

INSTALLATION MANUAL



T-138

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The details shown on the following pages are suggestions or guidelines for installing the T-138 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. In addition, other details may be perfectly acceptable for use. Please contact Tremco Roofing for assistance in determining if a detail is acceptable.

Installation procedures shall be in accordance with the manufacturer's printed instructions, details or approved shop drawings. Installers should thoroughly familiarize 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.

Tremco Roofing 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. Plank and Pencil Rib panels are recommended as to 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 Tremco Roofing's website at www.tremcoroofing.com.

Optional details can also be found on our website.

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

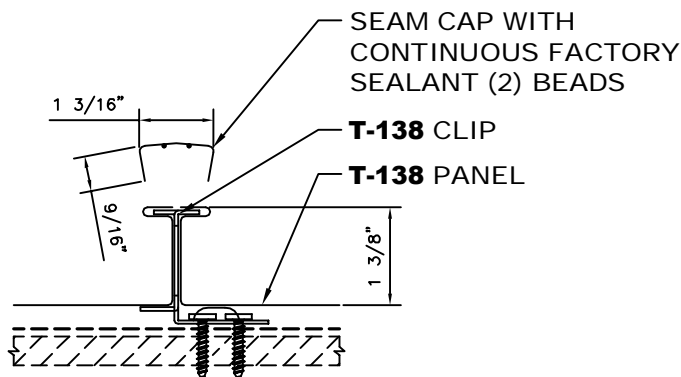
1. Locate seamer box. Check to make sure you received an electric seamer, parts box, return shipping label and an information booklet. If not, please call our Technical Services Department. (Hand Seamers must be rented.)
2. Locate power source and check against power requirements in the information booklet.
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.

HAND SEAMING OPERATION

!!!ATTENTION!!!

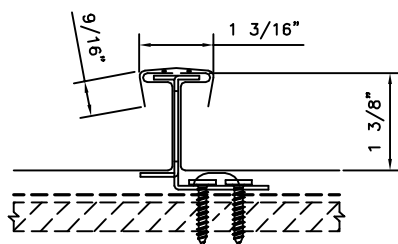
It is critical that the panel seams are crimped and folded before using the electric seamer. Failure to follow these guidelines will result in damaged seams.

To begin seaming, set the hand seamer on the seam. Align the edge of the hand seamer about one to two inches past the edge of the panel. Crimp the panel 3 to 4 times along the seam for a total of 12" at the eave and 5 or 6 times along the seam for a total of 18" at the ridge and then at every clip.



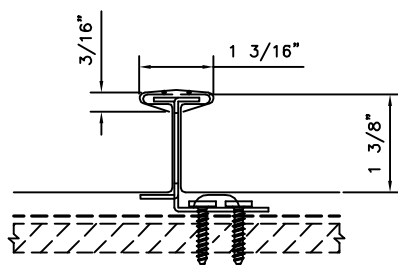
SEAM ENGAGEMENT

NOTE:
ALL DIMENSIONS ARE APPROXIMATE.
SLIGHT DIFFERENCES IN THE FIELD
ARE ACCEPTABLE.



BEFORE SEAMING

NOTE:
ALL DIMENSIONS ARE APPROXIMATE.
SLIGHT DIFFERENCES IN THE FIELD
ARE ACCEPTABLE.



AFTER SEAMING

NOTE:
ALL DIMENSIONS ARE APPROXIMATE.
SLIGHT DIFFERENCES IN THE FIELD
ARE ACCEPTABLE.

NOTE:

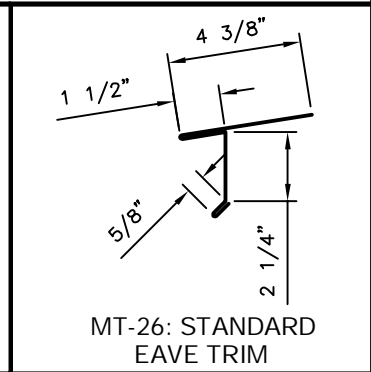
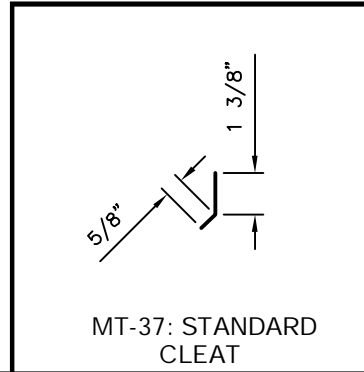
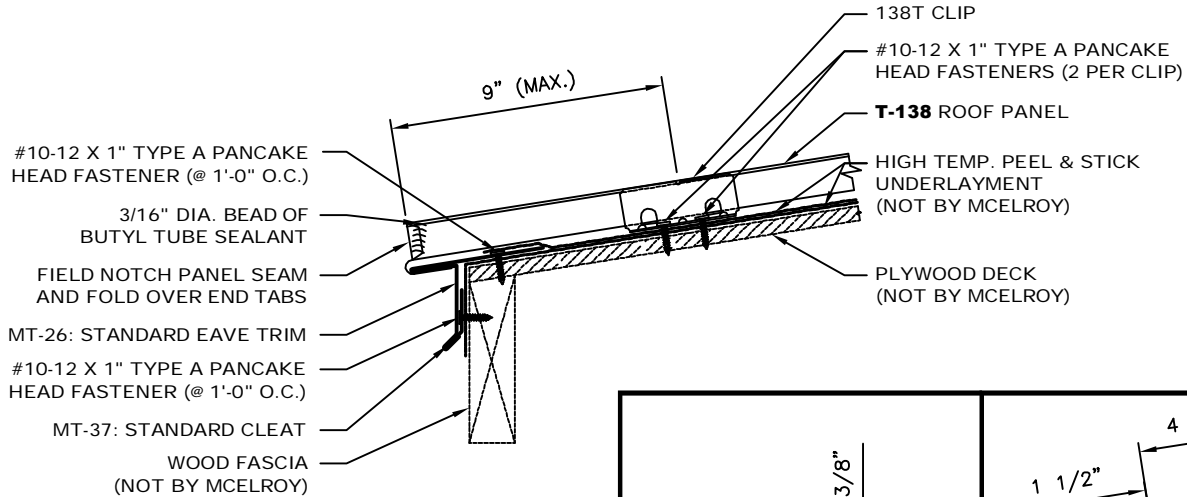
Mechanical seamers and hand seamers are available for rental through **Tremco Roofing's** approved seamer supplier at the following website.

Go to: <http://www.tremcoroofing.com>

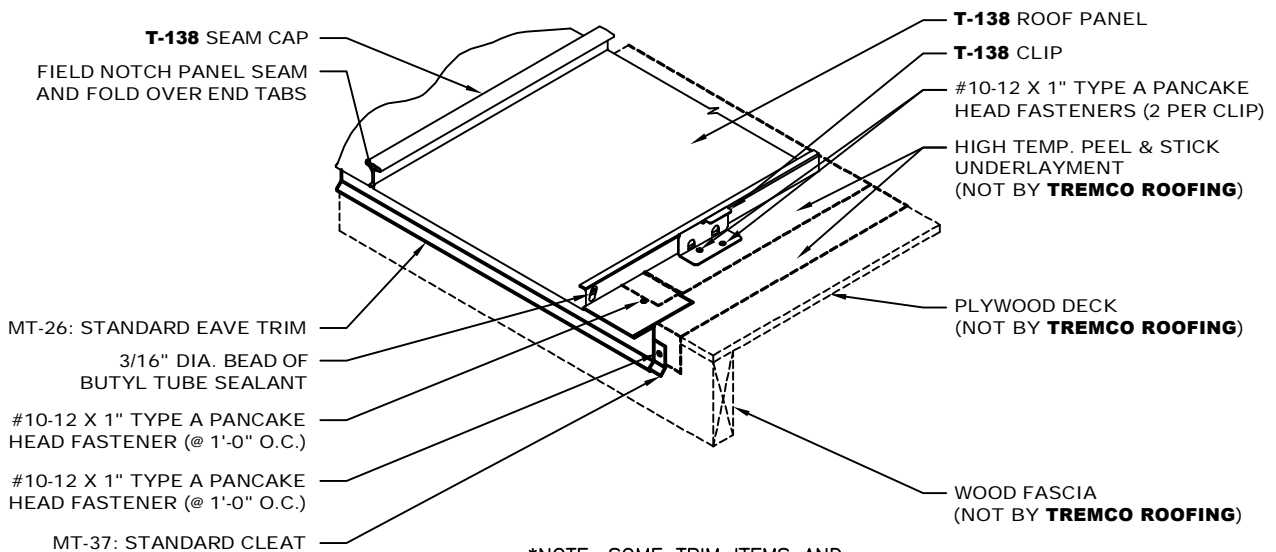
!!!ATTENTION!!!

If a panel or seam becomes damaged, the installer can rent a "de-seamer" through the same website listed above.

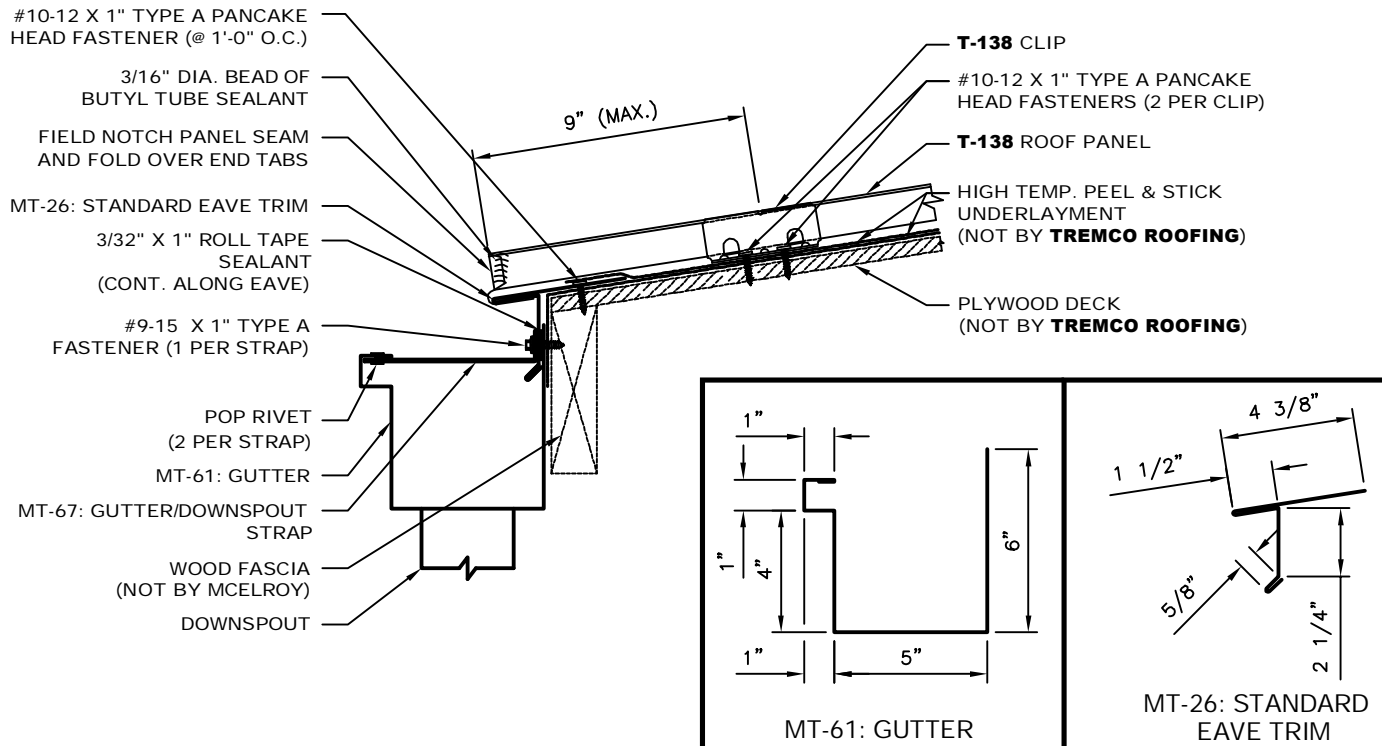
CAUTION: The use of any seaming machine or tools other than that recommended by the manufacturer, may damage the panels, void all warranties and will void all engineering data.



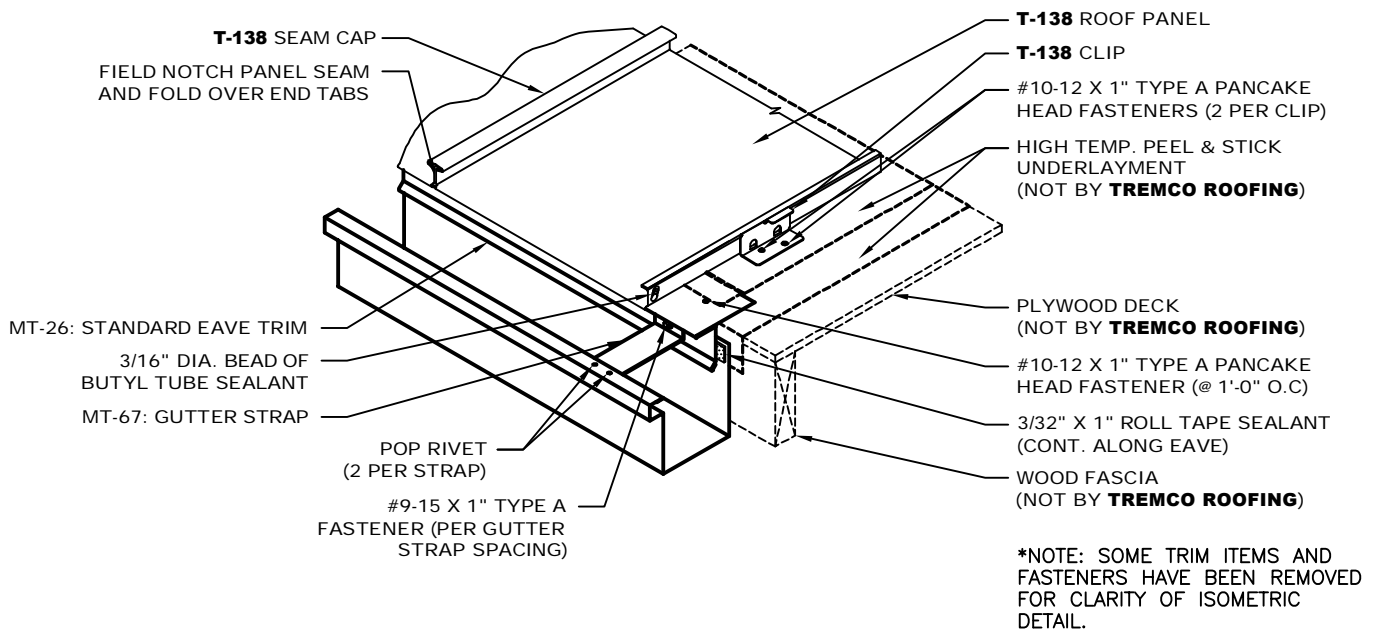
- NOTES:
1. MT-26 (Standard Eave Trim) and MT-37: (Standard Cleat) to run from out of wall to out of wall.
 2. Attach MT-37 (Standard Cleat) to wood fascia with #10-12 x 1" Type A Pancake Head Fasteners @ 1'-0" O.C.
 3. Attach MT-26: (Standard Eave Trim) onto 24GA. MT-37 (Standard Cleat) and then attach to Plywood Decking with #10-12 x 1" Type A Pancake Head Fasteners @ 1'-0" O.C.
 4. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps.
 5. Place a 3/16" Dia. Bead of Butyl Tube Sealant to leading edge of **T-138** panel.
 6. Field Notch panel seam and fold over end tabs of panels.

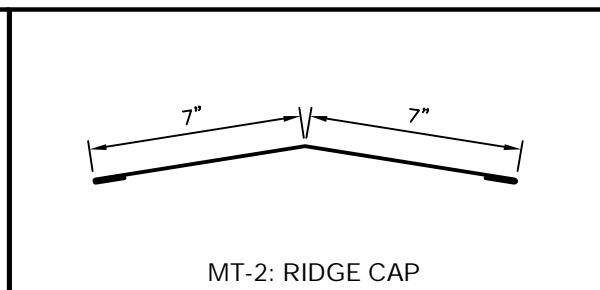
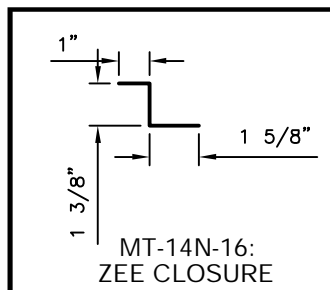
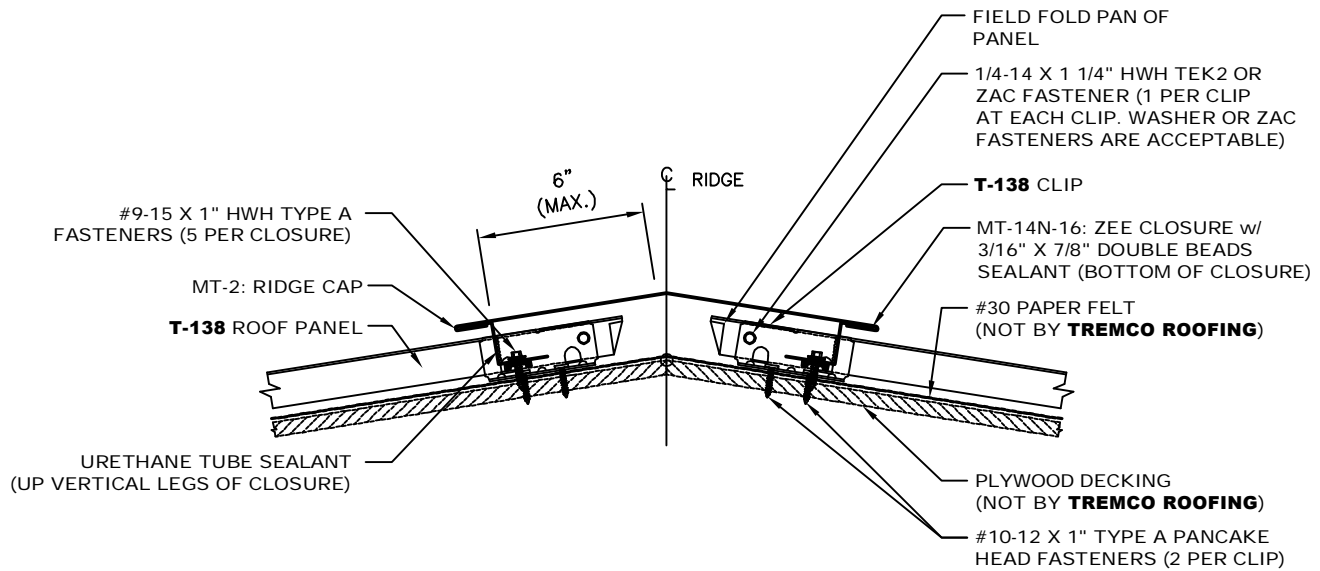


*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

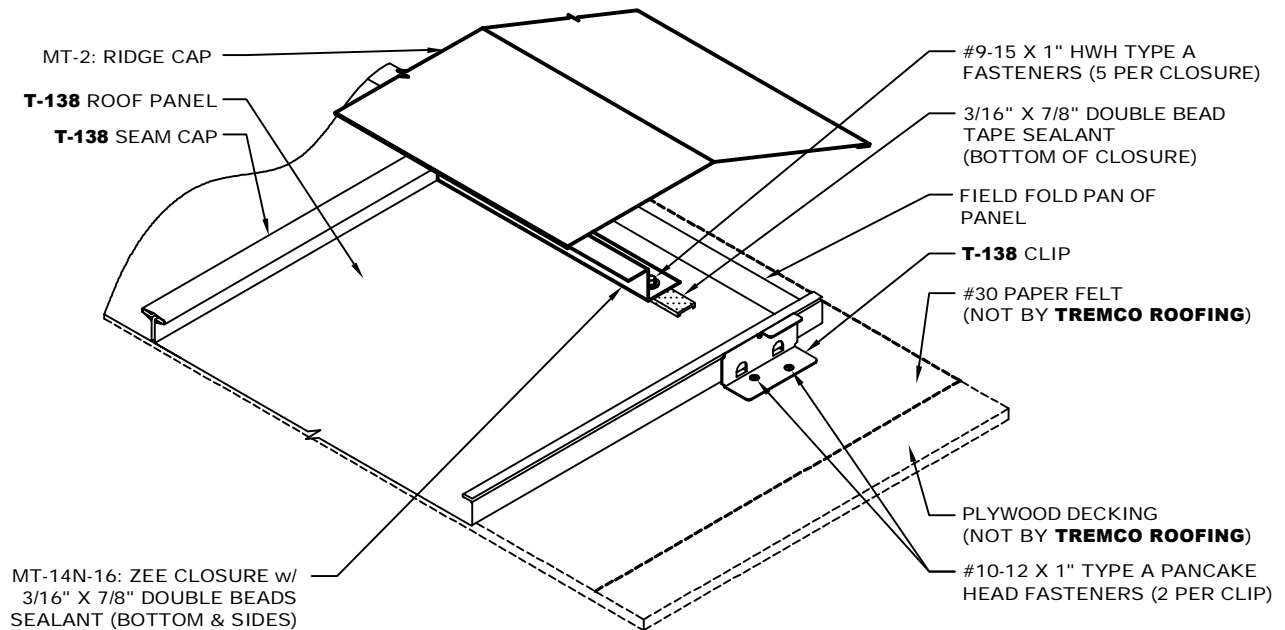


- NOTES: 1. MT-26 (Standard Eave Trim) and MT-61 (Gutter) to run from out of wall to out of wall.
 2. Apply a continuous bead of 3/32" x 1" Roll Tape Sealant to the inside vertical leg of the Gutter. Attach MT-67 (Gutter Straps) and Gutter with (2) Pop Rivets as shown in detail.
 3. Attach MT-26 (Standard Eave Trim) to decking with #10-12 x 1" Type A Pancake Head Fasteners @ 1'-0" O.C. Slide vertical leg of Gutter behind MT-26 (Standard Eave Trim) and fasten through Gutter Strap, Standard Eave Trim, Tape Sealant and Gutter with a #9-15 x 1" HWH Type A Fastener into Fascia Board per Gutter Strap spacing.
 4. Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps.
 5. Place a 3/16" Dia. Bead of Butyl Tube Sealant to leading edge of 138T panel.
 6. Field Notch panel seam and fold over end tabs of panels.

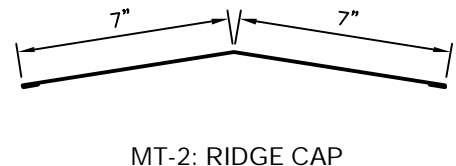
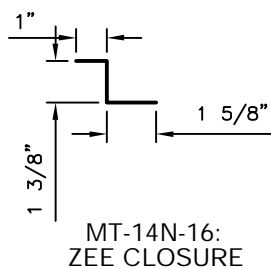




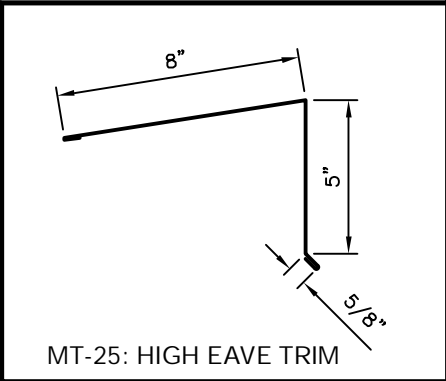
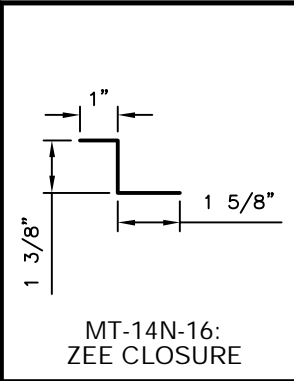
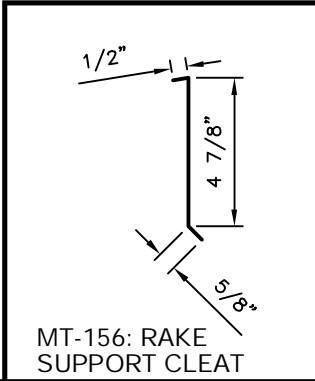
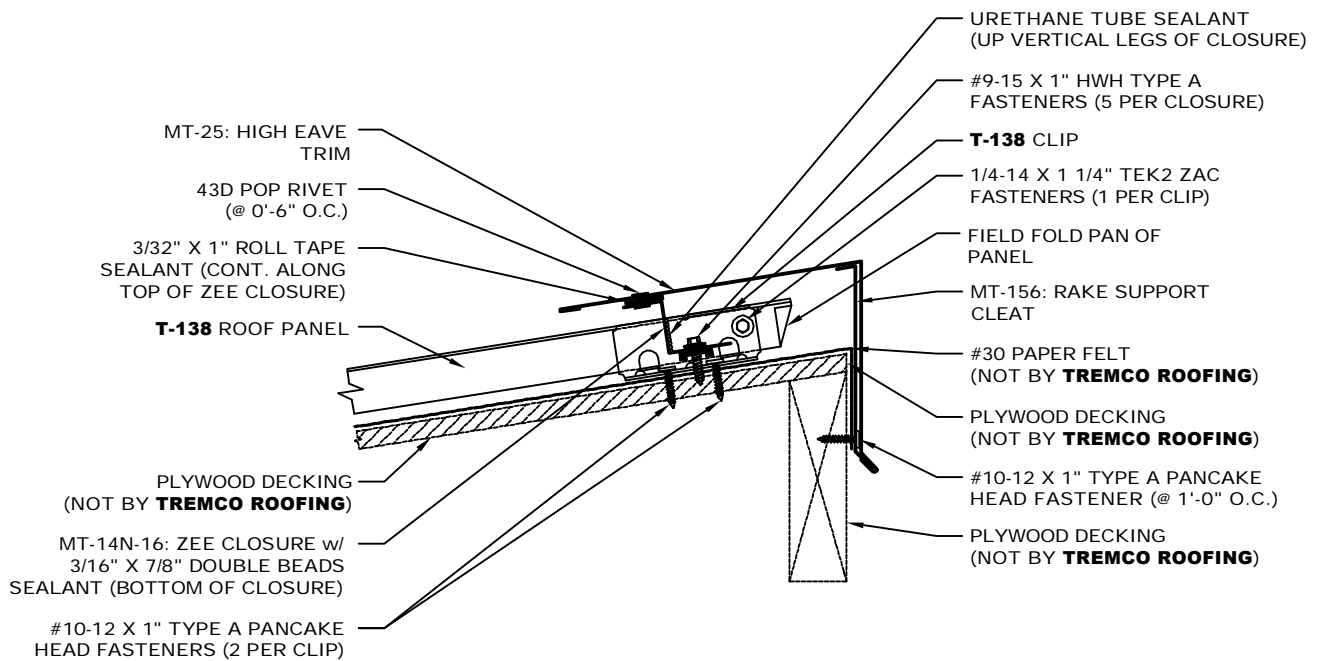
- NOTES: 1. MT-2 (Ridge Cap) to run from out of wall to out of wall.
 2. Using a panning tool, fold up the pan of the panel at the ridge.
 3. Install **T-138** panels and apply a line of 3/16" x 7/8" Double Bead Sealant in the pan of the panel.
 4. Install MT-14N-16 (Zee Closure) and seal vertical legs of closure and panel with Urethane Tube Sealant. Fix panels to clips with (1) 1/4-14 x 1 1/4" HWH Tek2 or ZAC Fastener, making sure to fasten through the clip.
 5. MT-2 (Ridge Cap) laps 2". Apply 3/32" x 1" Butyl Tape and Pop Rivet trims to MT-14 (Zee Closure) with Pop Rivets at Laps.



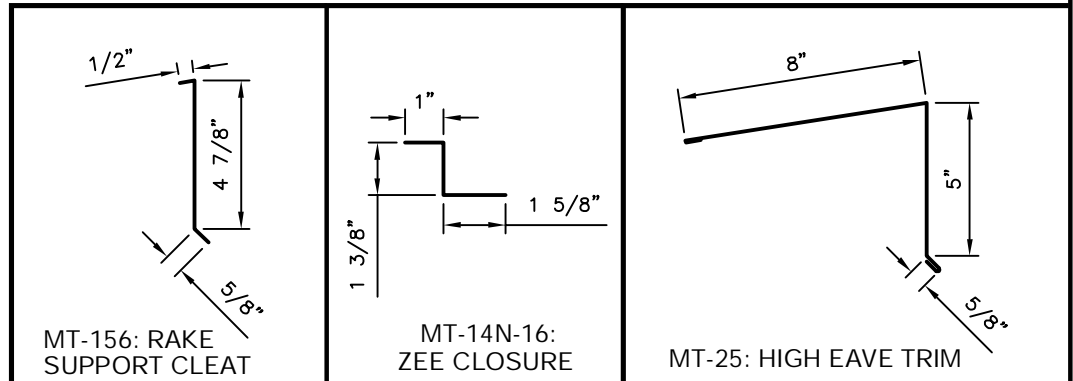
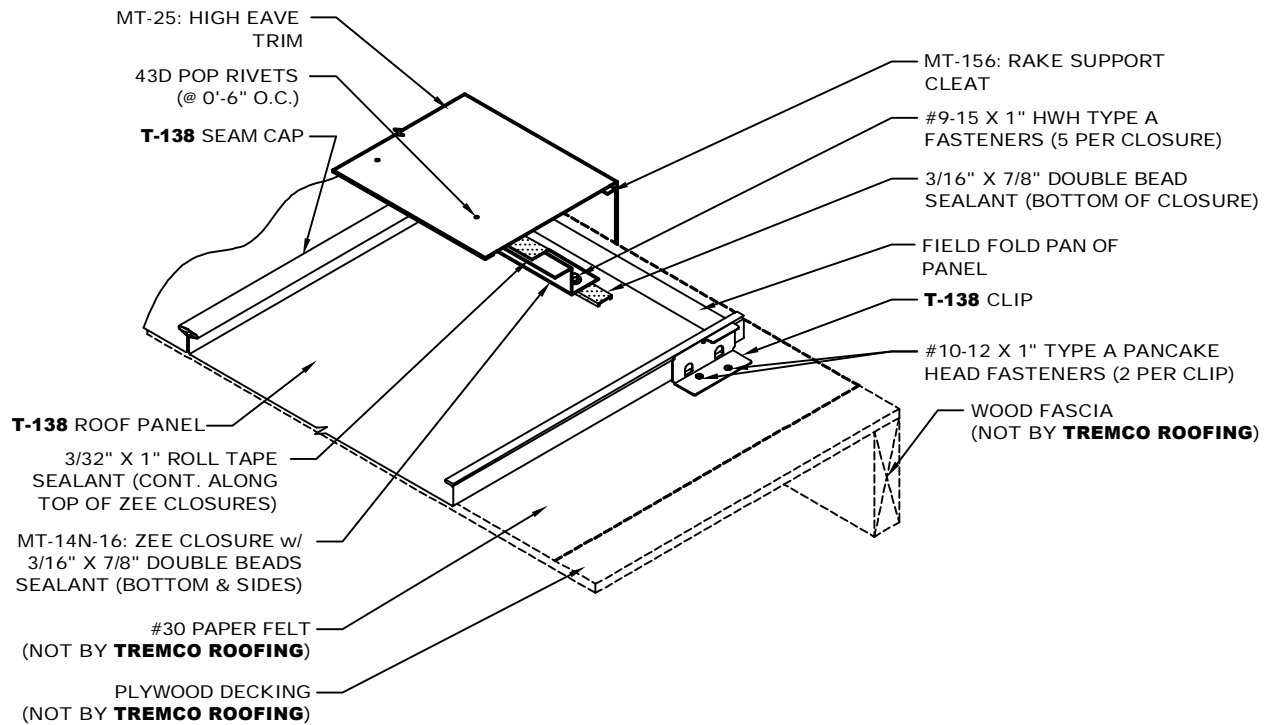
*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.



- NOTES:
1. MT-2 (Ridge Cap) to run from out of wall to out of wall.
 2. Using a panning tool, fold up the pan of the panel at the ridge.
 3. Install T-138 panels and apply a line of 3/16" x 7/8" Double Bead Sealant in the pan of the panel.
 4. Install MT-14N-16 (Zee Closure) and seal vertical legs of closure and panel with Urethane Tube Sealant. Fix panels to clips with (1) 1/4-14 x 1 1/4" HWH Tek2 or ZAC Fastener, making sure to fasten through the clip.
 5. MT-2 (Ridge Cap) laps 2". Apply 3/32" x 1" Butyl Tape and Pop Rivet trims to MT-14 (Zee Closure) with Pop Rivets at Laps.

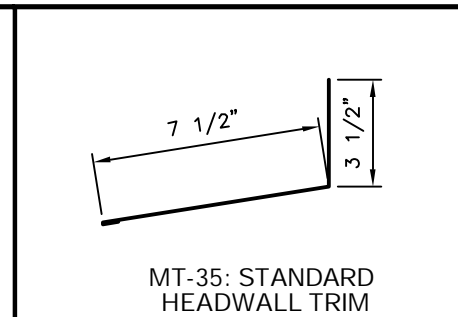
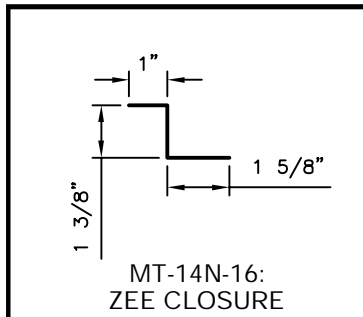
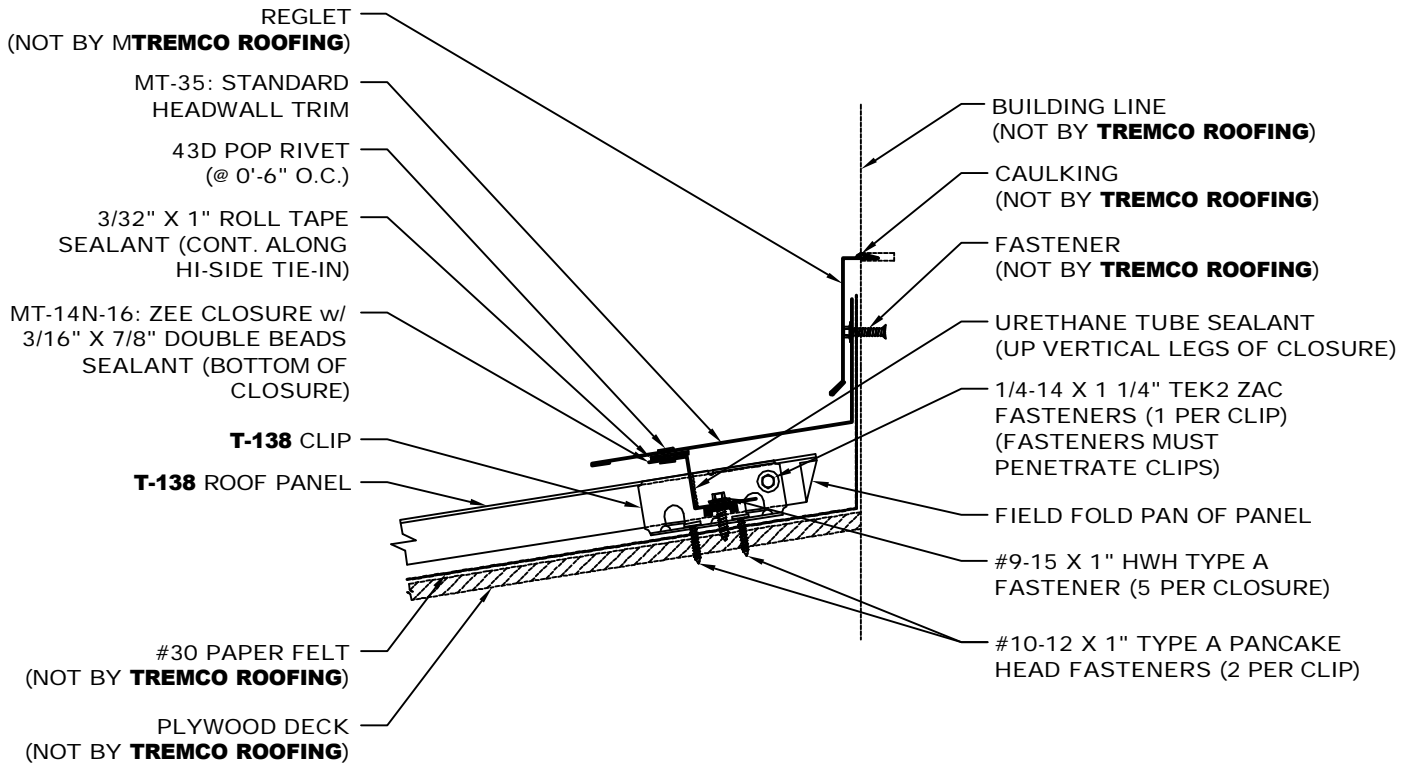


- NOTES:
1. MT-25 (High Eave Trim), MT-156 (Rake Support Cleat) and MT-38 (Standard Offset Cleat) to run from out to out of building.
 2. Using a panning tool, fold up the pan of the panel at the high eave.
 3. Attach MT-156 (Rake Support Cleat) to fascia board with #10-12 x 1" Type A Pancake Head Fasteners at 1'-0" O.C.
 4. Install **T-138** panels and apply a line of 3/16" x 7/8" Double Bead Sealant in the pan and vertical legs of the panel.
 5. Install MT-14N-16 (Zee Closure) and seal vertical legs of closure and panel with Urethane Tube Sealant. Fix panels to clips with (1) 1/4-14 x 1 1/4" HWH Tek2 or ZAC Fastener, making sure to fasten through the clip.
 6. MT-25 (High Eave Flashing) laps 2". Apply 3/32" x 1" Butyl Tape and Pop Rivet trims to Zee Closure with Pop Rivets at 0'-6" O.C.

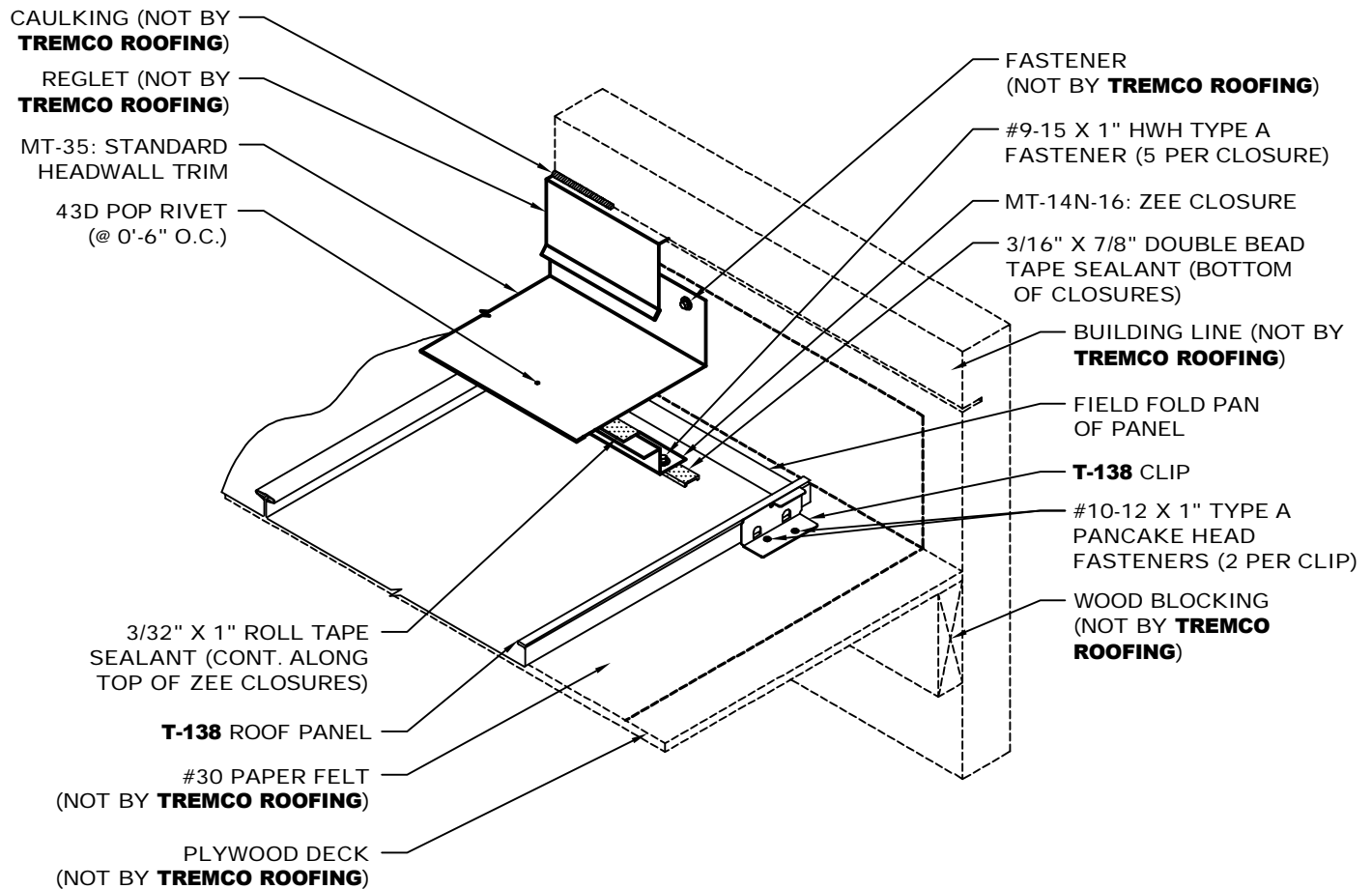


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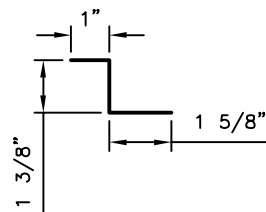
- NOTES: 1. MT-25 (High Eave Trim), MT-156 (Rake Support Cleat) and MT-38 (Standard Offset Cleat) to run from out to out of building.
2. Using a panning tool, fold up the pan of the panel at the high eave.
3. Attach MT-156 (Rake Support Cleat) to fascia board with #10-12 x 1" Type A Pancake Head Fasteners at 1'-0" O.C.
4. Install **T-138** panels and apply a line of 3/16" x 7/8" Double Bead Sealant in the pan and vertical legs of the panel.
5. Install MT-14N-16 (Zee Closure) and seal vertical legs of closure and panel with Urethane Tube Sealant. Fix panels to clips with (1) 1/4-14 x 1 1/4" HWH Tek2 or ZAC Fastener, making sure to fasten through the clip.
6. MT-25 (High Eave Trim) laps 2". Apply 3/32" x 1" Butyl Tape and Pop Rivet trims to MT-14N-16 (Zee Closure) with Pop Rivets at 0'-6" O.C.



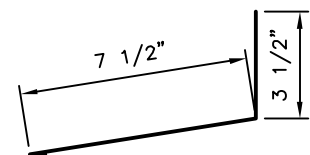
- NOTES: 1. MT-35 (Standard Headwall Trim) to run from out to out of building.
2. Using a panning tool, fold up the pan of the panel at the high eave.
3. Install **T-138** panels and apply a line of 3/16" x 7/8" Double Bead Sealant in the pan of the panel.
4. Install MT-14N-16 (Zee Closure) and seal vertical legs of closure and panel with Urethane Tube Sealant. Fix panels to clips with (1) 1/4-14 x 1 1/4" HWH Tek2 or ZAC Fastener, making sure to fasten through the clip.
5. MT-35 (Standard Headwall Trim) to lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and attach to Zee Closure with Pop Rivets. MT-38 (Standard Offset Cleat) will butt joint.



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MT-14N-16: ZEE CLOSURE

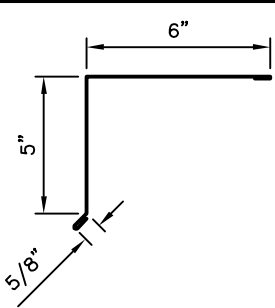
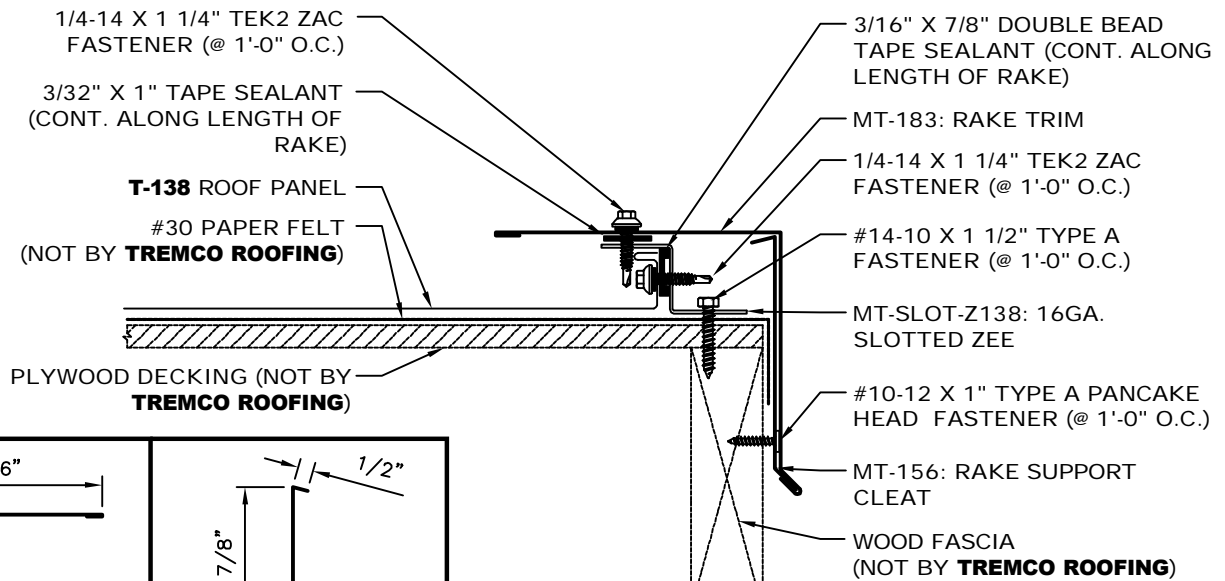


MT-35: STANDARD HEADWALL TRIM

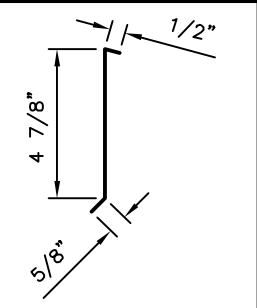
- NOTES:
1. MT-35 (Standard Headwall Trim) to run from out to out of building.
 2. Using a panning tool, fold up the pan of the panel at the high eave.
 3. Install **T-138** panels and apply a line of 3/16" x 7/8" Double Bead Sealant in the pan of the panel.
 4. Install MT-14N-16 (Zee Closure) and seal vertical legs of closure and panel with Urethane Tube Sealant. Fix panels to clips with (1) 1/4-14 x 1 1/4" HWH Tek2 or ZAC Fastener, making sure to fasten through the clip.
 5. MT-35 (Standard Headwall Trim) to lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and attach to trim with Pop Rivets. MT-38 (Standard Offset Cleat) will butt joint.

T-138

FLOATING RAKE DETAIL

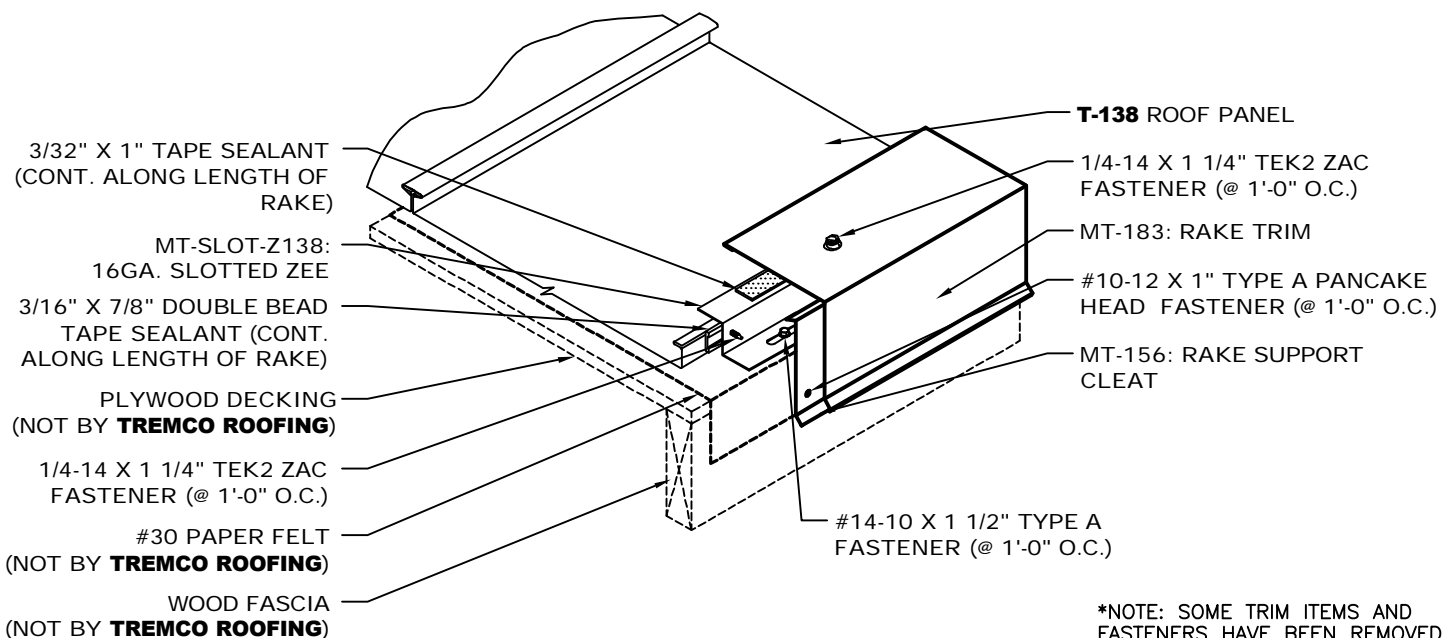


MT-183: RAKE TRIM



MT-156: RAKE SUPPORT CLEAT

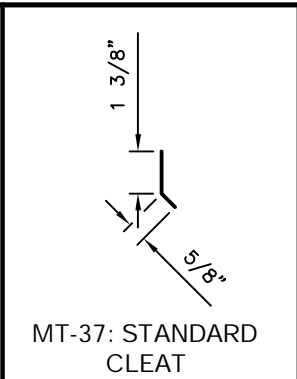
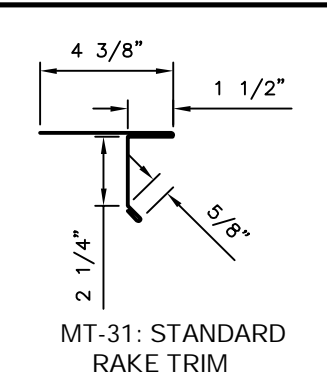
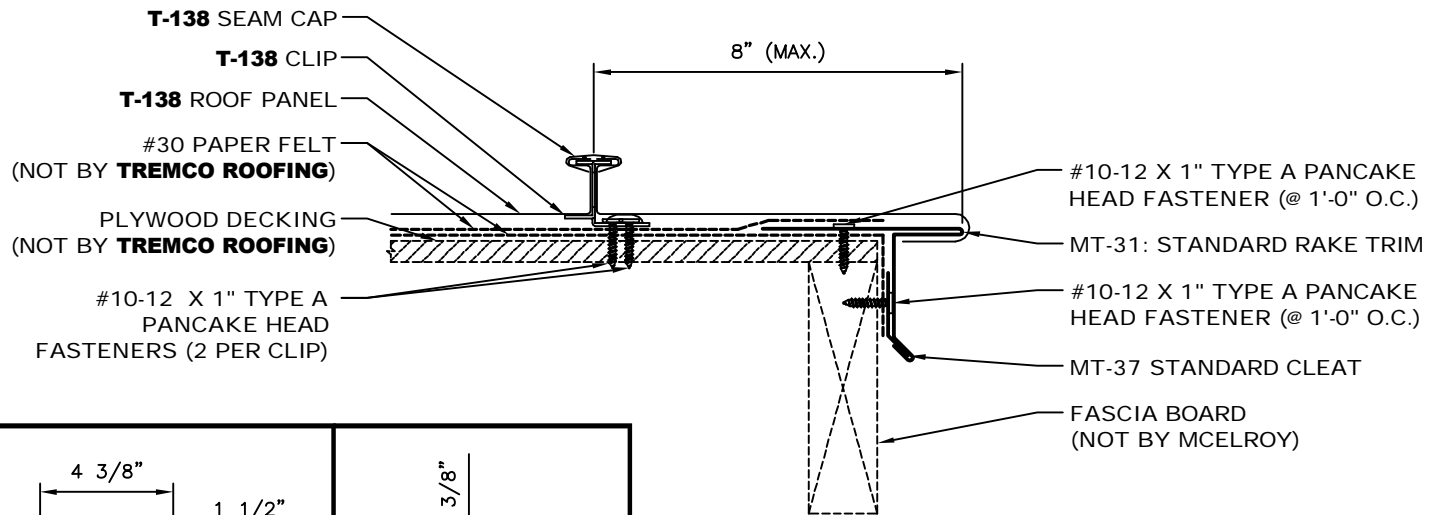
- NOTES: 1. MT-183 (Rake Trim), MT-156 (Rake Support Cleat) and MT-SLOT-Z138 (16ga. Slotted Zee) to run from eave to ridge.
2. Attach MT-SLOT-Z138 (16ga. Slotted Zee) to decking with #14-10 x 1 1/2" HWH Type A Fasteners at 1'-0" O.C.
3. Apply a continuous bead of 3/16" x 7/8" Double Bead Tape Sealant to the vertical leg of the 138T panel. Install **T-138** panel and hold in place on the Slotted Zee with clamps. Fasten panel to Slotted Zee with 1/4-14 x 1 1/4" Tek2 ZAC Fasteners at 1'-0" O.C.
4. Apply a continuous bead of 3/32" x 1" Roll Tape Sealant to the top of the Slotted Zee and attach MT-183 (Rake Trim) with 1/4-14 x 1 1/4" Tek2 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.



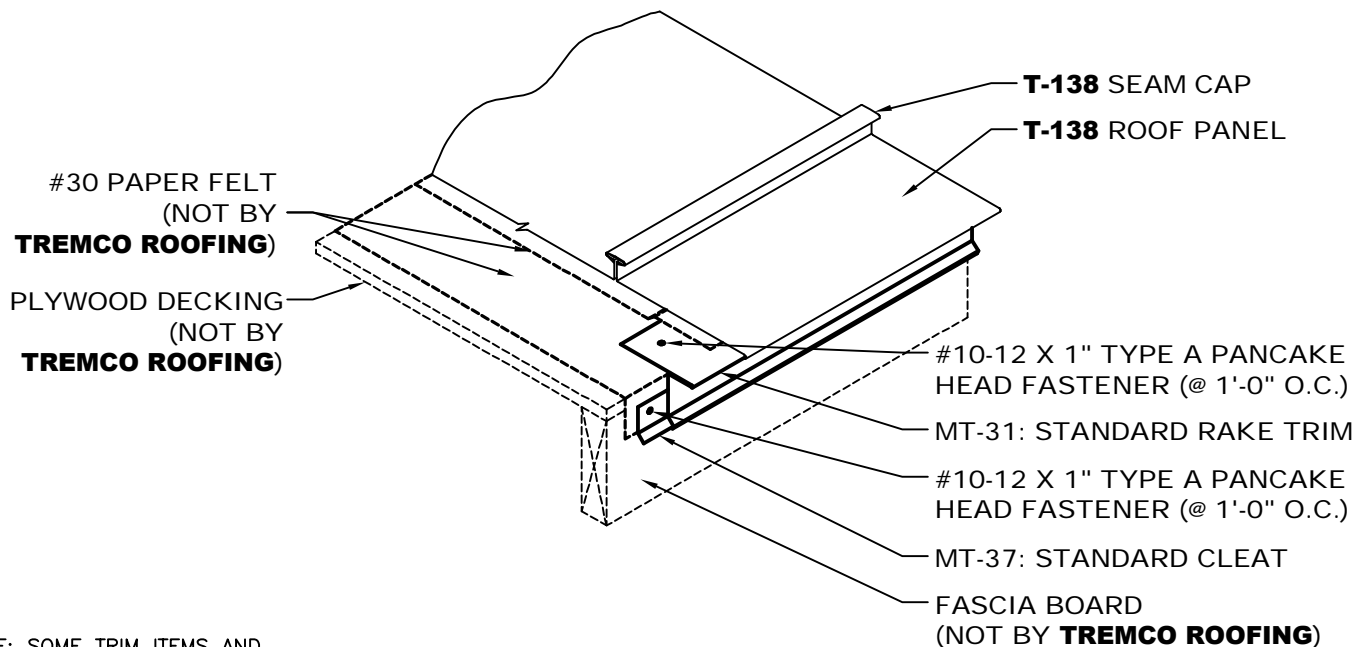
*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

T-138

FLOATING RAKE DETAIL (ALT.)

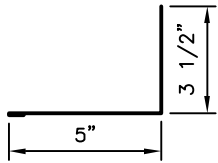
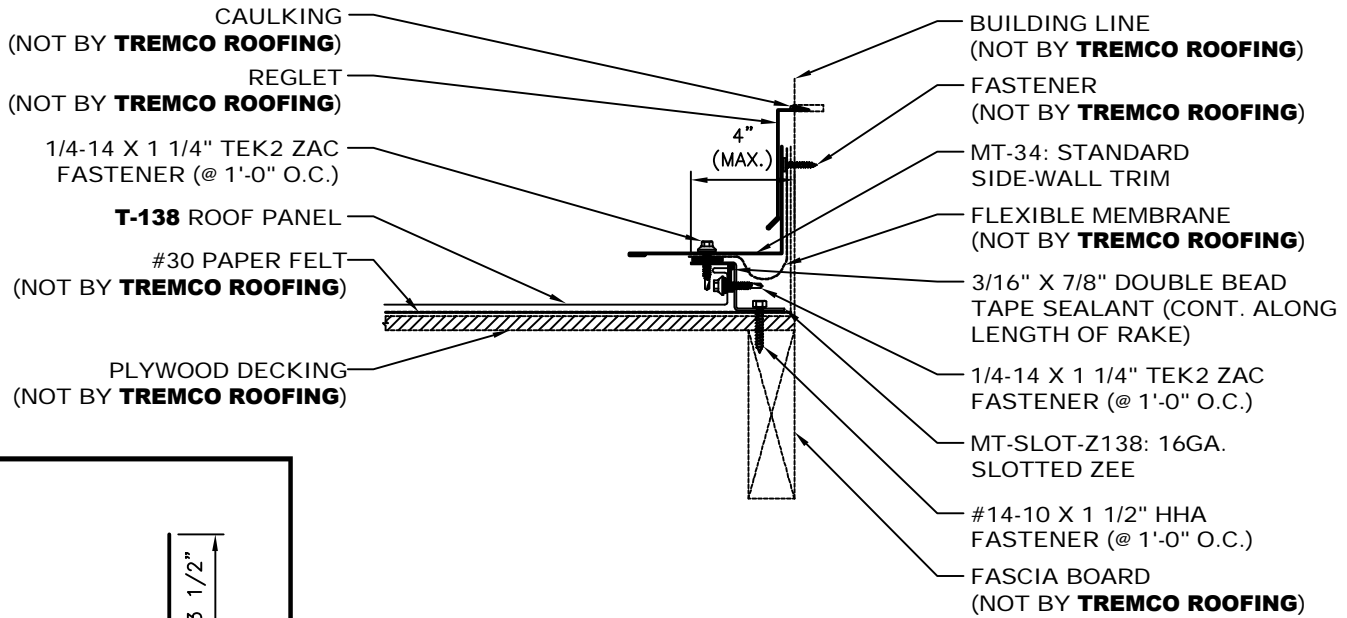


- NOTES:
1. MT-31 (Rake Trim) and MT-37 (Standard Cleat) to run from eave to ridge.
 2. Attach MT-37 (Standard Cleat) to Fascia Board with #10-12 x 1" Type A Pancake Head Fasteners at 1'-0" O.C.
 3. Attach MT-31 (Rake Trim) to MT-37 (Standard Cleat) and fasten to Plywood Decking with #10-12 x 1" Type A Pancake Head Fasteners at 1'-0" O.C.
 4. Field cut leading edge of panel and fold panel down 180°.



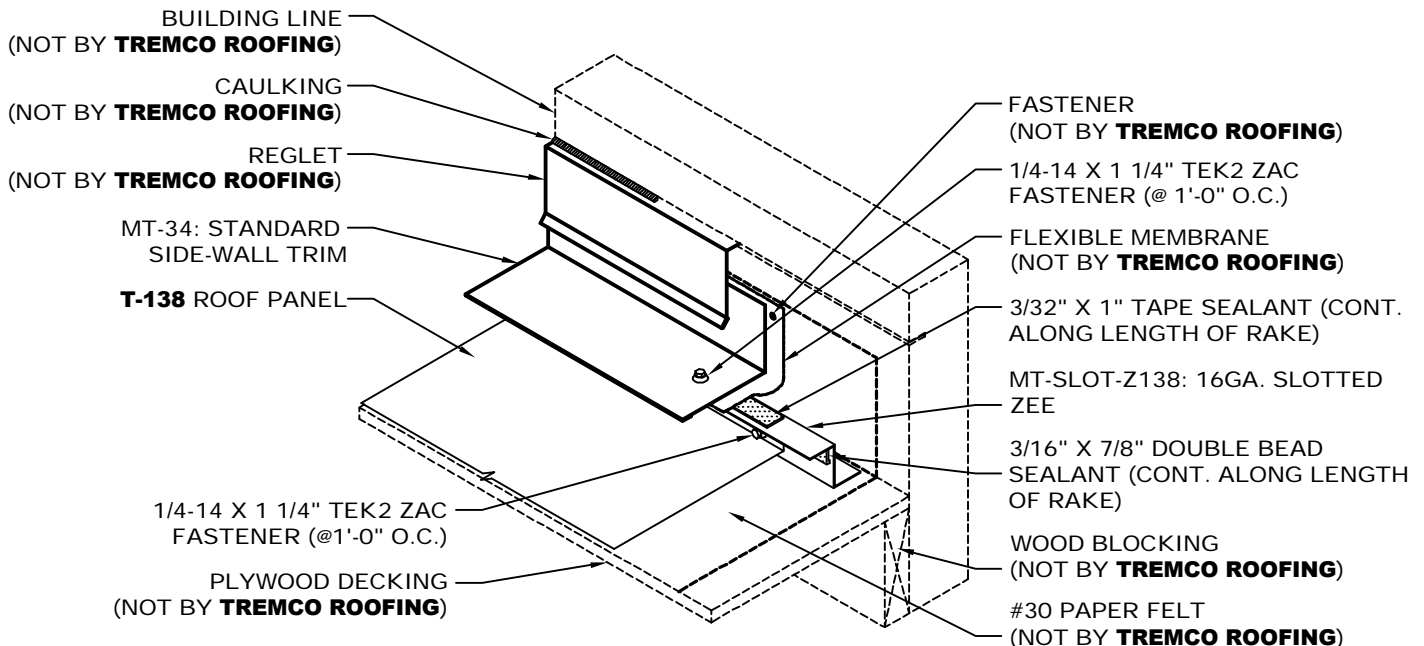
*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

T-138 FLOATING SIDE-WALL TIE-IN DETAIL

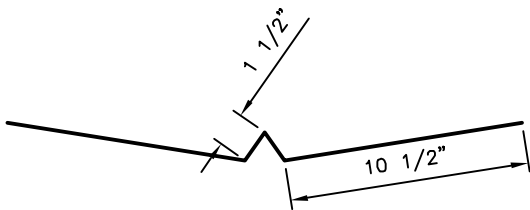
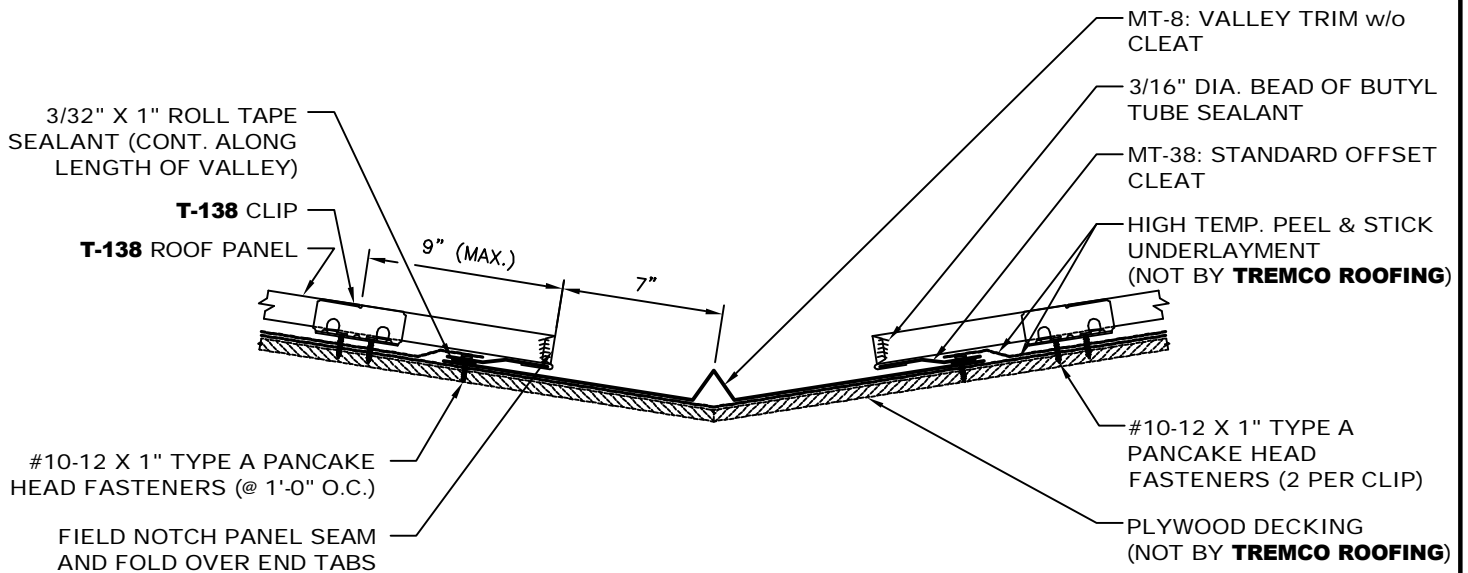


MT-34: STANDARD SIDE-WALL TRIM

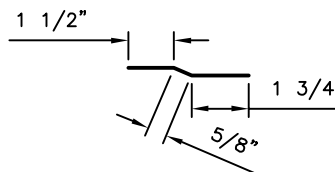
- NOTES: 1. MT-34 (Standard Side-Wall Trim) to run from Eave to Ridge.
 2. Attach MT-SLOT-Z138 (16ga. Slotted Zee) to decking with #14-10 x 1 1/2" HWH Type A Fasteners at 1'-0" O.C.
 3. Apply a continuous run of 3/16" x 7/8" Double Bead Tape Sealant to the vertical leg of the **T-138** panel. Install **T-138** panel and hold in place on the Slotted Zee with clamps. Fasten panel to Slotted Zee with 1/4-14 x 1 1/4" Tek2 Zac Fasteners at 1'-0" O.C.
 4. Apply a continuous run of 3/32" x 1" Roll Tape Sealant to the top of the Slotted Zee and attach MT-34 (Standard Side-Wall Trim) with 1/4-14 x 1 1/4" Tek2 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.



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

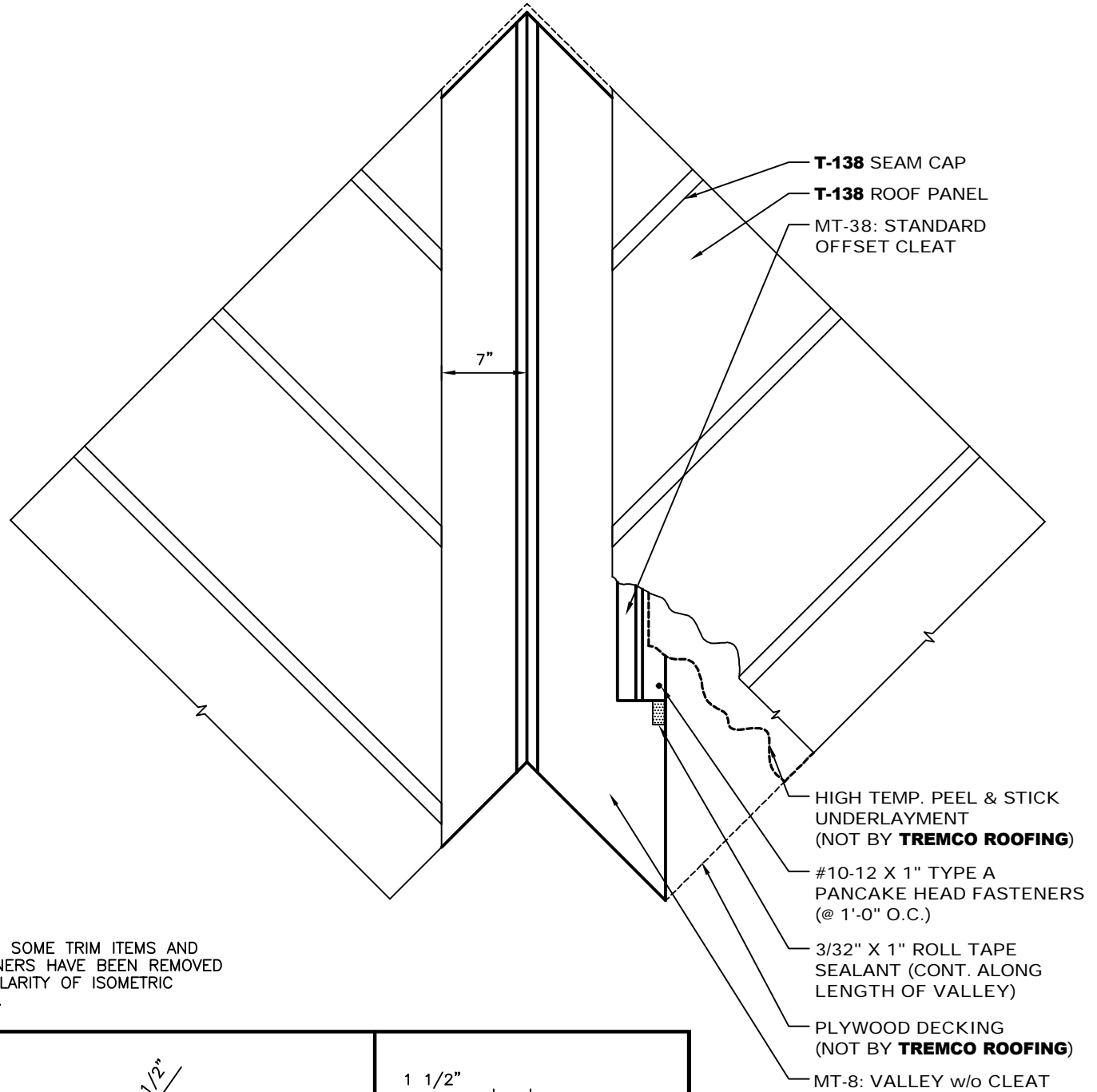


MT-8: VALLEY w/o CLEAT

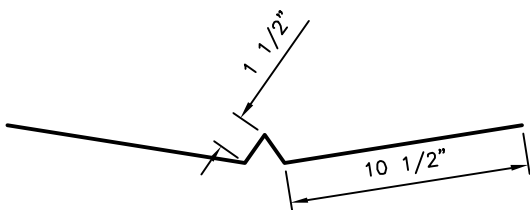


MT-38: STANDARD OFFSET CLEAT

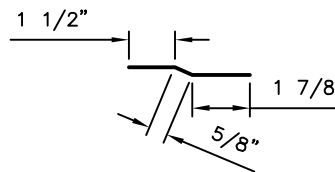
- NOTES: 1. Install MT-8 (Valley w/o Cleat) from eave to ridge. Valley Trim pieces lap 6". Place 3/32" x 1" Butyl Tape or a 3/16" Dia. bead of Butyl Tube Sealant in laps.
2. Cut panels at required bevel for valley condition.
3. Apply a continuous line of 3/32" x 1" Roll Tape Sealant up both sides of MT-8 (Valley Trim w/o Cleat).
4. Attach MT-38 (Standard Offset Cleat) with #10-12 x 1" Type A Pancake Head Fasteners at 1'-0" O.C.



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

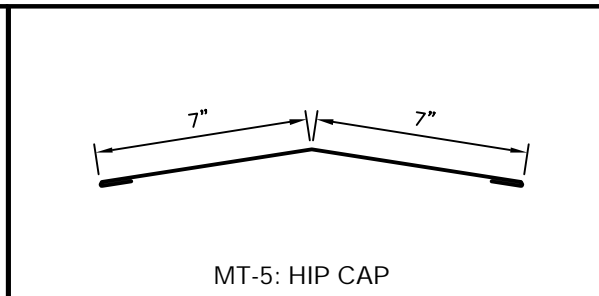
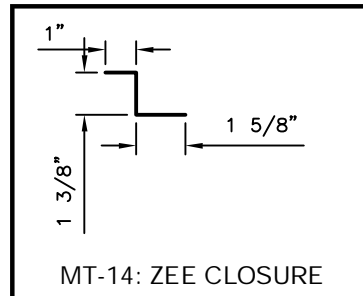
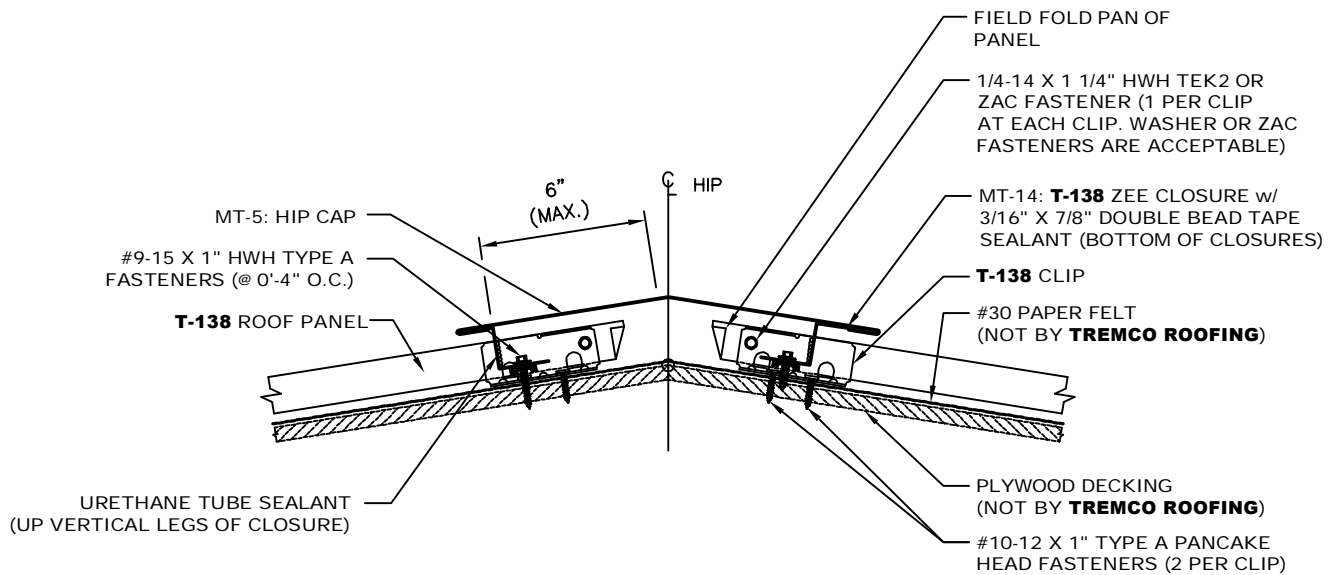


MT-8: VALLEY w/o CLEAT

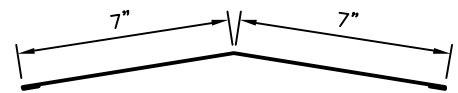
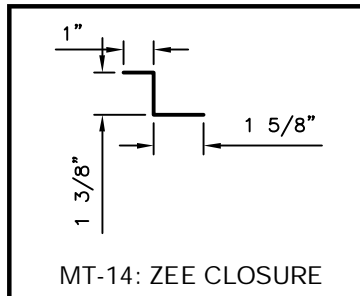
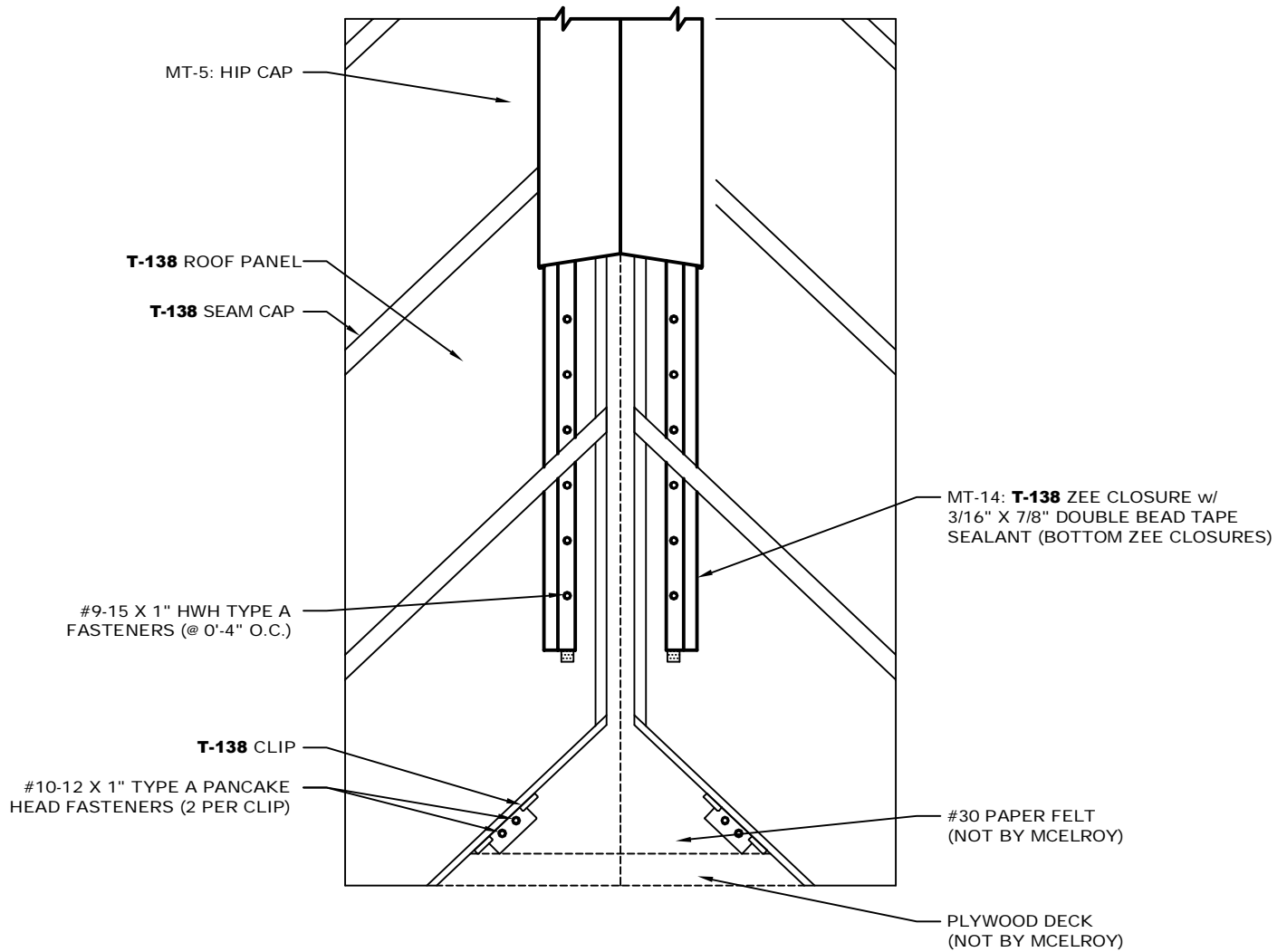


MT-38: STANDARD OFFSET CLEAT

- NOTES: 1. Install MT-8 (Valley w/o Cleat) from eave to ridge. Valley Trim pieces lap 6". Place 3/32" x 1" Butyl Tape or a 3/16" Dia. bead of Butyl Tube Sealant in laps.
2. Cut panels at required bevel for valley condition.
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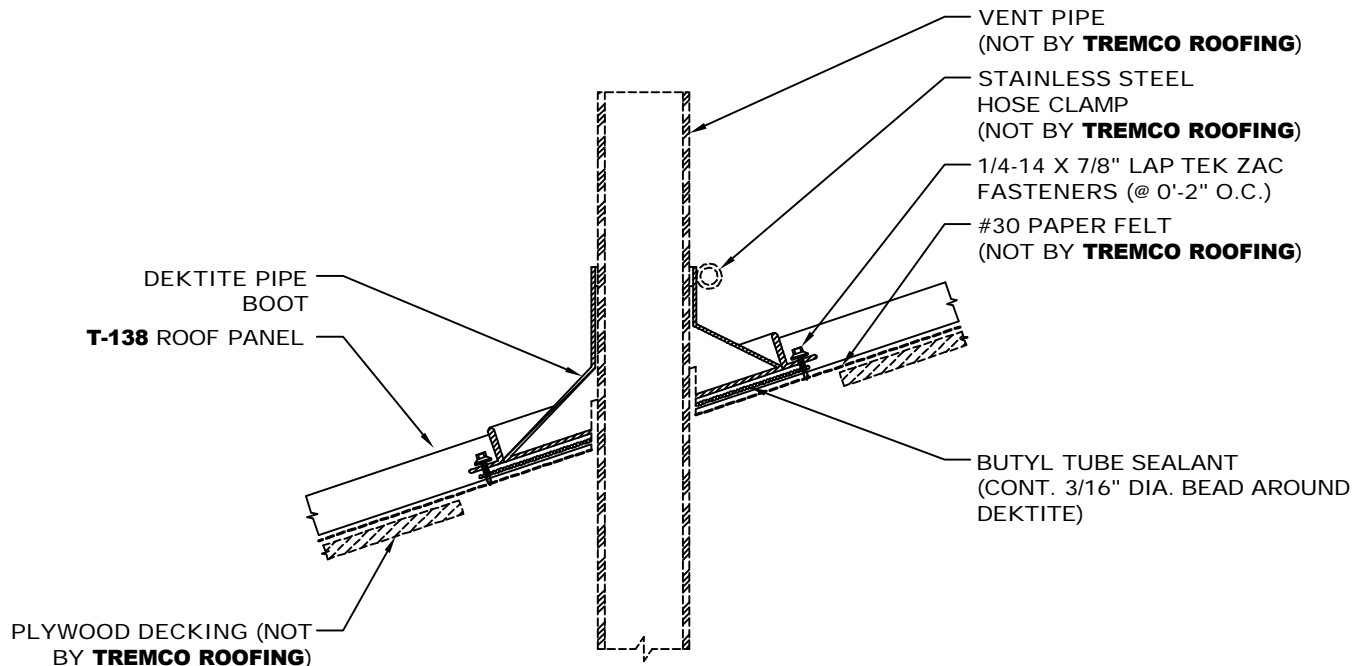


- NOTES:
1. MT-5 (Hip Cap) to run from Eave to Ridge.
 2. Using a panning tool, fold up the pan of the panel at the hip.
 3. Install **T-138** panels and apply a line of 3/16" x 7/8" Double Bead Sealant in the pan of the panels.
 4. Install MT-14N-16 (Zee Closure) and seal vertical legs of closure and panel with Urethane Tube Sealant. Fix panels to clips with (1) 1/4-14 x 1 1/4" HWH Tek2 or ZAC Fastener, making sure to fasten through the clip.
 5. MT-5 (Hip Cap) laps 2". Apply 3/32" x 1" Butyl Tape and attach to MT-14 (Zee Closure) with Pop Rivets at Laps.

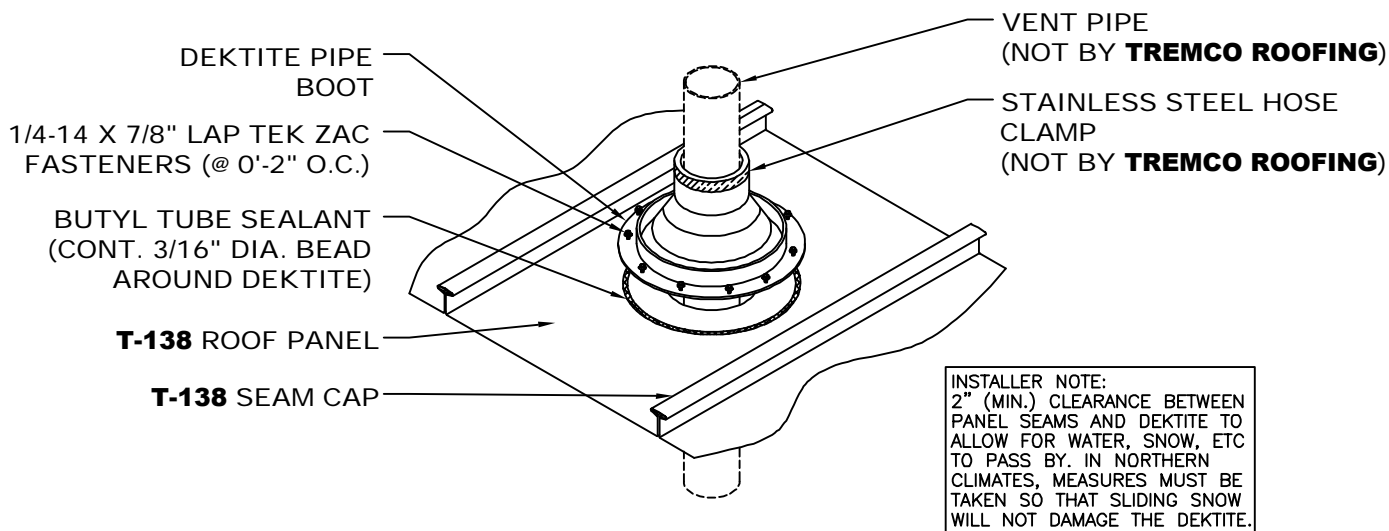


*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

- NOTES:
1. MT-5 (Hip Cap) to run from Eave to Ridge.
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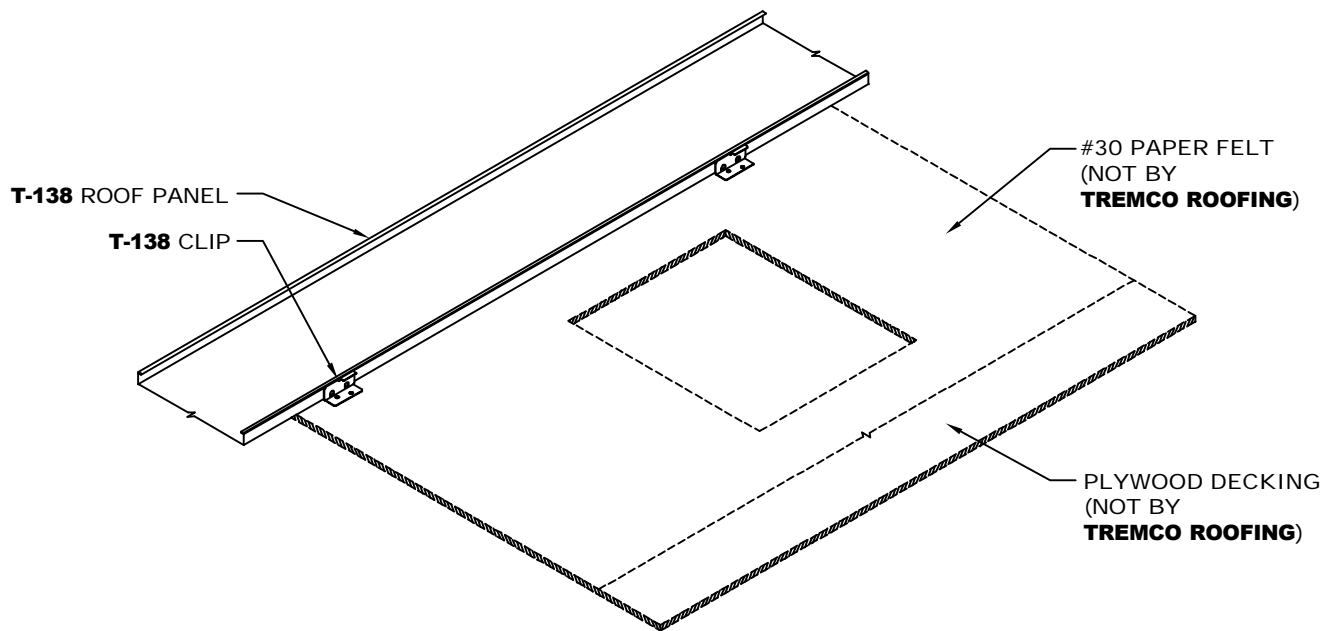


- NOTES: 1. Cut hole in panel 1" larger than pipe diameter. If installing over a solid substrate, over-cut hole in substrate larger than fastener pattern of Dektite so fasteners do not pin system from thermal movement.
2. Cut hole in top of Dektite Boot so that it fits snugly around pipe. Apply a 3/16" Dia. bead of Tube Butyl sealant around the base flange of boot. Secure to panel with 1/4-14 x 7/8" Lap Tek ZAC fasteners 2" O.C.
3. Dektite boot MUST fit in pan of panel. Do not fasten to standing seams.



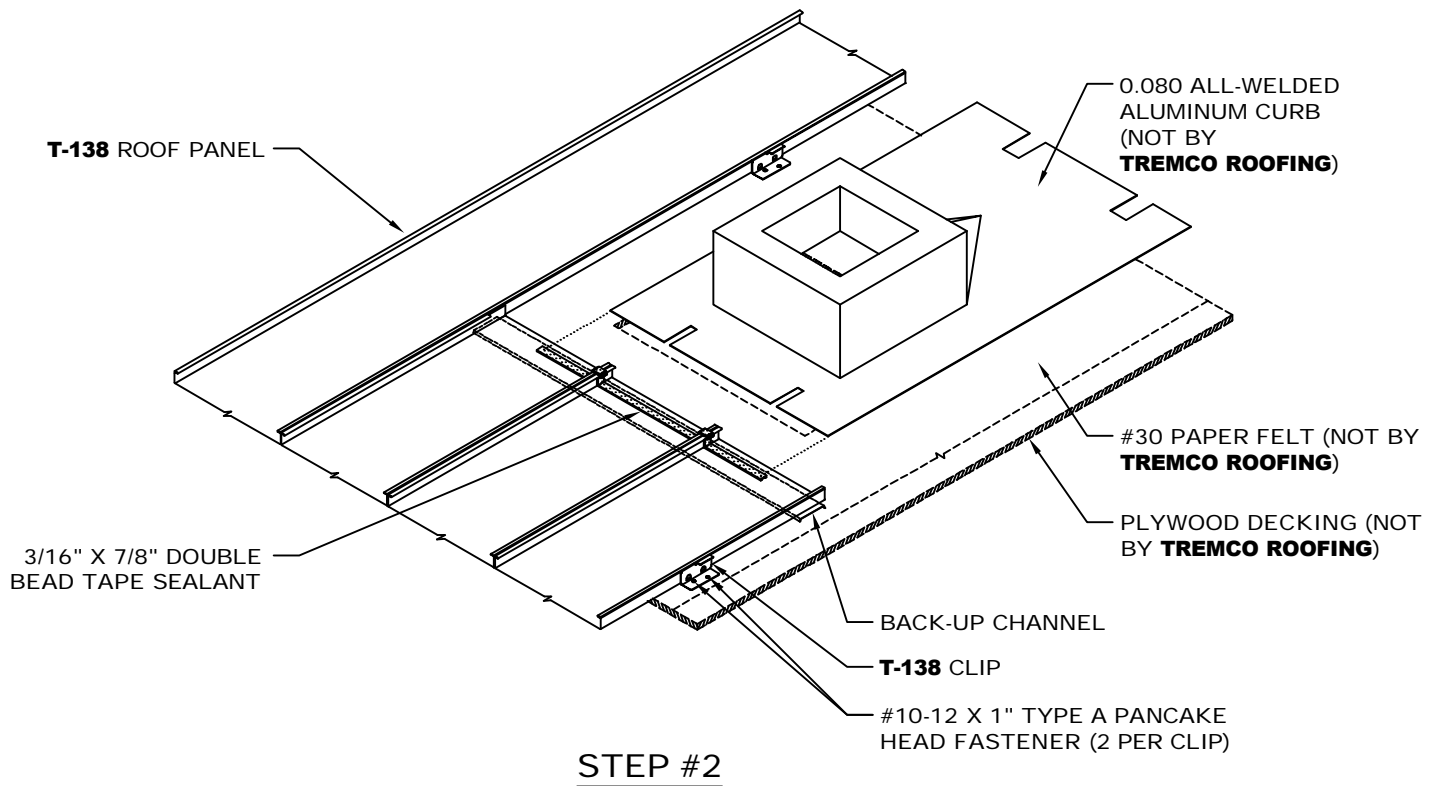
INSTALLER NOTE:
 2" (MIN.) CLEARANCE BETWEEN
 PANEL SEAMS AND DEKTITE TO
 ALLOW FOR WATER, SNOW, ETC
 TO PASS BY. IN NORTHERN
 CLIMATES, MEASURES MUST BE
 TAKEN SO THAT SLIDING SNOW
 WILL NOT DAMAGE THE DEKTITE.

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

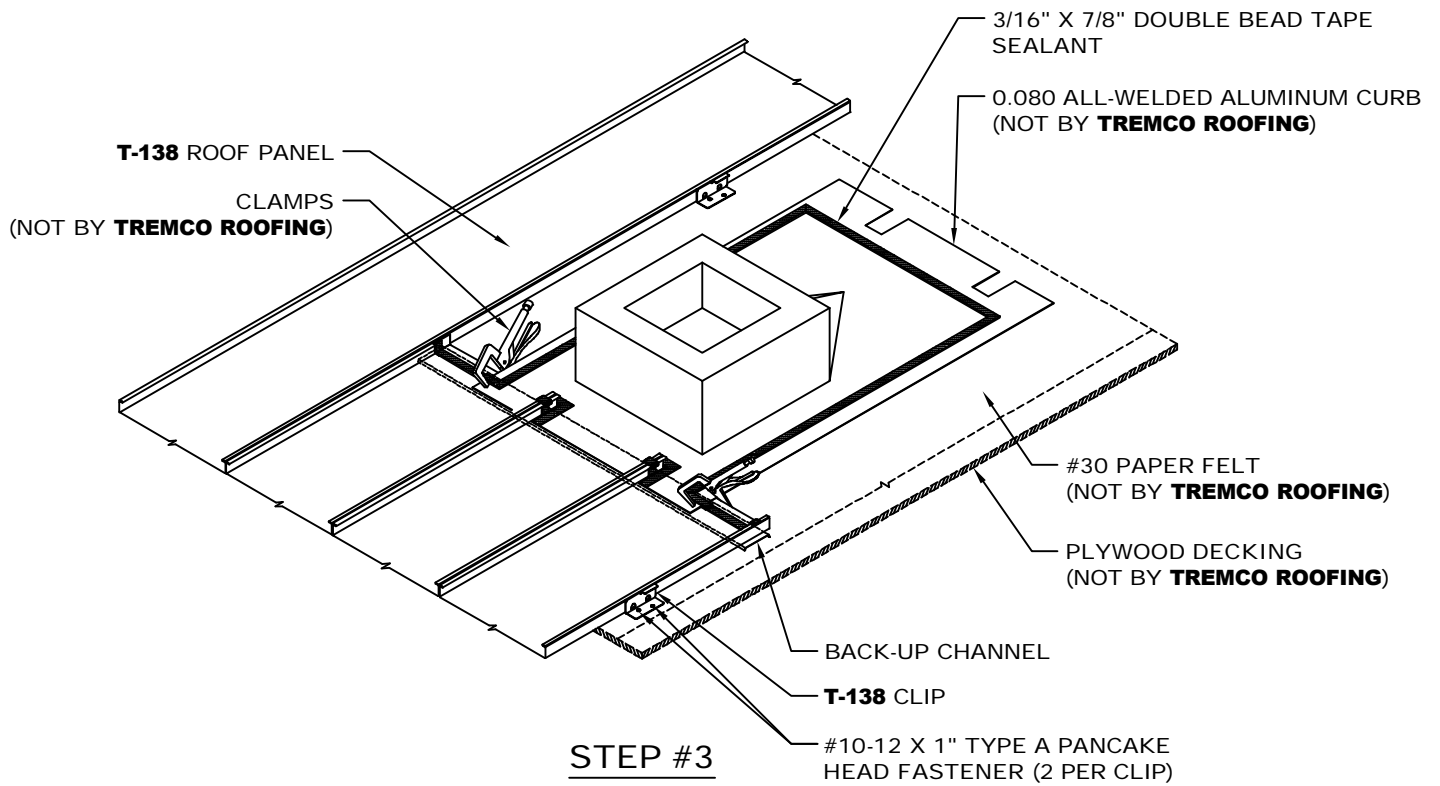


STEP #1

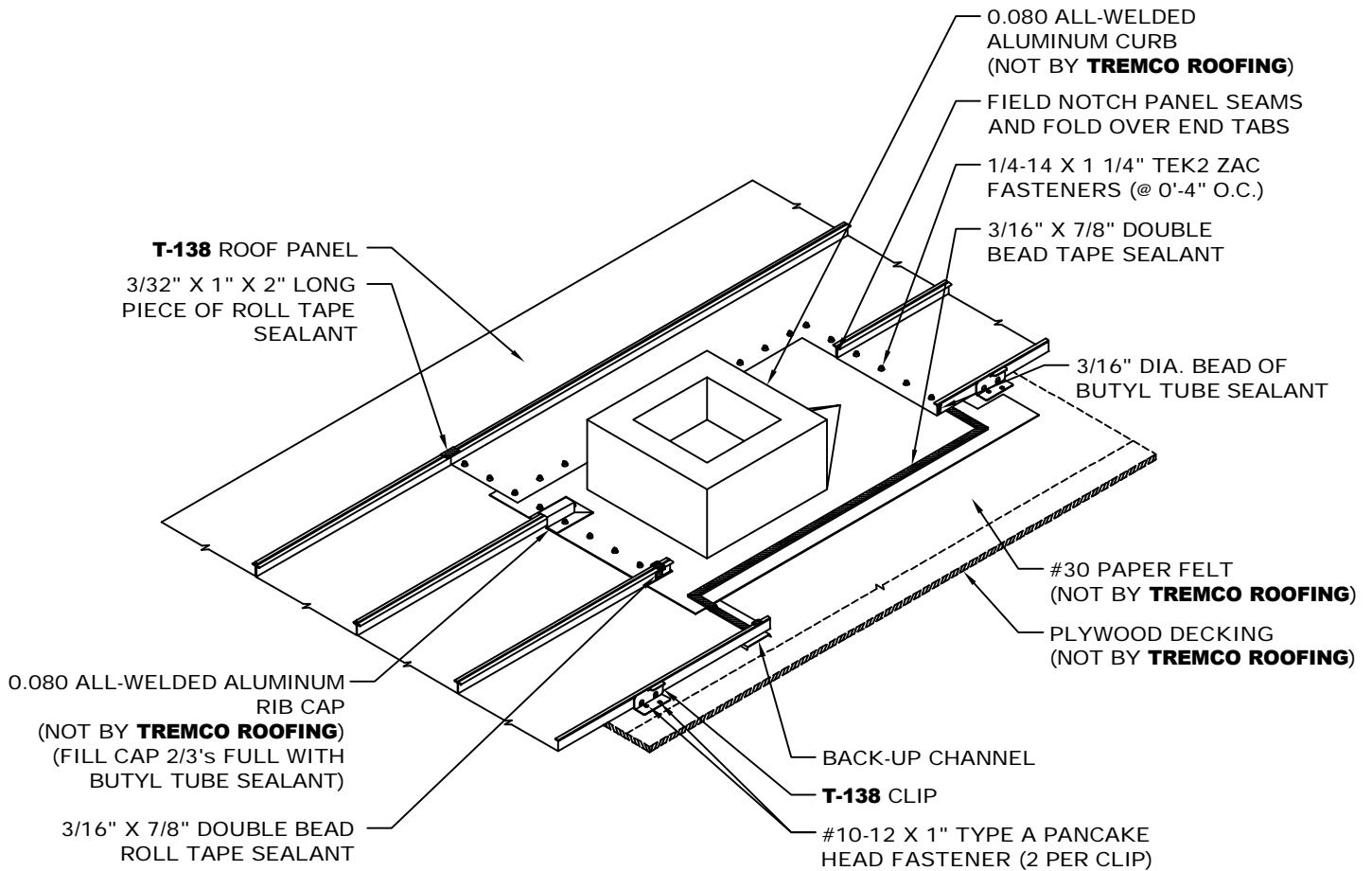
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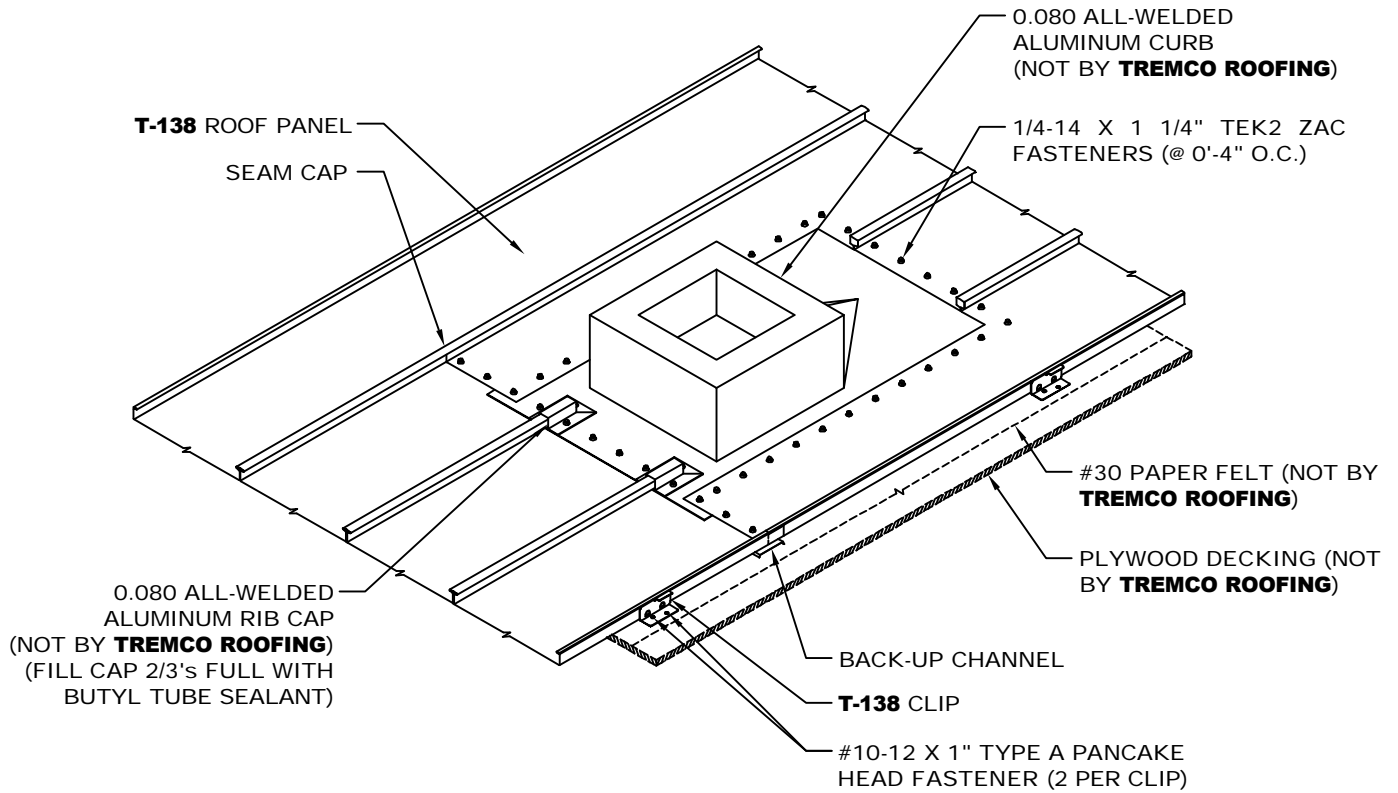


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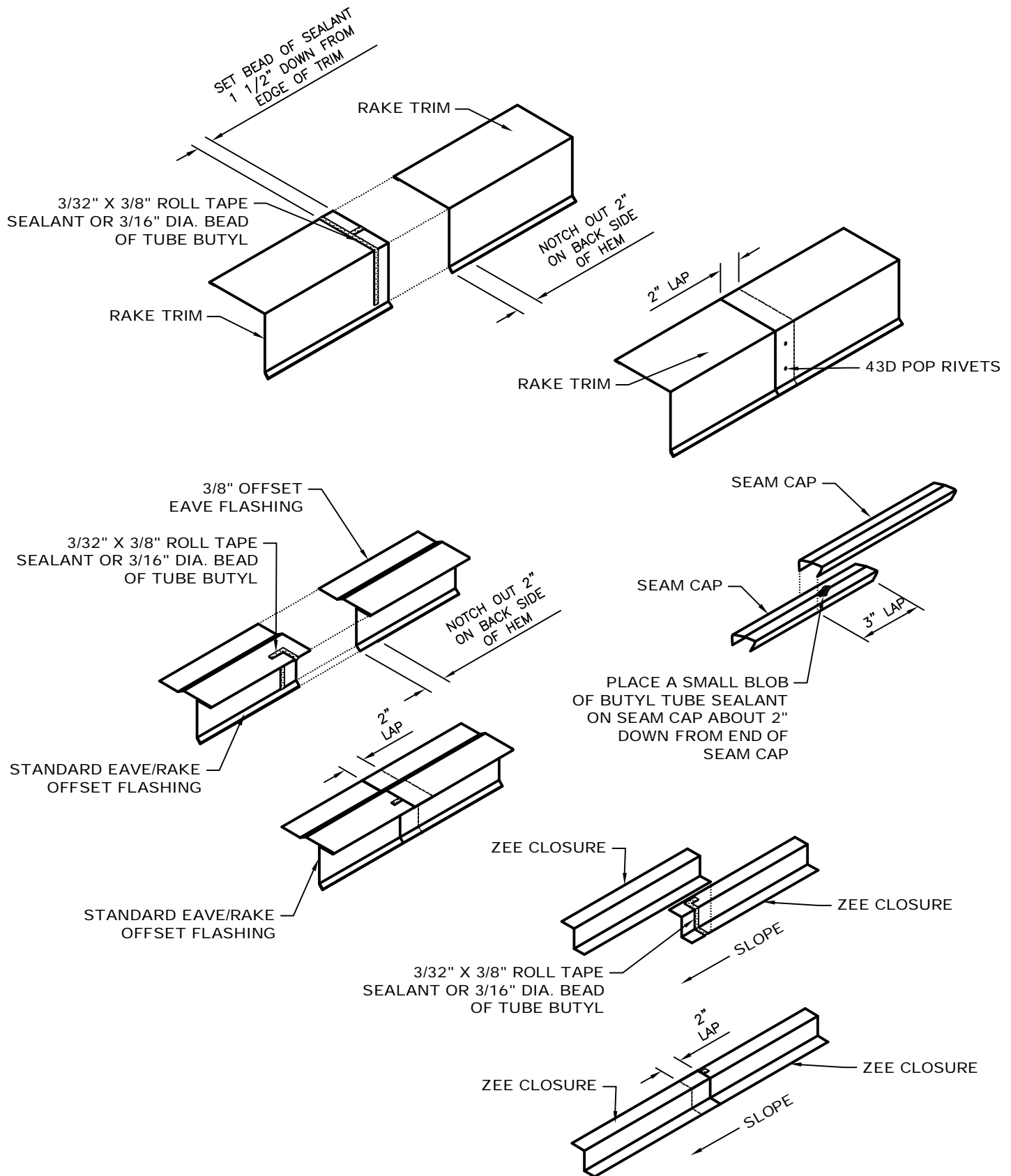
STEP #4

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

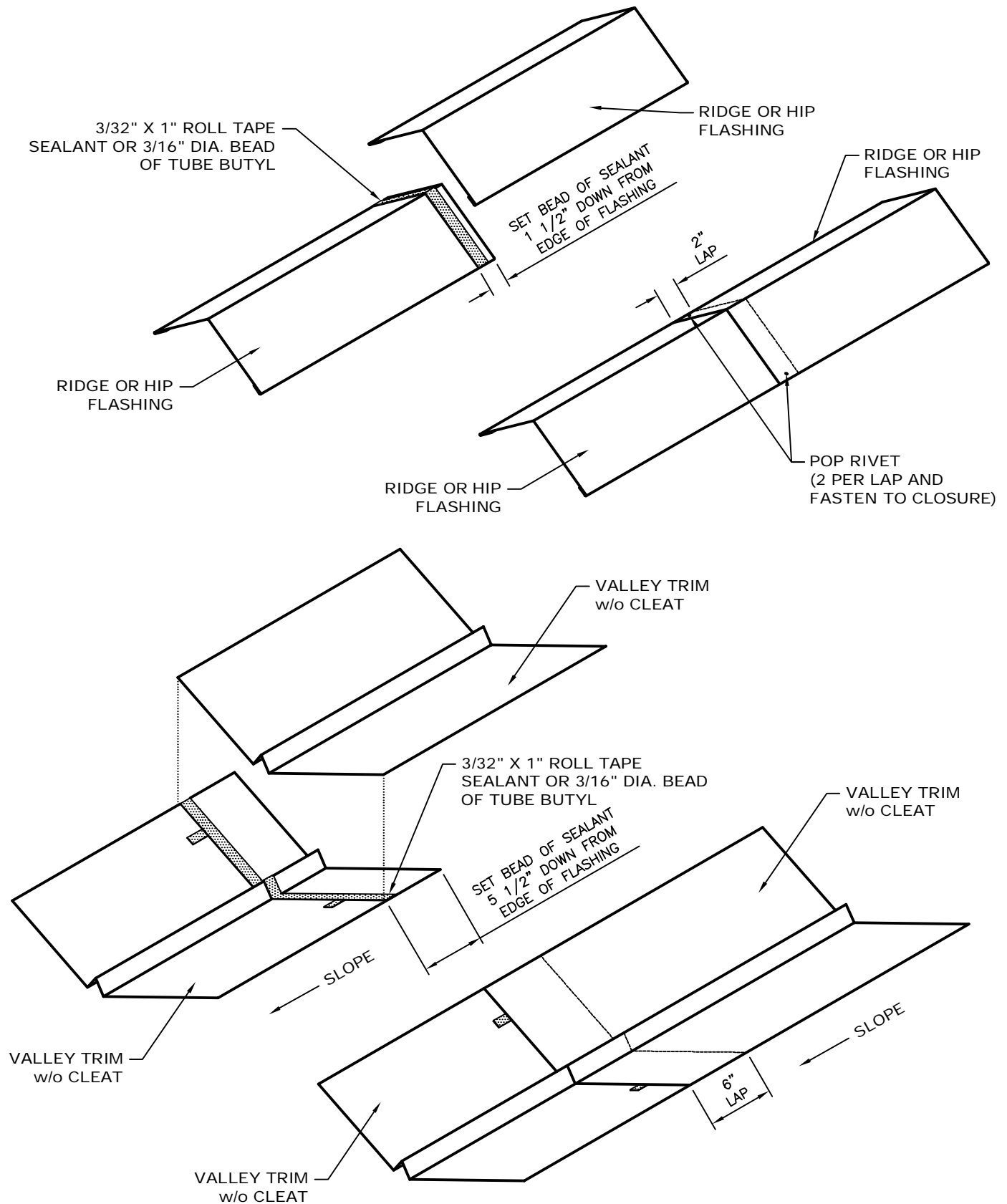


STEP #5

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



NOTE: 1. Apply 3/32" x 3/8" Roll Tape Sealant or a 3/16" Dia. 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.



NOTE: 1. Apply 3/32" x 1" Roll Tape Sealant or a 3/16" Dia. bead of Tube Butyl 1 1/2" back from the edge of the trim.
 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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