

MASTERLOK-FS

INSTALLATION

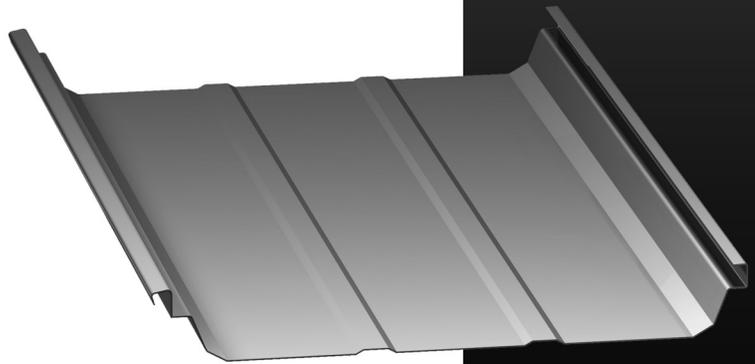


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GENERAL NOTES

The details shown on the following pages are suggestions or guidelines for installing the MasterLok-FS (Field Seam) roof panel system. The installation details shown here are proven methods of construction, but they are not intended to cover all building requirements, designs or codes. The details may require changes or revisions due to individual project conditions.

Installation procedures shall be in accordance with the manufacturer's printed instructions, details or approved shop drawings. Installers should thoroughly familiarized themselves with all instructions prior to beginning the installation process.

The designer/installer is responsible to ensure the following:

That the details here meet the particular building requirements.

Awareness of and allowance for expansion/contraction of the roof panels.

That adequate water tightness is maintained.

That a proper uniform substructure is used to avoid panel distortion and that the substructure meets necessary code requirements.

That all supporting members have been examined and are straight, level and plumb.

McElroy Metal can provide all flashings and accessories shown in the installation drawings unless noted otherwise. Panels, flashing and trim shall be installed true and in proper alignment with any exposed fasteners equally spaced for the best appearance. Sealant shall be field applied on a clean, dry surface.

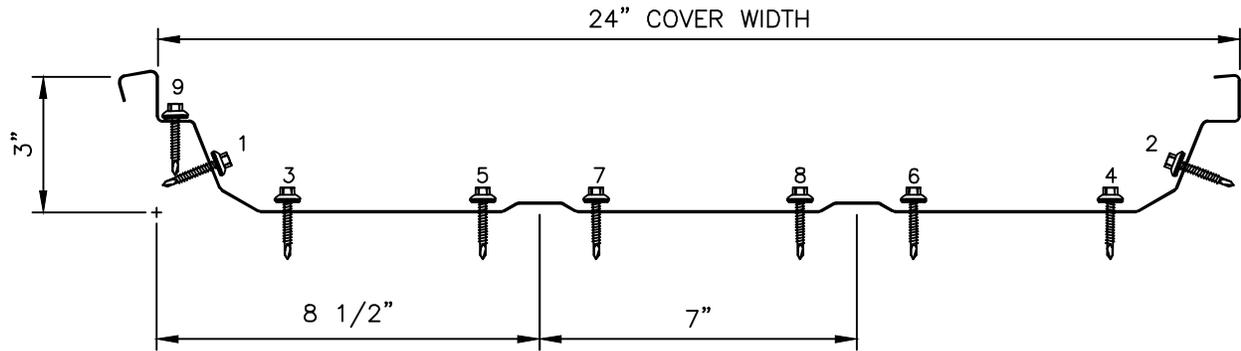
Some field cutting and fitting of panels and flashings is to be expected and to be considered a part of normal installation work. Workmanship shall be of the best industry standards and with installation performed by experienced metal craftsmen.

Oil canning of metal panels is inherent in the product and is not a cause for rejection. Striated panels are recommended as they reduce the appearance of oil canning.

Contents of this manual are subject to change without notice. To confirm this book is the most current copy, please visit McElroy Metal's website at www.mcelroymetal.com.

FASTENER PATTERNS

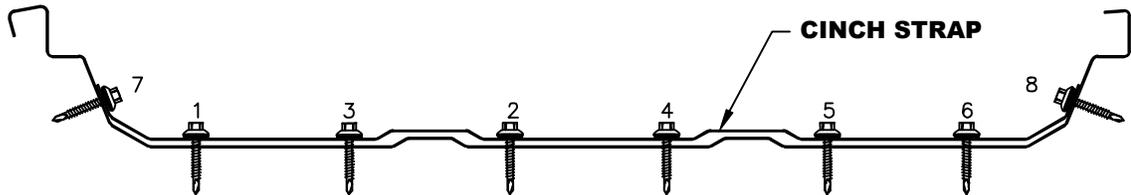
MASTERLOK-FS (FIELD SEAMED)



LOCATION: EAVE

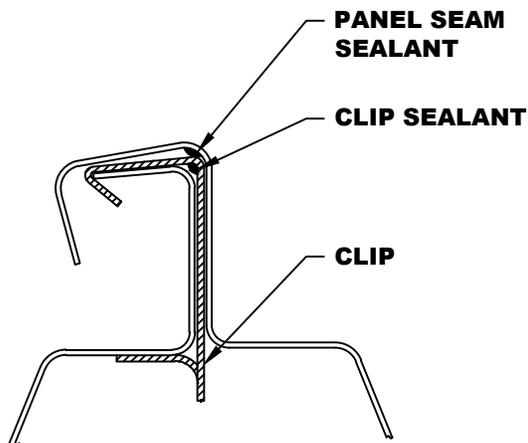
FASTENERS 1, 2, 3, 4, 5, 6, 7, & 8 ~ 1/4-14 X 1 1/4" TEK 2 ZAC

FASTENER 9 ~ 1/4-14 X 1 1/4" TEK2 ZAC (INSTALL AFTER SEAMING)

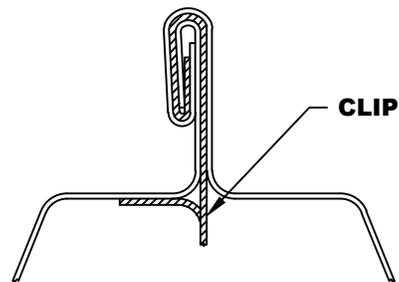


LOCATION: END LAP

FASTENERS 1, 2, 3, 4, 5, 6, 7, & 8 ~ 1/4-14 X 1 1/4" TEK 2 ZAC



MASTERLOK-FS (FIELD SEAM)
BEFORE SEAMING



MASTERLOK-FS (FIELD SEAM)
AFTER SEAMING

GENERAL INFORMATION

ATTENTION

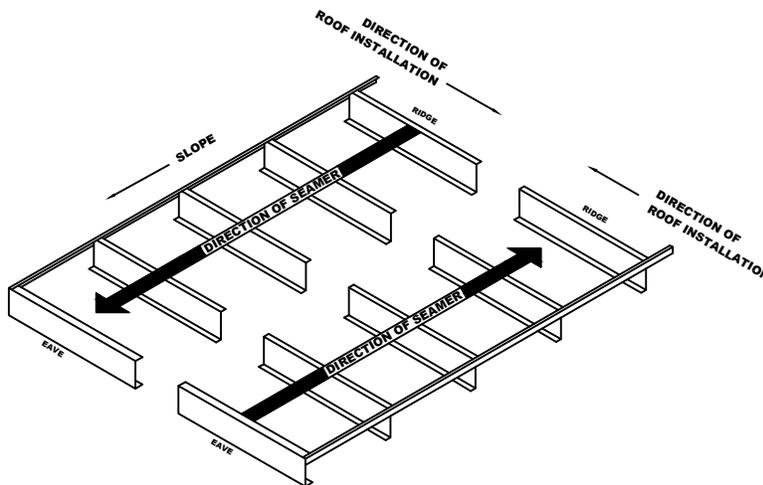
READ THE SEAMER INFORMATION THOROUGHLY BEFORE STARTING THE SEAMING OPERATION. FAILURE TO ADHERE TO THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND DAMAGE TO THE SEAMER AND/OR PANELS. THE ERECTOR WILL BE HELD LIABLE FOR ANY COSTS INCURRED FOR REPLACEMENT OR REPAIR.

PRE-SEAMING INFORMATION

1. Locate seamer box. Check to make sure you received a hand seamer, electric seamer and an information booklet. If not, please call our Technical Service Department.
2. Locate power source and check against power requirements in the information booklet.
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 machine seamed as they are installed. However, panels should be hand seamed 90° at each clip location as soon as possible.

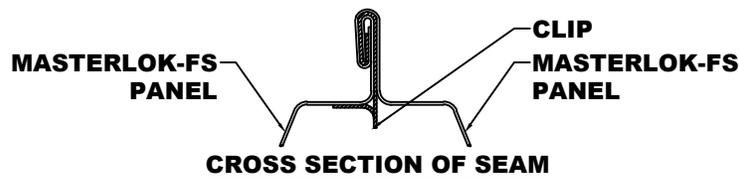
SEAMING OPERATION

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 SIMILAR TO THE CROSS SECTION PICTURED, STOP AT ONCE AND CALL THE MCELROY METAL TECHNICAL SERVICE DEPARTMENT.

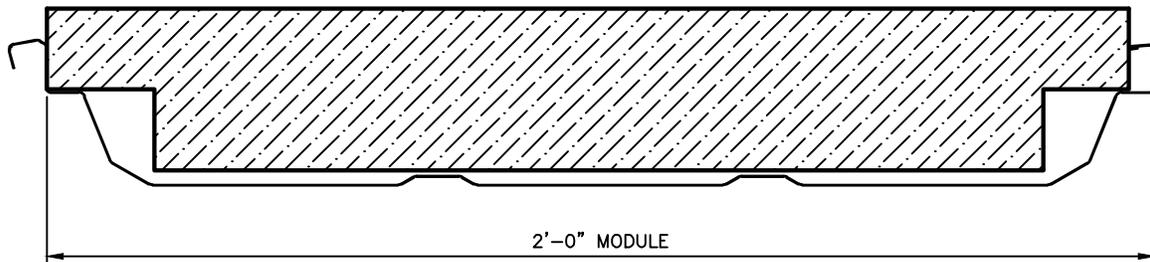
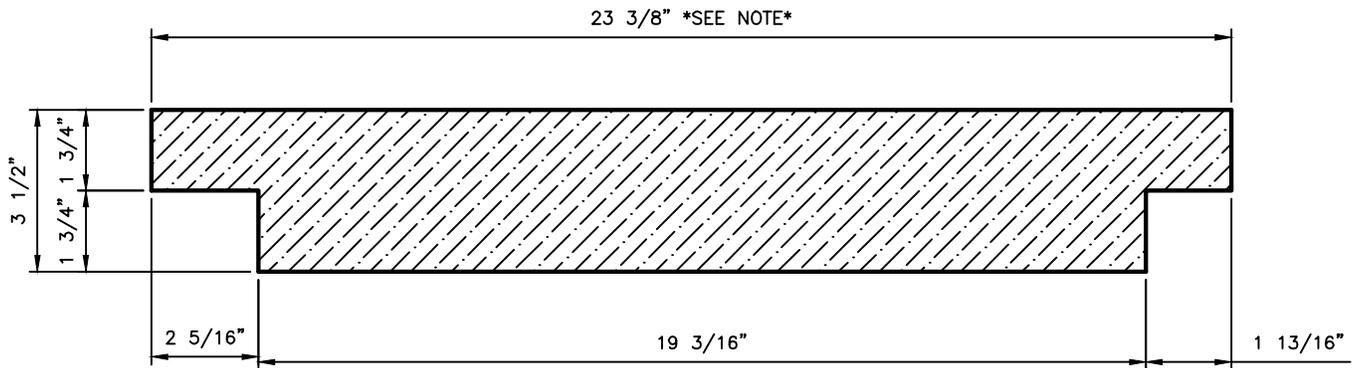


CAUTION: The use of any field seamer machine other than that provided by the manufacture may damage the panels, void all warranties and will void all engineering data.

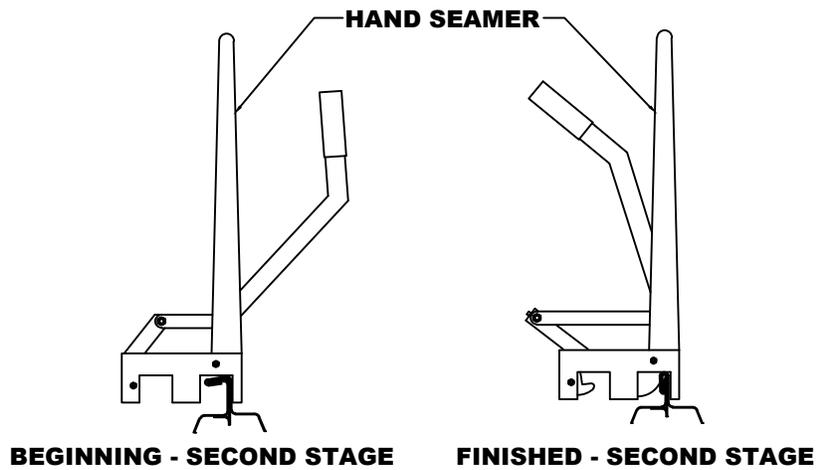
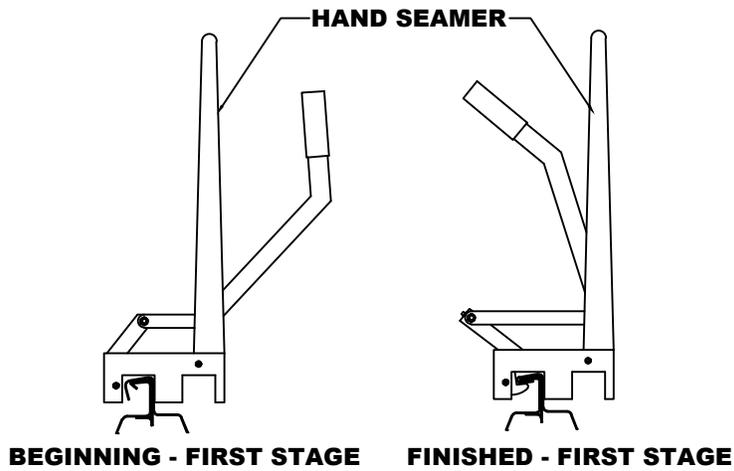
INSTALLATION AIDS

MASTERLOK-FS MODULE BOARD

MODULE BOARD:
FIELD CUT OR FABRICATE
FROM 2 X 4 OR OTHER
JOB SITE MATERIAL.



GENERAL INFORMATION



HAND SEAMING OPERATION

CAUTION!!!

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

To begin seaming, set the hand seamer on the seam. Align the edge of the hand seamer about one to two inches passed the edge of the panel. Crimp the panel 3 to 4 times along the seam **for a total of 24"**.

Return to the end of the panel to begin the second stage. Set the hand seamer onto the seam and crimp the panel seam once forming the 180° finished seam for a total of 6" along the seam. The relationship of this 6" of finished seam to the 24" of crimped seam is critical to the proper alignment of the roll formers on the electric seamer.

PANEL CLIPS and THERMAL SPACER CHART

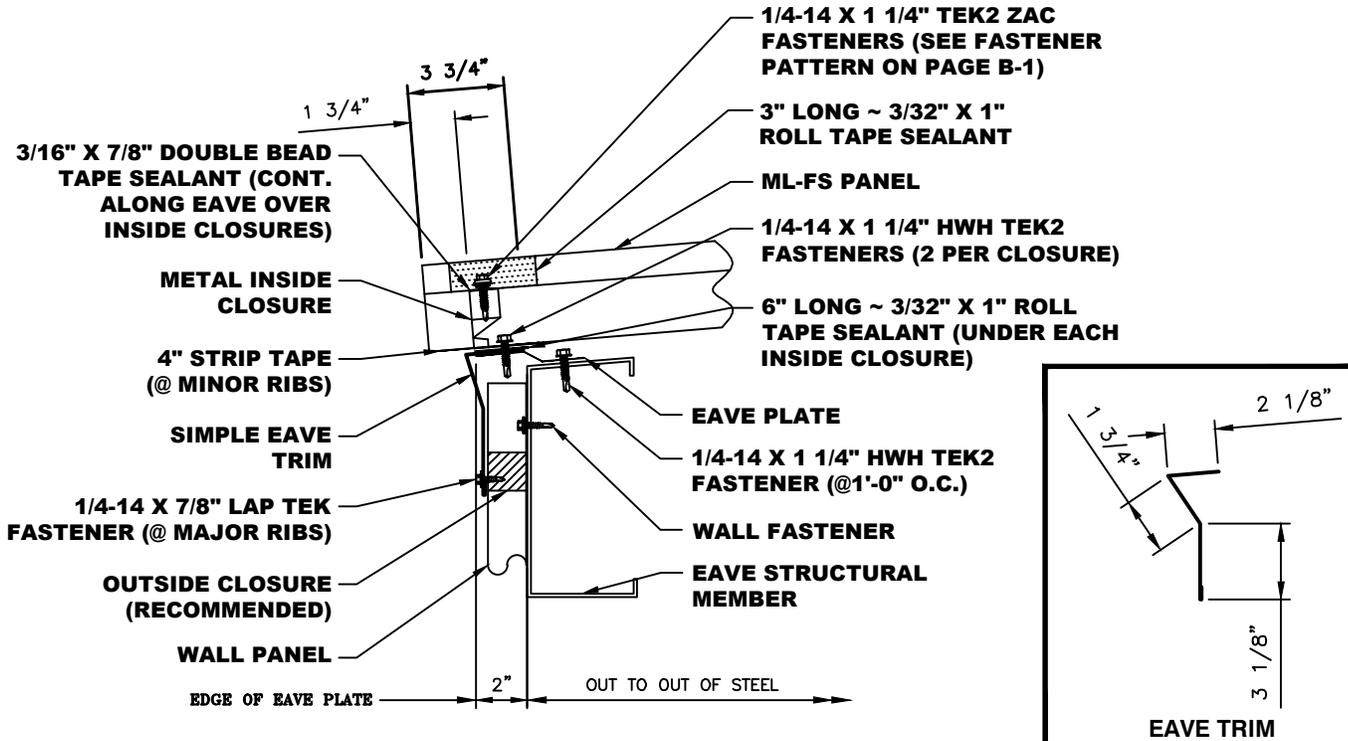
The following guidelines should be used when selecting the appropriate roof clips and thermal spacers for the MasterLok-FS roof system. The maximum insulation listed is based on UL-90 ratings for the MasterLok-FS Panels.

INSULATION / THERMAL SPACER SELECTION GUIDE			
INSULATION THICKNESS	LOW CLIP SYSTEM	HIGH CLIP SYSTEM	TALL CLIP SYSTEM
NO INSULATION	3/8" THERMAL SPACER	NOT RECOMMENDED	NOT RECOMMENDED
3" INSULATION	NO THERMAL SPACER	1" THERMAL SPACER	NOT RECOMMENDED
4" INSULATION	NO THERMAL SPACER	5/8" THERMAL SPACER	NOT RECOMMENDED
6" INSULATION	NOT RECOMMENDED	3/8" THERMAL SPACER	1" THERMAL SPACER
8" INSULATION	NOT RECOMMENDED	NOT RECOMMENDED	5/8" THERMAL SPACER
10" INSULATION	NOT RECOMMENDED	NOT RECOMMENDED	3/8" THERMAL SPACER
12" INSULATION	NOT RECOMMENDED	NOT RECOMMENDED	NO THERMAL SPACER

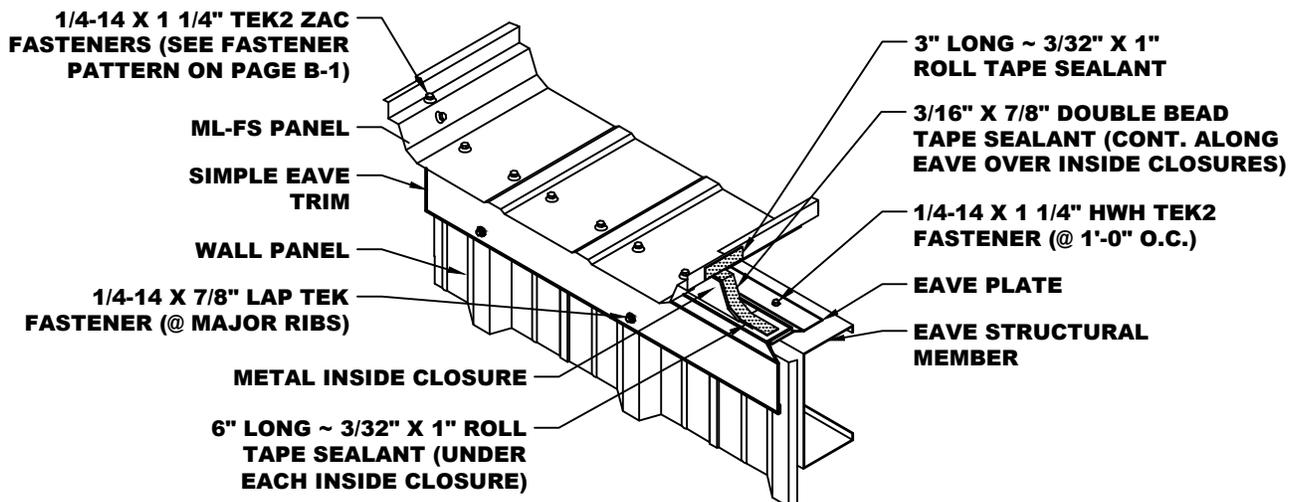
THERMAL SPACER DISCLAIMER:

The above chart is only a guide. There are many blanket insulation manufactures and as such the densities of the insulation vary from manufacture to manufacture. This needs to be considered when selecting the appropriate clip system and thermal spacers. The different densities may affect the appearance of the metal roof system. In the end it is the installer's responsibility to make the correct selection. McElroy Metal does not require the use of thermal spacers with its metal roof systems however, the building owner or architect may. In certain climates the lack of a thermal spacer may cause a thermal break to occur which could lead to condensation. If a thermal spacer is not used on an un-insulated building a rumbling to a "thunder" type noise may be observed to be more pronounced. If a thermal spacer is not used, panel modularity may be more difficult to hold. Using too much or too dense insulation may result in purlin read through, may be more difficult to install, and/or may cause difficulty in holding panel modularity.

SIMPLE EAVE DETAIL

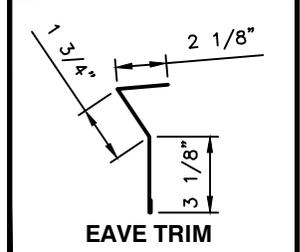
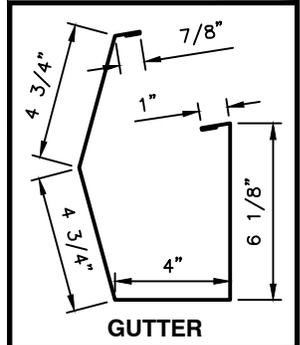
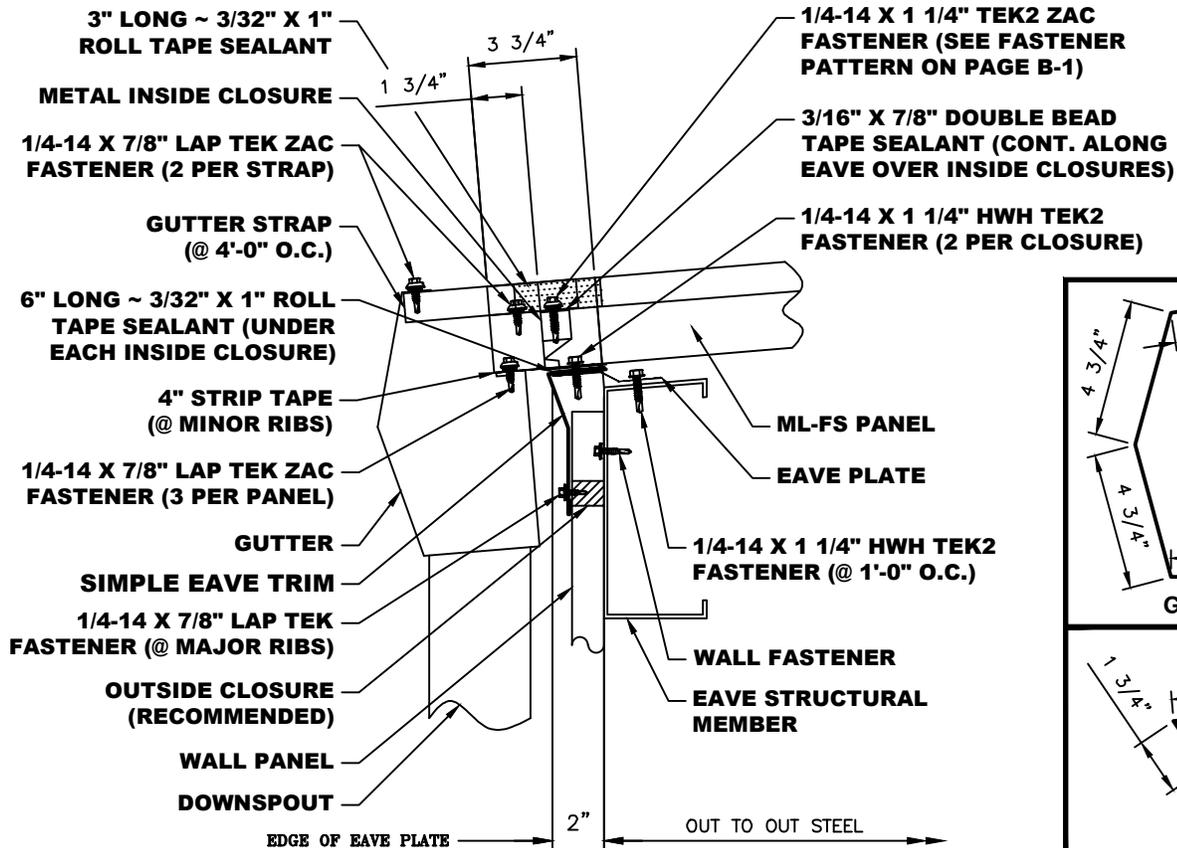


- NOTES:**
1. Eave Plate to run from steel line to steel line.
 2. Simple Eave Trim to run from out of wall to out of wall.
 3. Attach Simple Eave Trim to Eave Plate with temporary fasteners. Attach to wall panel major ribs with 1/4-14 x 7/8" Lap Tek fasteners.
 4. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet trims as shown on page C-21.
 5. Install Metal Inside Closure @ 2'-0" O.C. Use 6" long piece of 3/32" x 1" Roll Tape Sealant under closures.
 6. Apply continuous run of 3/16" x 7/8" Double Bead on top of Simple Eave Trim.
 7. Add 4" long ~ 7/32" x 1 3/8" Strip Tape @ Minor Ribs before installing panel.
 8. 3" long ~ 3/32" x 1" Roll Tape Sealant must marry into Double Bead Sealant below and Seam Sealant above.

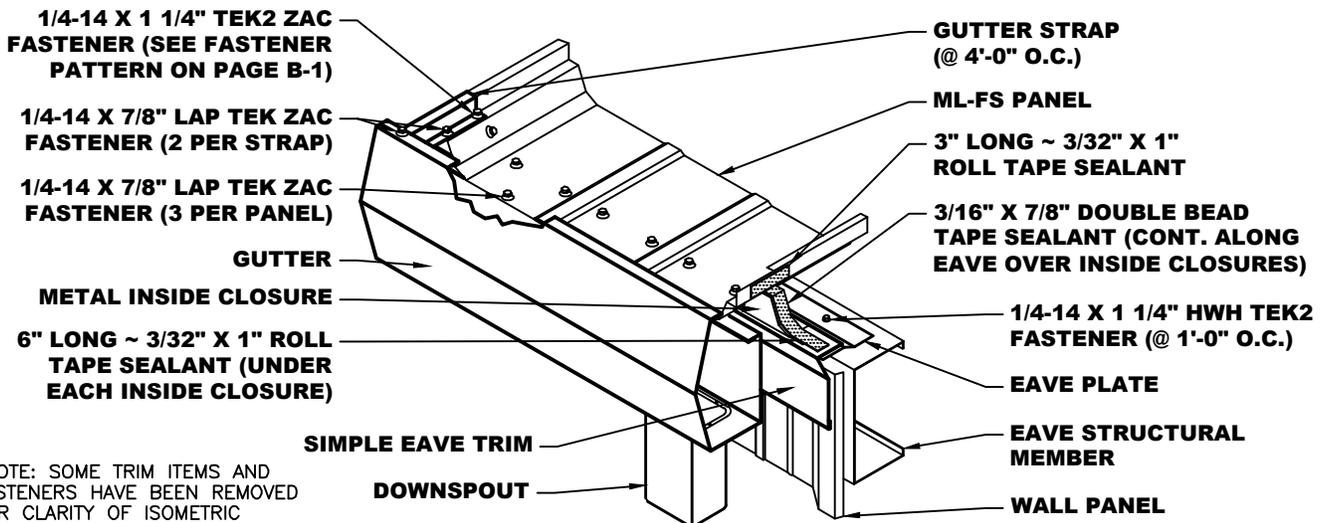


*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

EAVE w/ GUTTER DETAIL

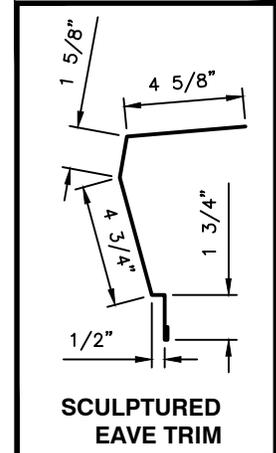
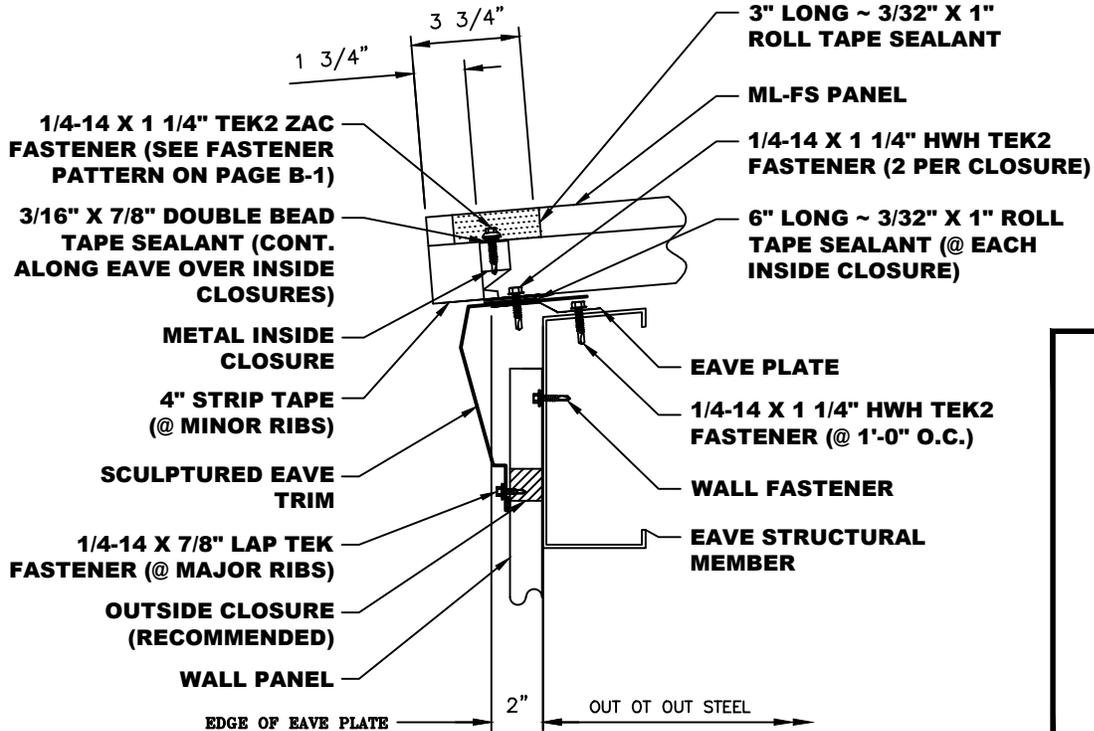


- NOTES:**
1. Eave Plate to run from steel line to steel line.
 2. Simple Eave Trim to run from out of wall to out of wall.
 3. Attach Simple Eave Trim to Eave Plate with temporary fasteners. Attach to wall panel major ribs with 1/4-14 x 7/8" Lap Tek fasteners.
 4. Trim pieces and Gutter lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet trims as shown on page C-21.
 5. Install Metal Inside Closure @ 2'-0" O.C. Use 6" long piece of 3/32" x 1" Roll Tape Sealant under closures.
 6. Apply continuous run of 3/16" x 7/8" Double Bead on top of Simple Eave Trim.
 7. Add 4" long ~ 7/32" x 1 3/8" Strip Tape @ Minor Ribs before installing panel.
 8. 3" long ~ 3/32" x 1" Roll Tape Sealant must marry into Double Bead Sealant below and Seam Sealant above.

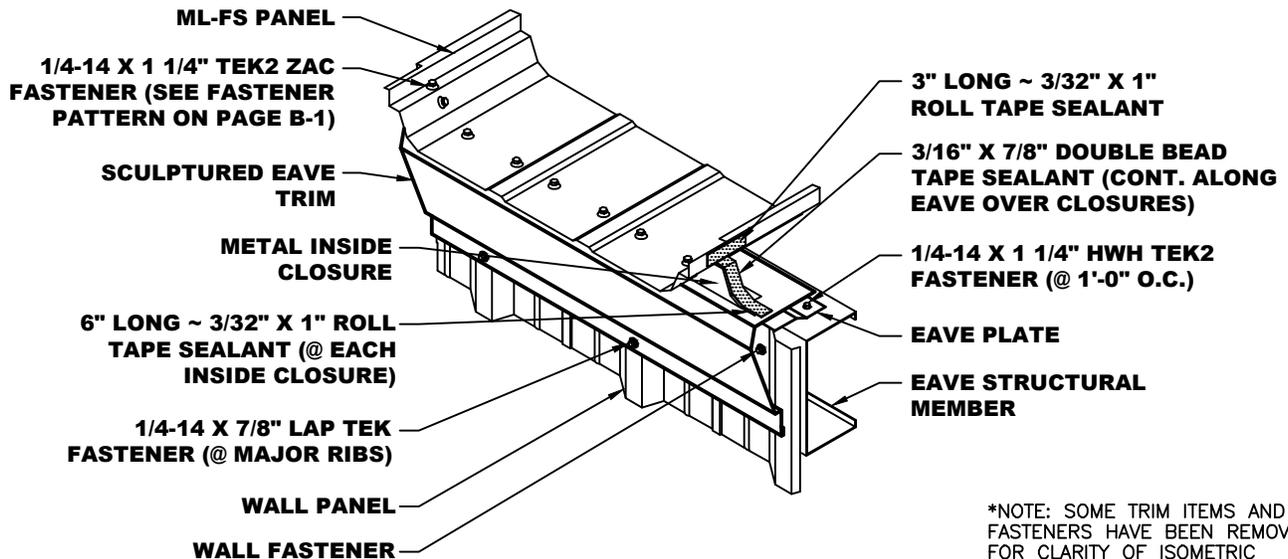


*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC

SCULPTURED EAVE DETAIL

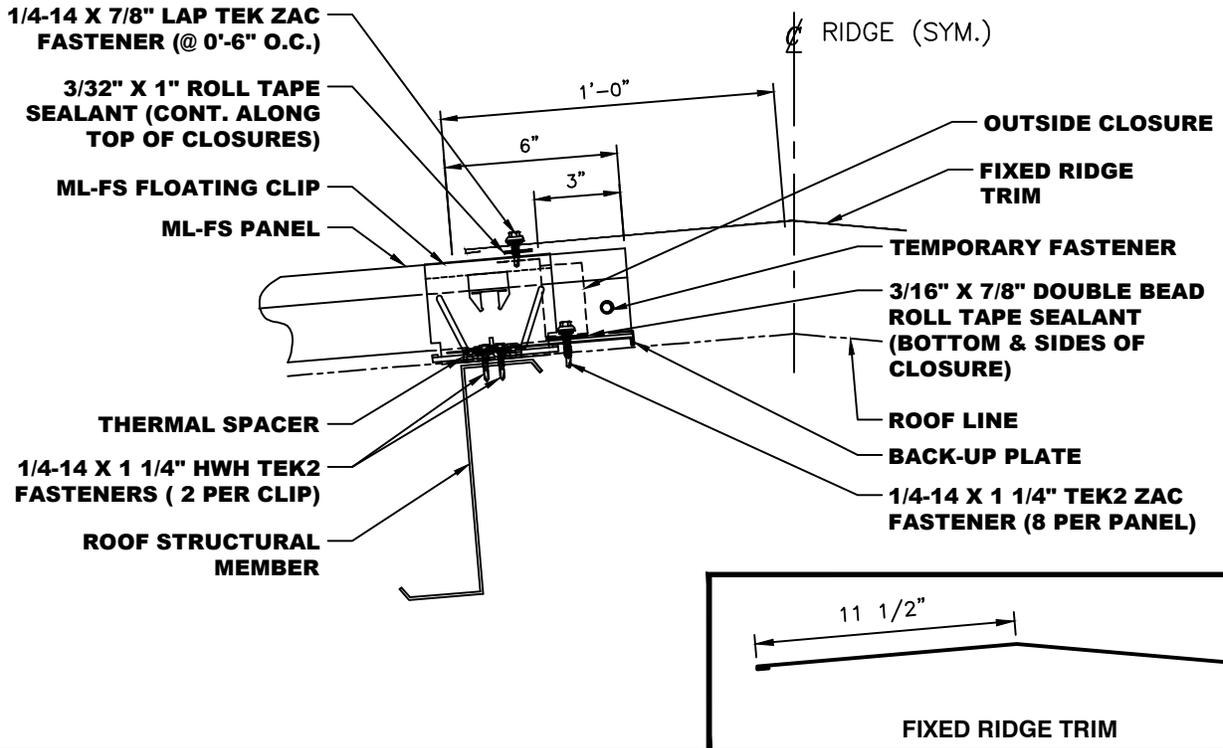


- NOTES:**
1. Eave Plate to run from steel line to steel line.
 2. Sculptured Eave Trim to run from out of wall to out of wall.
 3. Attach Sculptured Eave Trim to Eave Plate with temporary fasteners. Attach to wall panel major ribs with 1/4-14 x 7/8" Lap Tek fasteners.
 4. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet trims as shown on page C-21.
 5. Install Metal Inside Closure @ 2'-0" O.C. Use 6" long piece of 3/32" x 1" Roll Tape Sealant under closures.
 6. Apply continuous run of 3/16" x 7/8" Double Bead on top of Sculptured Eave Trim.
 7. Add 4" long ~ 7/32" x 1 3/8" Strip Tape @ Minor Ribs before installing panel.
 8. 3" long ~ 3/32" x 1" Roll Tape Sealant must marry into Double Bead Sealant below and Seam Sealant above.

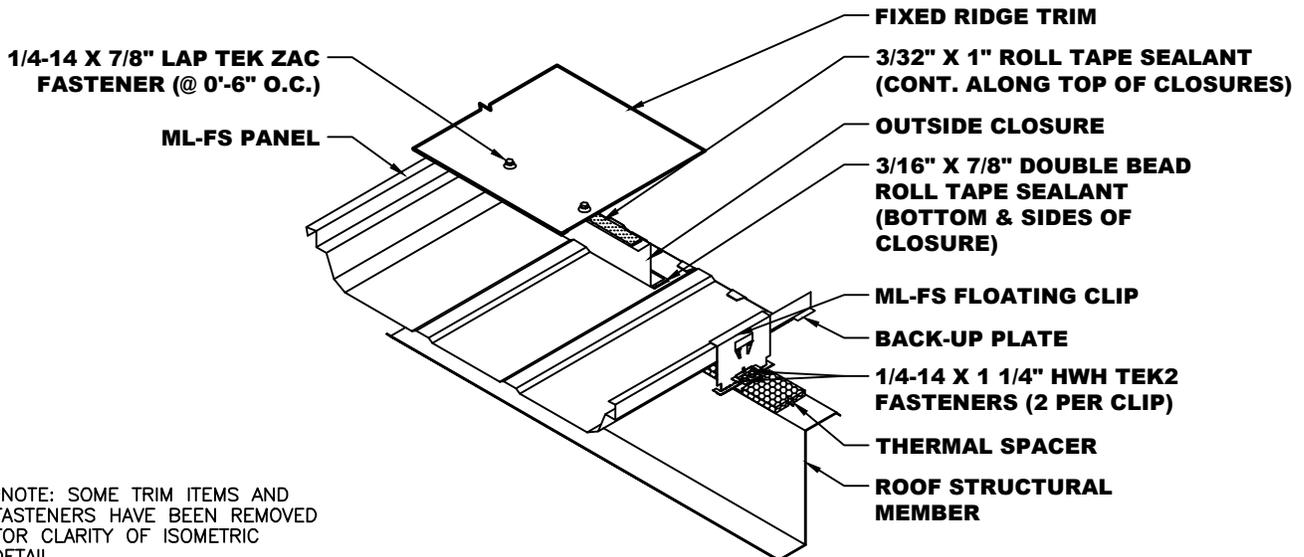


*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

FIXED RIDGE DETAIL

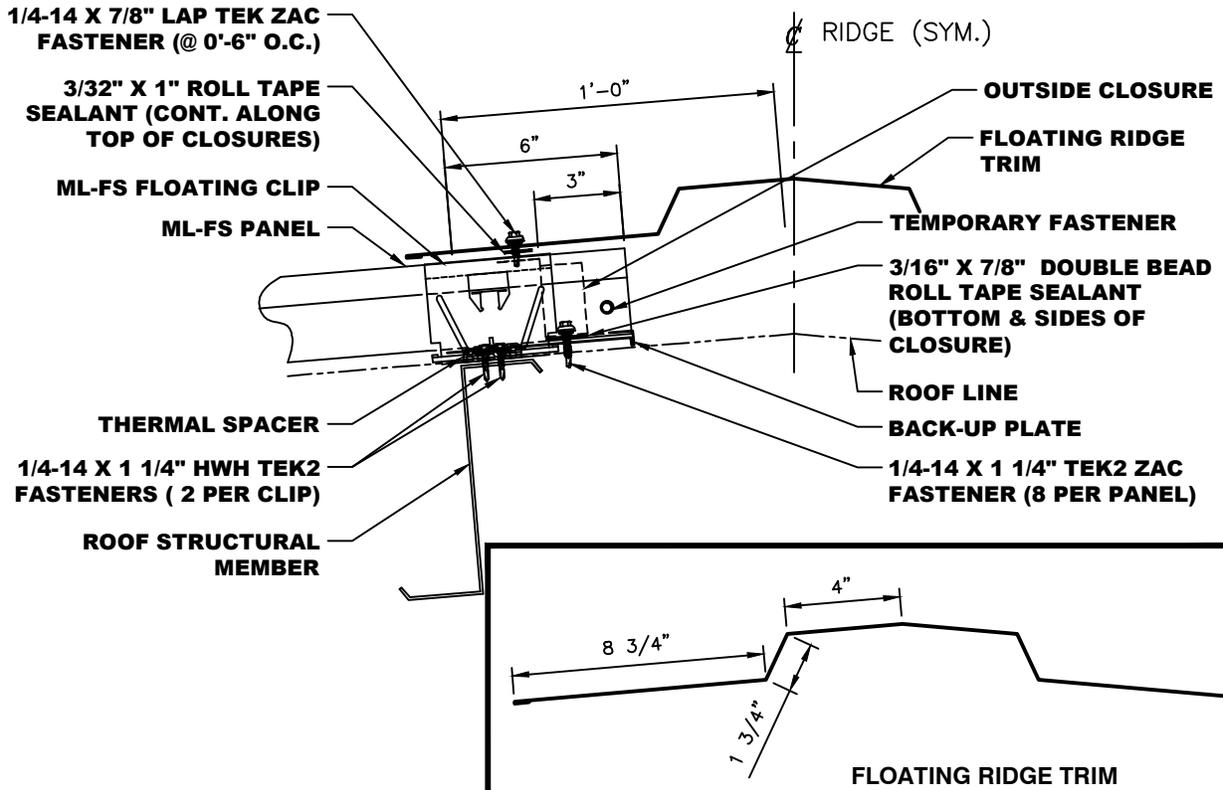


- NOTES:**
1. Install Back-up Plate with panel.
 2. Place 3/16" x 7/8" Double Bead Roll Tape Sealant on the bottom and sides of Outside Closure and place in line with the factory notching. Attach with 1/4-14 x 1 1/4" Tek2 Zac Fasteners at (8) per panel.
 3. Check for voids around closure and fill with Butyl Tube Sealant.
 4. Place 3/32" x 1" Roll Tape Sealant on top flange of Outside Closures continuously along Ridge.
 5. Attach Fixed Ridge Trim to Outside Closures with 1/4-14 x 7/8" Lap Tek ZAC fasteners at 6" O.C.
 6. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or 3/16" Ø bead of Butyl Tube Sealant at trim laps and secure trim joints with 1/4-14 x 7/8" Lap Tek Zac Fasteners at 4" O.C.

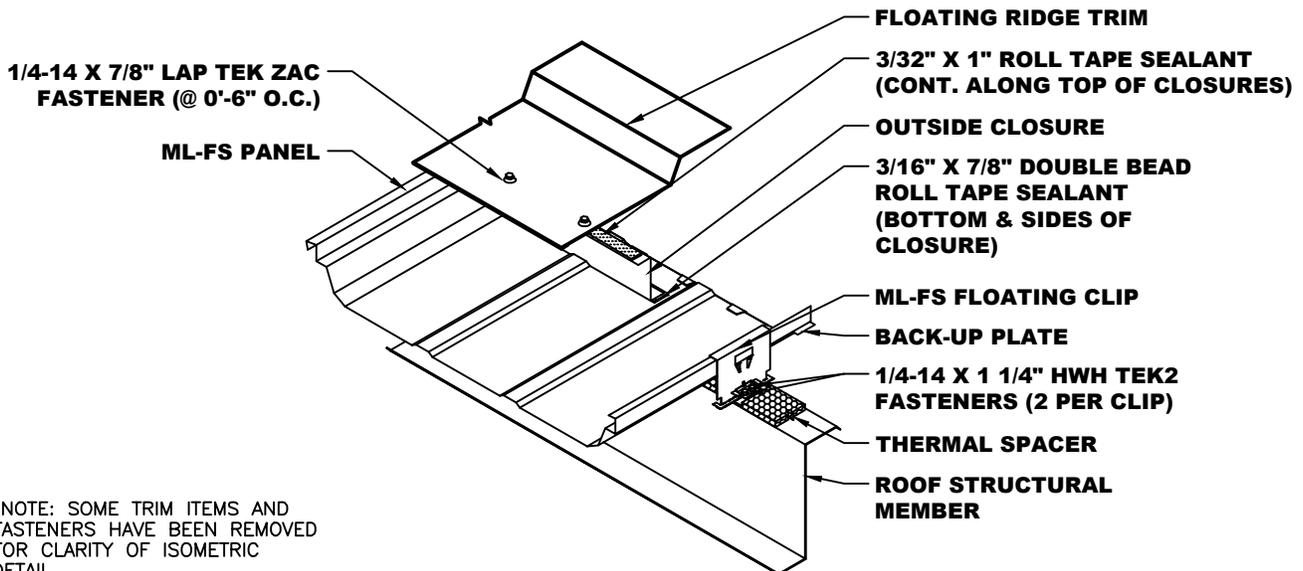


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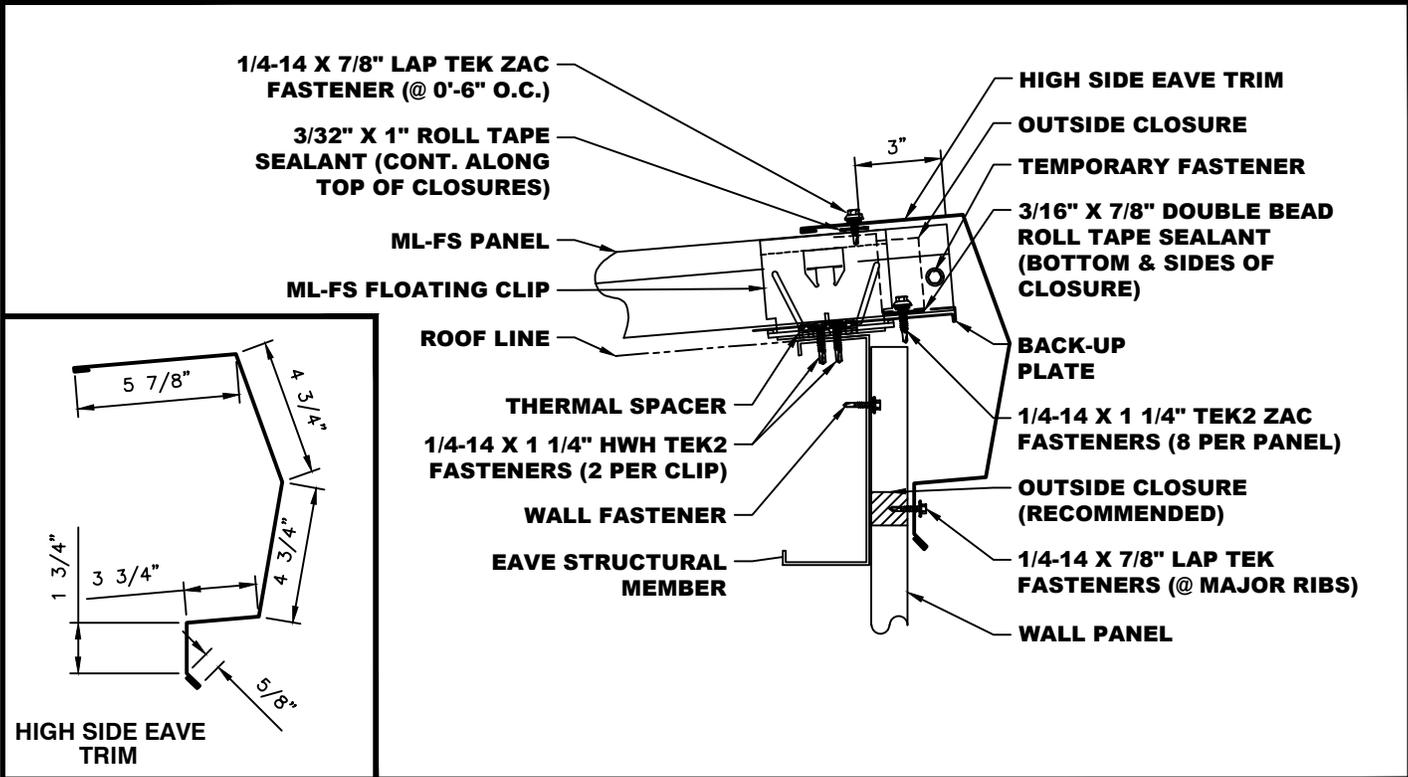
FLOATING RIDGE DETAIL



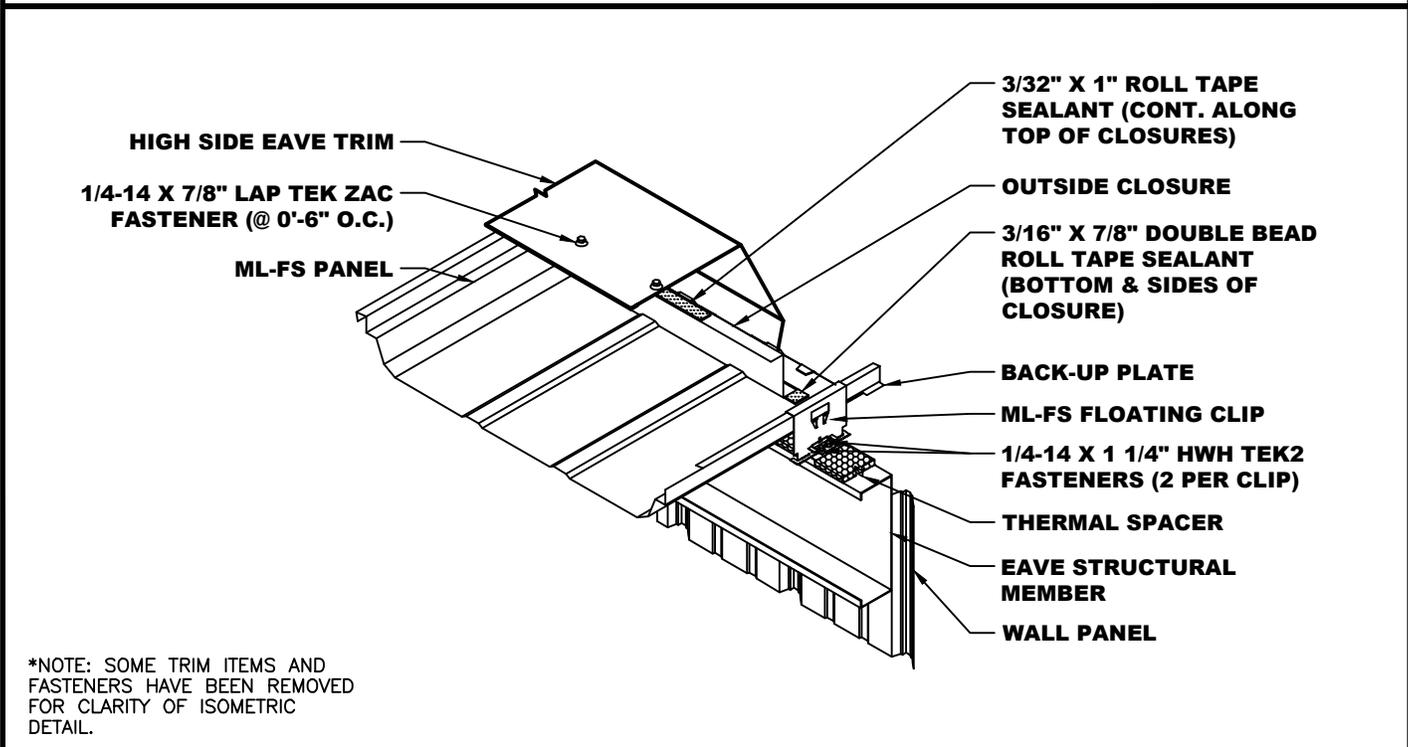
- NOTES:**
1. Install Back-up Plate with panel.
 2. Place 3/6" x 7/8" Double Bead Roll Tape Sealant on the bottom and sides of Outside Closure and place in line with the factory notching. Attach with 1/4-14 x 1 1/4" Tek2 Zac Fasteners at (8) per panel.
 3. Check for voids around closure and fill with Butyl Tube Sealant.
 4. Place 3/32" x 1" Roll Tape Sealant on top flange of Outside Closures continuously along Ridge.
 5. Attach Floating Ridge Trim to Outside Closures with 1/4-14 x 7/8" Lap Tek ZAC fasteners at 6" O.C.
 6. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or 3/16" Ø bead of Butyl Tube Sealant at trim laps and secure trim joints with 1/4-14 x 7/8" Lap Tek Zac Fasteners at 4" O.C.



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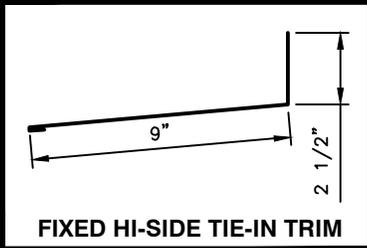
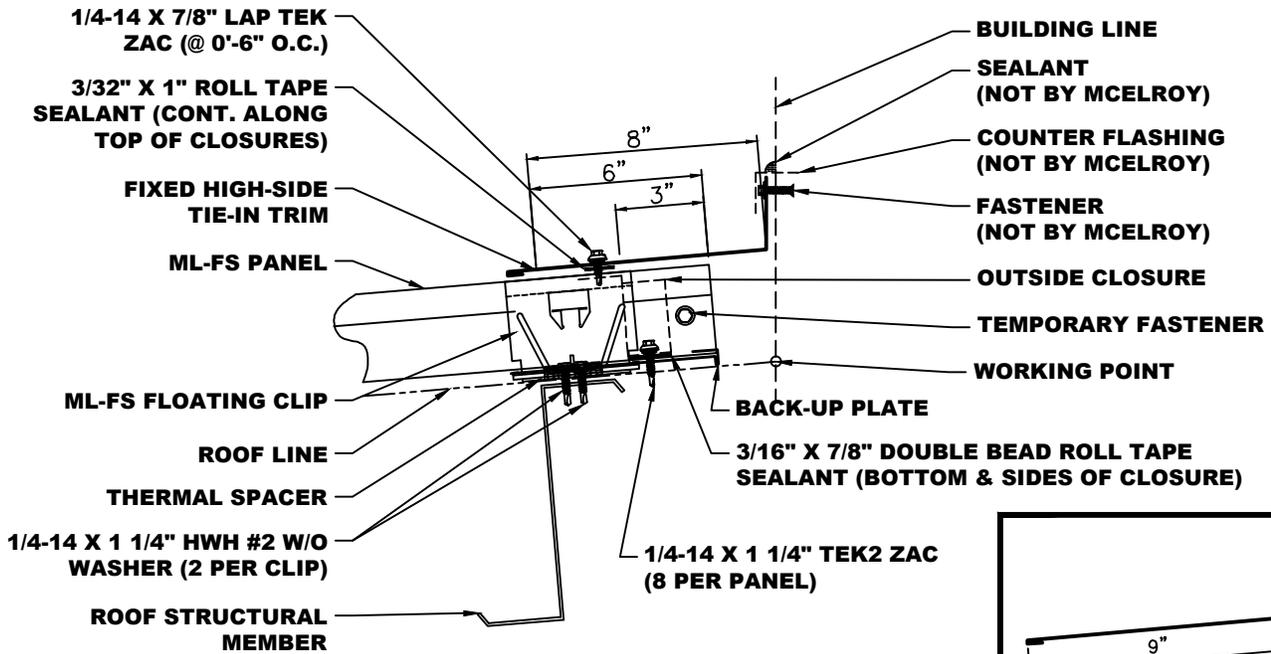


- NOTES:**
1. Install Back-up Plate with panel.
 2. Place 3/16" x 7/8" Double Bead Roll Tape Sealant on the bottom and sides of Outside Closure and place in line with the factory notching. Attach with 1/4-14 x 1 1/4" Tek2 Zac Fasteners at (8) per panel.
 3. Check for voids around closure and fill with Butyl Tube Sealant.
 4. Place 3/32" x 1" Roll Tape Sealant on top flange of Outside Closures continuously along Ridge.
 5. Attach High Side Eave Trim to Outside Closures with 1/4-14 x 7/8" Lap Tek ZAC fasteners at 6" O.C.
 6. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or 3/16" Ø bead of Butyl Tube Sealant at trim laps and secure trim joints with Pop-Rivets as shown on page C-21.

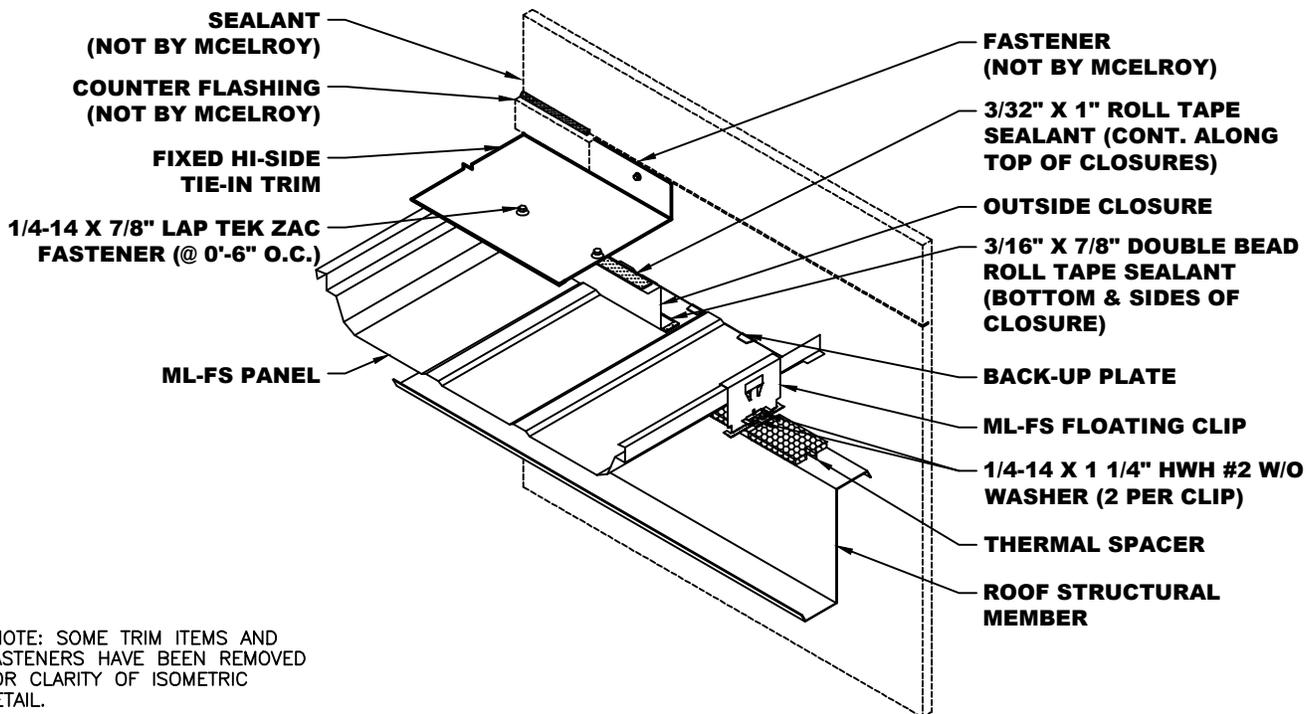


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FIXED HIGH-SIDE TIE-IN DETAIL

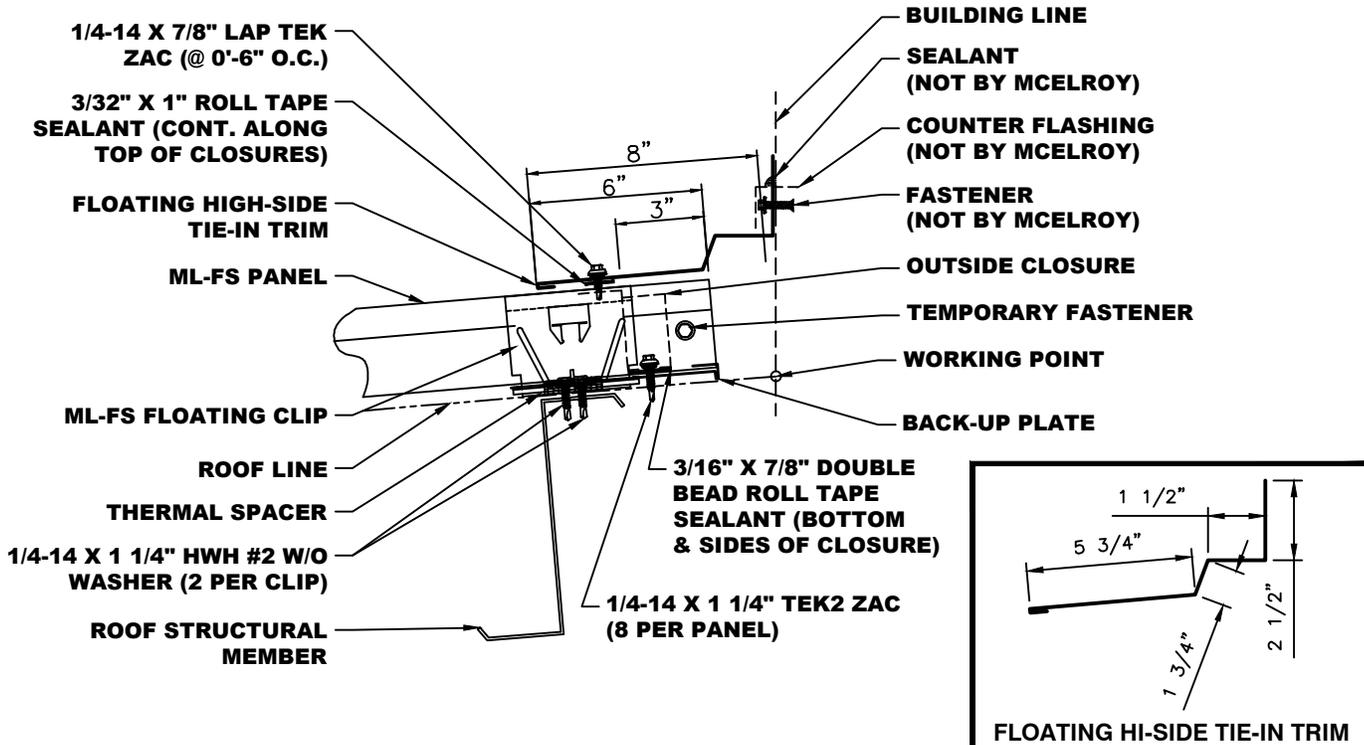


- NOTES:**
1. Install Back-up Plate with panel.
 2. Place 3/16" x 7/8" Double Bead Roll Tape Sealant on the bottom and sides of Outside Closure and place in line with the factory notching. Attach with 1/4-14 x 1 1/4" Tek2 Zac Fasteners at (8) per panel.
 3. Check for voids around closure and fill with Butyl Tube Sealant.
 4. Place 3/32" x 1" Roll Tape Sealant on top flange of Outside Closures continuously along Ridge.
 5. Attach Fixed Hi-Side Tie-In Trim to Outside Closures with 1/4-14 x 7/8" Lap Tek ZAC fasteners at 6" O.C.
 6. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or 3/16" Ø bead of Butyl Tube Sealant at trim laps and secure trim joints with 1/4-14 x 7/8" Lap Tek Zac Fasteners at 4" O.C.

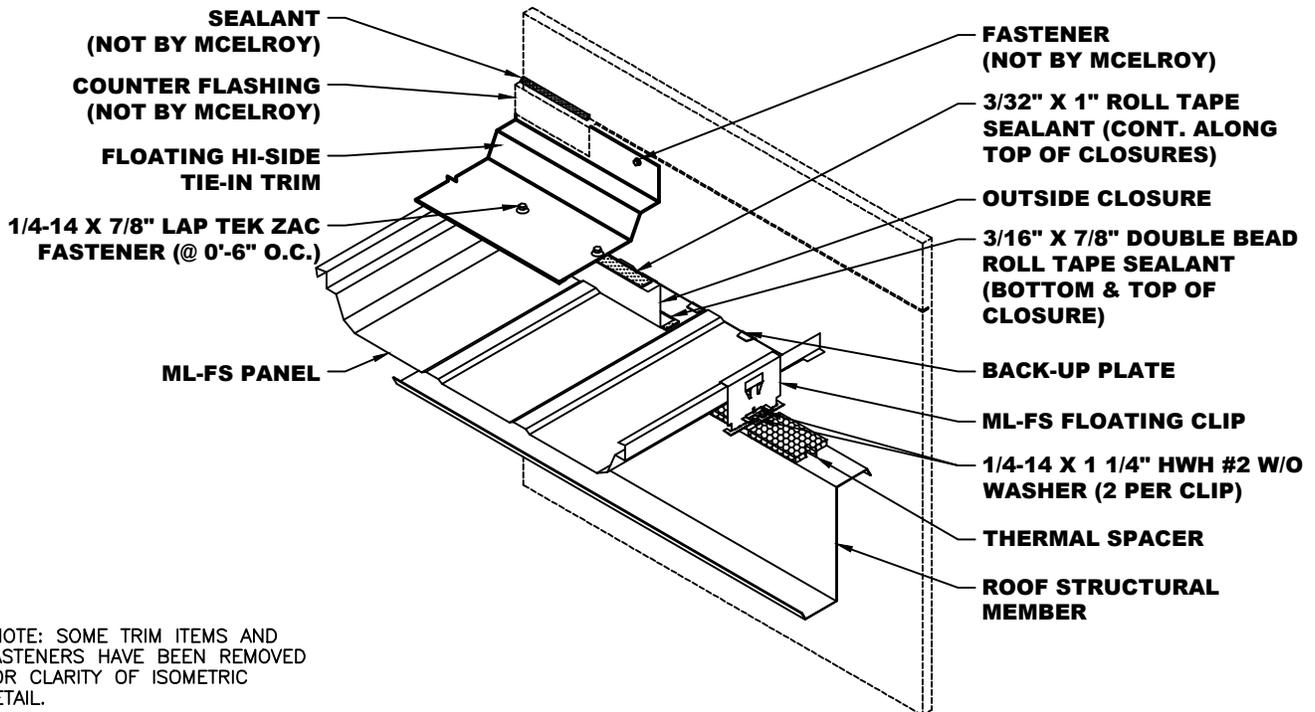


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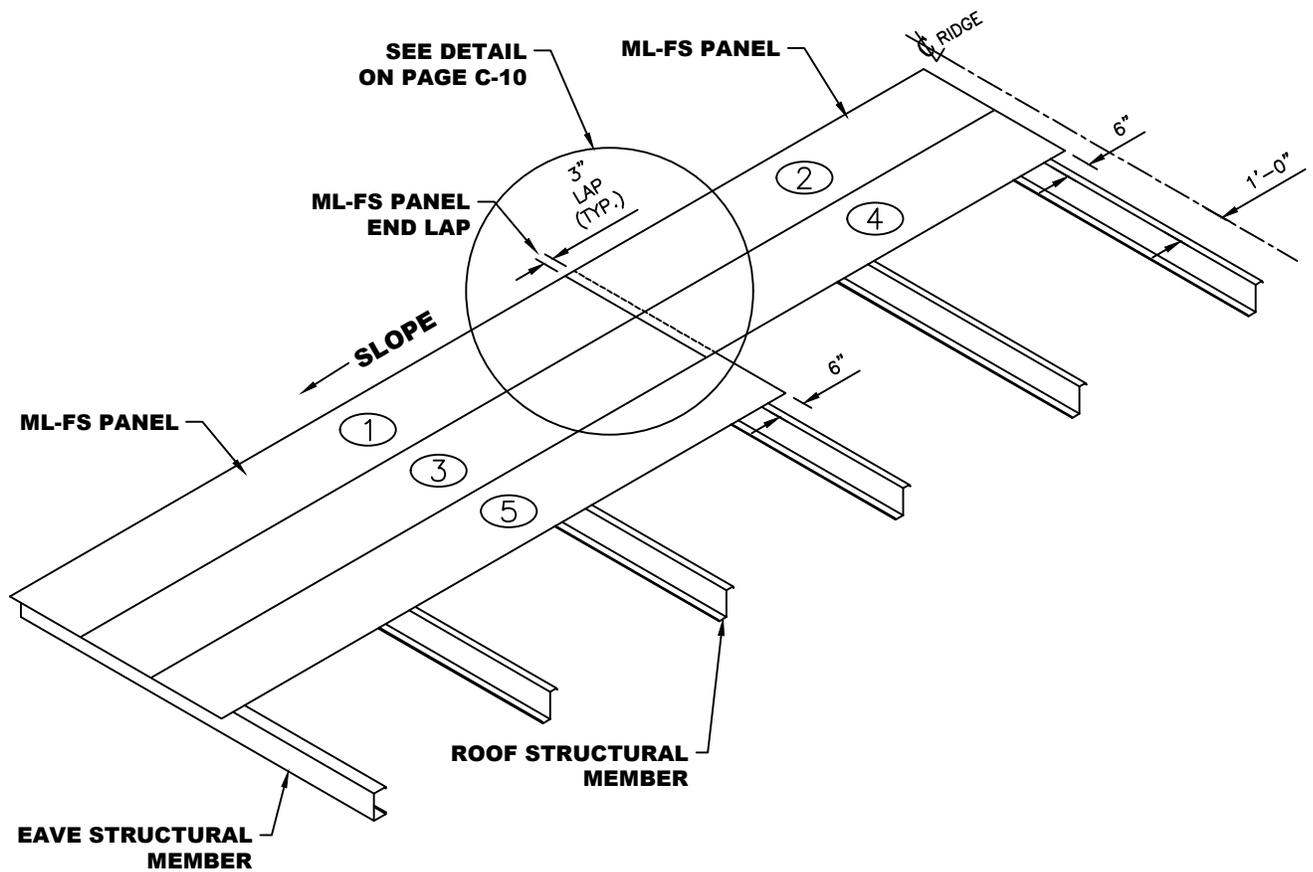
FLOATING HIGH-SIDE TIE-IN DETAIL



- NOTES:**
1. Install Back-up Plate with panel.
 2. Place 3/16" x 7/8" Double Bead Roll Tape Sealant on the bottom and sides of Outside Closure and place in line with the factory notching. Attach with 1/4-14 x 1 1/4" Tek2 Zac Fasteners at (8) per panel.
 3. Check for voids around closure and fill with Butyl Tube Sealant.
 4. Place 3/32" x 1" Roll Tape Sealant on top flange of Outside Closures continuously along Ridge.
 5. Attach Fixed Hi-Side Tie-In Trim to Outside Closures with 1/4-14 x 7/8" Lap Tek ZAC fasteners at 6" O.C.
 6. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or 3/16" Ø bead of Butyl Tube Sealant at trim laps and secure trim joints with 1/4-14 x 7/8" Lap Tek Zac Fasteners at 4" O.C.

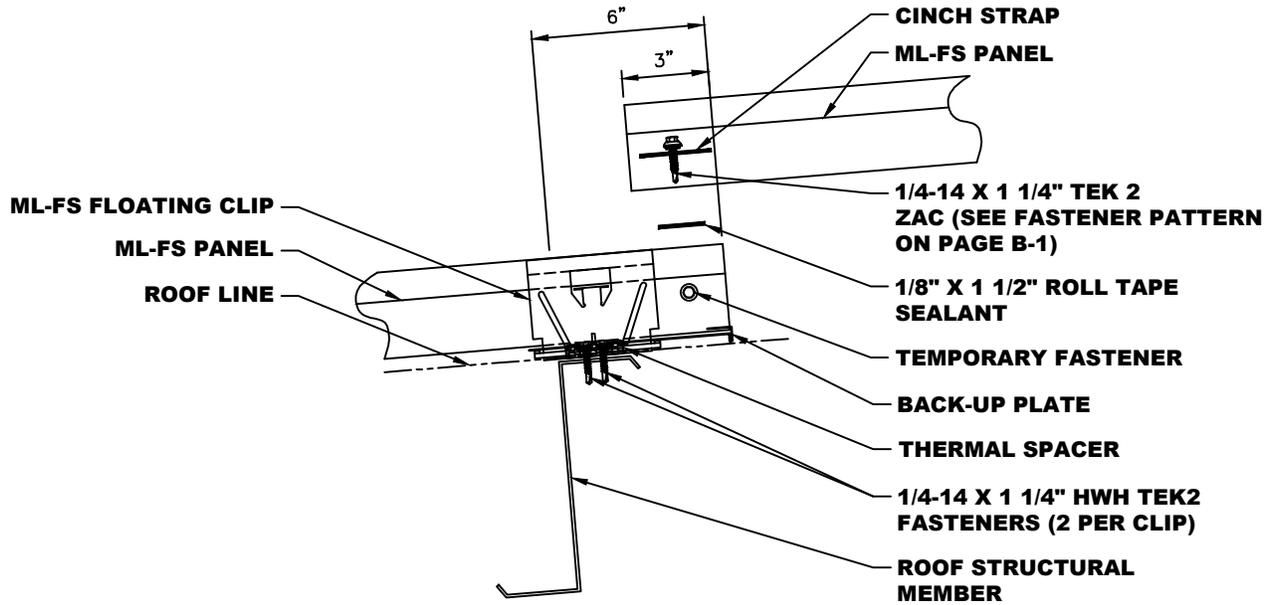


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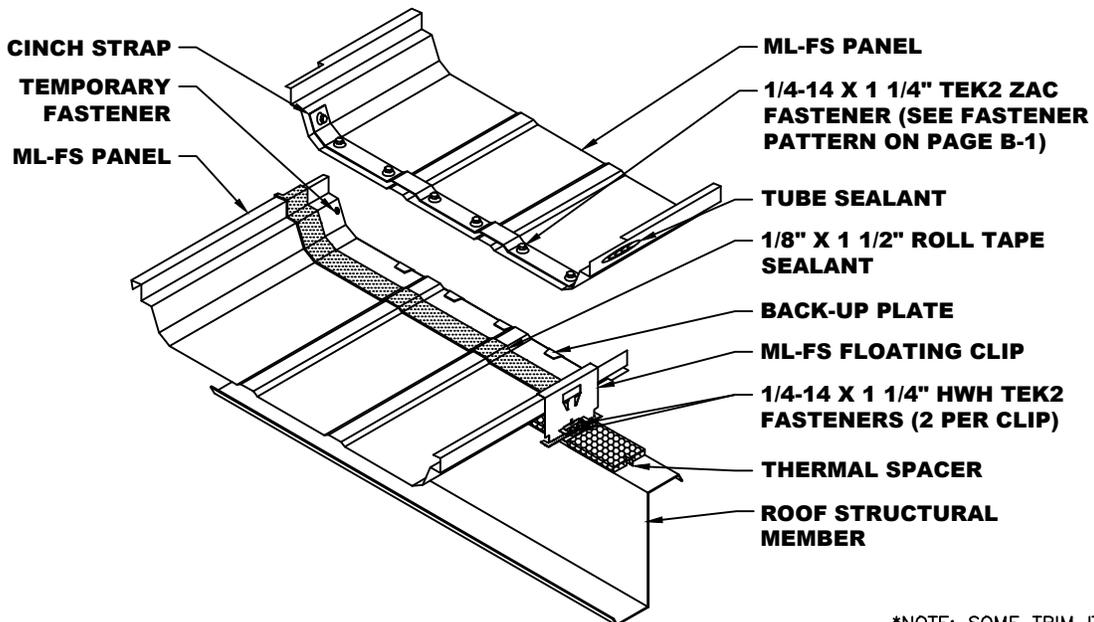


NOTES: 1. Install roof panels in the numbered order sequence.
2. Refer to page C-10 for a detailed view of the End Lap condition.

PANEL END LAP DETAIL



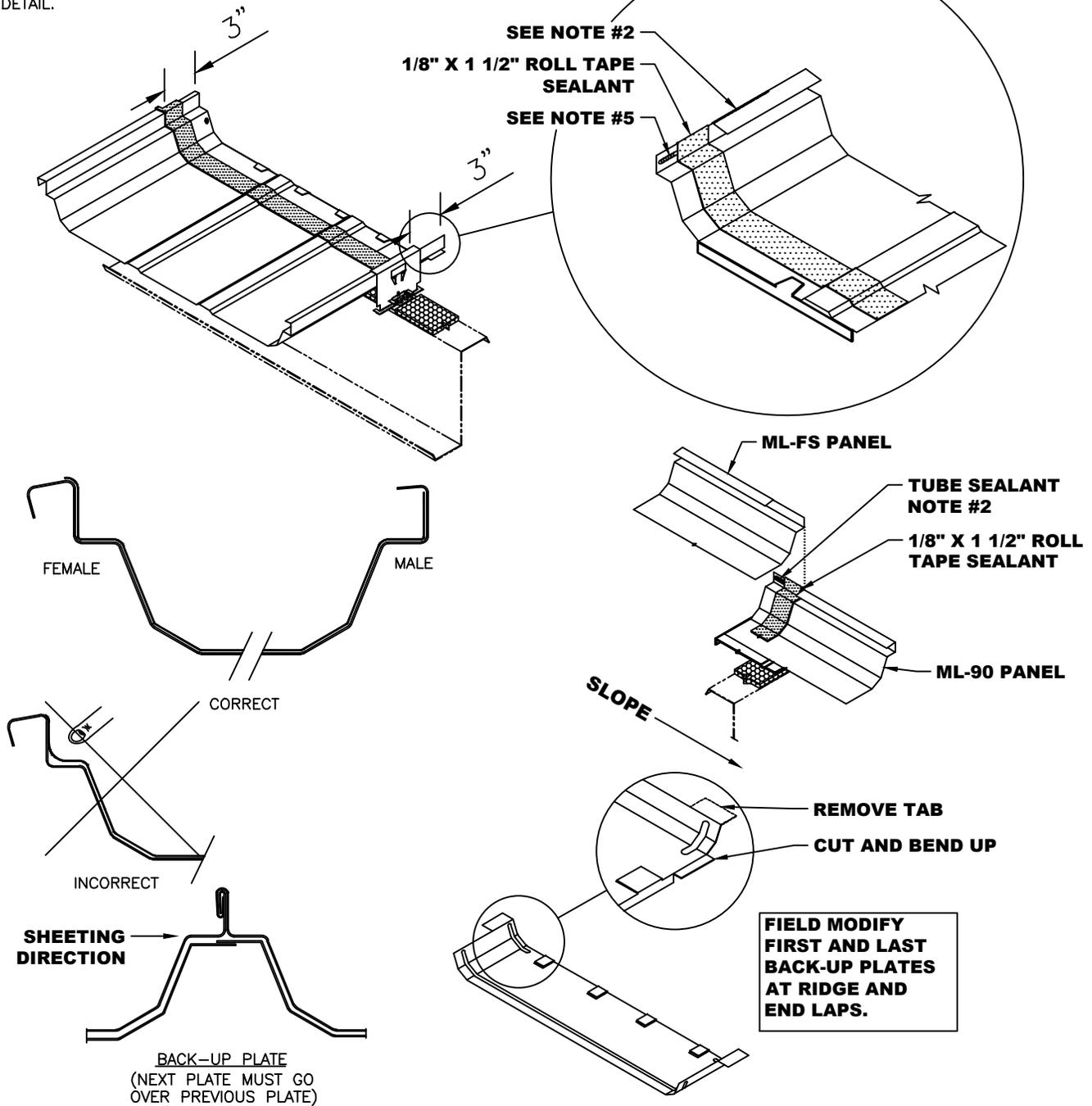
- NOTES:**
1. Install Back-up Plate on upper end of lower panels.
 2. Use Temporary Fasteners to hold Back-up Plates in place.
 3. 1/8" x 1 1/2" Roll Tape Sealant shall be applied between panels and secured with fasteners through the Cinch Strap, Panels and into the Back-up Plate to form a compressed joint.
 4. Apply 3/16" Ø bead of Tube Sealant at panel notch on male leg of upper ML-90 panel.
 5. Please refer to pages C-11 for more detailed installation information on End Laps.



*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

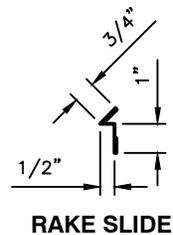
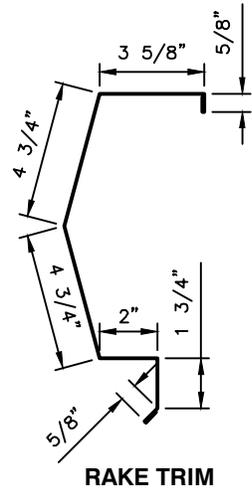
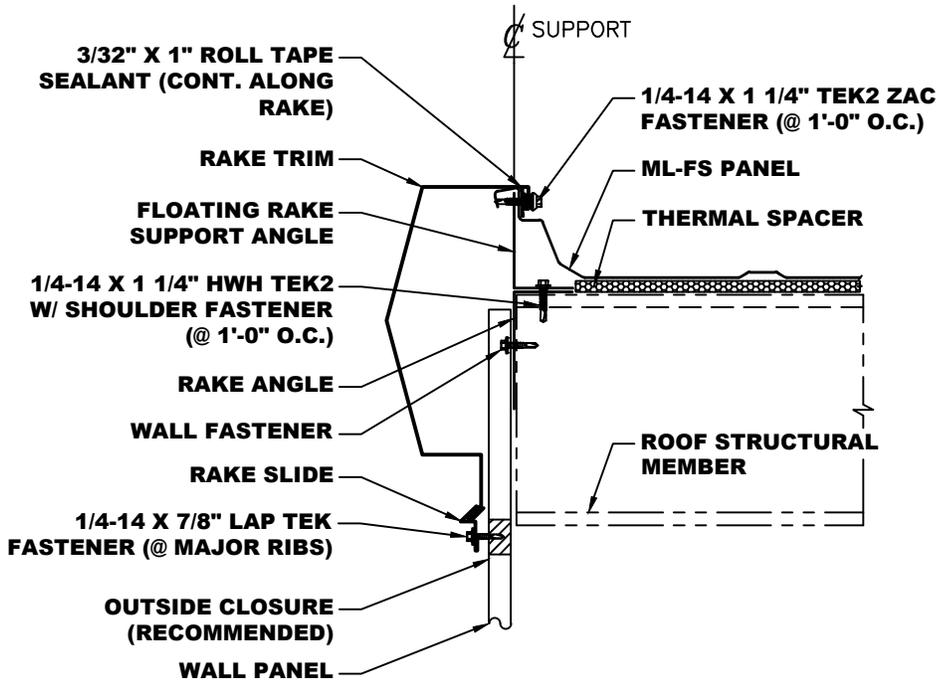
PANEL END LAP DETAIL

*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

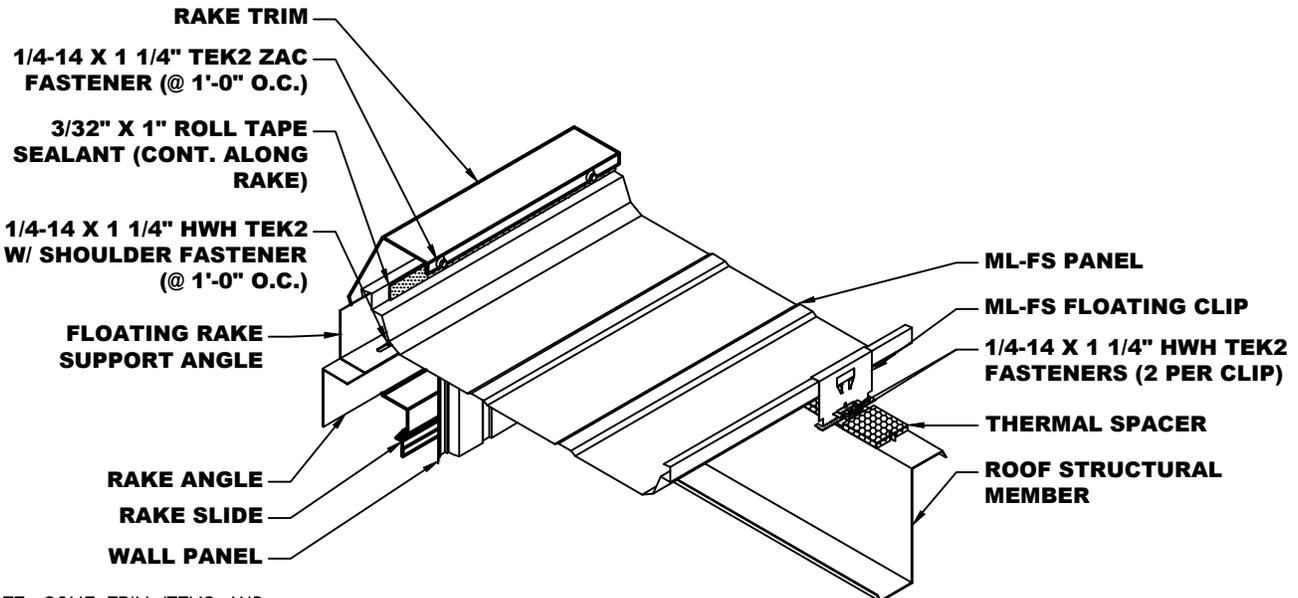


- NOTES:**
- Slide one end of Back-up Plate over the purlin, fully engaging the teeth of the other end with the end of the panel. If the Back-up Plate is not held firmly at both ends, the fasteners to be used in completing the splice could force the plate away and cause it not to seal properly. Field modify first and last plates, see detail above.
 - Apply Tube Sealant on the male seam 3" past notch.
 - Panel clip must be installed only after Back-up Plate is in place.
 - Place 1/8" x 1 1/2" Roll Tape strip exactly 3" from the end of the panel. Do not position the tape strip past the notch. See detail for location of tape strip. Press sealant into the corners of the panel configuration without excessive pressure and peel off paper backing. See application detail for proper procedure.
 - Place Tube Sealant approximately 1" uphill of Pre-Cut Tape sealant, as shown in the above detail.

FLOATING RAKE START DETAIL

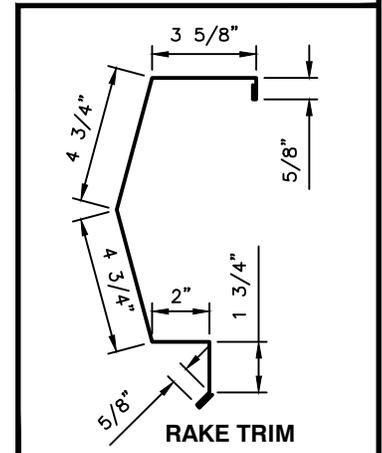
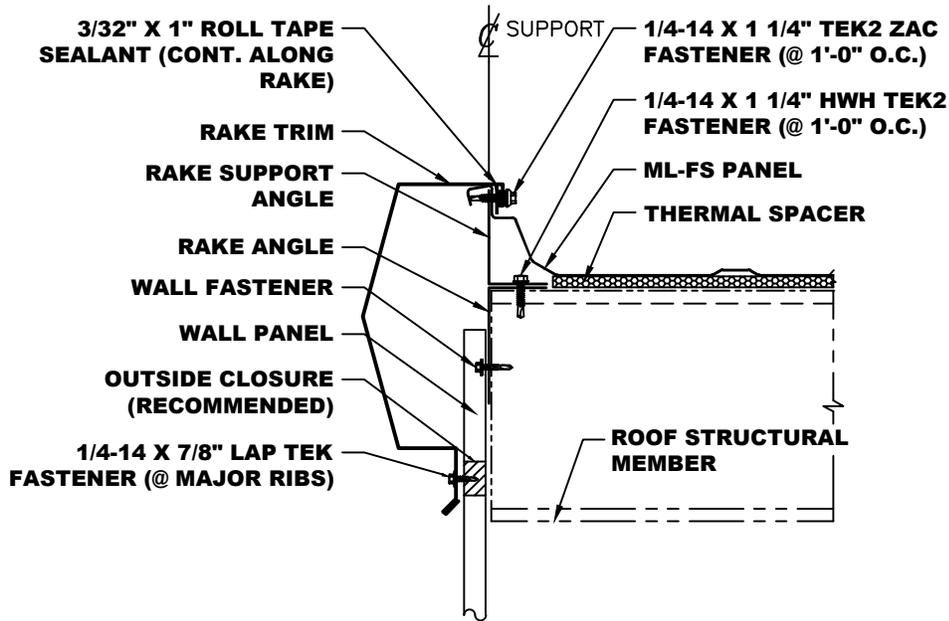


- NOTES:**
1. Floating Rake Support Angle to be installed flush with steel line using 1/4-14 x 1 1/4" HWH Tek2 w/ Shoulder fasteners at 1'-0" O.C. into the Rake Angle.
 2. Apply 3/32" x 1" Roll Tape Sealant along the female leg of panel from eave to ridge.
 3. Attach Rake Trim to panel with 1/4-14 x 1 1/4" Tek2 ZAC fasteners at 1'-0" O.C. making sure to fasten into Floating Rake Support Angle.
 4. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet trims as shown on page C-21.
 5. Attach Rake Slide with 1/4-14 x 7/8" Lap Tek Fasteners at major ribs of wall panels.

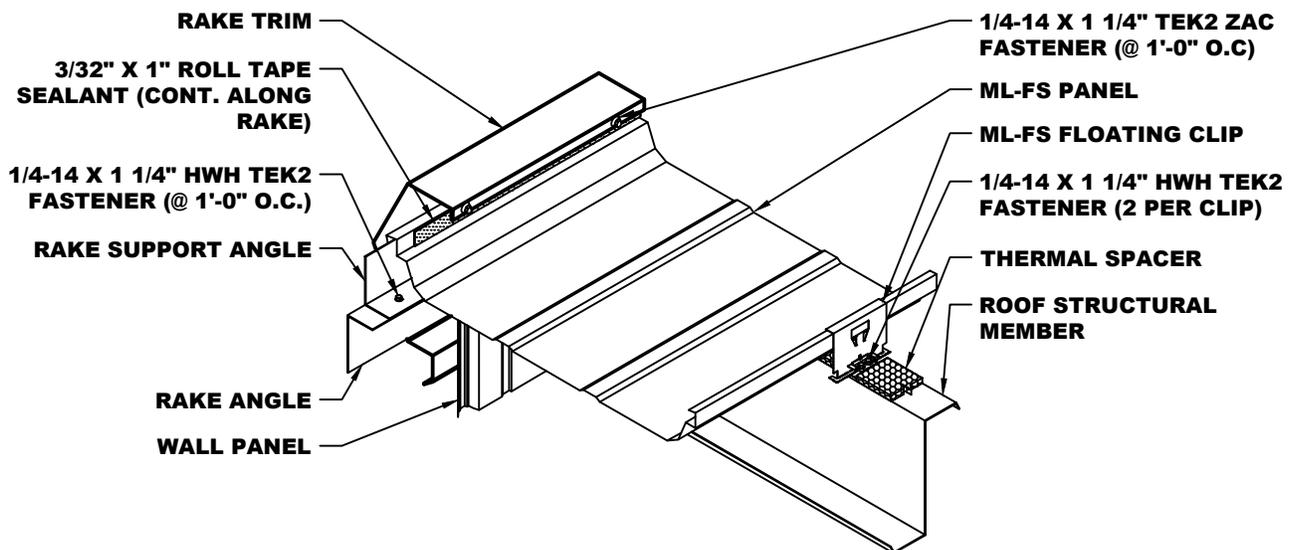


*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

FIXED RAKE START DETAIL

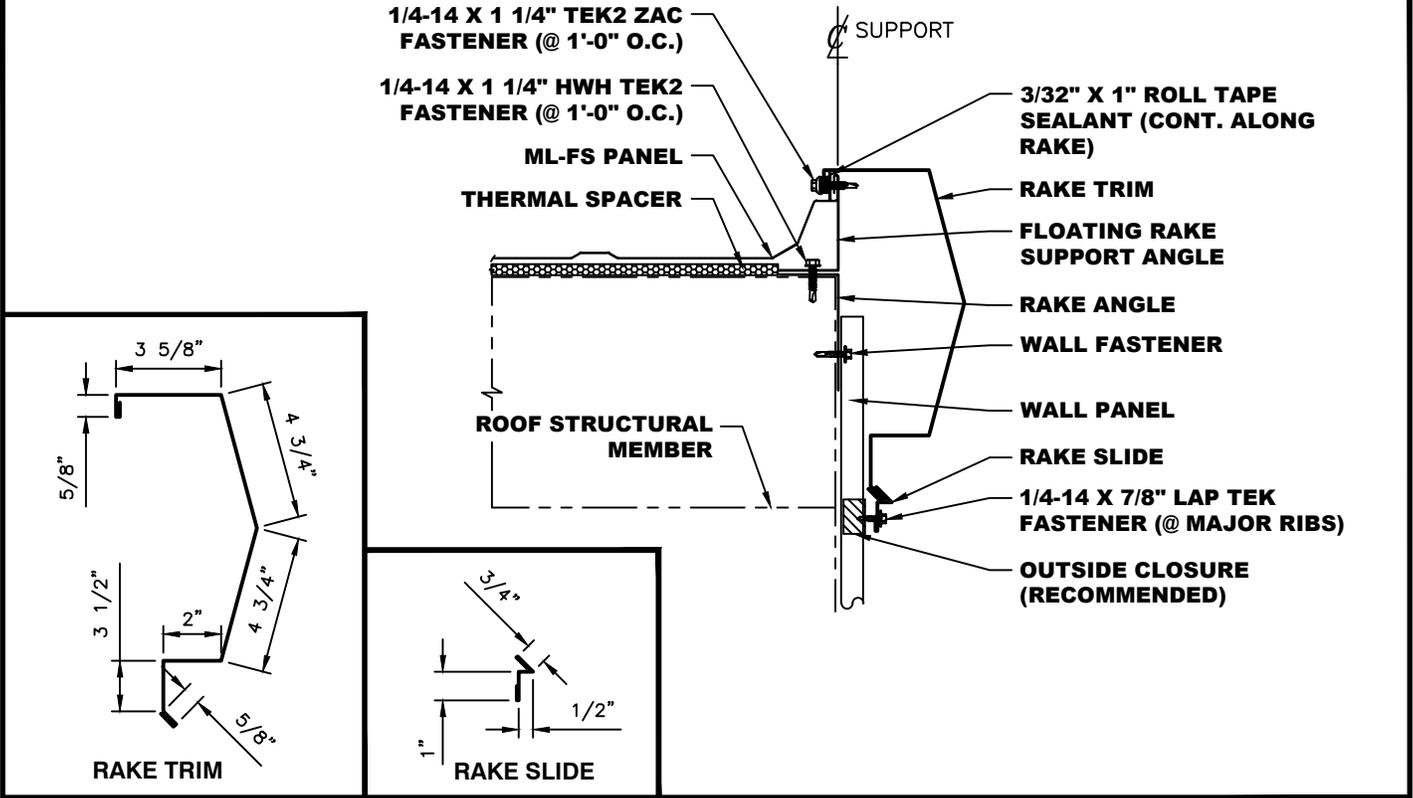


- NOTES:**
1. Rake Support Angle to be installed flush with steel line using 1/4-14 x 1 1/4" HWH Tek2 fasteners at 1'-0" O.C. into the Rake Angle.
 2. Apply 3/32" x 1" Roll Tape Sealant along the female leg of panel from eave to ridge.
 3. Attach Rake Trim to panel with 1/4-14 x 1 1/4" Tek2 ZAC fasteners at 1'-0" O.C. making sure to fasten into Rake Support Angle. Attach Rake Trim to wall panels with 1/4-14 x 7/8" Lap Tek fasteners at major ribs.
 4. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet trims as shown on page C-21.

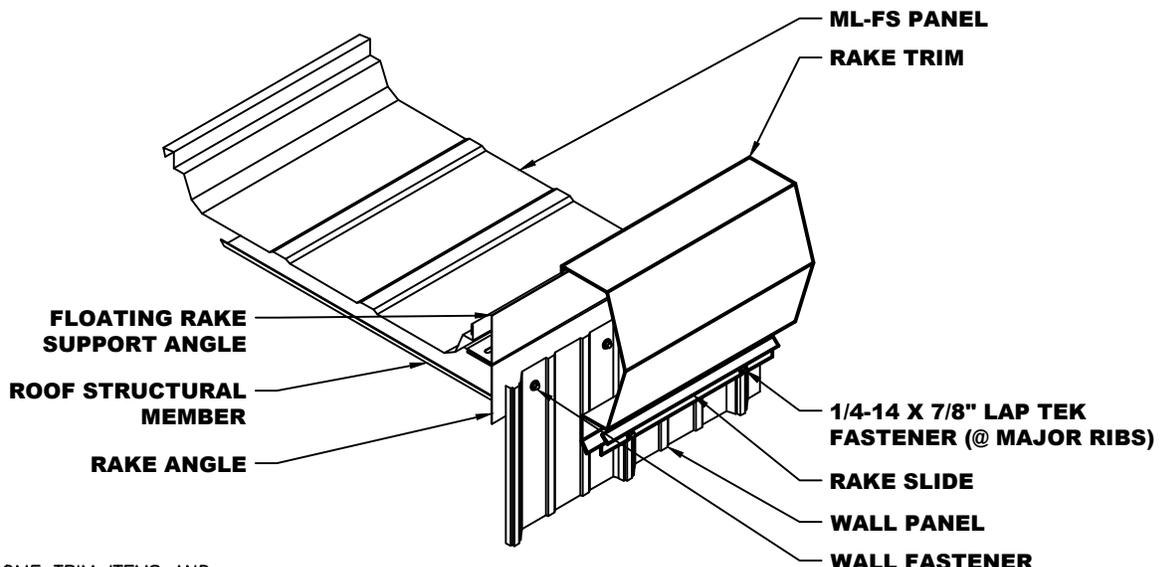


*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

FLOATING RAKE END DETAIL

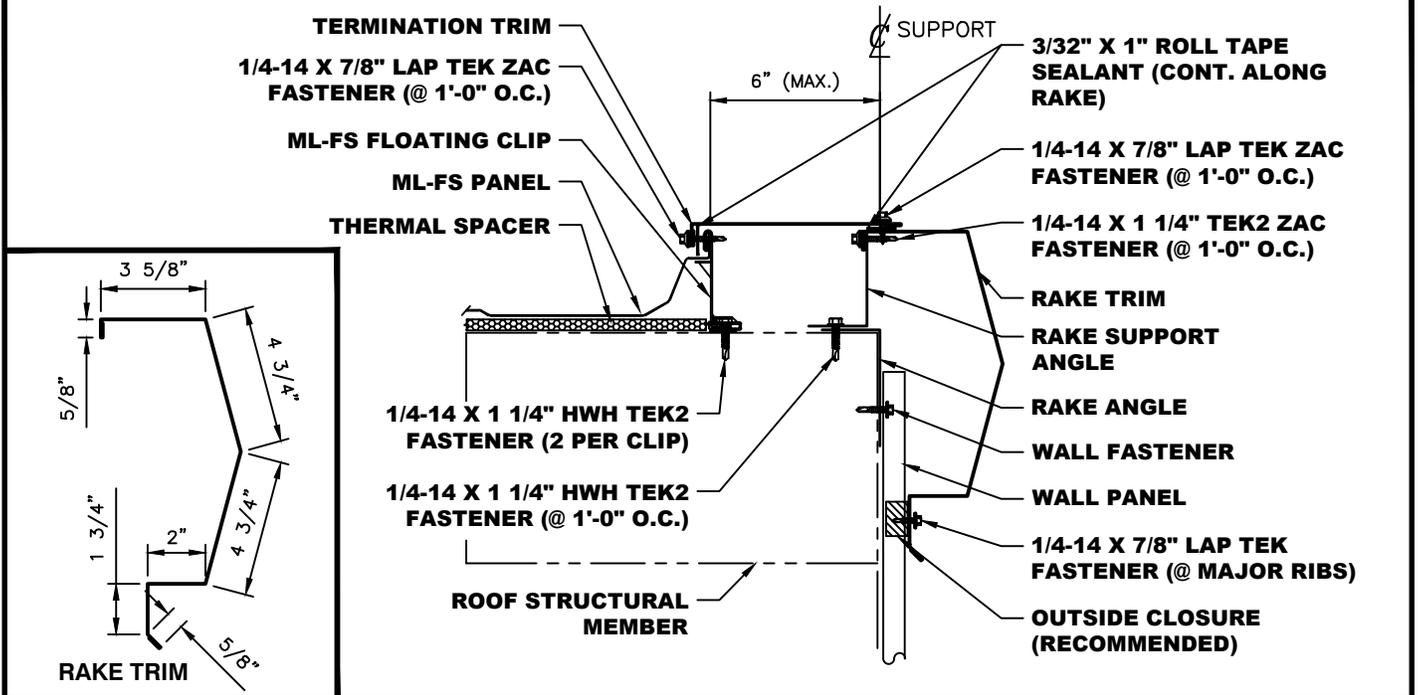


- NOTES:**
1. Floating Rake Support Angle to be installed flush with steel line using 1/4-14 x 1 1/4" HWH Tek2 w/ Shoulder fasteners at 1'-0" O.C. into the Rake Angle.
 2. Apply 3/32" x 1" Roll Tape Sealant along the male leg of panel from eave to ridge.
 3. Attach Rake Trim to panel with 1/4-14 x 1 1/4" Tek2 ZAC fasteners at 1'-0" O.C. making sure to fasten into Rake Support Angle. Attach Rake Trim to wall panels with 1/4-14 x 7/8" Lap Tek fasteners at major ribs.
 4. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet trims as shown on page C-21.
 5. Attach Rake Slide Trim with 1/4-14 x 7/8" Lap Tek fasteners at major ribs of wall panel.

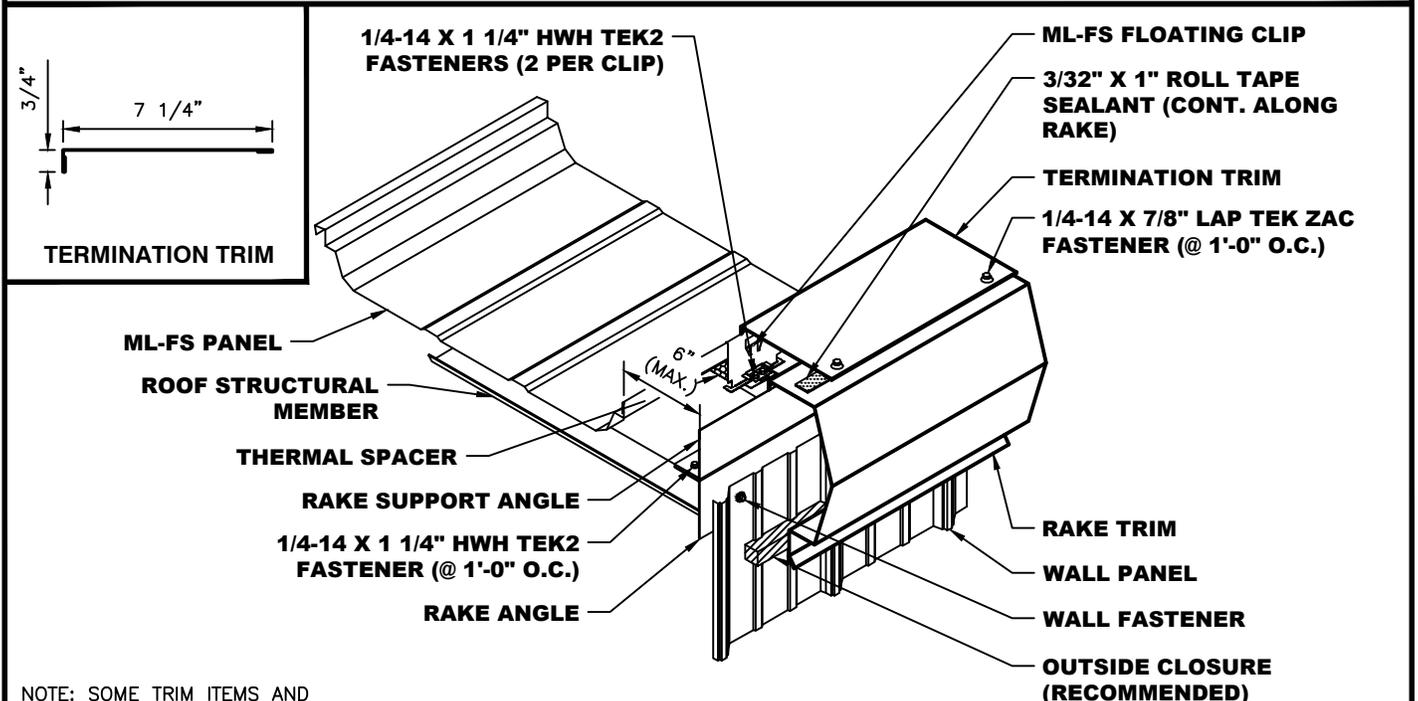


NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

FIXED RAKE END DETAIL (OFF MODULE)

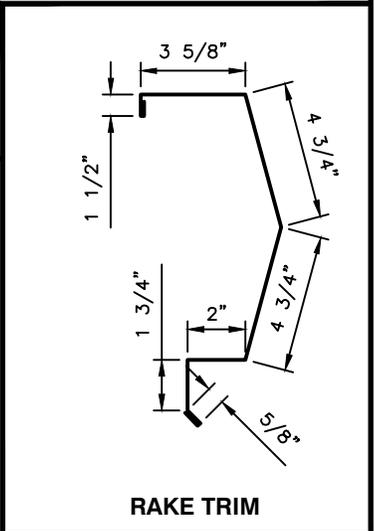
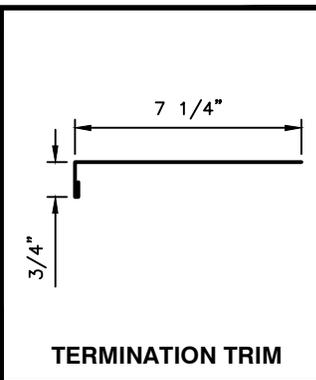
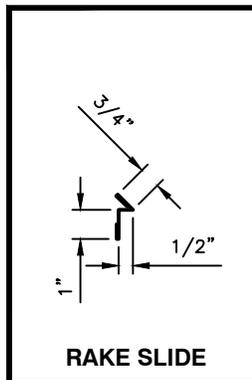
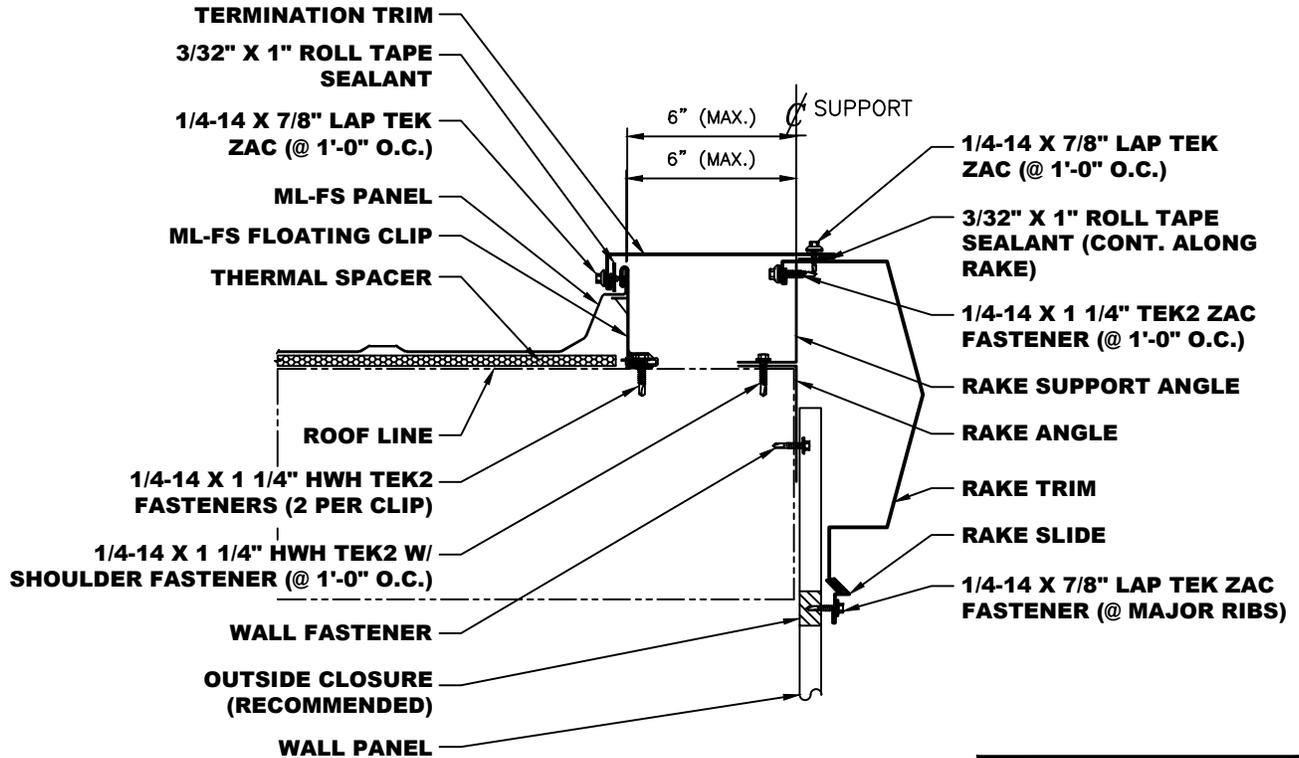


- NOTES:**
1. Rake Support Angle to be installed flush with steel line using 1/4-14 x 1 1/4" HWH Tek2 fasteners at 1'-0" O.C. into the Rake Angle.
 2. Attach Rake Trim to Rake Support Angle with 1/4-14 x 1 1/4" Tek2 ZAC fasteners at 1'-0" O.C. making sure to fasten into Rake Support Angle. Attach Rake Trim to wall panels with 1/4-14 x 7/8" Lap Tek fasteners at major ribs.
 3. Apply 3/32" x 1" Roll Tape Sealant along the male leg of panel and on top of Rake Trim from eave to ridge.
 4. Attach Termination Trim to panels with 1/4-14 x 7/8" Lap Tek Zac fasteners at 1'-0" O.C.
 5. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet trims as shown on page C-21.



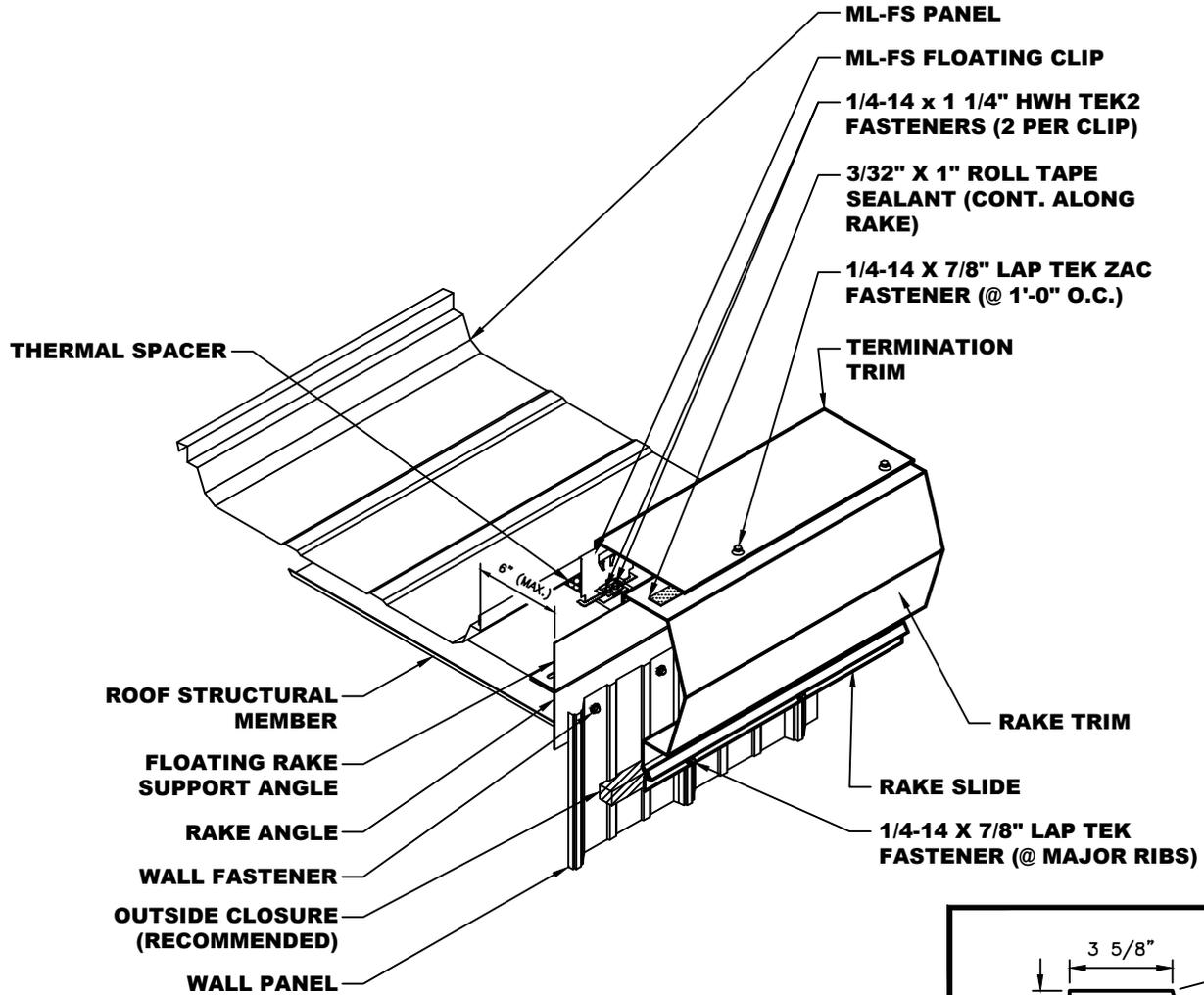
NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

ML-90 FLOATING RAKE END DETAIL (OFF MODULE)

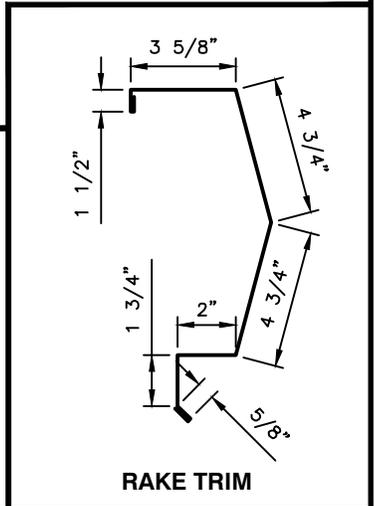
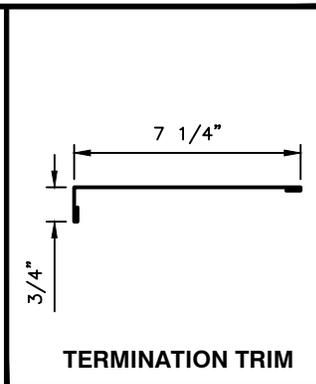
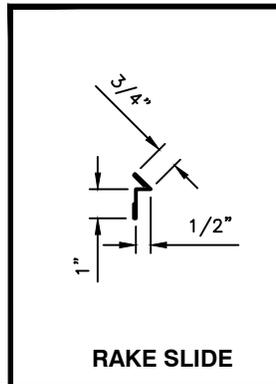


- NOTES:**
1. Floating Rake Support Angle to be installed flush with steel line using 1/4-14 x 1 1/4" HWH Tek2 w/ Shoulder fasteners at 1'-0" O.C. into the Rake Angle.
 2. Attach Rake Trim to Rake Support Angle with 1/4-14 x 1 1/4" Tek2 ZAC fasteners at 1'-0" O.C. making sure to fasten into Rake Support Angle. Attach Rake Trim with Rake Slide to wall panels with 1/4-14 x 7/8" Lap Tek fasteners at major ribs.
 3. Apply 3/32" x 1" Roll Tape Sealant along the male leg of panel and on top of Rake Trim from eave to ridge.
 4. Attach Termination Trim to panels with 1/4-14 x 7/8" Lap Tek Zac fasteners at 1'-0" O.C.
 5. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet trims as shown on page C-21.

ML-FS FLOATING RAKE END DETAIL (OFF MODULE)

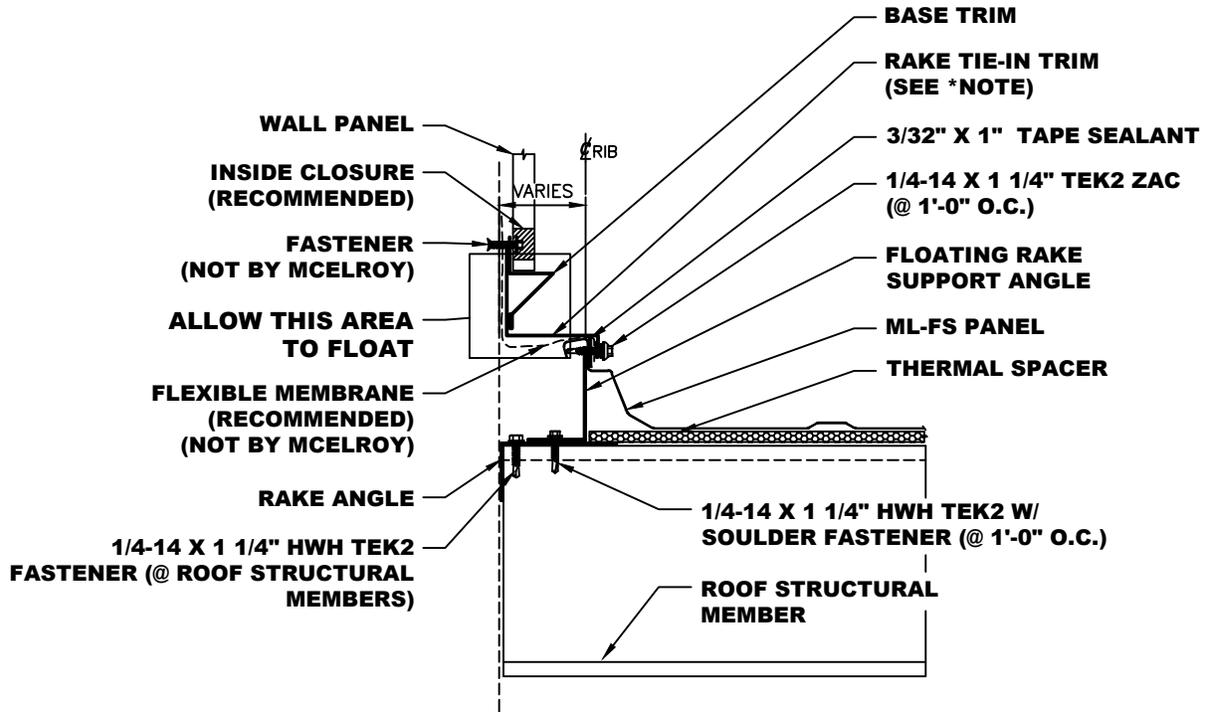


NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

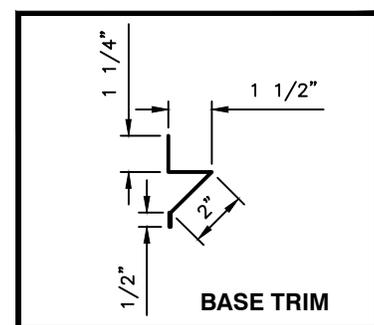
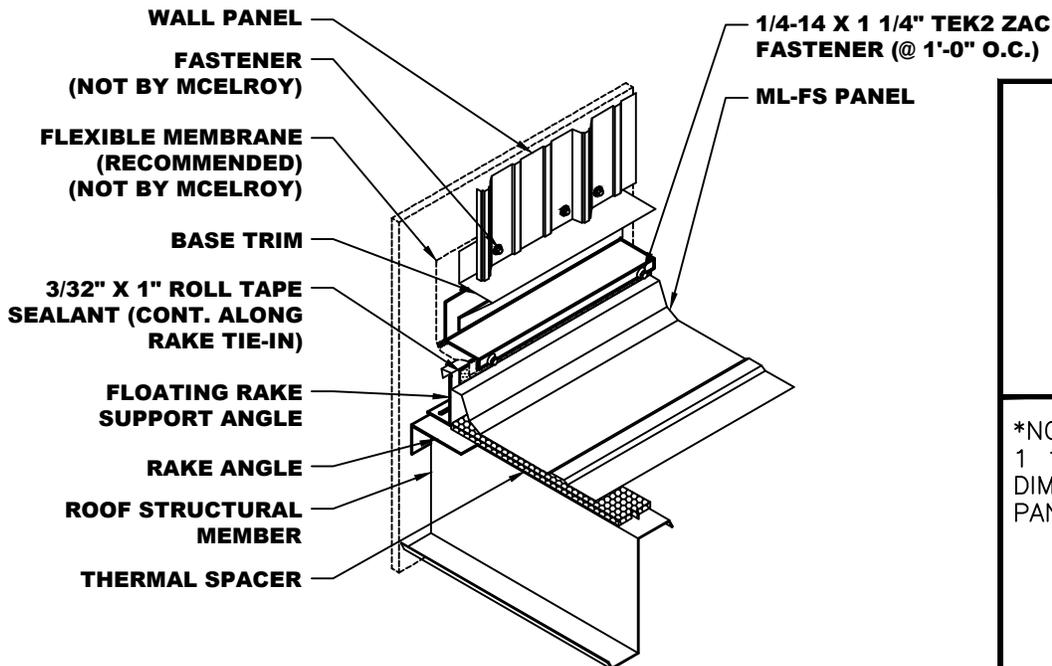


- NOTES:**
1. Floating Rake Support Angle to be installed flush with steel line using 1/4-14 x 1 1/4" HWH Tek2 w/ Shoulder fasteners at 1'-0" O.C. into the Rake Angle.
 2. Attach Rake Trim to Rake Support Angle with 1/4-14 x 1 1/4" Tek2 ZAC fasteners at 1'-0" O.C. making sure to fasten into Rake Support Angle. Attach Rake Trim with Rake Slide to wall panels with 1/4-14 x 7/8" Lap Tek fasteners at major ribs.
 3. Apply 3/32" x 1" Roll Tape Sealant along the male leg of panel and on top of Rake Trim from eave to ridge.
 4. Attach Termination Trim to panels with 1/4-14 x 7/8" Lap Tek Zac fasteners at 1'-0" O.C.
 5. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet trims as shown on page C-21.

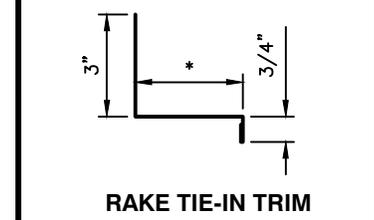
FLOATING RAKE START TIE-IN DETAIL



- NOTES:**
1. Floating Rake Support Angle to be installed flush with steel line using 1/4-14 x 1 1/4" HWH Tek2 w/ Shoulder fasteners at 1'-0" O.C. into the Rake Angle.
 2. Apply 3/32" x 1" Roll Tape Sealant along the female leg of panel from eave to ridge.
 3. Attach Rake Tie-In Trim to Roof Panel and Support Angle with 1/4-14 x 1 1/4" Tek2 ZAC fasteners at 1'-0" O.C. making sure to fasten into Rake Support Angle.
 4. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet trims as shown on page C-21.

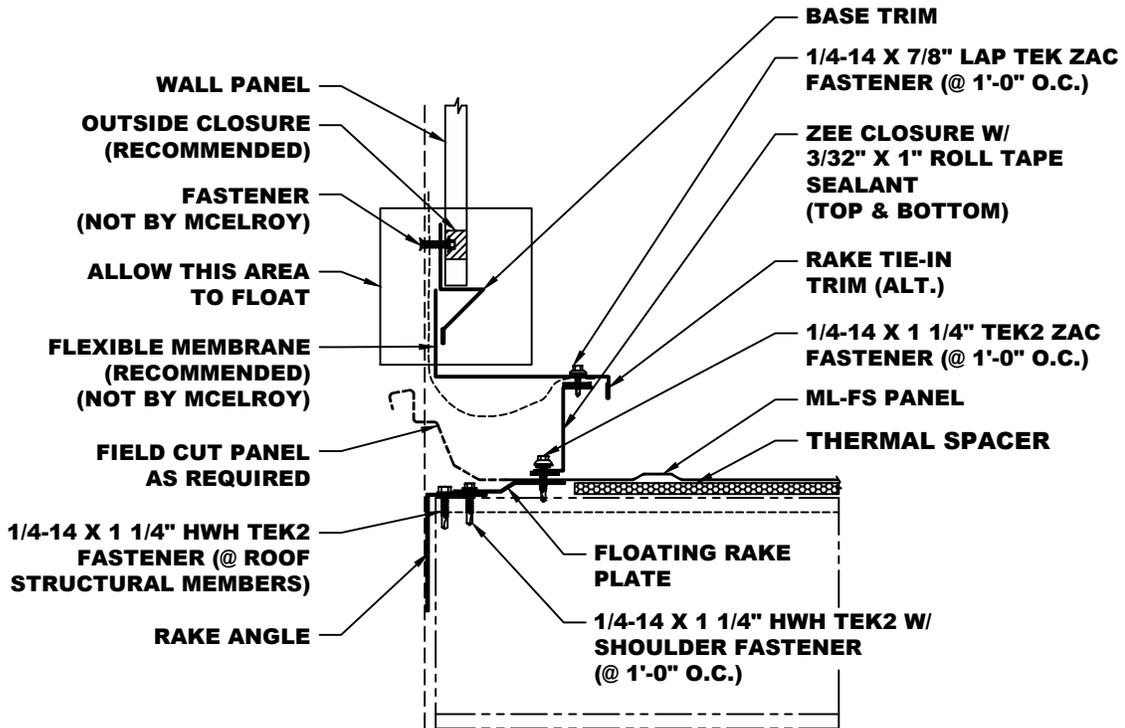


*NOTE:
1 1/2"(MIN.) TO 8"(MAX.)
DIMENSION VARIES WITH
PANEL LAYOUTS.

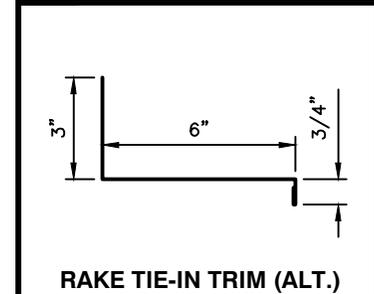
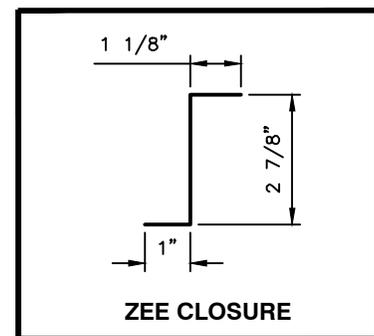
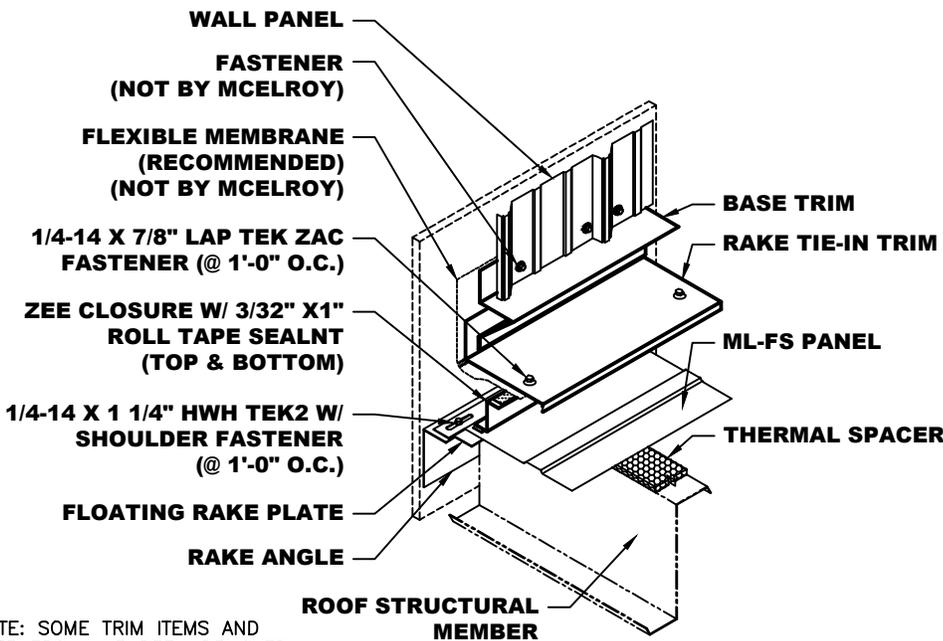


*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

FLOATING RAKE START TIE-IN DETAIL (OFF MODULE)

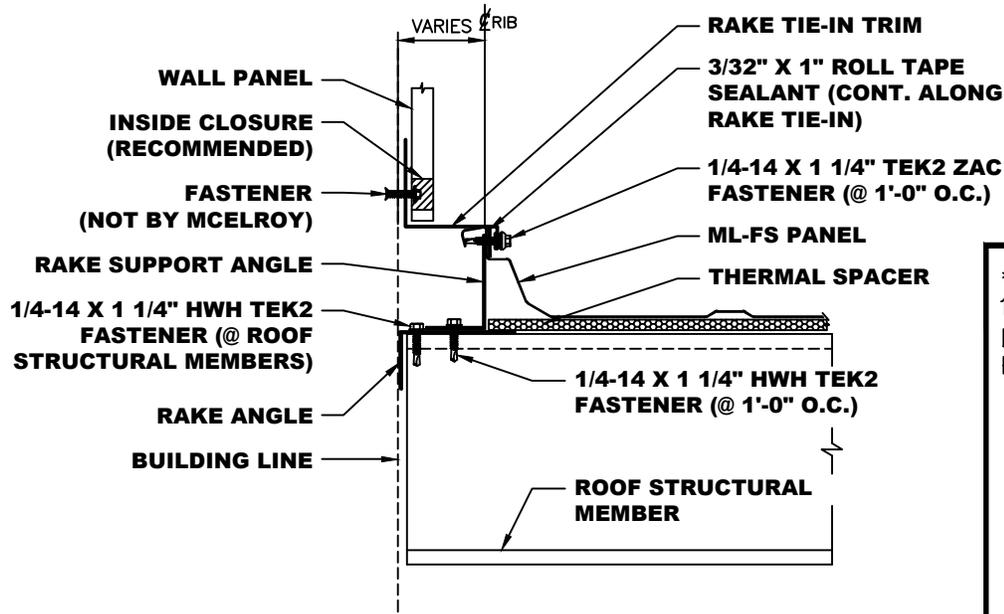


- NOTES:**
1. Install Floating Rake Plate to Rake Angle using 1/4-14 x 1 1/4" HWH Tek2 w/ Shoulder fasteners at 1'-0" O.C.
 2. Apply 3/32" x 1" Roll Tape Sealant to top and bottom of Zee Closure from eave to ridge and attach with 1/4-14 x 1 1/4" Tek2 ZAC fasteners at 1'-0" O.C. into Floating Rake Plate.
 3. Attach Rake Tie-In Trim to Zee Closure with 1/4-14 x 7/8" Lap Tek ZAC fasteners at 1'-0" O.C.
 4. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet trims as shown on page C-21.

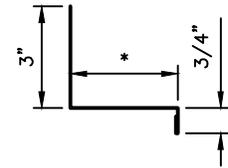


*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

FIXED RAKE START TIE-IN DETAIL

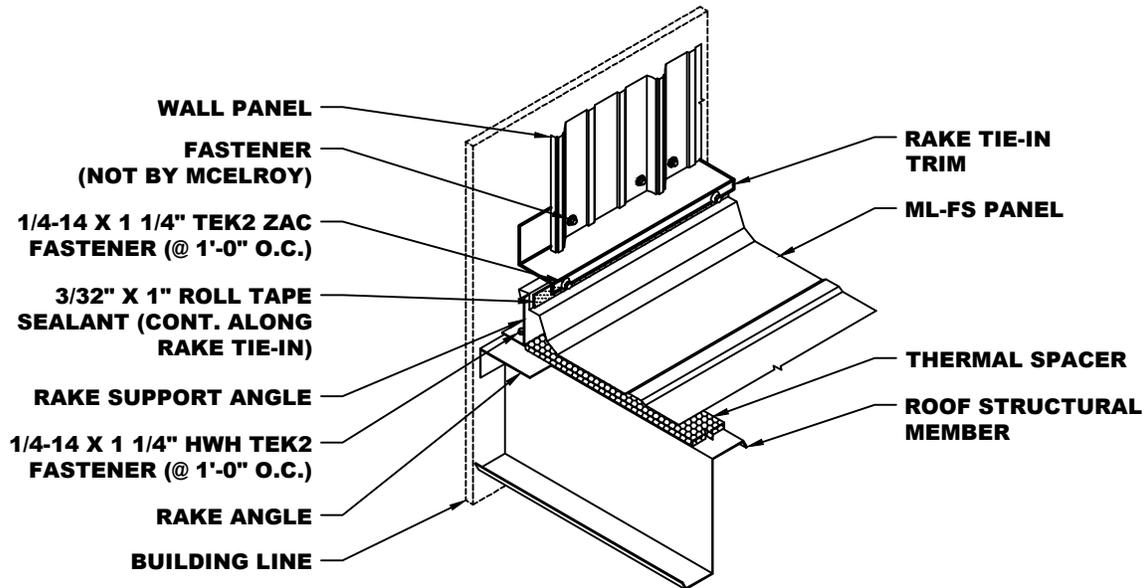


*NOTE:
1 1/2\"(MIN.) TO 8\"(MAX.)
DIMENSION VARIES WITH
PANEL LAYOUTS.

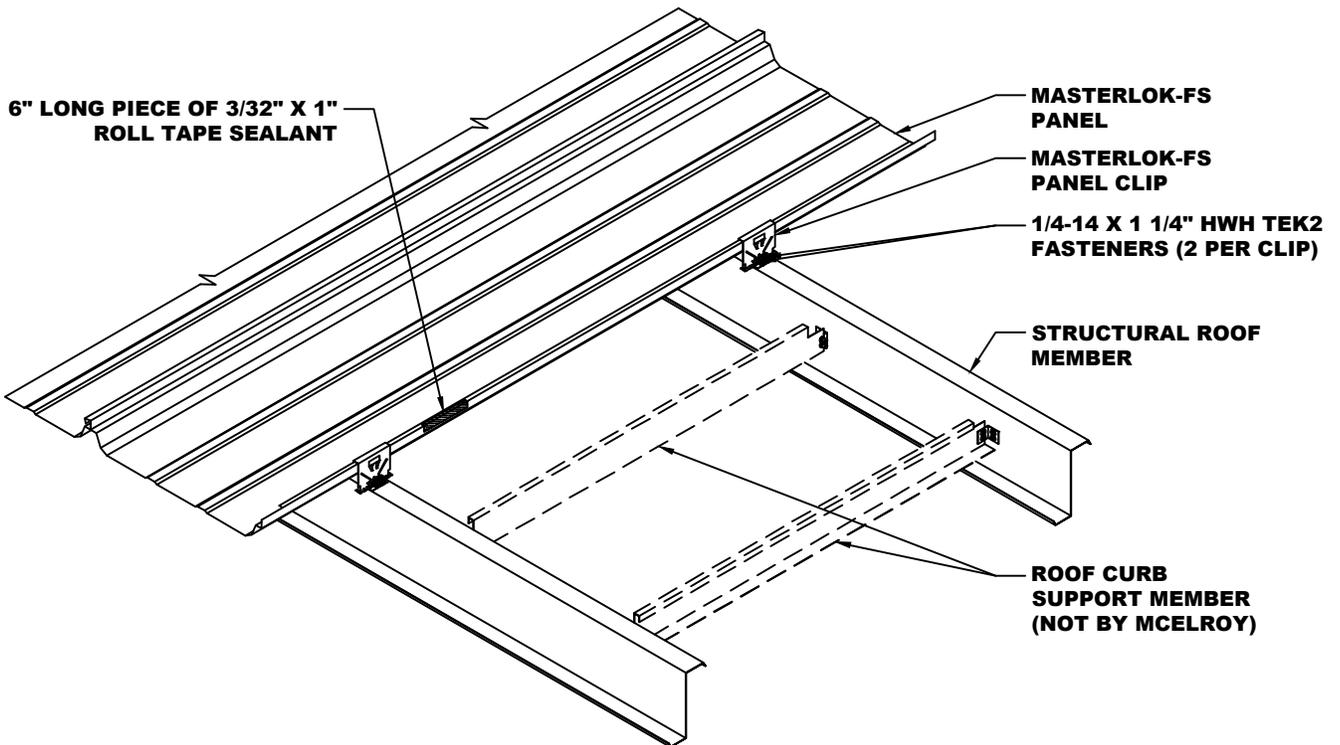


RAKE TIE-IN TRIM

- NOTES:**
1. Floating Rake Support Angle to be installed flush with steel line using 1/4-14 x 1 1/4" HWH Tek2 w/ Shoulder fasteners at 1'-0" O.C. into the Rake Angle.
 2. Apply 3/32" x 1" Roll Tape Sealant along the female leg of panel from eave to ridge.
 3. Attach Rake Tie-In Trim to Roof Panel and Support Angle with 1/4-14 x 1 1/4" Tek2 ZAC fasteners at 1'-0" O.C. making sure to fasten into Rake Support Angle.
 4. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet trims as shown on page C-21.



*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

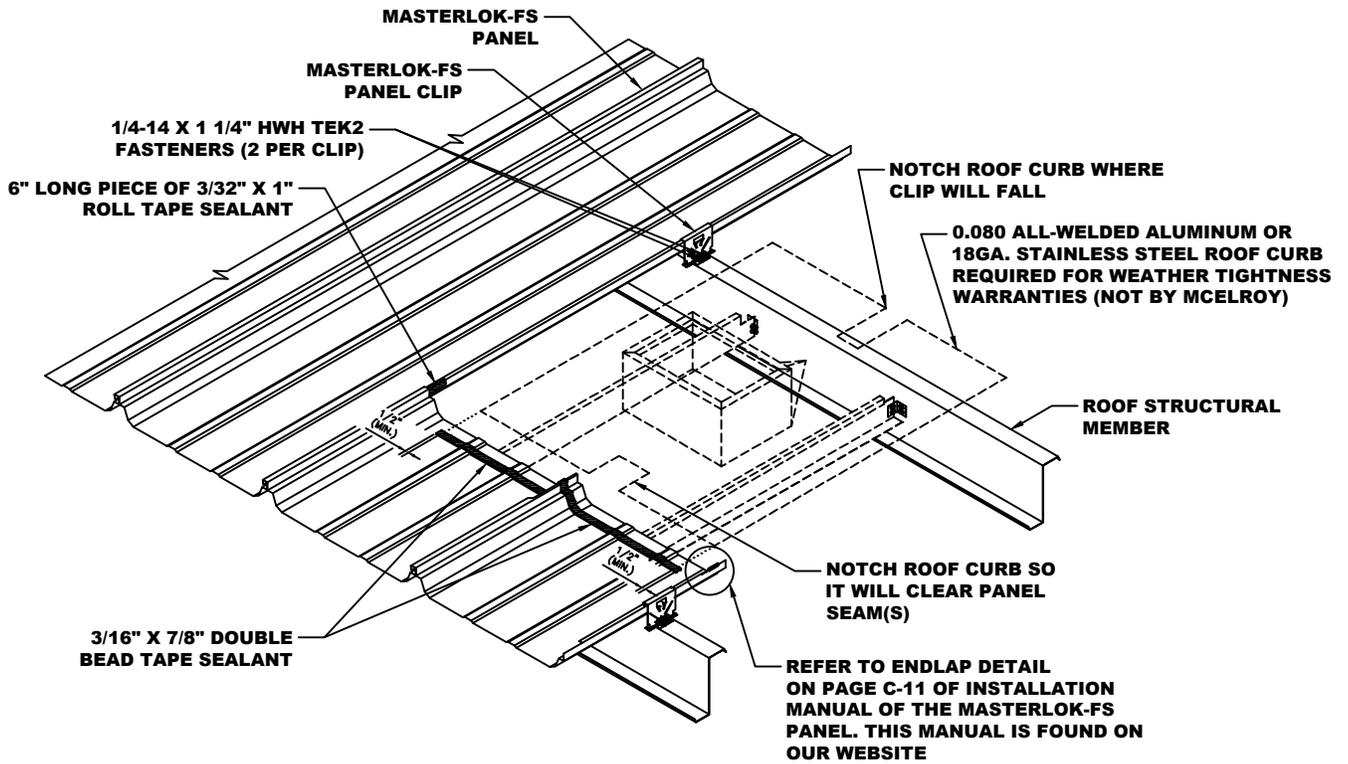


STEP #1

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

NOTE: FOR WEATHERTIGHTNESS WARRANTIES, AN ALL WELDED ALUMINUM OR STAINLESS STEEL ROOF CURB IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS ON ROOF CURBS.

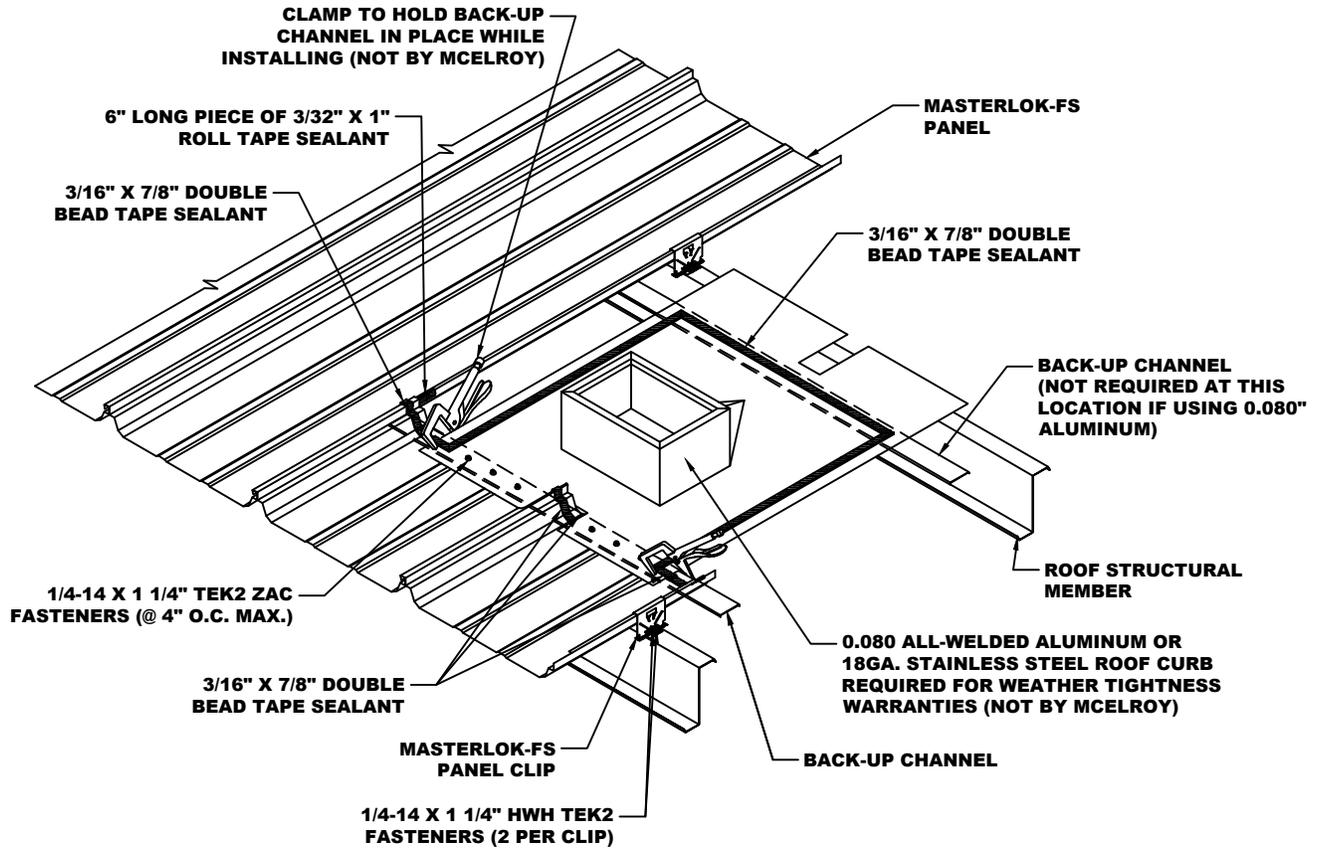




STEP #2

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

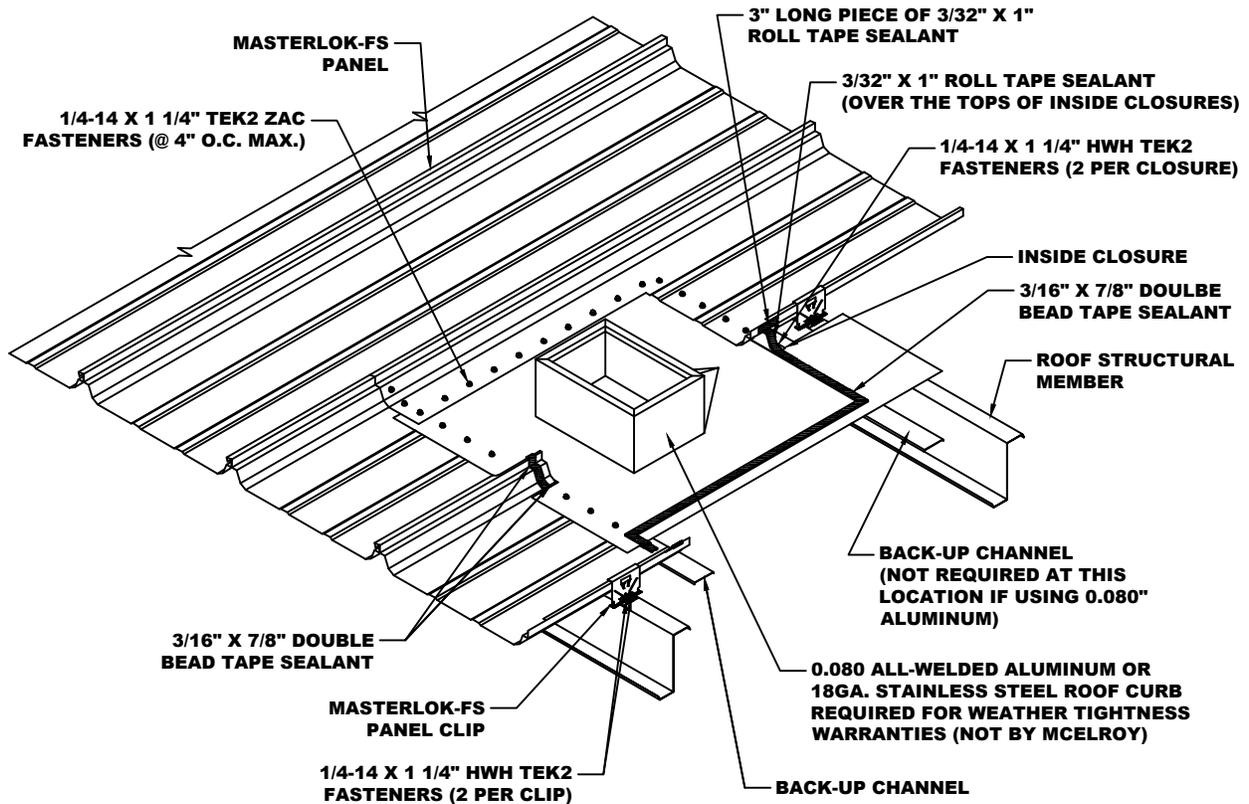
NOTE:
FOR WEATHER TIGHTNESS WARRANTIES, AN ALL WELDED ALUMINUM OR STAINLESS STEEL ROOF CURB IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS ON ROOF CURBS.



STEP #3

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

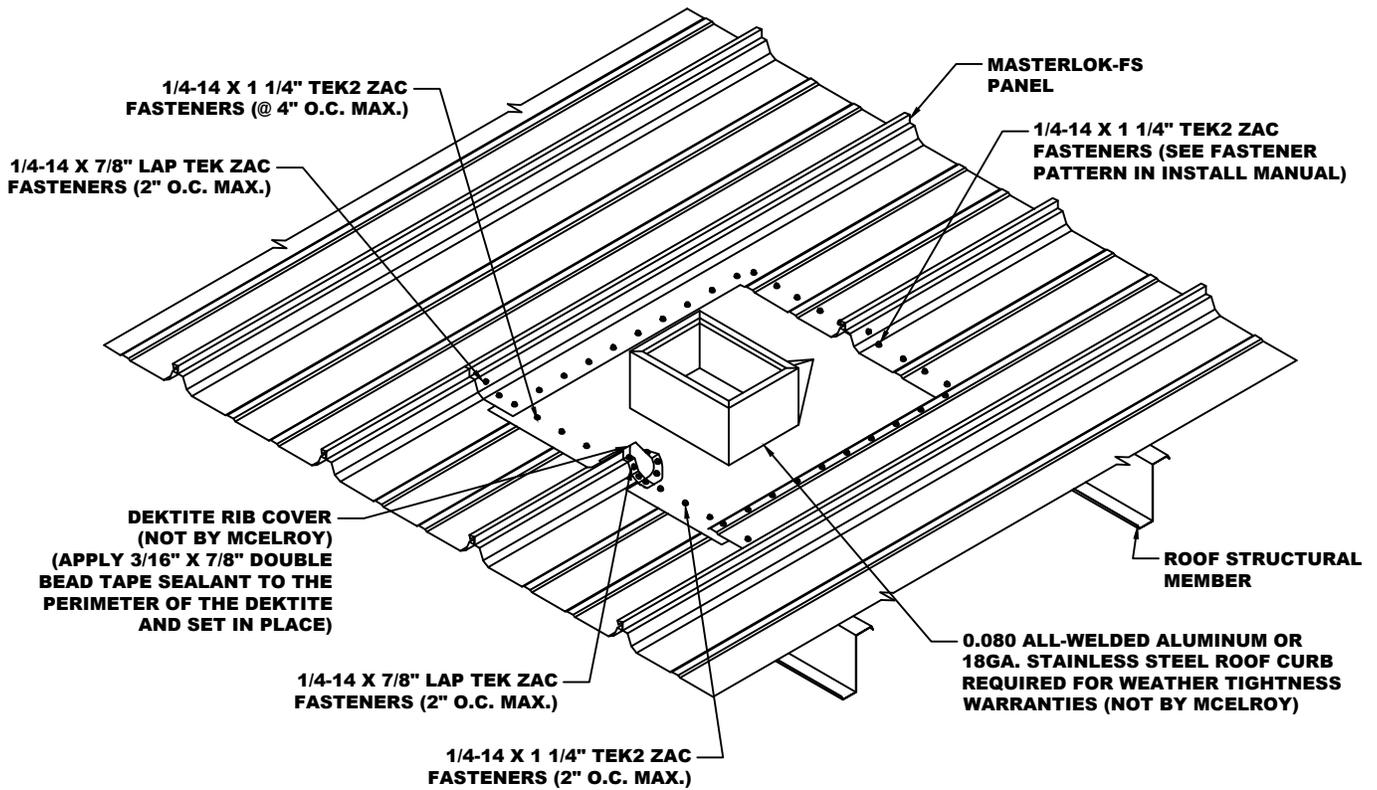
NOTE: FOR WEATHER TIGHTNESS WARRANTIES, AN ALL WELDED ALUMINUM OR STAINLESS STEEL ROOF CURB IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS ON ROOF CURBS.



STEP #4

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

NOTE: FOR WEATHERTIGHTNESS WARRANTIES, AN ALL WELDED ALUMINUM OR STAINLESS STEEL ROOF CURB IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS ON ROOF CURBS.

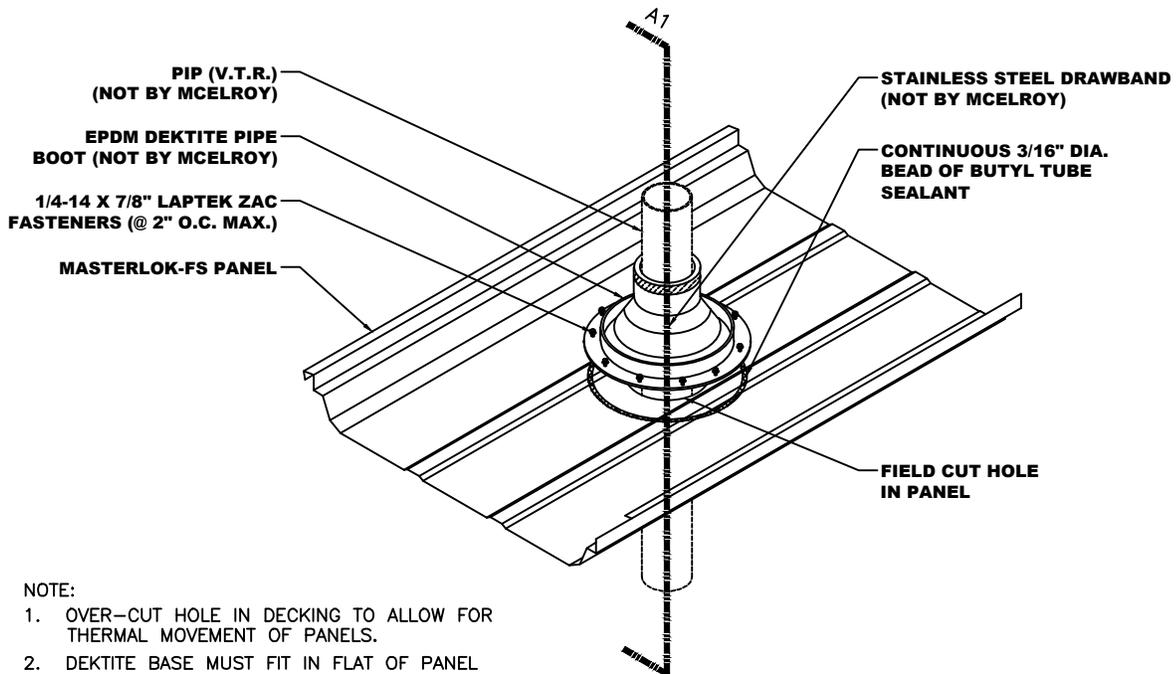
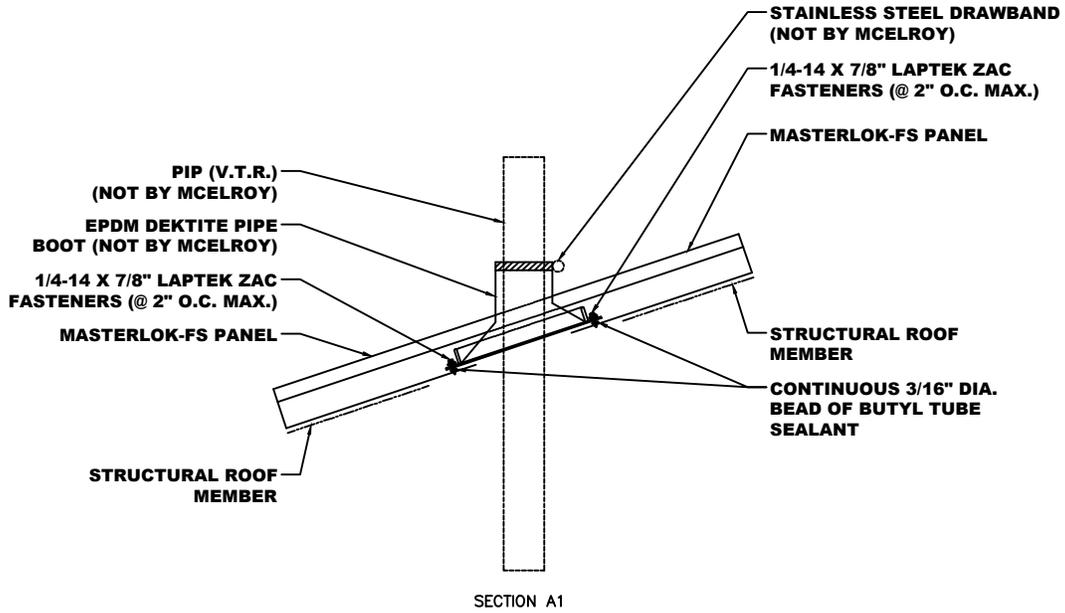


STEP #5

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

NOTE: FOR WEATHER TIGHTNESS WARRANTIES, AN ALL WELDED ALUMINUM OR STAINLESS STEEL ROOF CURB IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS ON ROOF CURBS.

INSTALLER NOTE: GUTTERS AND PENETRATIONS SHOULD BE PROTECTED BY A SNOWGUARD SYSTEM TO PREVENT DAMAGE FROM SLIDING SNOW AND ICE.



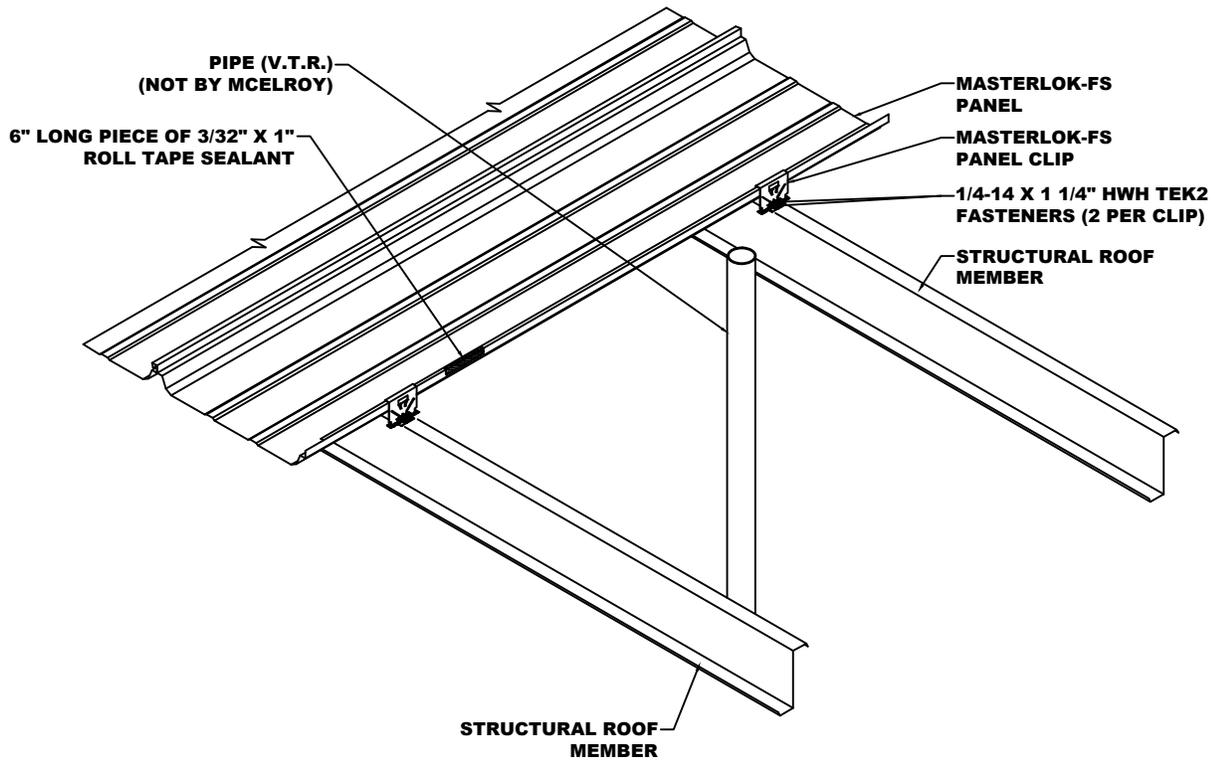
NOTE:

1. OVER-CUT HOLE IN DECKING TO ALLOW FOR THERMAL MOVEMENT OF PANELS.
2. DEKTITE BASE MUST FIT IN FLAT OF PANEL

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

NOTE:
FOR WEATHERTIGHTNESS WARRANTIES, A 20 YEAR WARRANTABLE EPDM DEKTITE BOOT IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS.

ML-FS ALTERNATE DEKTITE INSTALLATION DETAIL

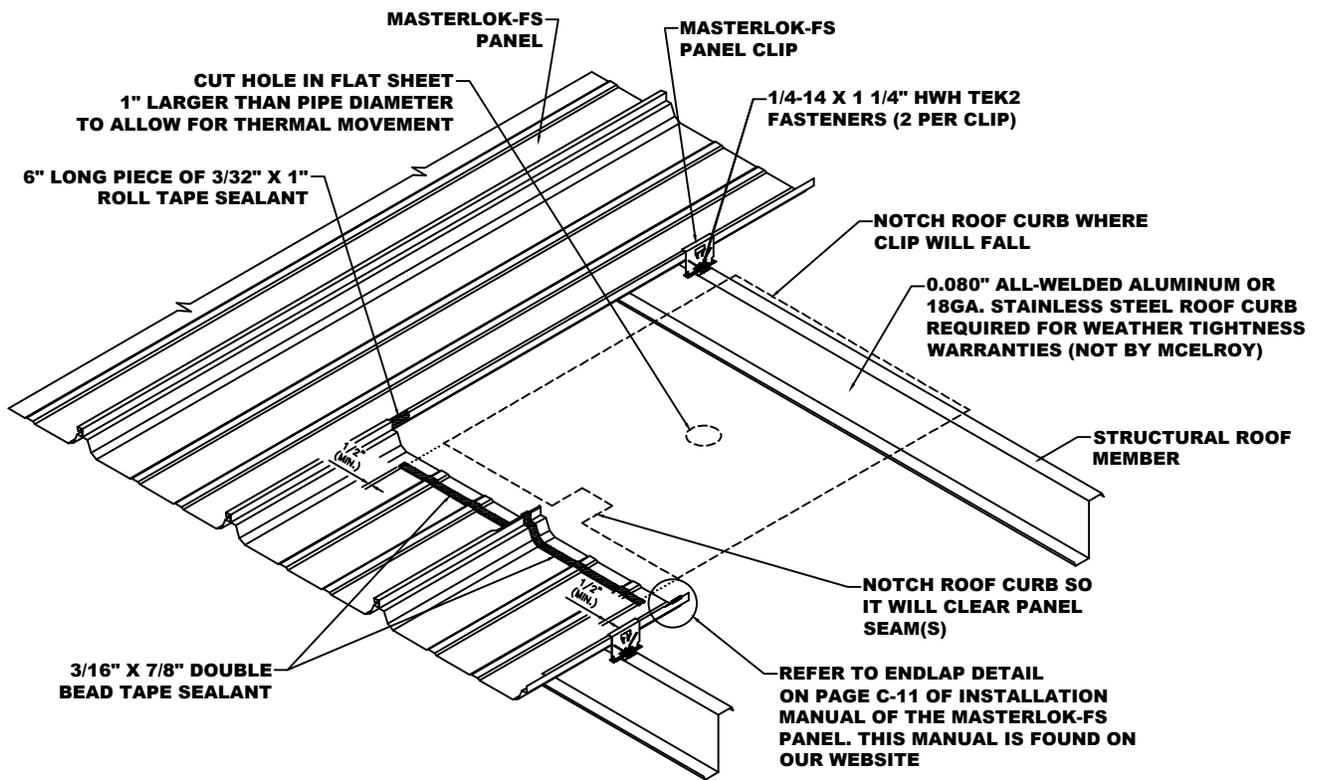


STEP #1

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

NOTE:
FOR WEATHERTIGHTNESS WARRANTIES, AN ALL WELDED ALUMINUM OR STAINLESS STEEL ROOF CURB IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS ON ROOF CURBS.

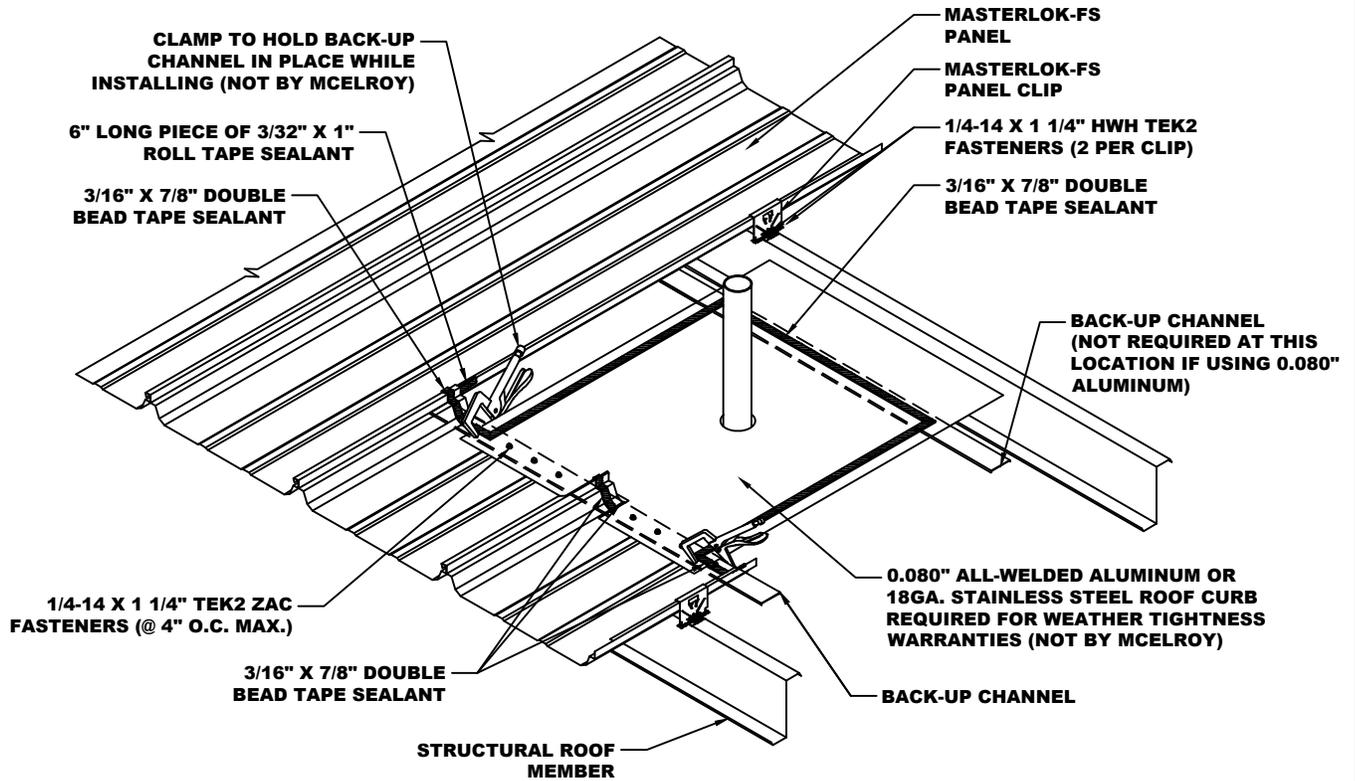
ML-FS ALTERNATE DEKTITE INSTALLATION DETAIL



STEP #2

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

NOTE: FOR WEATHER TIGHTNESS WARRANTIES, AN ALL WELDED ALUMINUM OR STAINLESS STEEL ROOF CURB IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS ON ROOF CURBS.

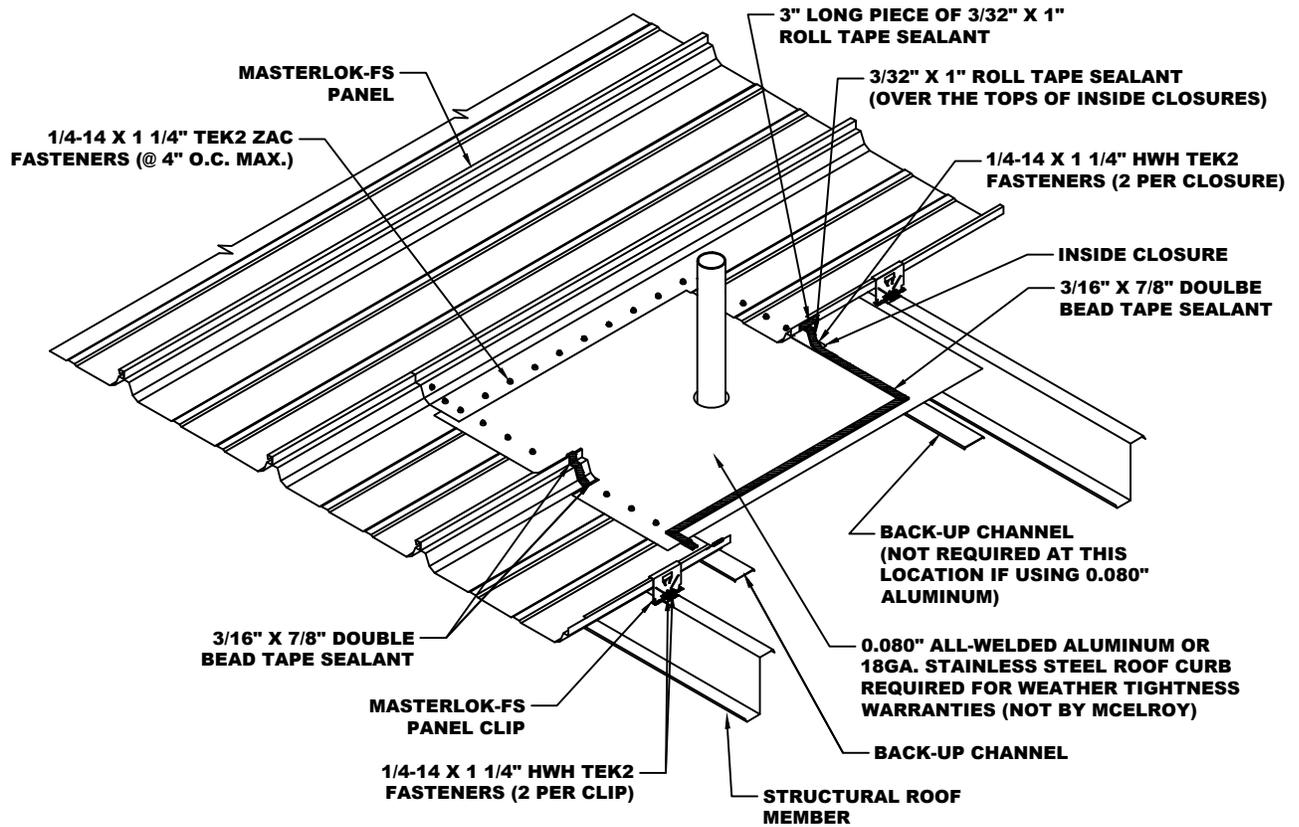


STEP #3

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

NOTE: FOR WEATHERTIGHTNESS WARRANTIES, AN ALL WELDED ALUMINUM OR STAINLESS STEEL ROOF CURB IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS ON ROOF CURBS.

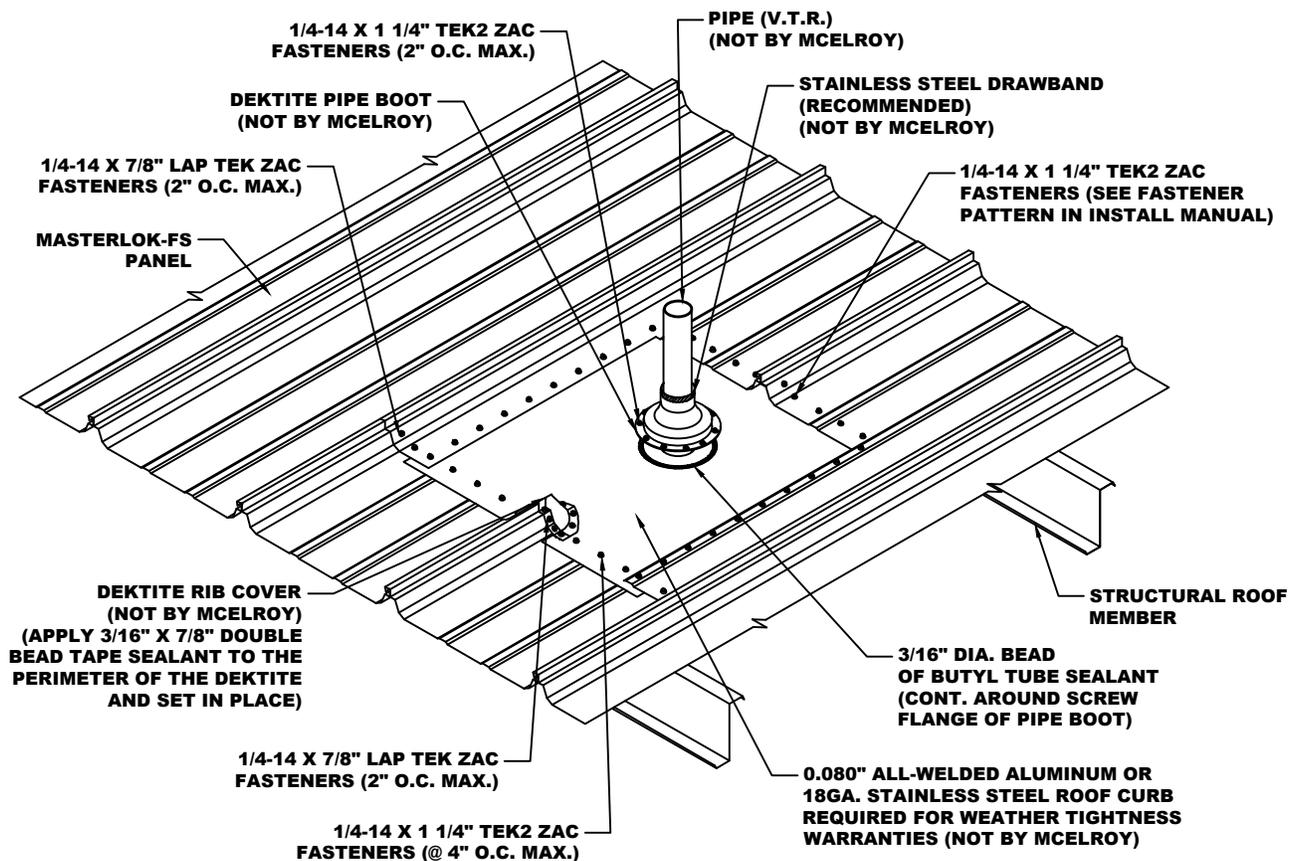
ML-FS ALTERNATE DEKTITE INSTALLATION DETAIL



STEP #4

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

NOTE: FOR WEATHERTIGHTNESS WARRANTIES, AN ALL WELDED ALUMINUM OR STAINLESS STEEL ROOF CURB IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS ON ROOF CURBS.

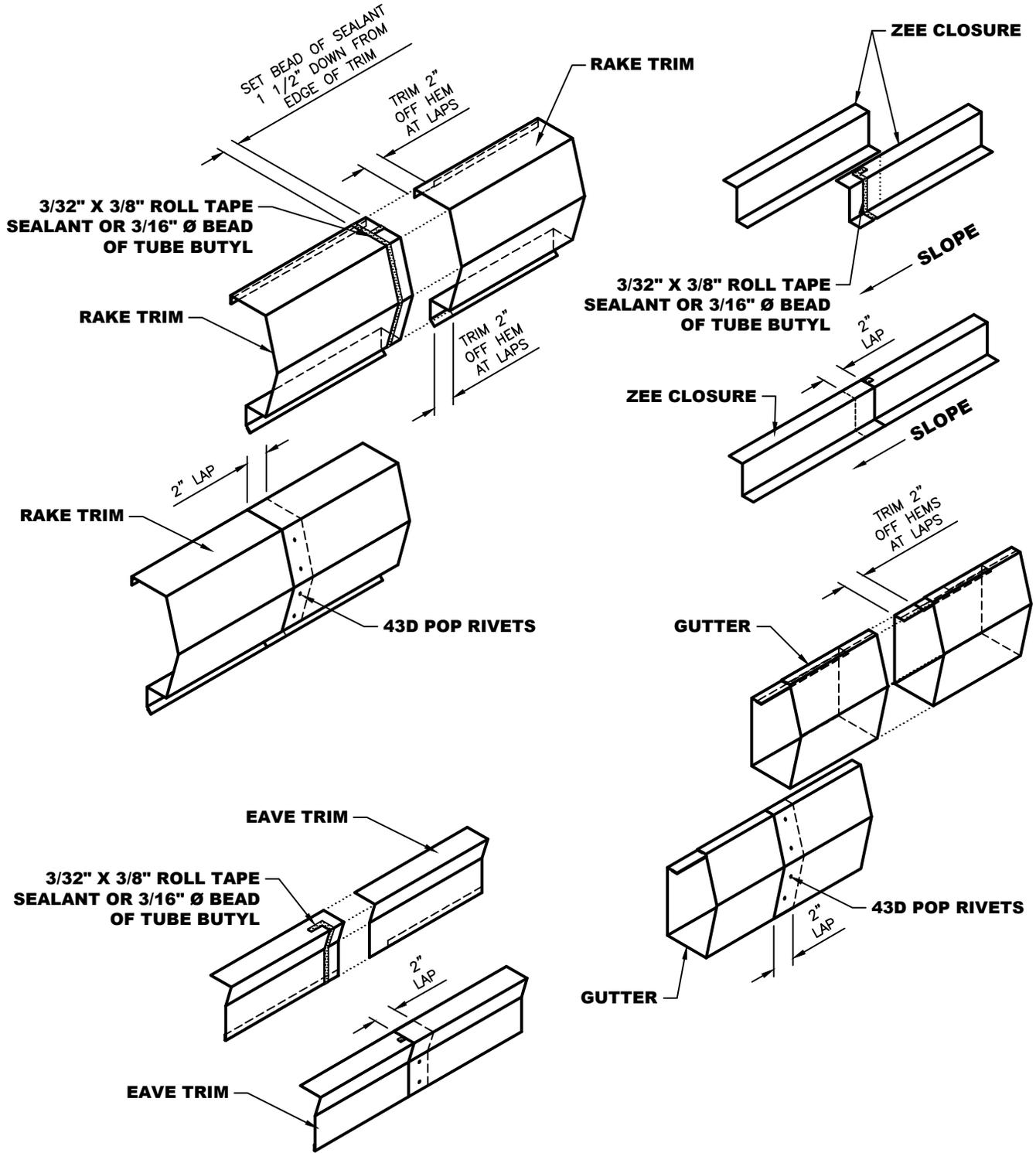


STEP #5

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

NOTE:
FOR WEATHER TIGHTNESS WARRANTIES, AN ALL WELDED ALUMINUM OR STAINLESS STEEL ROOF CURB IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS ON ROOF CURBS.

TYPICAL TRIM LAP DETAIL



NOTE: 1. Apply 3/32" x 3/8" Roll Tape Sealant or a 3/16" Ø bead of Tube Butyl 1 1/2" back from the edge of the trim. Also, apply a piece of tape sealant or bead of Tube Butyl as a Pigtail to completely seal joint.
 2. Notch the hems on the upper trim piece 2" so that the trim will fit flat in the lap joint.
 3. Secure trim laps with Pop Rivets as shown above.



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CORPORATE OFFICE
 1500 HAMILTON RD.
 BOSSIER CITY, LA 71111

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3052 Yadkin Road Chesapeake, VA 23323	9476 Meadowbrook Rd. Clinton, IL 61727	3215 Highway 59 Diamond, MO 64840	390 N. Valley Dell Dr. Fenton, MO 63026
409 Lovejoy Road Ft. Walton Beach, FL 32548	3014 Lincoln Court Garland, TX 75041	1440 Aldine Bender Road Houston, TX 77032	221 Benelli Drive Hutto, TX 78634
10504 E. 59th Street Indianapolis, IN 46236	32 Industrial Circle Lancaster, PA 17601	9435 US Hwy. 60 W. Lewisport, KY 42351	2701 Cahill Street Lockhart, TX 78644
1020 Veterans Street Mauston, WI 53948	5123 Terminal Dr. McFarland, WI 53558	514 Cave Road Nashville, TN 37210	8304 Hwy. 70 E. North Little Rock, AR 72117
613 North Bierdeman Rd. Pearl, MS 39208	8511 Industrial Drive Pearland, TX 77584	2755 Hwy 60 Pendergrass, GA 30567	7450 Tower Street Richland Hills, TX 76118
8200 Berry Ave. Suite 100 Sacramento, CA 95828	1365 Dean Forest Rd. Savannah, GA 31405	7355 Oakley Industrial Blvd. Union City, GA 30291	1144 Silstar Rd. West Columbia, SC 29170
325 McGhee Rd. Winchester, VA 22603			

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