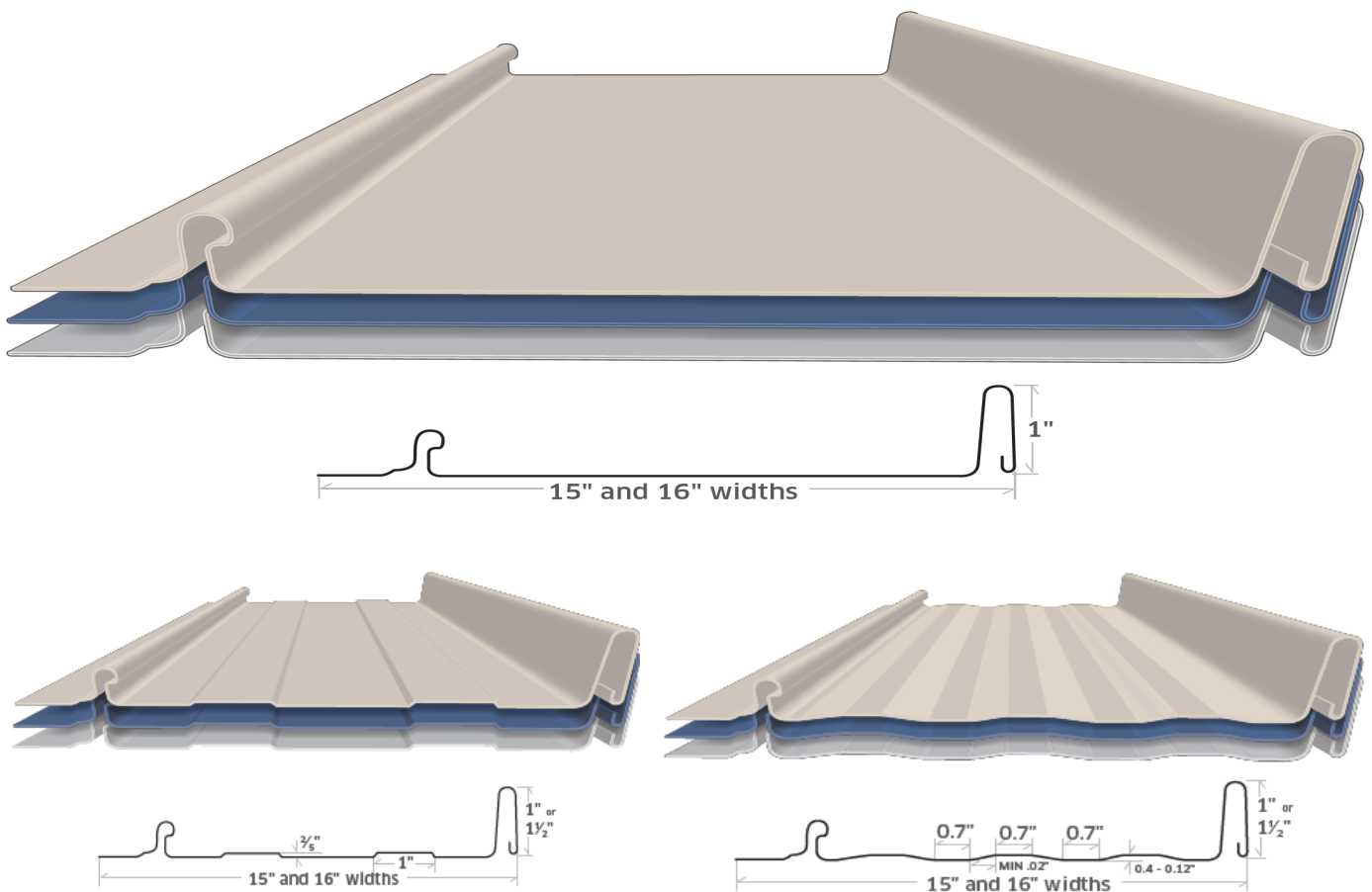


Standing Seam Installation Manual

MID
FLORIDA
Metal Roofing
SUPPLY, INC.

Standing Seam Panel Product Information

- ◇ The Standing Seam panel features a hidden fastener system. At 15" and 16" of coverage; they are available in flat, two-ribbed or wavy striations.
- ◇ Profiles available: 1" & 1-1/2" Nailstrip, 1-1/2" Snaplock, 1" & 1-1/2" Mechanical Lock
- ◇ Application over 15/32 plywood—Approval #: FL9864
- ◇ Available in 24 gauge, .032 or .040 Aluminum



Available in over 30 different colors. Kynar500 paint system.

Also available in Galvalume

Sentriclad standard architectural colors and finishes feature 70% polyvinylidene fluoride (PVDF) resin paint systems to ensure long term color retention and performance.

Oil Canning and Ribbing Information

As a manufacturer of Standing Seam metal roofing MFMRS strives to educate each of our customers about all of the products they are purchasing or may consider purchasing.

In general, oil canning is an aesthetic condition with no effect on the structural integrity of the deck. Since many uncontrollable factors can lead to oil canning, Mid Florida Metal Roofing Supply, Inc. assumes no responsibility for the cost of actions taken in response to an oil canning condition. Oil canning is not grounds for panel rejection.

Stiffening ribs or striations can be added to the center of the panel to minimize the visual effects. The ribbing does not remove the oil canning but can disguise the appearance of it.

As the manufacturer we ensure that all reasonable precautions are taken in the ordering of raw material, production and handling of all material to reduce the appearance of oil canning. We inspect the raw material upon arrival for any defects and confirm that it matches the State of Florida requirements as well as inspect the roll formed product to confirm that it matches the specifications of the machine manufacturer and the Florida Product Approval quality assurance specification.

IMPORTANT NOTICE

- ◇ This manual serves as a guide to proper installation of the Standing Seam panel.
- ◇ It is important to check the local building codes, HOA regulations, etc. before installing a metal roof.
- ◇ If you have any questions regarding the proper installation of the Standing Seam panel, please contact your Mid Florida Metal Roofing Supply representative.

SAFETY

- ◇ Tools recommended: screw gun, snips, nibbler, tape measure, drill bits, gloves, chalk/string line, safety harnesses, etc.
- ◇ Use extreme caution at all times when installing metal roofing.
- ◇ Never walk on a wet or unfastened metal roof panel.
- ◇ Failure to adhere to proper roofing safety guidelines can cause serious injury or death. Refer to OSHA guidelines for safety requirements.

STORAGE

- ◇ If metal panels are not to be installed immediately, keep stored in a dry location. Keep metal panels off of the ground by placing the panels on wood.
- ◇ Any moisture trapped between panels can cause damage to the paint, which can affect the life expectancy of your roof.

Installation Tips

- ◇ The order in which this installation manual is read, is the order in which proper installation should occur. If you have any questions, please contact your Mid Florida Metal Roofing Supply representative.
- ◇ Underlayment installation should start at the eave of the roof and continue along the eave. The general overlap for underlayment is 4". **Please refer to Florida Building codes for specific installation instructions. Mid Florida Metal Roofing Supply recommends, and stocks, High Temp Peel and Stick or Midstate Synthetic Underlayment.**
- ◇ Field cutting material can be done with hand snips, nibblers, and/or shears. Any cutting should be completed on the ground and not above other panels or roof. This will help prevent the accumulation of metal debris that can cause damage to the paint. **Please make sure to brush/clean off the entire roof surface once installation is completed to prevent any issues from leftover shavings.**

***For your convenience Mid Florida Metal Roofing Supply stocks (and recommends) the following:**

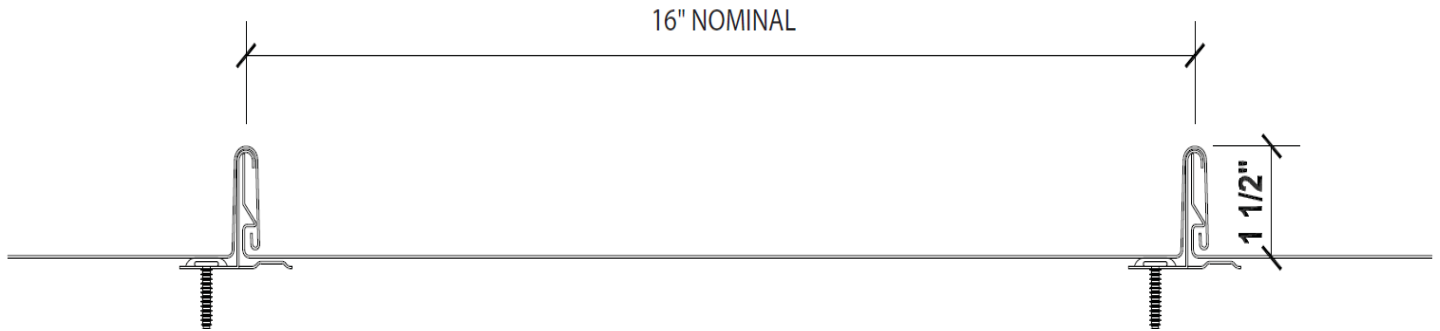
Hand Snips

Hand Seamers/Folding Tools

Nibblers

Panel Applications

For Snaplock installation:

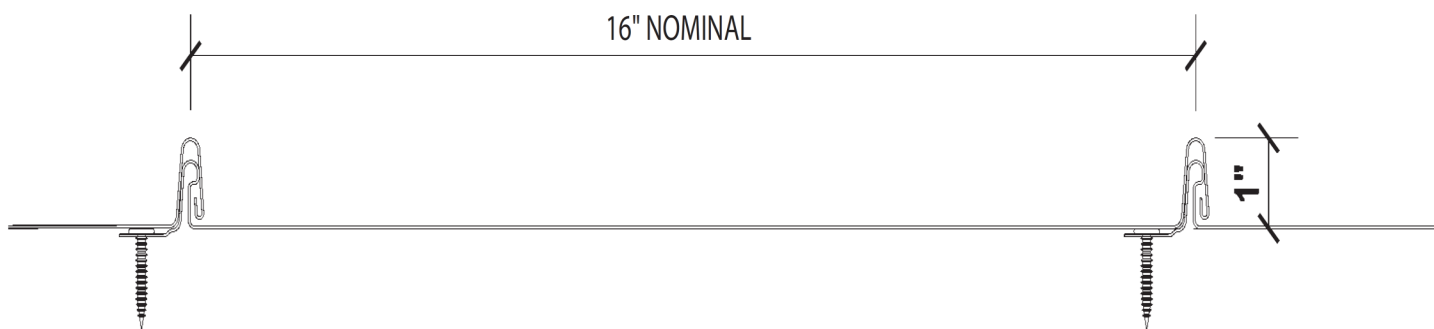


- ◇ Snaplock installation requires clips. (See Below) The clips are slid over the right side of the panel lip and installed directly to the decking using two 1" pancake screws. Clip spacing along the panel is every 24". Snaplock style panels are usually recommended for longer panels as the clip allows better movement for the expansion and contraction that occurs which can help disguise oil canning.



Panel Applications

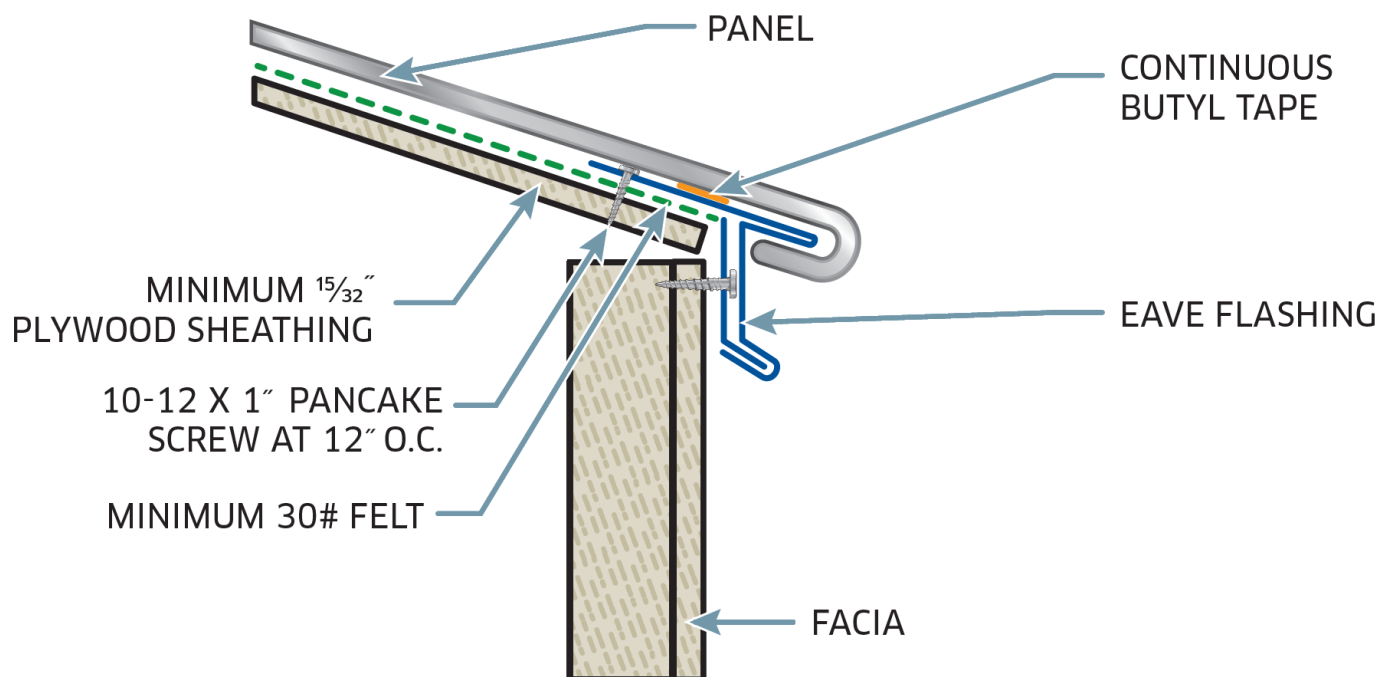
For Nailstrip installation:



- ◇ Nailstrip Standing Seam panels have a 3/4" strip along the right side of the panel with perforated holes. Using 1" Pancake screws, you will fasten these panels every 16" through the perforated holes in the nailstrip of the panel. (See below—Pancake screws)



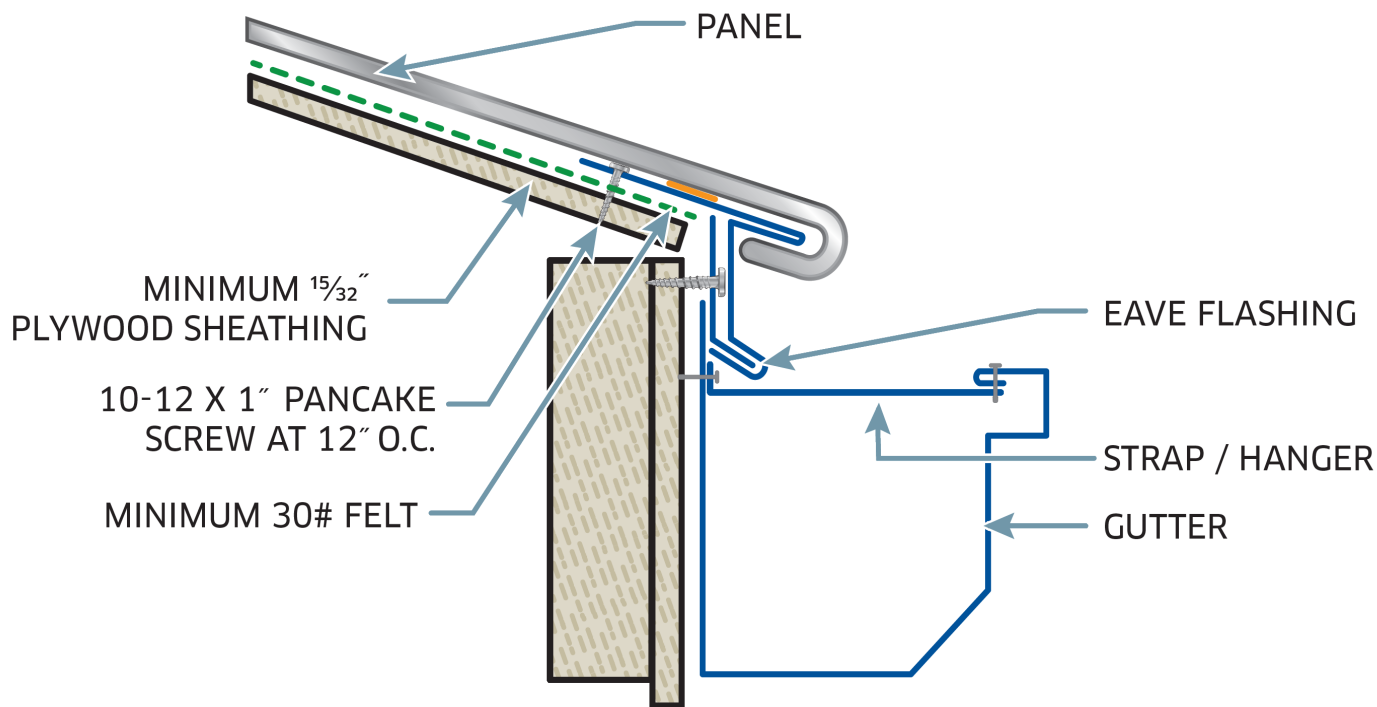
Standing Seam Eave Detail



TIPS:

- ◇ Attach the F Trim or drip edge (#22) to the decking with Pancake screws at 12" on center.
- ◇ **If the face of your drip edge is longer than 2-1/2", you will first attach the Cleat (#47) to the fascia board. The Cleat is fastened with 1" Pancake screws at every 12" on center, making sure to hook the bottom of the drip edge to the bottom of the cleat. **(NOTE: if you use our standard #22, you do not have to use the Cleat under your drip edge)**
- ◇ Allow drip edge to overhang past corner of roof so it can be cut and folded back for a finished look.
- ◇ Once the panel is placed, allow 1" of overhang. Cut the ribs on either side of the panel back, leaving the 1" of panel which will be folded over the drip edge. You can use hand snips and hand seamers to do this.

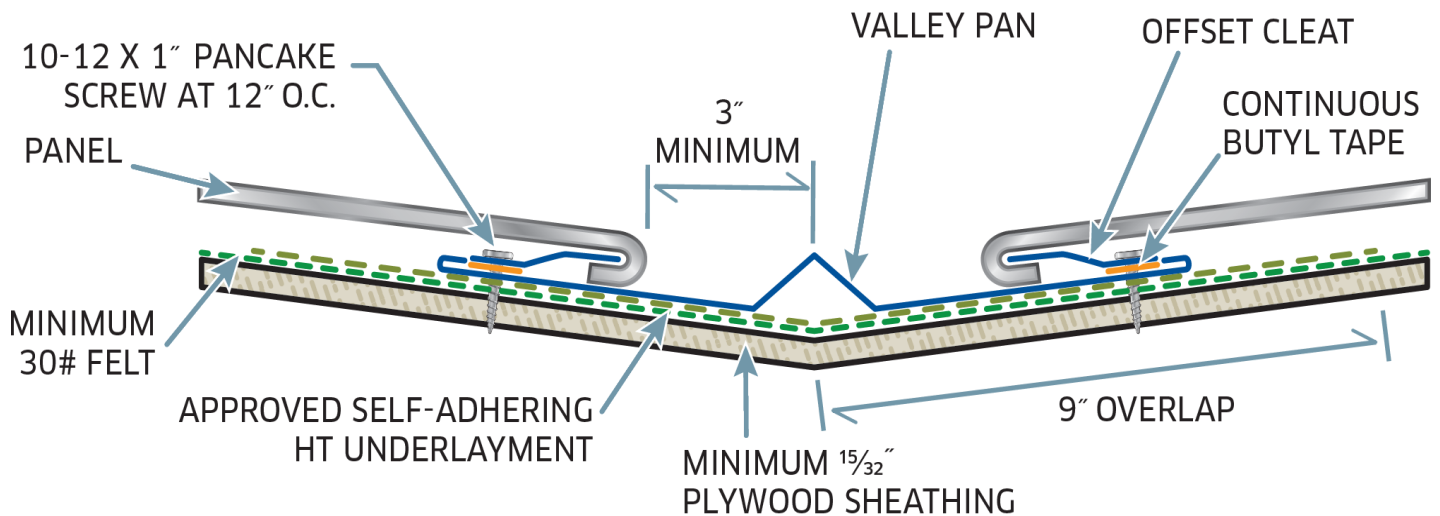
Standing Seam Eave Detail with Gutter



TIPS:

- ♦ Gutter installation can occur after roof installation. The gutter back can be slid up under the Cleat and attached just below.
- ♦ Gutter straps come in a 10' stick and are cut to size and bent on site as needed.
- ♦ Gutter straps are attached by screwing the bent flange into the gutter back and fascia board. The other end of the strap is then riveted to the top front of the gutter.
- ♦ Gutter straps are placed at every 3'.

Standing Seam Valley Detail



TIPS:

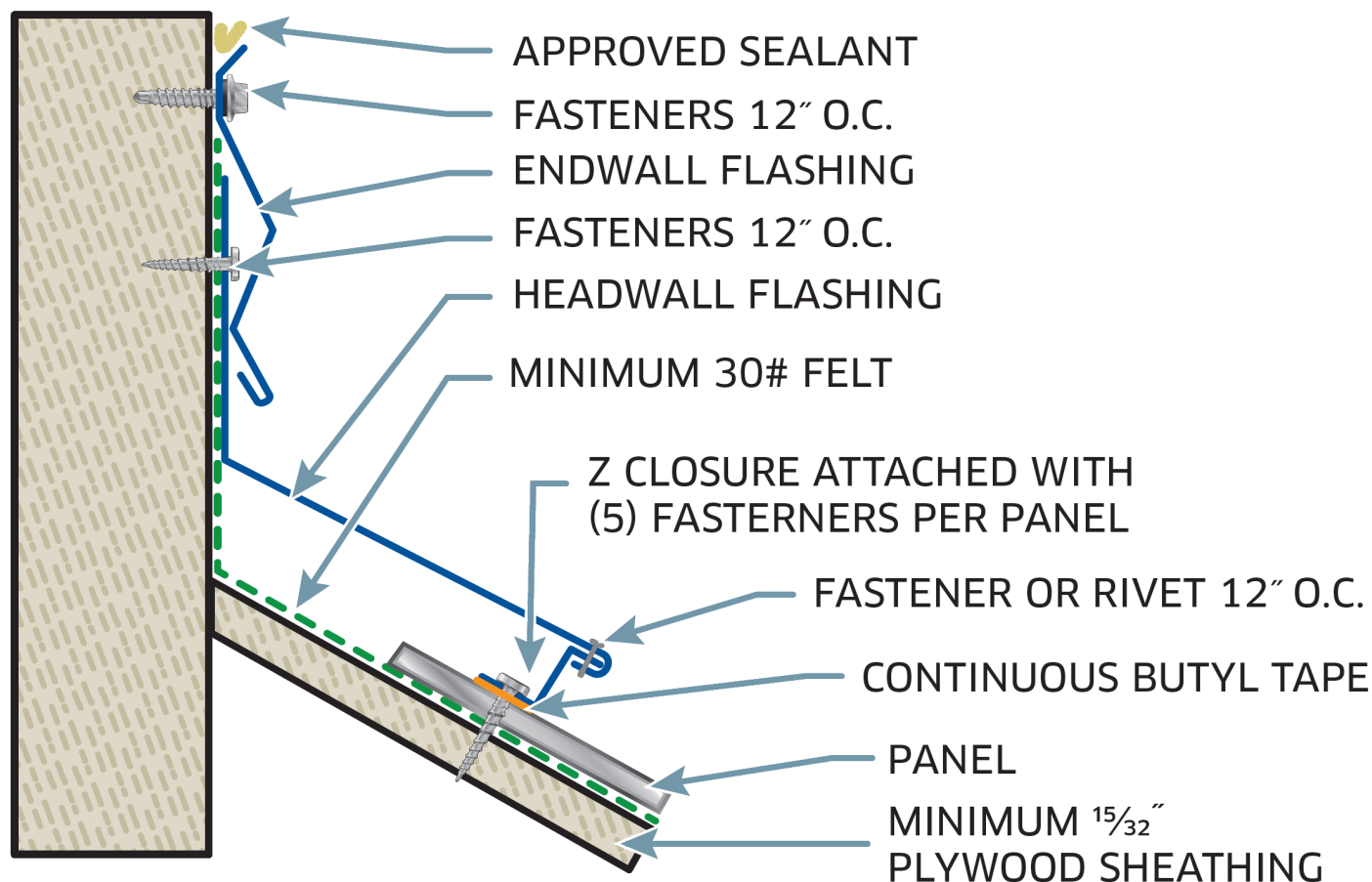
- ◇ When installing Valley Flashing (#42), start at the bottom. Remember to allow for overhang as you'll need to cut the valley flashing back to match eave.
- ◇ Install butyl tape along valley flashing where offset cleat will be fastened.
- ◇ Attach Offset Cleat (#30) to the valley, as shown, a minimum of 3" from the center of the Valley Flashing. Offset Cleat is fastened 12" on center using 1" pancake screws.
- ◇ Cut panels so they stop 3" from the center of the valley; keep in mind to allow 1" of panel that will be bend down and under to fit into Offset Cleat.
- ◇ Slide hemmed panel end onto Offset Cleat and fasten every 12" on center.

Standing Seam Transition Detail

TIPS:

- ◇ Install bottom panels of transition area first.
- ◇ Apply butyl tape in the flats of the bottom panels where the Z-Flashing (#48) is going to be installed.
- ◇ Create notches in the Z-Flashing to fit over the panel ribs and install over butyl tape.
- ◇ Fasten Z-Flashing with 1" Pancake screws at 6" on center.
- ◇ Be sure to seal the notches with Geocel Sealant.
- ◇ Transition flashing (#67) is installed by sliding the open hem over the Z-Flashing.
- ◇ Transition flashing is secured to Z-Flashing using rivets at every 12" on center.
- ◇ Butyl tape is then installed on the top of the transition flashing where the Offset Cleat (#30) will be installed.
- ◇ Install Offset Cleat over butyl tape and fasten using 1" Pancake screws every 24" on center.
- ◇ Top panels can now be installed once the bottom edge of the panel is hemmed.
- ◇ Slide hemmed panel over the Offset Cleat and attach the panel every 12" on center.

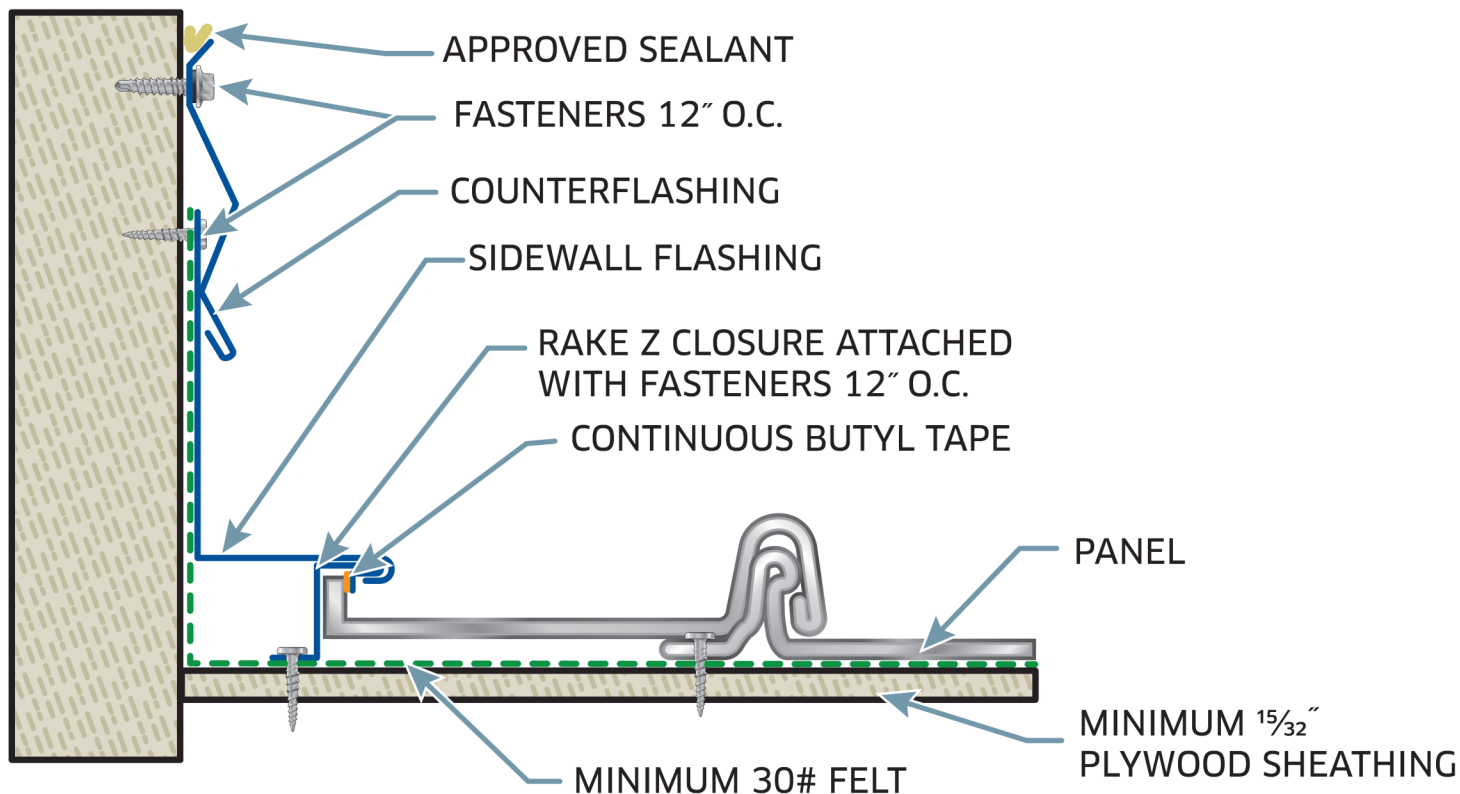
Standing Seam Endwall Detail



TIPS:

- ◇ Apply butyl tape along the flats of the panel and notch the Z-Flashing to fit over the panel ribs then install on top of butyl tape: Fasten using 1" Pancake screws (5 per panel)
- ◇ Be sure to seal the notched areas with Geocel Sealant.
- ◇ Slide open hem of Endwall Flashing (#15) over the lip of the Z-Flashing and fasten with rivets every 12" on center.
- ◇ Attach Endwall flashing to wall under siding. If there is no siding, Counter Flashing (#34) can be installed (as shown above) over the top of the Endwall Flashing to create a more finished look. Be sure to seal the top of the Counter Flashing with Geocel Sealant.

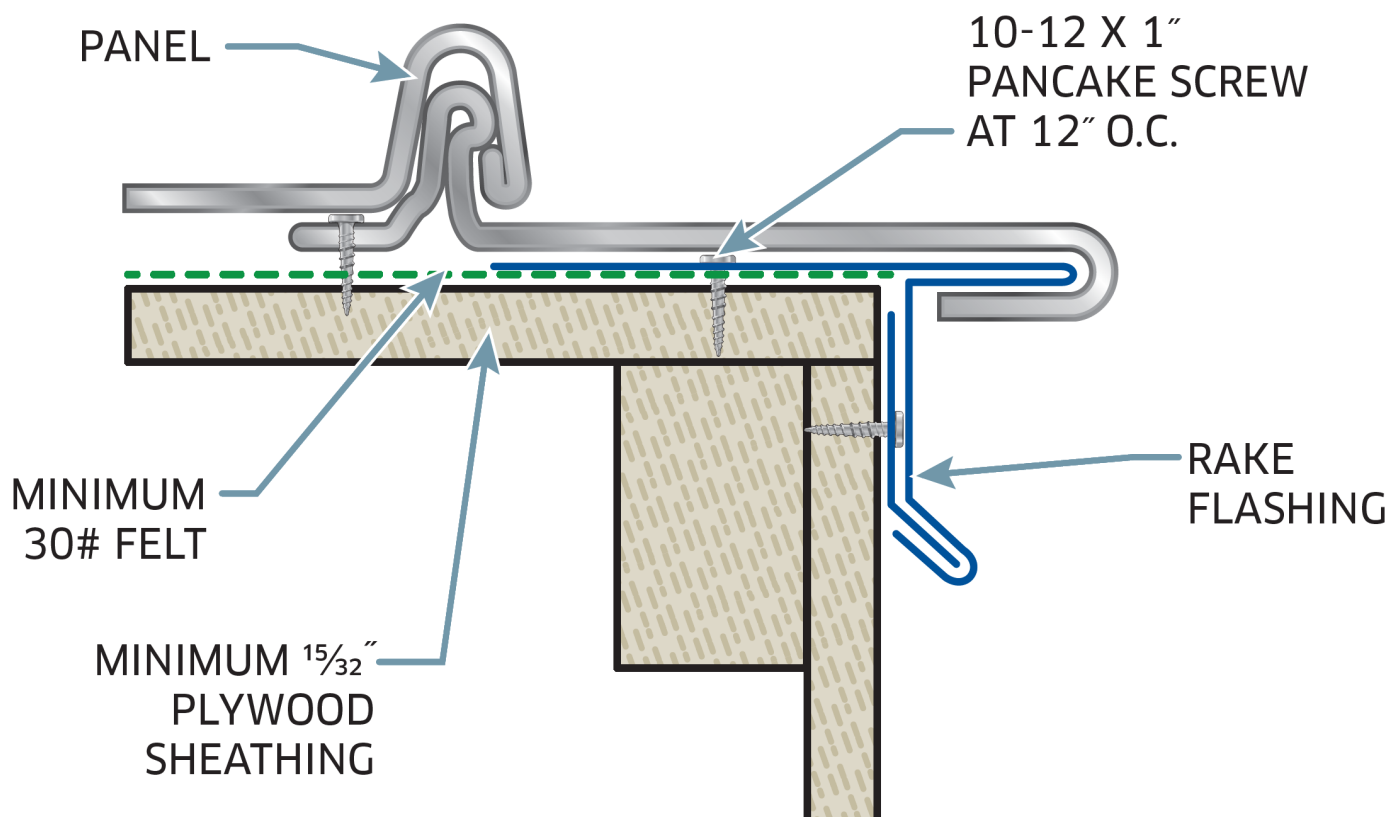
Standing Seam Sidewall Detail



TIPS:

- ♦ Apply butyl tape along the panel where the Z-Flashing is going to be installed.
- ♦ Attach the Z-Flashing using 1" Pancake screws at every 12".
- ♦ Slide the open hem of the Sidewall Flashing (#37) over the Z-Flashing and secure with rivets every 12" on center.
- ♦ Attach Sidewall flashing to wall under siding. If there is no siding, Counter Flashing (#34) can be installed (as shown above) over the top of the Sidewall Flashing to create a more finished look. Be sure to seal the top of the Counter Flashing with Geocel Sealant.

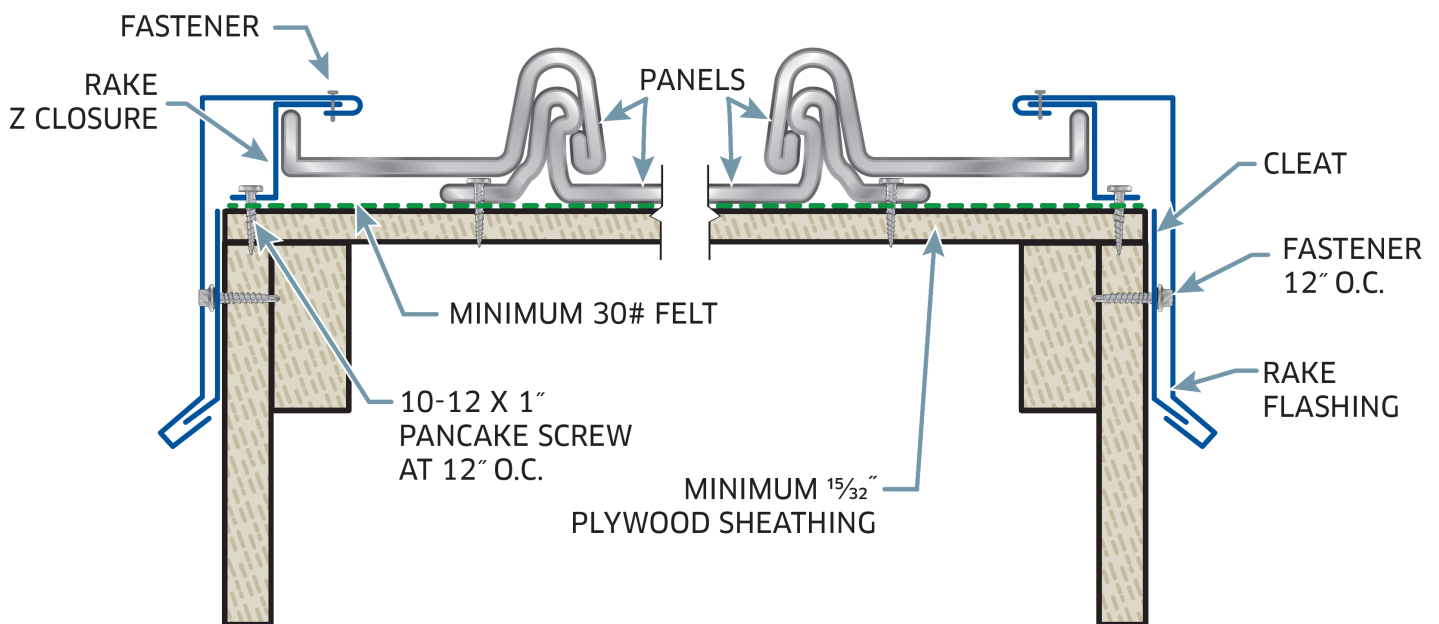
Standing Seam Rake/Gable Detail (Option 1)



TIPS:

- ◇ Gable option 1 is more commonly used when panels are short. This is because it requires cutting and hemming the entire length of the panel on one side.
- ◇ Install Cleat (#47) along the entire gable end fastening with 1" Pancake screws every 12"
- ◇ Install F Trim (#22) making sure snap the bottom hem over the Cleat fastening every 12" on center.
- ◇ Install panel making sure to secure hemmed side over F Trim. Hand seamers can be used crimp the panel ends.

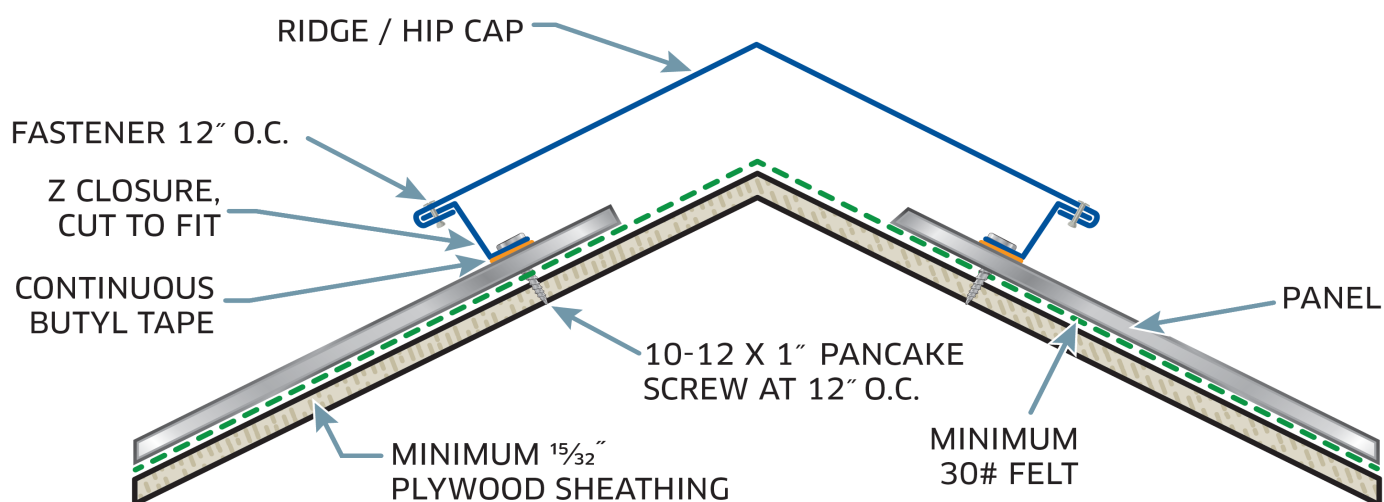
Standing Seam Rake/Gable Detail (Option 2)



TIPS:

- ♦ If the panel leading up the gable end does not have a rib that is going to be under the Gable Trim (#49), then the panel will need to be bent up 1".
- ♦ Butyl tape is applied where the Z-Flashing will be installed.
- ♦ Install the Z-Flashing using 1" Pancake screws every 12".
- ♦ Install Gable Trim by attaching the top hem to the Z-Flashing and the bottom hem to the Cleat.
- ♦ Use rivets to fasten the Gable Trim to the Z-Flashing every 12".

Standing Seam Hip/Ridge Detail



TIPS:

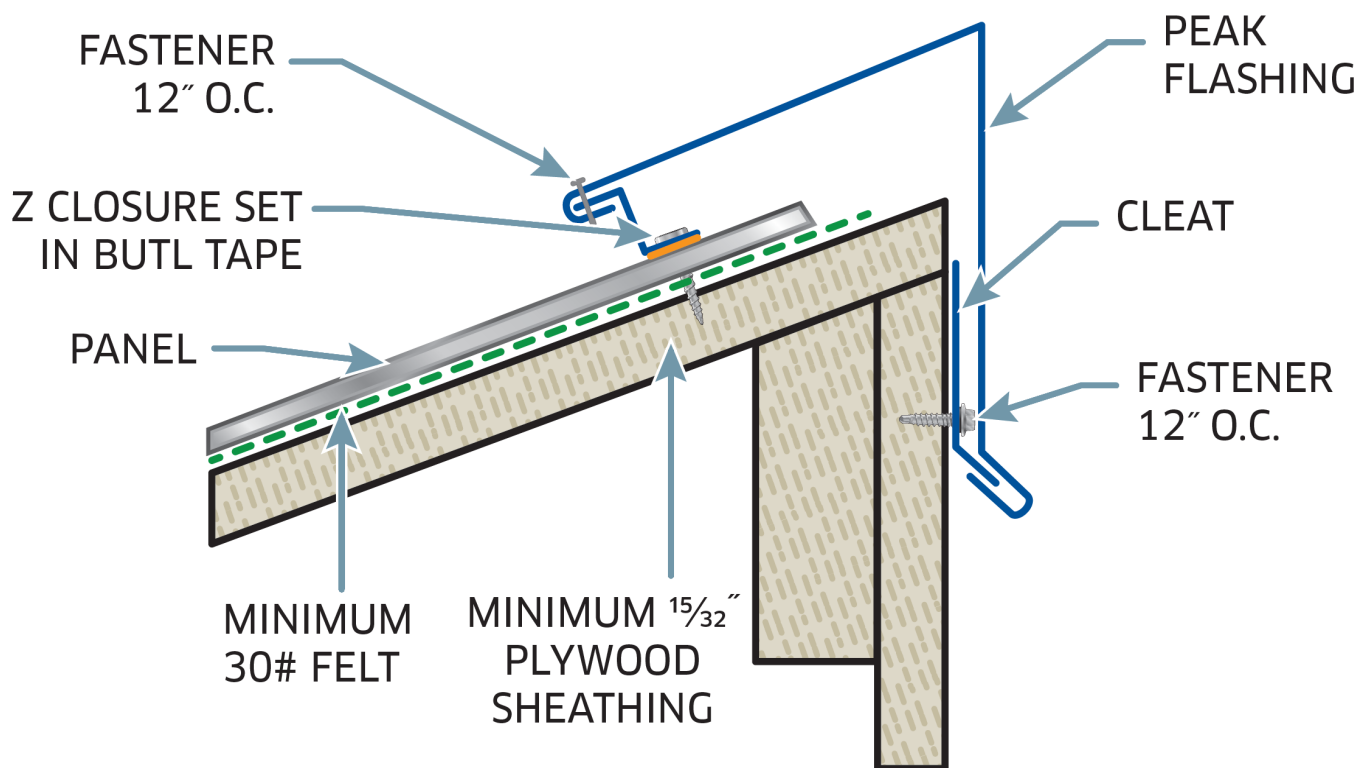
- ◇ Apply butyl to flats of panels.
- ◇ Notch Z-Flashing to fit over ribs of the panels and install on butyl tape fastening every 12" with 1" Pancake screws.
- ◇ Be sure to seal notched areas with Geocel Sealant.
- ◇ Install Ridge/Hip Cap (#2) making sure open hems on the ridge cap snap over the Z-Flashing.
- ◇ Fasten using rivets every 12" on center.

VENTED RIDGES:

- ◇ Vent clips are made from Z-Flashing by cutting the standard length Z to 3" pieces.
- ◇ Install butyl tape at every clip; Vent clips are spaced at every rib.
- ◇ Install Razorback Ridgevent under the profile of the Vent Clip.
- ◇ Attach Ridge/Hip Cap to the Vent Clips with rivets.

NOTE: Please specify the pitch of your roof when ordering.

Standing Seam Peak Detail



TIPS:

- ◇ Install Butyl tape in flats of panels where Z-Flashing will be installed.
- ◇ Install Z-Flashing and notch to fit over the ribs of the panel and fasten with 1" Pancake screws every 12".
- ◇ Attach Cleat (#47) to the wall using 1" Pancake screws every 12".
- ◇ Attach overbent Ridge Cap (or peak cap) to the Z-Flashing making sure to snap the open hems over the Cleat.
- ◇ Fasten Peak Cap with rivets through the Z-Flashing at 12" on center.

NOTE: Please specify angle needed for overbent peak cap when ordering.

Boot Installation



STEP 1:

Choose appropriate pipe flashing with opening at least 20% smaller than pipe diameter.

If necessary, trim opening to 20% smaller than pipe diameter.



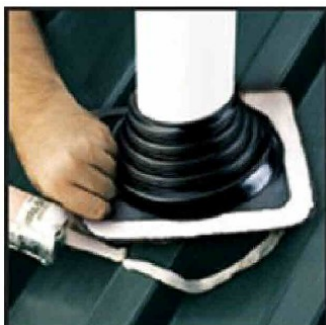
STEP 2:

Slide pipe flashing down over pipe (A non-petroleum based lubricant will ease installation)



STEP 3:

Press pipe flashing down, bending it to conform to roof profile or roof irregularities. A blunt tool will help press flashing into tight roof angles. Trace exterior of base flashing with a non permanent device , being careful not to score painted metal surface.



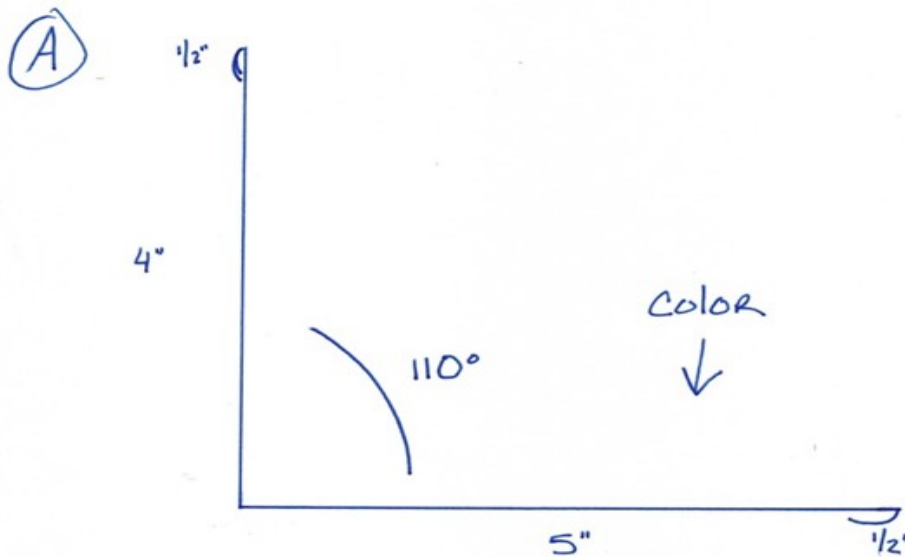
STEP 4:

Apply Geocel sealant between base and roof inside of trace line. Use fasteners to complete sealing. For UPC installation, fastener spacing may not exceed 1-1/2" O.C. (Premium fasteners are recommended.)

Custom Trim

Customer:	TOM LANE
Work Order:	99999

CUSTOM DRAWING



Mid Florida Metal Roofing Supply can create custom trim designs to meet your specific needs.

If you would like to request custom trim, please provide the following:

1. A profile drawing of the trim.
2. All measurements, including hems.
3. Specify pitch or degree that the angle is needed.
4. Indicate the color side of the trim.

(SEE ABOVE)

Maintenance Instructions

I. MAINTENANCE BY INSTALLER BEFORE LEAVING JOBSITE.

- A. REMOVE MEATL FILINGS from panels and flashings at the end of each day. Filings from drilling, grinding and cutting can start to rust overnight. At end of project, make final check for any filings. If rust spots have already appeared they can be removed with a non-abrasive cleaner. Do not use abrasive cleaners.
- B. TOUCH-UP PAINT should be used on scratches, but should be used sparingly and applied with a small artist's brush. If scratches penetrate the zinc coating on galvanized material, a zinc rich primer should be applied in the scratch before the touch-up paint is applied.
- C. CLEAN OR POWER WASH panels as necessary after completion of project. This includes removing excess unsightly caulking. Caulking can be removed with mineral spirits. Rinse residue with clean water.
- D. REMOVE DEBRIS AND CRATING MATERIAL from the site.

II. ROUTINE MAINTENANCE FOR METAL PANELS BY OWNER'S AGENT OVER LIFE OF BUILDING.

- A. FILE ALL JOB RECORDS, including project plans, specifications, shop drawings, warranties (if any), etc., for future reference.
- B. SET UP MAINTENANCE INSPECTION SCHEDULE. Metal panels normally require little maintenance, but to assure optimum serviceability, a routine inspection should be conducted at intervals no greater than once a year. NOTE: STEEP METAL ROOFS CAN BE SLIPPERY. A QUALIFIED METAL ROOFING CONTRACTOR MAY BE REQUIRED FOR ROOF INSPECTIONS.
- C. KEEP GUTTERS AND DOWNSPOUTS CLEAR of debris that can impede water flow.
- D. IMMEDIATELY REMOVE ANY VEGETATION OR DEBRIS that contacts metal panels. This includes tree branches, leaves, weeds, grass, etc.
- E. CLEAN METAL PANELS as necessary with a 5% solution, in water, of commonly used commercial and industrial detergent. Use a cloth, soft bristle brush, or pressure washer. Rinse completely with water. When surfaces are dulled by heavy deposits of dirt or other contaminants, a heavy duty, 1/3 cup of dry powdered laundry detergent (such as Tide) mixed with water may be used, followed by a water rinse. Mildew may be removed by a solution of 1/3 cup of dry powdered laundry detergent (such as Tide), 2/3 cup of tri-sodium phosphate (such as Soilax), 1 quart sodium hypochlorite 5% solution (bleach), mixed with 3 quarts of water. (Note: do not use bleach on Galvalume-coated panels.) Tar, grease or oil may be removed by using denatured alcohol, isopropyl alcohol, or mineral spirits followed by a water rinse. Proceed with caution as aggressive cleaning with any of the above-described procedures may damage the coating and thus void any warranty.

- F. REPAIR DAMAGE that may have occurred to panels with caulking, touch-up paint, etc.
- G. CORRECT ANY SIGNS OF CORROSION OR DETERIORATION as necessary.

III. ADDITIONAL ROUTINE MAINTENANCE FOR METAL PANELS.

- A. ELIMINATE ANY CONDITIONS THAT ARE CAUSING WATER TO POND AND ACCUMULATE on panels.
- B. RESEAL, GUTTERS, FLASHINGS, CLOSURES, PENETRATIONS, ETC., as necessary to maintain the watertightness of the system. Typically, a non-acid cured silicone caulk or one part polyurethane sealant (such as Geocel) is best for such repairs. The owner may wish to hire a qualified, experienced metal contractor for these repairs.
- C. REMOVE SALT DEPOSITS by a fresh water rinse in salt spray areas.

Terms and Conditions

1. CANCELLATION AND RETURN POLICY

Once an order has been placed for a manufactured item, it cannot be cancelled. All panel orders and special order (non-stock) trim are considered the property of the customer and are non-refundable once they have been manufactured. All goods are sold "AS IS". Accessories are refundable as long as they are returned in a clean, re-saleable condition. Restocking charges may apply.

2. ORDER PROCESS

Customers must confirm all orders in writing via text, email, fax or in person.

3. PRICING

Pricing is subject to change without notice. All initial pricing given includes a cash discounted price. If paying with a credit card, please add 4% to your total amount.

4. SALES TAX

All orders are subject to sales tax unless a current sales tax exemption certificate is provided to MFMRs prior to sale.

5. PAYMENT TERMS

- A deposit in the amount of 50% of invoice total is due at the time of placing the order. The remainder is due at the time of pickup or before delivery, unless otherwise agreed to in writing.
- Credit terms may be established at the sole discretion of the financial department of MFMRs. MFMRs reserves the right to deny credit without explanation.
- All credit accounts are required to complete a "Job Information" form or submit a recorded notice to owner on all material being supplied

6. ORDER ACCURACY

Purchaser assumes all responsibility for accuracy of order. All cut lengths and quantities are to be provided by purchaser and not based on comments or suggestions of any employee or representative of MFMRs.

7. STANDING SEAM MATERIAL ORDERS

For material orders up to 500 LF there will be a minimum charge of \$65.00 per order for crating material (12ft in length). Larger jobs will be quoted on a job specific basis depending on quantity of material ordered. A signed Standing Seam disclaimer will be required on all standing seam orders!

8. MISCELLANEOUS

- a. There will be a charge of \$50.00 for any returned checks
- b. This contract shall be governed by and construed in accordance with laws of the state of Florida.
- c. Purchaser, by placing its order with seller, represents and warrants that purchaser is familiar with and in compliance with all laws and regulations applicable to its work, including all Florida Product Approval requirements and OSHA rules and regulations with specific reference to the safety standards for fall protection in the construction industry.
- d. Purchaser assumes all responsibility for applying county codes and guidelines applicable to work performed.

9. INFORMATION TO BE NOTED

Galvalume

Uniform visual appearance (color, spangle, shadow spots, and striping) of unfinished Galvalume(r), Acrylic Galvalume(r), Galvanized, Acrylic Galvanized, Aluminum, and Paint Grip panels cannot be guaranteed. If uniform appearance is desired, then prepainted Galvalume(r) or Galvanized should be ordered. Non-uniform surface appearance (color, spangle, shadow spots, and striping) may occur over time, it does not

represent a deficiency in the material, nor does it affect any warranties which may be in place, and it is not a reason for rejection.

OIL CANNING

Oil canning can be defined as the actual waviness in the flat areas of roofing and siding panels. Generally the period and amplitude of the wave depend on the width of the flat. Oil Canning is an inherent condition with light gauge cold formed metal products, and can result from residual stresses induced or redistributed during coil production, slitting, perforating, forming or fabrication of steel products. Improper deck handling, installation or attachment to misaligned steel supports can also cause oil canning.

In general, oil canning is an aesthetic condition with no effect on the structural integrity of the deck. Since many uncontrollable factors can lead to oil canning, the manufacturer assumes no responsibility for the cost of actions taken in response to an oil canning condition. Oil canning shall not be a cause for rejection of material.

10. THINGS YOU SHOULD KNOW

Cutting panels:

- All material should be cut with nibblers, tin snips or a profile shear if available. You always want to make a shearing / pinching cutting action versus an abrasive cutting action from a circular saw. Although it is not the recommended choice of Mid Florida Metal Roofing Supply to use a saw for cutting we understand that many will still do so. There are two concerns when using a saw. First, be sure that no burrs are left on the ends of the panel. The rough edges are not protected and will rust. Second, the filings or shavings coming off of the blade are hot and will adhere to the surface of the panels and these will also rust. Be sure all filings and shavings are removed from the surface as they will rust and pit the material.

Corrosive / dissimilar materials to avoid:

- Graphite pencils should be avoided when marking panels. Graphite will corrode the metal and within a short period of time rust will form. Lead and Copper boots are also corrosive to Galvalume.
- Direct contact with pressure treated lumber and metal roofing must be avoided to prevent potential corrosion.
- Damage will result if uninstalled panels or trim are allowed to remain wet in storage. Be sure to store material that will not be installed immediately in a dry location. Wet material should be air-dried and re-stacked if installation is not planned right away.
- Nibblers, and especially Carborundum blades on electric saws, do have a tendency to either leave hot metal particles that can burn paint surfaces or leave rust marks on panels and trim. The same is true of any filings left on the roof caused by the application of screws. Care should be taken to brush all such particles from roof surfaces after application. CAUTION! clean all metal shavings and particles off of roof to avoid unsightly rust stains.

11. PICK UP DISCLAIMER NOTICE

- Mid Florida Metal Roofing & Supply sincerely appreciates your business. Unfortunately, our facility does not have the capacity to store material in the volume that we are producing. Therefore, it is important orders are picked up promptly after the first notification. We will make every attempt possible to notify you via the contact information provided.
- If product is not picked up within 15 business days from 1st notification that it is ready, storage fees will be added and calculated at \$15 per day.
- **After 30 business days, material becomes the ownership of Mid Florida Metal Roofing.**