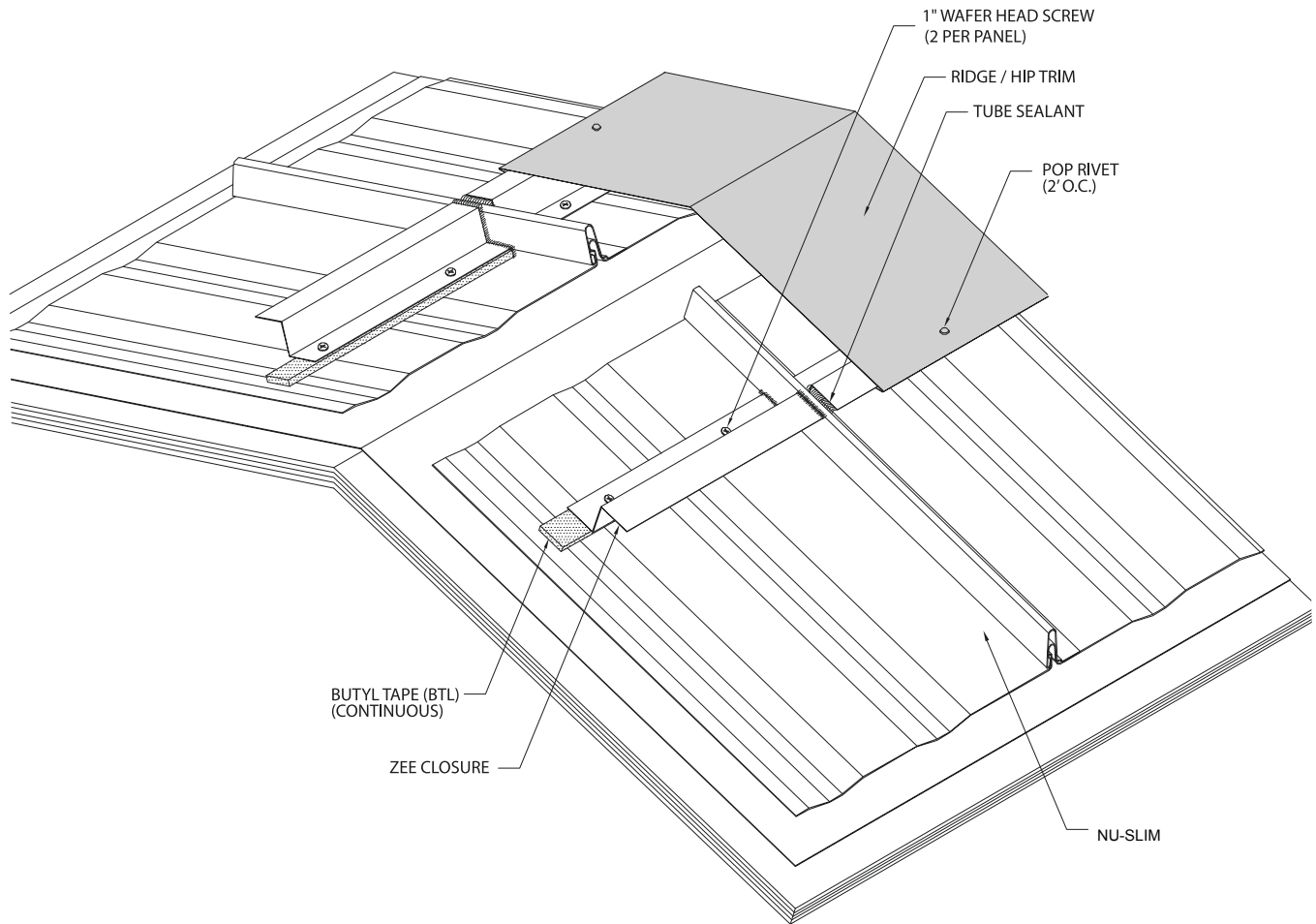
HIP CAP CFHC



ZEE CLOSURE - CFZS



# CONCEALED FASTENER - Ridgcap Trim



## DIRECTIONS:

1. Install panels on both sides of roof up to the ridge, and install zee closures. Zee closures will need to be cut in 15-1/2" lengths and screwed to the panel. Use butyl tape to ensure proper sealing. Seal cut edge of zee closure with tube sealant.
2. Snap ridgcap over zee closures and pop rivet to the zee every 2' and at joints.

When overlapping ridgcap, cut 2" off bottom hem of the underlapping ridgcap and slide upper ridgcap over. Pop rivet with sealant on each lap. Overlap trims a minimum of 3" with butyl tape or sealant between laps.



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