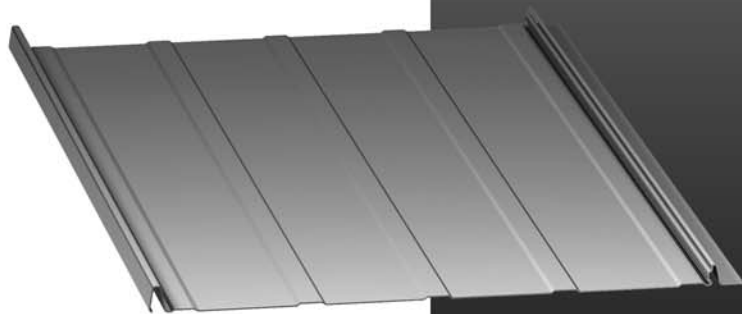


# MERIDIAN

# INSTALLATION



  
**MCELROY  
METAL**



### General Information

The details shown on the following pages are suggestions or guidelines for installing the Meridian 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 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.

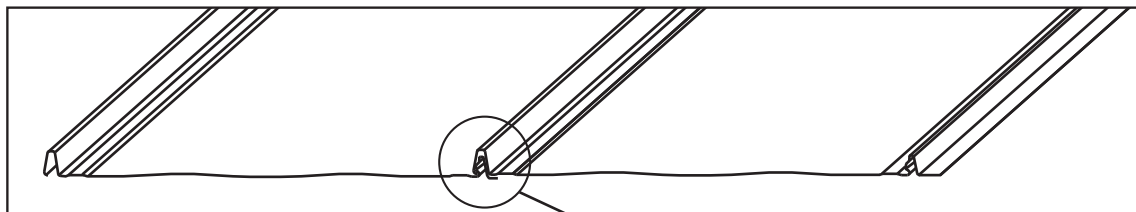
McElroy Metal can provide all flashings and accessories shown in the installation drawings unless noted otherwise. Panels, flashing and trim shall be installed true and in proper alignment with any exposed fasteners equally spaced for the best appearance. Sealant shall be field applied on a clean, dry 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 experience 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. A signed pan wave acknowledgement will be required for all Meridian orders prior to production.

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](http://www.mcelroymetal.com)**.

Meridian is ideal for residential and light commercial applications. Meridian is an economical, snap-together, concealed fastener roofing panel. Panels are simply installed by placing pancake head fasteners in the panel's slotted flange. Meridian should be installed over solid decking.



**SUBSTRATE:**

Galvalume®

**PAINT SYSTEM:**

KYNAR 500® (PVDF)

**PANEL WIDTH:**

16" and 12"

**PANEL CONFIGURATIONS:**

16" Ribbed, Striated

12" Ribbed, Striated

**PANEL LENGTH:**

3' 9" Minimum

45' Maximum

(Please inquire for longer lengths.)

**PANEL HEIGHT:**

1"

**MINIMUM SLOPE:**

3:12

**GAUGE:**

16" in 24 and 26 ga

12" in 24 ga only

**TESTING:**

Class A - Fire Rating

ASTM E1680 - Air Infiltration

ASTM E1646 - Water Infiltration

UL 2218 - Class 4 Impact Resistance

Florida State Approval: 2358.1

Texas Department of Insurance RC-34

UL580 Class90 - Uplift Test



Seam

**Oil canning (pan wave) of metal panels is inherent in the product and is not cause for panel rejection.**

### Roof Preparation

Meridian is an excellent choice for residential or light commercial applications. There are several topics that the installer needs to address before installing Meridian.

- Meridian is designed to be installed over solid decking.
- Make sure any existing decking is smooth, level and in good condition. Replace any decking not meeting those requirements.
- If there is an existing asphalt shingle roof, check local building codes to determine whether existing shingles must be removed.
- If installing over existing shingles, McElroy Metal recommends the use of horizontal “furring” strips and foam insulation placed between furring strips. This will insure a solid and level substrate to attach panels.

### Fastener Spacing

Maximum Recommended Fastener Spacing\* For 16” wide 26 GA panels.

<u>Deck Thickness</u>	<u>Spacing</u>
1/2"	18" o.c.
5/8"	21" o.c.
3/4"	24" o.c.

### To Begin:

\*Note: See #8 before you begin installation. Panels can be terminated at the eave in two different configurations. If you choose the smooth configuration #8 on page 14, panels should be field cut prior to being installed on the roof.

1. Align the female edge of the first panel with the chalk line that was snapped at the rake edge. Remember, this line can be 0" - 1 3/4" from the rake. Panel should overhang eave 1". See Figure #1.

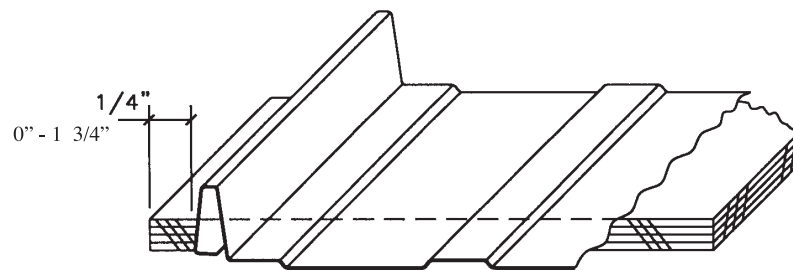


Figure #1

2. At ridge: Panels should be installed perpendicular to ridge for ridge trim attachment.
3. Check panel alignment. If panel is properly aligned, attach rake edge to roof with a #9 - 15 x 1" Woodgrip HWH w/o washer - plain socket - 1/4". (See Figure #2) Then fasten the panel along the male edge fastening flange. See previous table on page 11 for fastener spacing.

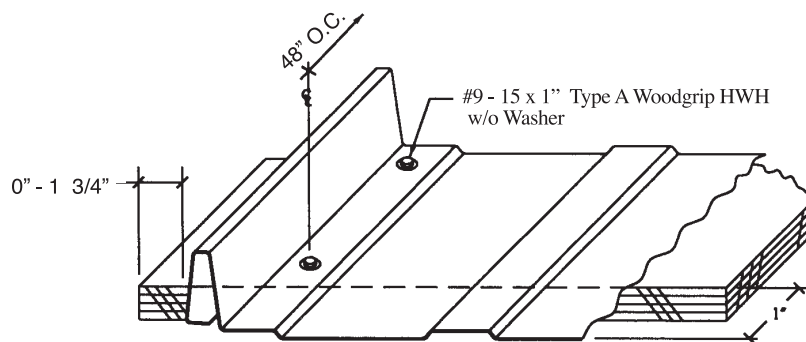
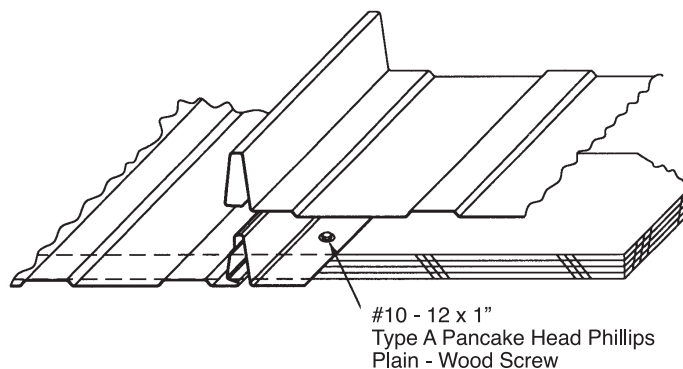


Figure #2

4. Align the second panel female edge with the starter panel male edge. See Figure #3. Panels must be flush at eave edge. Remember, panels should extend over eave by 1".

Figure #3



5. Lightly compress and snap panels together at seam. Snap panels from eave to ridge.
6. After panel seam is locked, fasten the panel with a #10-12 x 1" Type A Pancake Head Phillips Plain - Wood Screw along the male leg. Follow the recommended fastener spacing as per the chart on page 11.
7. Continue to apply panels as in steps #4 thru #6 above.
8. Panels at the eave can be terminated in two ways. Each will depend on aesthetic considerations determined by the installer or building owner.
  - a. Panels can be fastened along the eave with a #10-15 x 1" Woodgrip HiLo ZAC with Washer - Plain Socket - 5/16". Fasten along a line parallel to the eave edge and 3" up from the eave edge. The fasteners can be spaced as shown below in Figure #4. Maximum panel run (length) 30'-0" using exposed fastener eave condition.

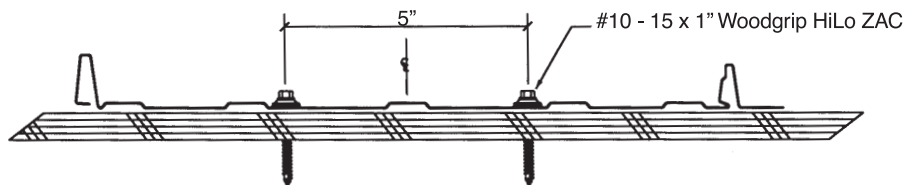
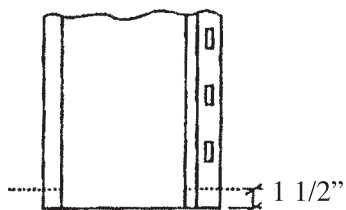


Figure #4

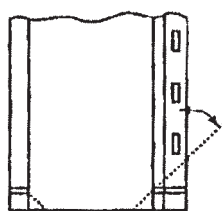
- b. Panels can also be terminated with a hemming tool to provide a smoother appearance.  
Cut through male and female legs/ribs 1 1/2" up from panel end as shown in Figure #5.

FIGURE #5



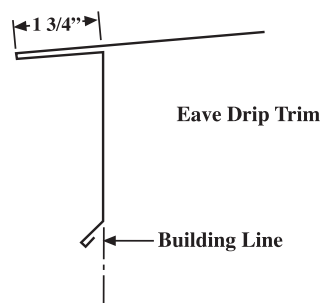
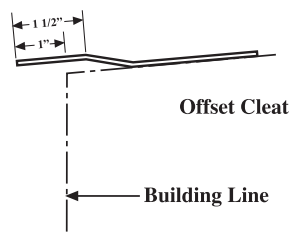
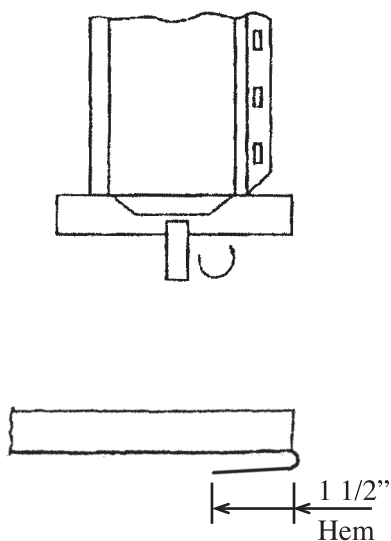
Then cut diagonally with metal shears as shown in Figure #6.

FIGURE #6



Place hemming tool over panel tab. Bend down and under to 180° as shown in Figures #7 & #8.

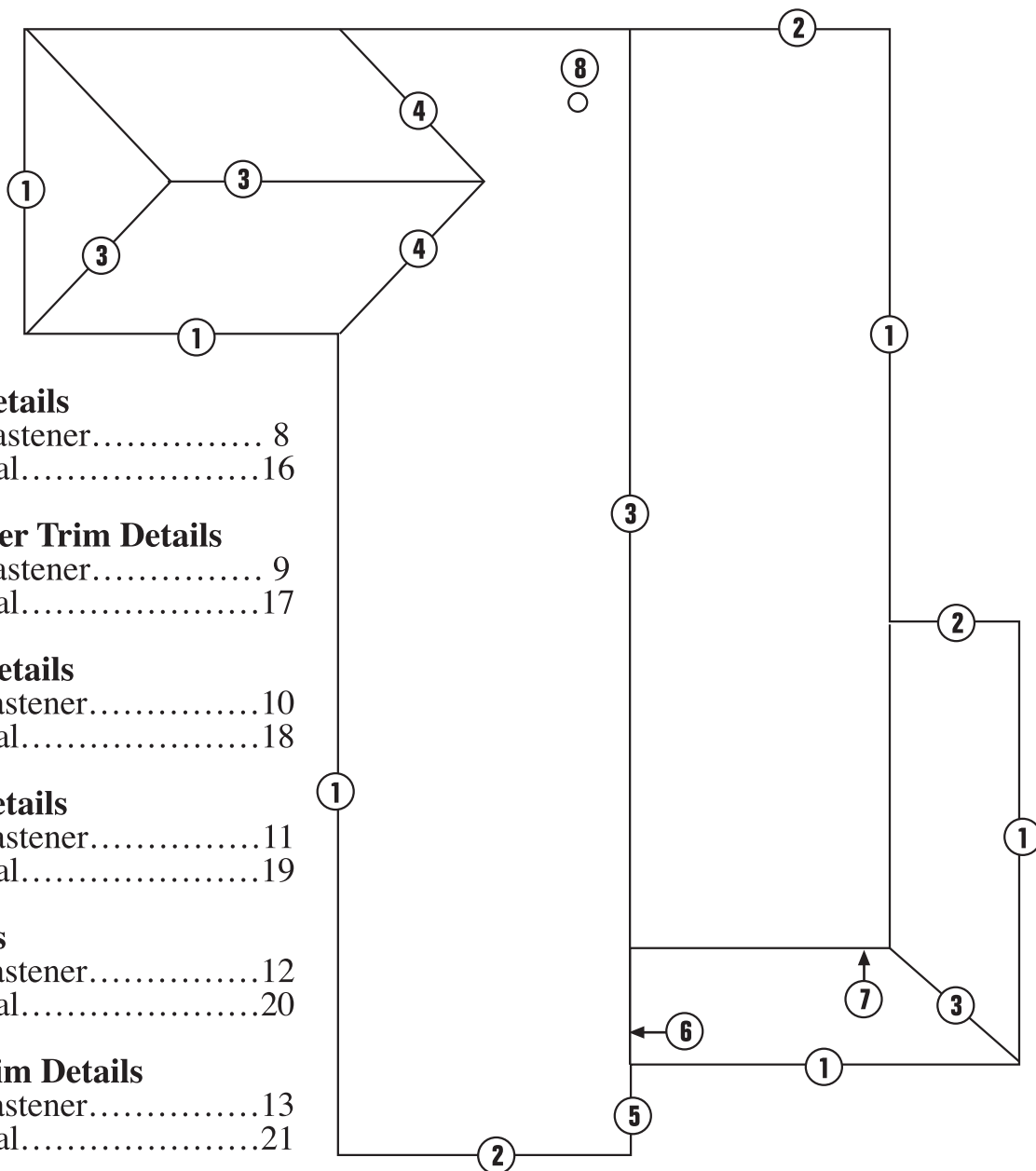
FIGURE #7



Note: When the eave drip trim condition is used, the panel lengths need to be 3/4" longer than panels used for offset cleat condition.

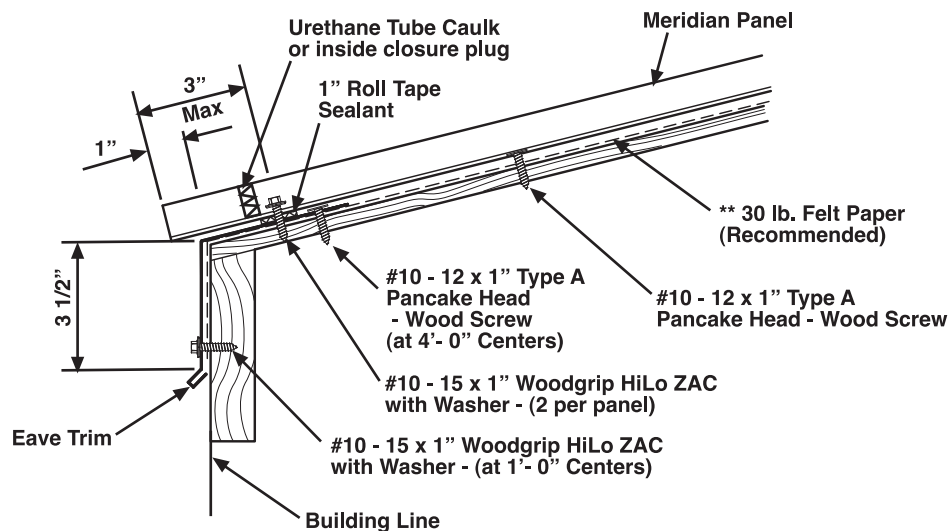
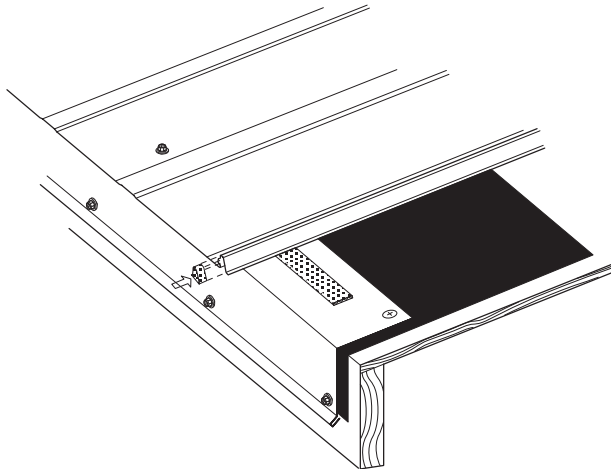
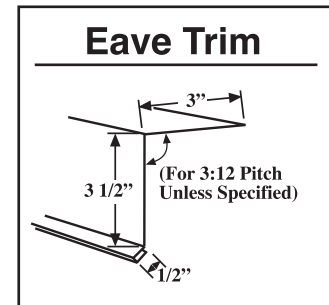


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### Eave Trim Details - Exposed Fastened

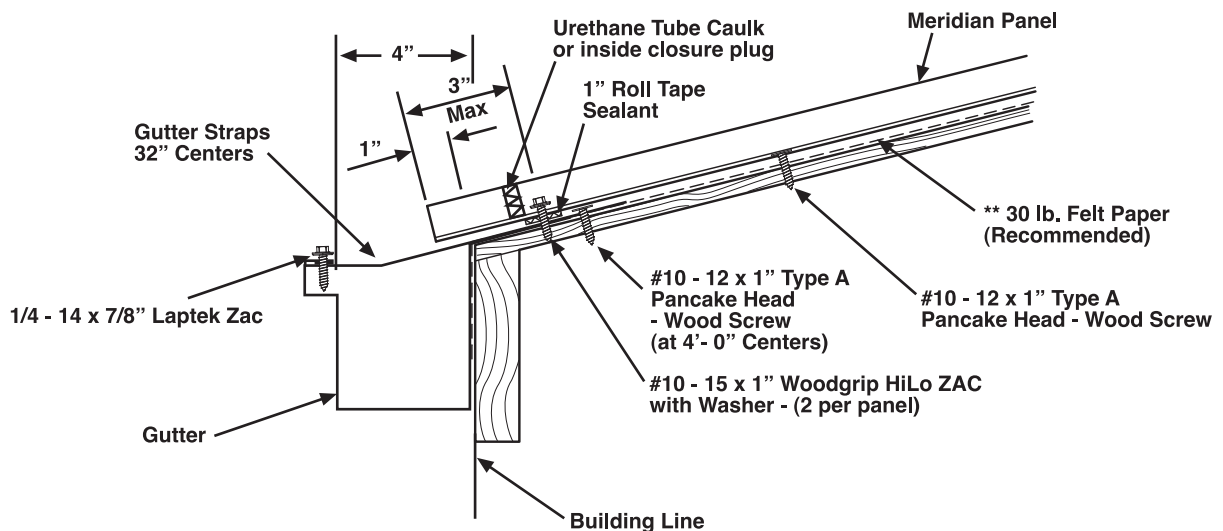
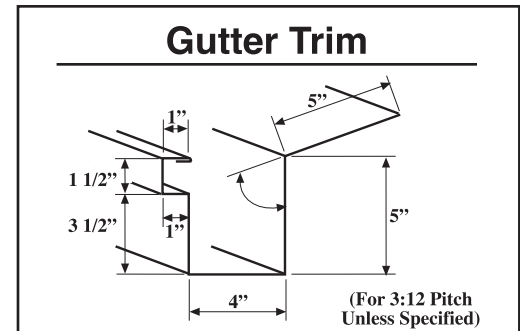
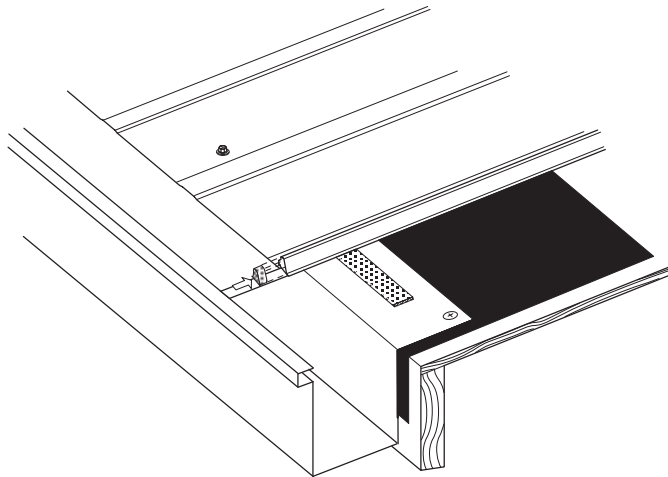
Note: Eave trim must be installed prior to panel installation.  
Panel should overhang the eave 1" minimum.



1. Attach eave trim as shown with #10-12 x 1" Type A Pancake Head - Wood Screw.
2. Open the hem of the next trim for approximately 4".
3. Caulk and lap the trim a minimum of 3" hooking the hem.
4. Install panel and fasten at eave with #10-15 x 1" Woodgrip HiLo ZAC with Washer.

\*\* Additional ice and water shields may be required if climate is extreme.

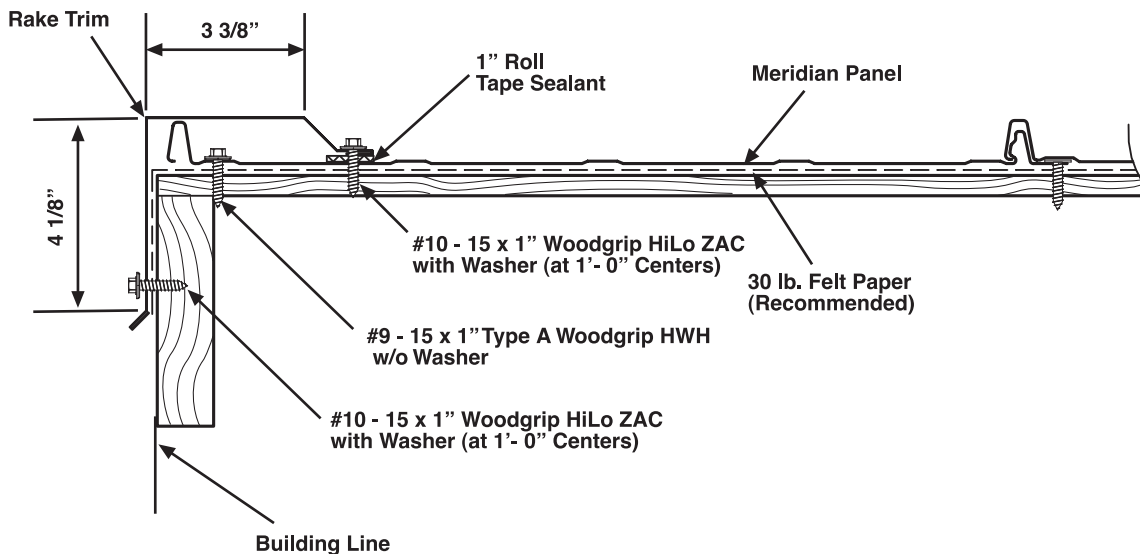
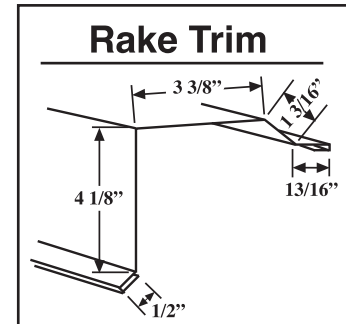
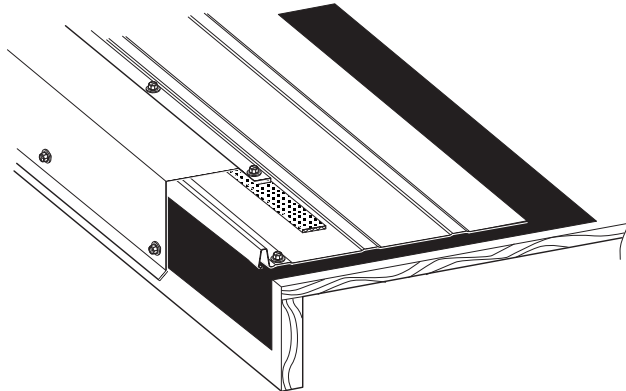
### Eave W/Gutter Trim Details - Exposed Fastened



1. Place 12" strip of underlayment at eave 6" down fascia and 6" up roof.
2. Install gutter with #10-12 x 1" Type A Pancake Head - Wood Screw at 4'-0" O.C.
3. Install gutter straps at 32" O.C. as shown.
4. Place remaining underlayment on roof being careful to lap over gutter flange.
5. Install panels and tape sealant as shown.

\*\*Additional ice and water shield may be required if climate is extreme.

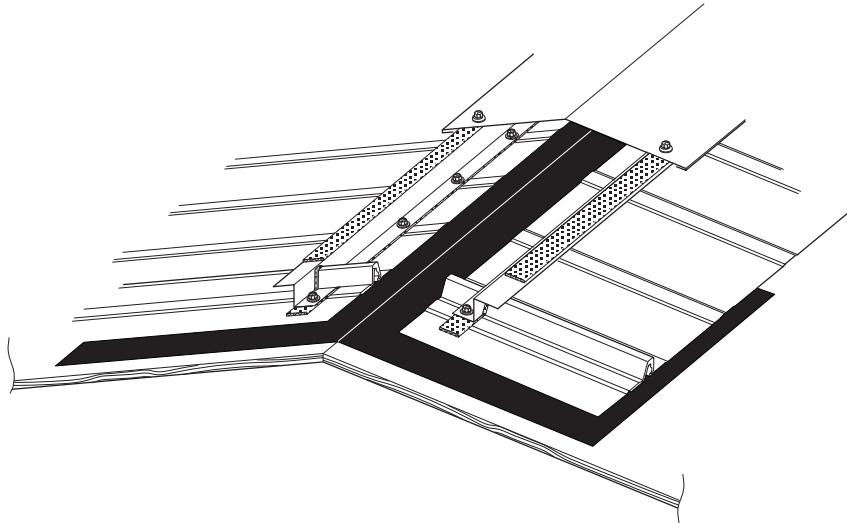
## Rake Trim Details - Exposed Fastened



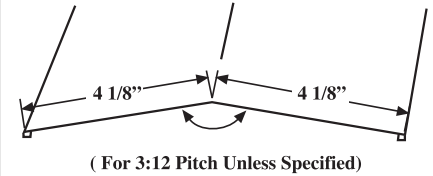
1. Make sure that roof panel is placed per instructions on page 12.
2. Place tape sealant along the rake trim's flange.
3. Install rake trim over rib. Fasten using painted #10-15 x 1" Woodgrip HiLo ZAC with Washer O.C.
4. Caulk and lap the rake trim at least 3" hooking the hem.
5. Miter cut the rake trim at the peak to join each side at the ridge.
6. Cut and fold the rake at the eave to seal the end. Use painted 43D Pop Rivets to fasten.
7. End rake trim detail is the same as outlined in #1-6.

### Ridge/Hip Trim Details - Exposed Fastened

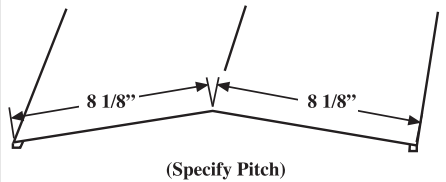
Note: Rake trim must be installed prior to installing the ridge. Panels must be field cut at hip.



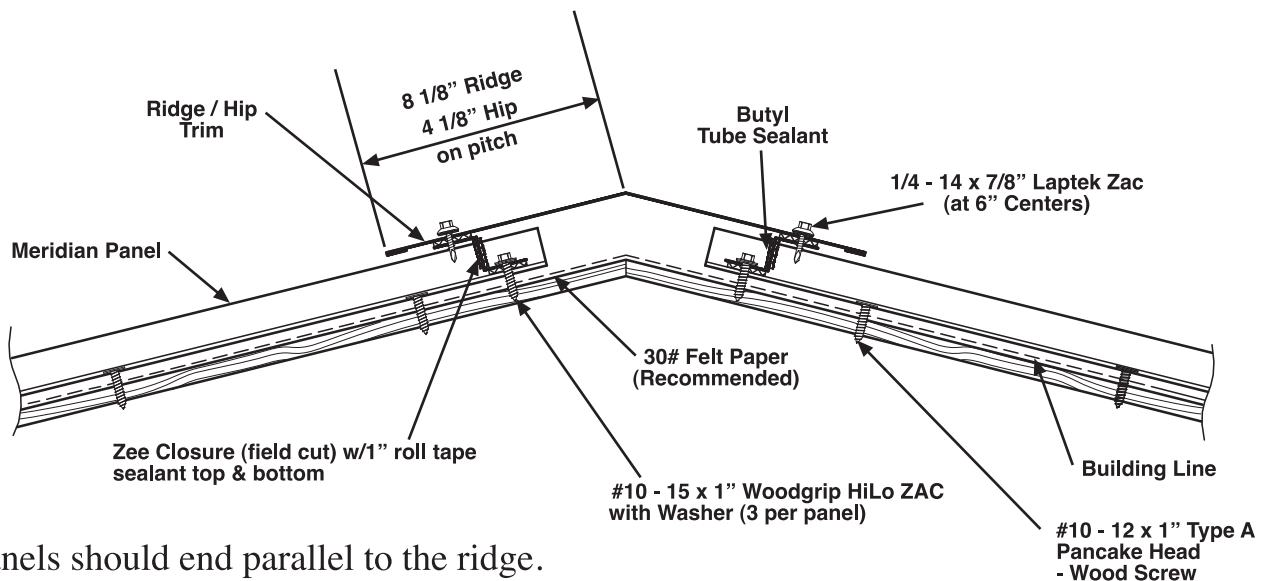
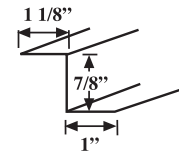
#### Hip Trim



#### Ridge Trim



#### Zee Closure



1. Panels should end parallel to the ridge.
2. Attach zee closure parallel to ridge.
3. Fasten ridge/hip trim to the zee using the 1/4 - 14 x 7/8" LAPTEK ZAC.
4. Caulk, lap and fasten the subsequent trims.

### Valley Trim Details - Exposed Fastened

Note: Valley trim must be installed prior to panel installation. Panels must be field cut.

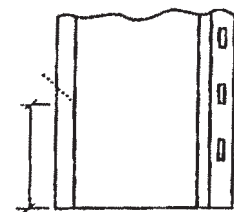
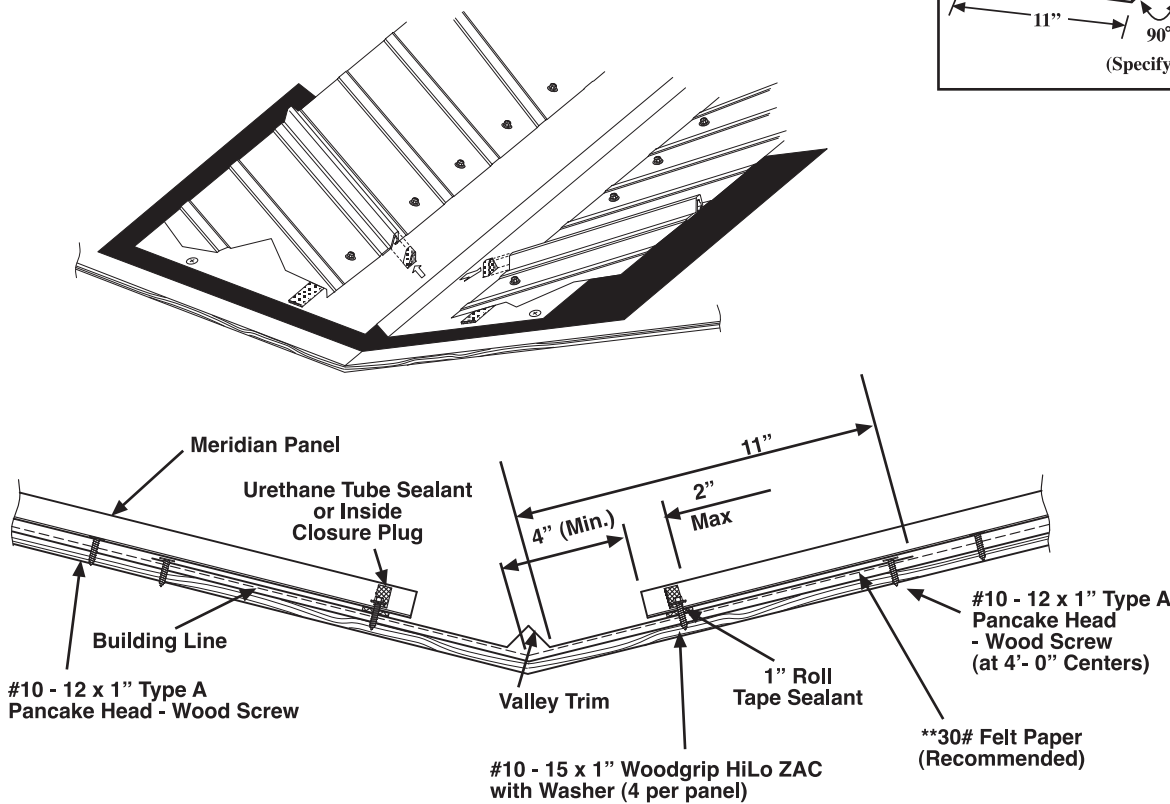
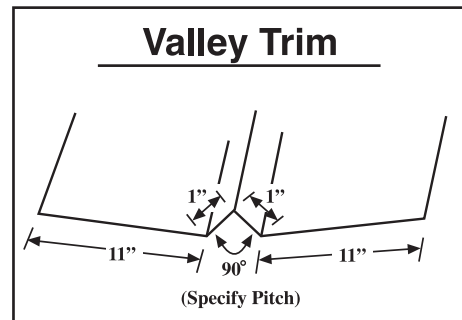


Figure #9

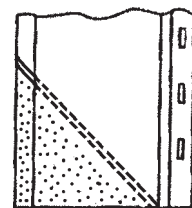
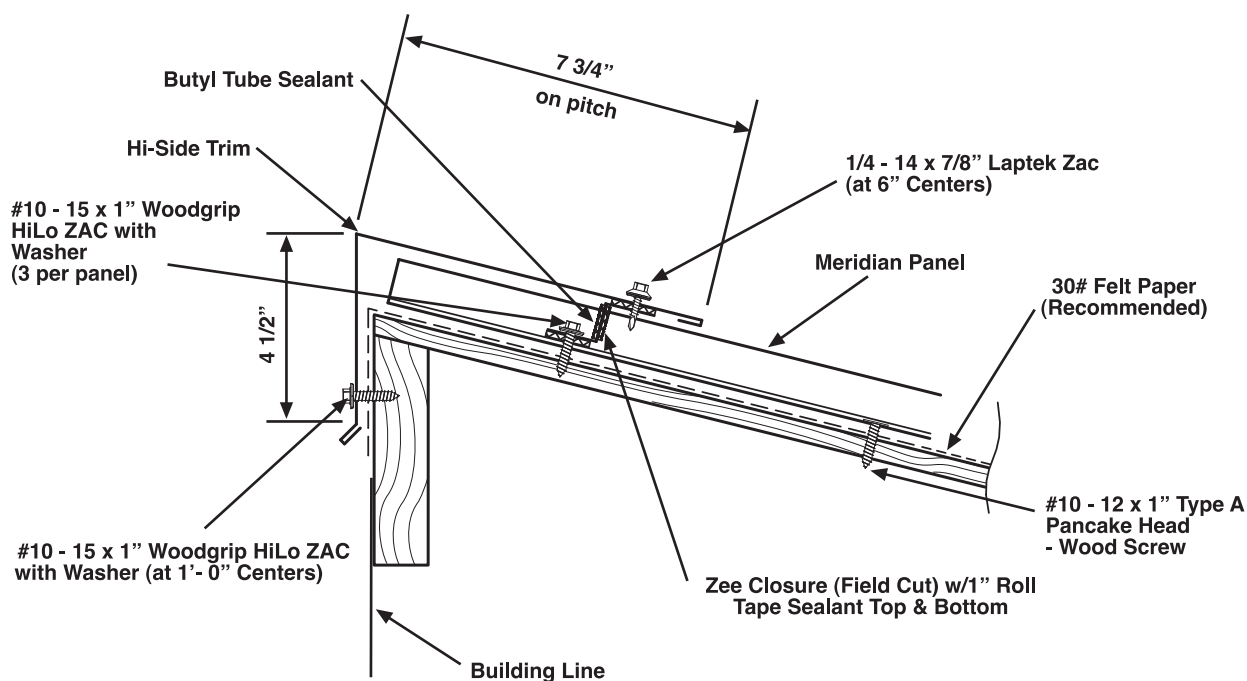
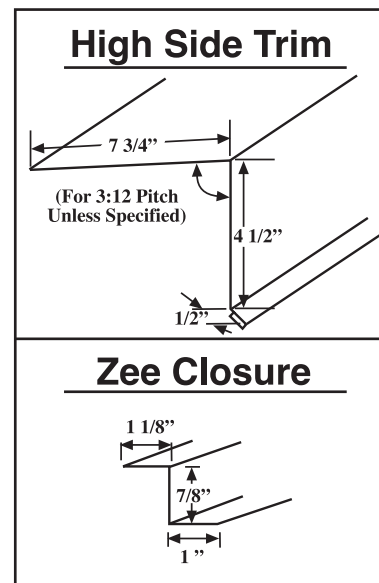
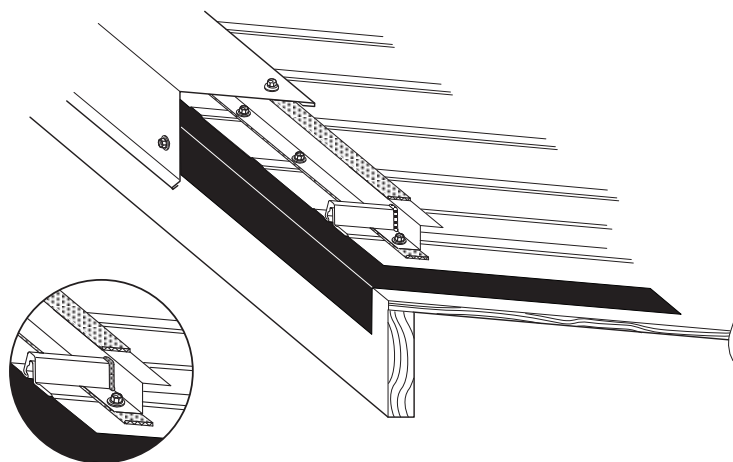


Figure #10

1. Place another layer of 36" roof felt on valley centerline with 18" of paper on each side of center.
2. Begin placing valley trim at eave with a 1" overhang.
3. Caulk and lap the sequential valley trims a minimum of 6".
4. Parallel to the valley, place tape sealant 6" from valley center as shown.
5. Field cut the panels allowing for overlap with valley trim.
  - a. Make cuts through male/female rib (depending on side) at the angle required for the specific roof slope. See Figure #9.
  - b. Cut out shaded or marked area with sheet metal shears. See Figure #10.
6. After panels are field cut and attached, fasten along bottom end using four (4) #10-15 x 1" Woodgrip HiLo ZAC with Washer per panel. Make sure fasteners are evenly spaced and penetrate the row of tape sealant.
7. Seal panel end with tube caulking or inside closure plug.

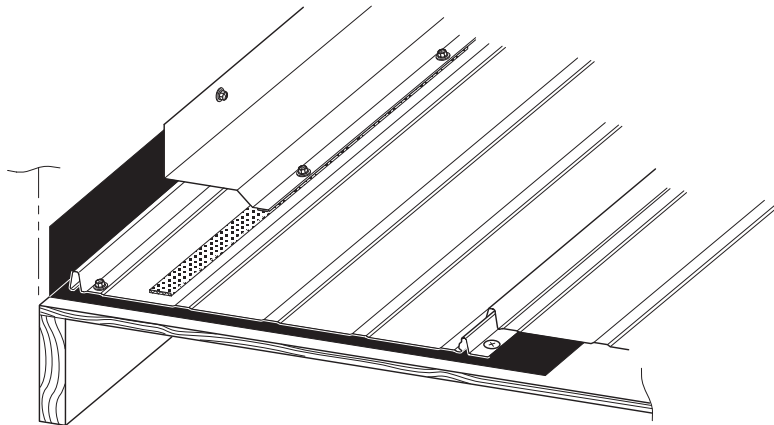
\*\* Additional ice and water shields may be required if climate is extreme.

### High Side Trim Details - Exposed Fastened

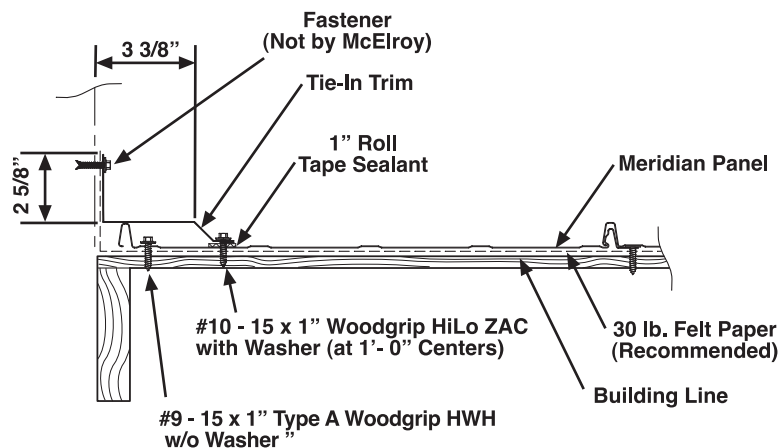
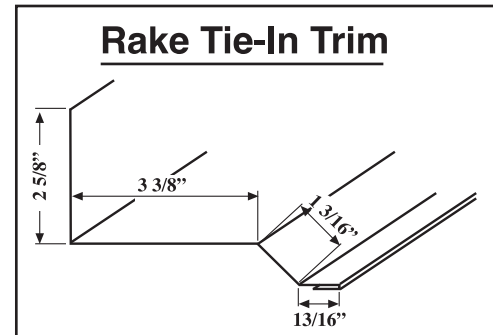


1. Panels should end parallel to high-side.
2. Attach zee closure parallel to high-side.
3. Fasten high-side trim to the zee closure using 1/4 - 14 x 7/8" LAPTEK ZAC at 6" centers.
4. Caulk, lap and fasten the subsequent trims.
5. Fasten the backside of peak trim with #10-15 x 1" Woodgrip HiLo ZAC with Washer at 12" centers.

## Rake Tie-In Trim Details - Exposed Fastened



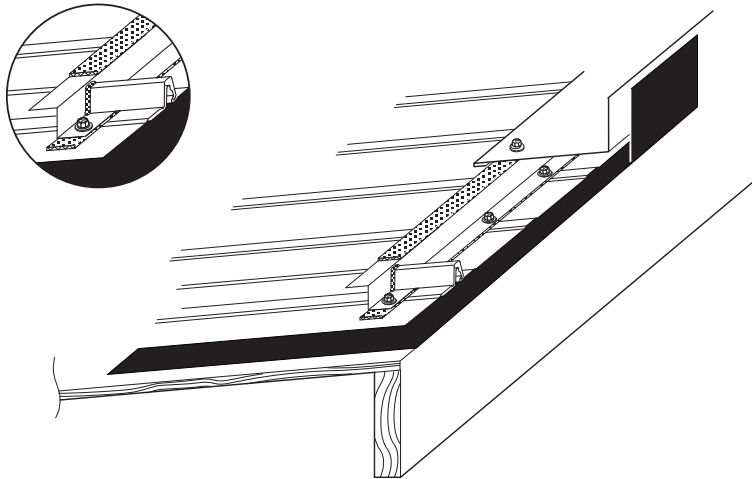
Counter flashing or wall panel  
(Not by McElroy)  
Weather Seal as Required



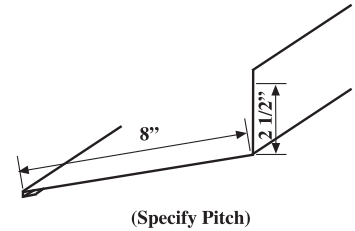
1. Place tape sealant along the rake tie-in trim's flange.
2. Install rake tie-in trim. Fasten using painted #10-15 x 1" Woodgrip HiLo ZAC with Washer at 12" O.C.
3. Caulk and lap the rake tie-in trim at least 3" hooking the hem.
4. Cut and fold the rake tie-in trim at the eave to seal the end.  
Use 43D pop rivets to fasten.
5. Rake tie-in trim details is the same as outlined in #1-4.



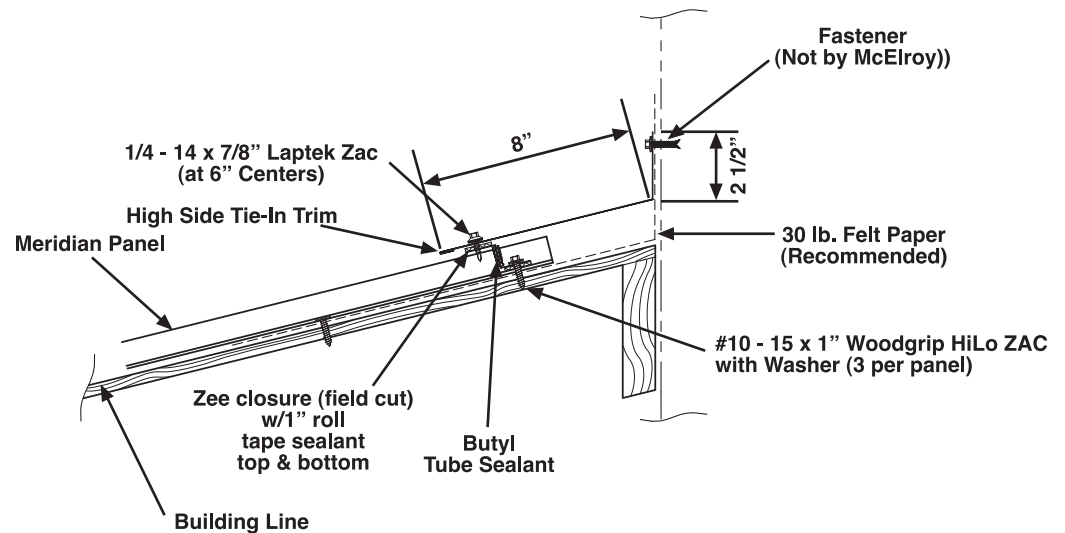
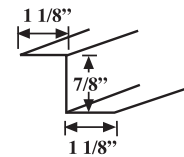
## High Side Tie-In Trim Details - Exposed Fastened



### High Side Tie-In Trim



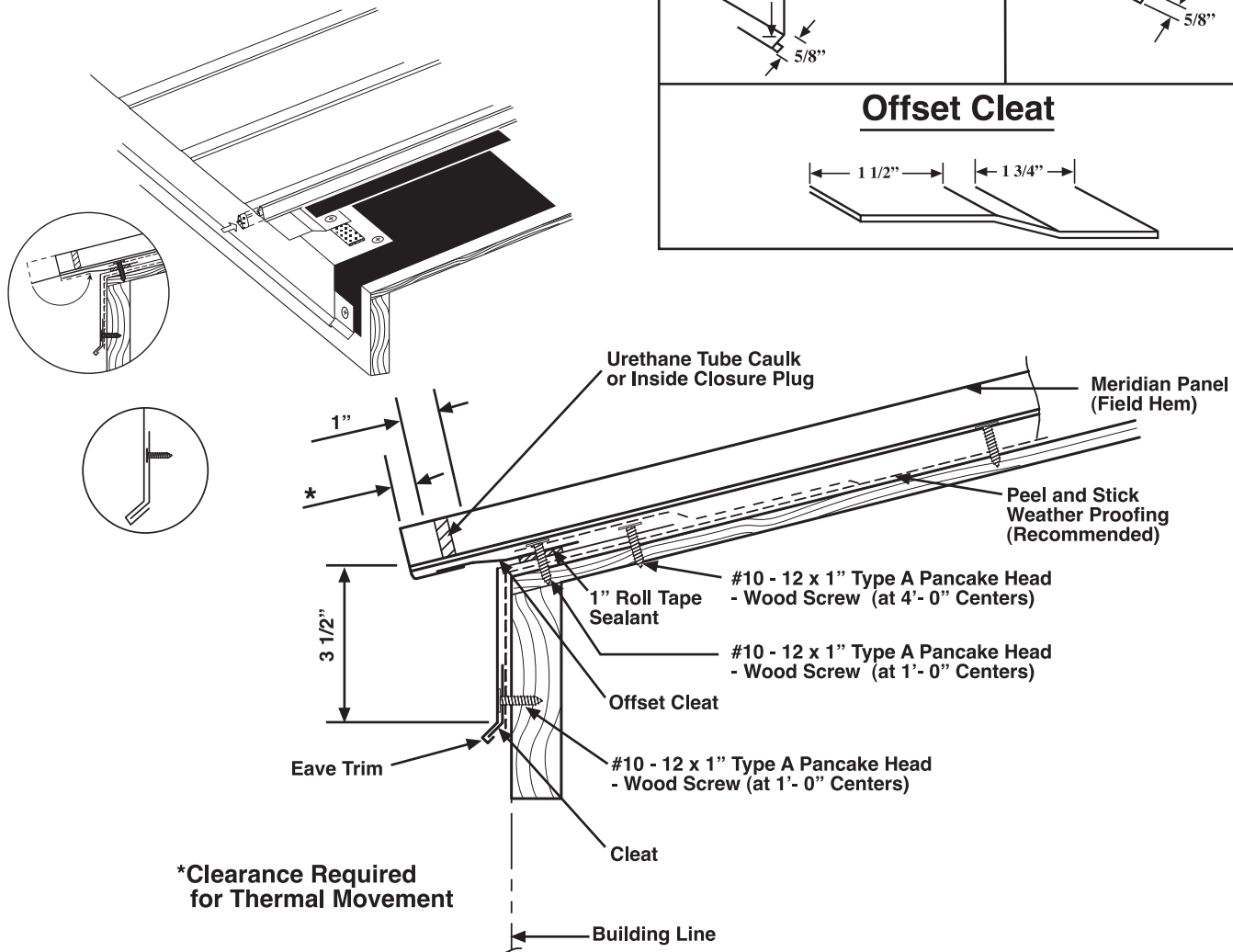
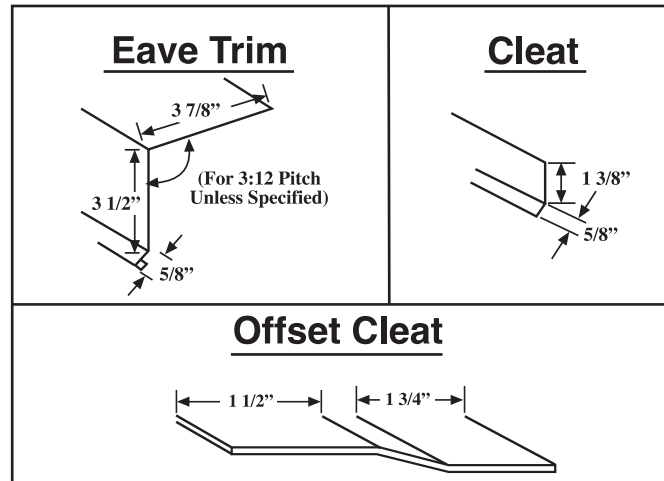
### Zee Closure



1. Panels should end parallel to the high-side.
2. Attach zee closure parallel to high-side.
3. Fasten high side tie-in trim to the zee closure.
4. Caulk, lap and fasten the subsequent trims.

## Eave Trim Details - Architectural

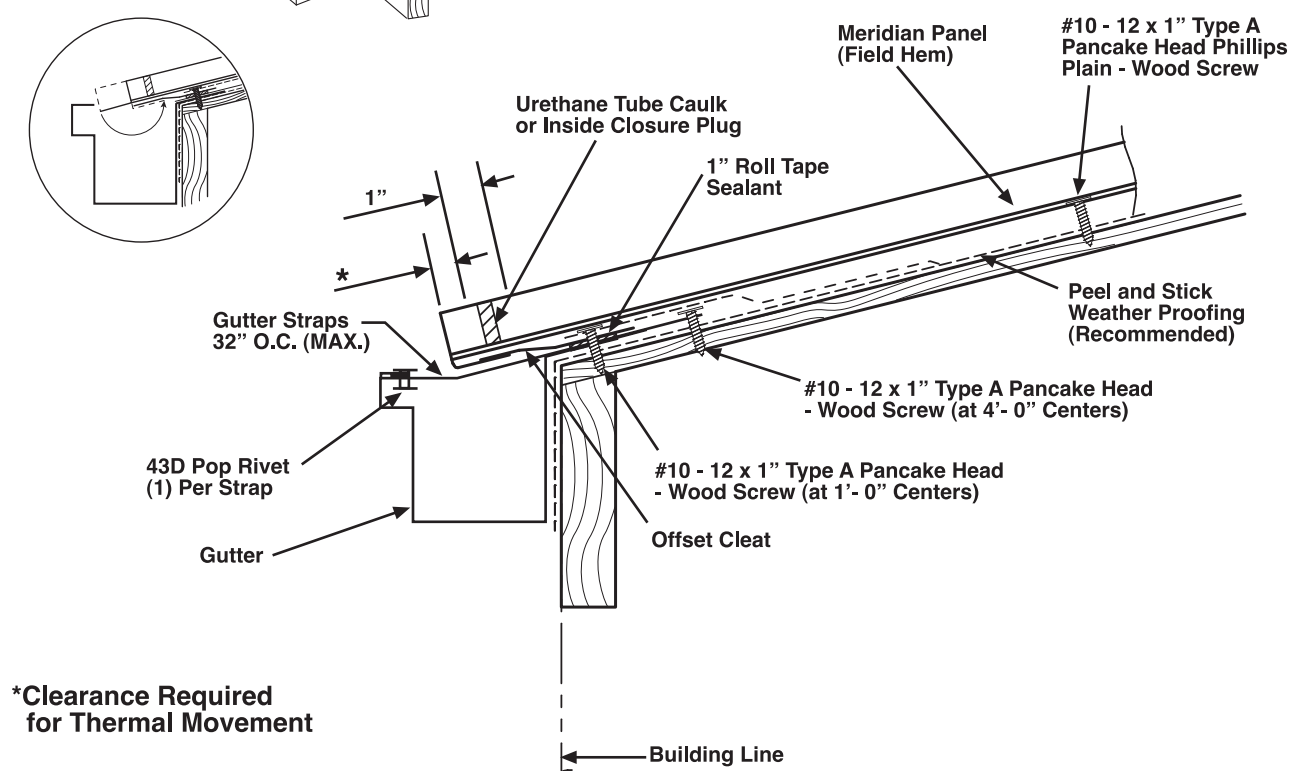
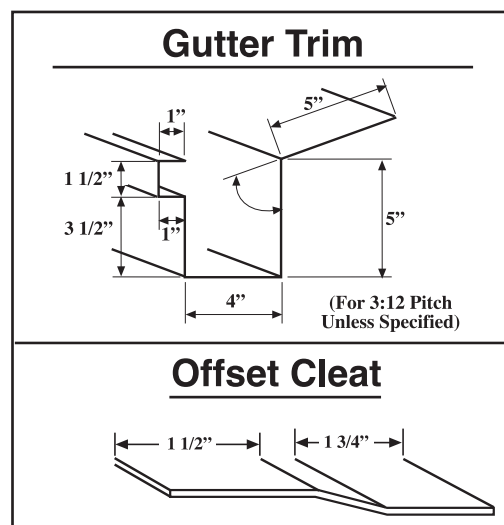
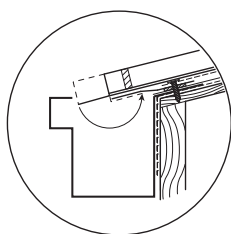
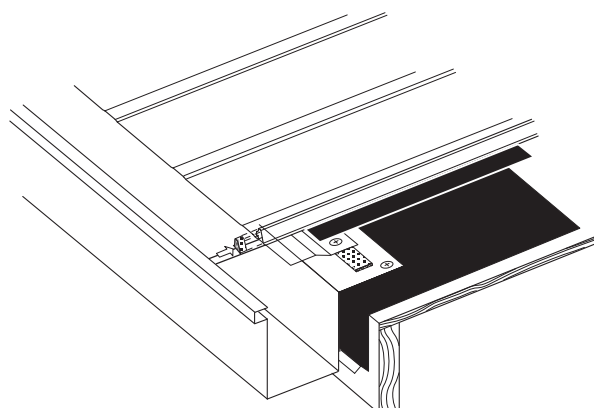
Note: Eave trim and offset cleat must be installed prior to panel installation.



1. Attach cleat as shown with #10 - 12 x 1" Type A Pancake Head - Wood Screw.
2. Install eave trim and attach with #10 - 12 x 1" Type A Pancake Head - Wood Screw.
3. Place tape sealant on eave trim and attach offset cleat with #10 - 12 x 1" Type A Pancake Head - Wood Screw.

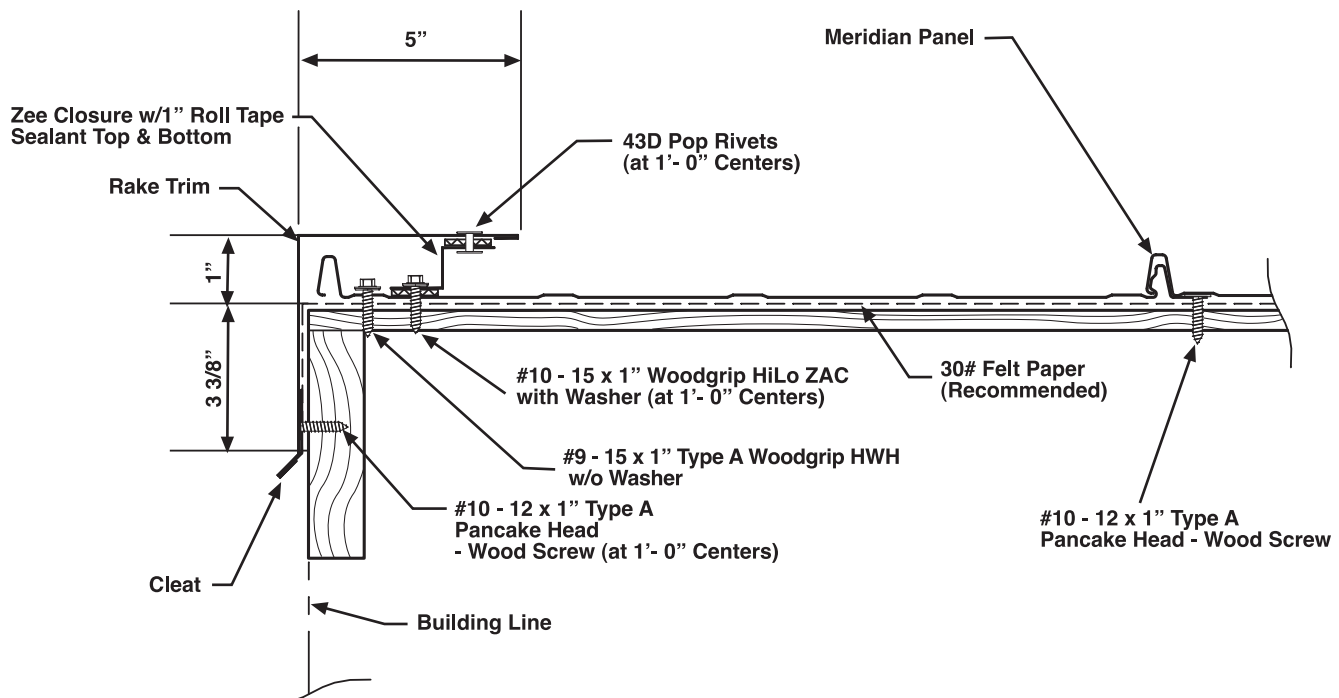
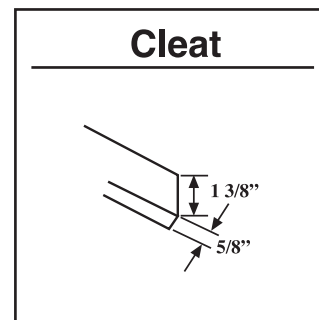
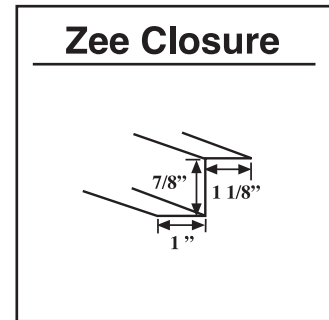
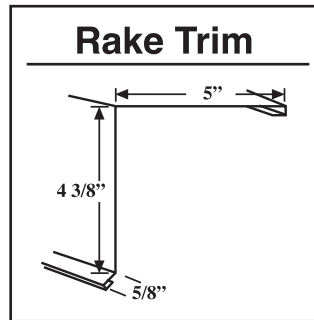
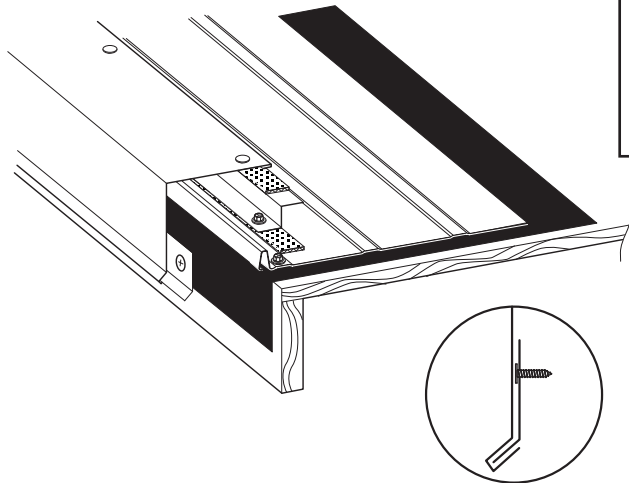
\* For field hem panel see page #14

### Eave (With Gutter) Detail - Architectural



1. Place 12" strip of underlayment at eave 6" down fascia and 6" up roof.
2. Install gutter with #10 - 12 x 1" Type A Pancake Head - Wood Screw at 4' - 0" O.C..
3. Install gutter straps at 32" O.C. as shown.
4. Place remaining underlayment on roof being careful to lap over gutter flange.
5. Place tape sealant on gutter flange and attach offset cleat with #10 - 12 x 1" Type A Pancake Head Phillips Plain - Wood Screw.
6. Install panel as shown.

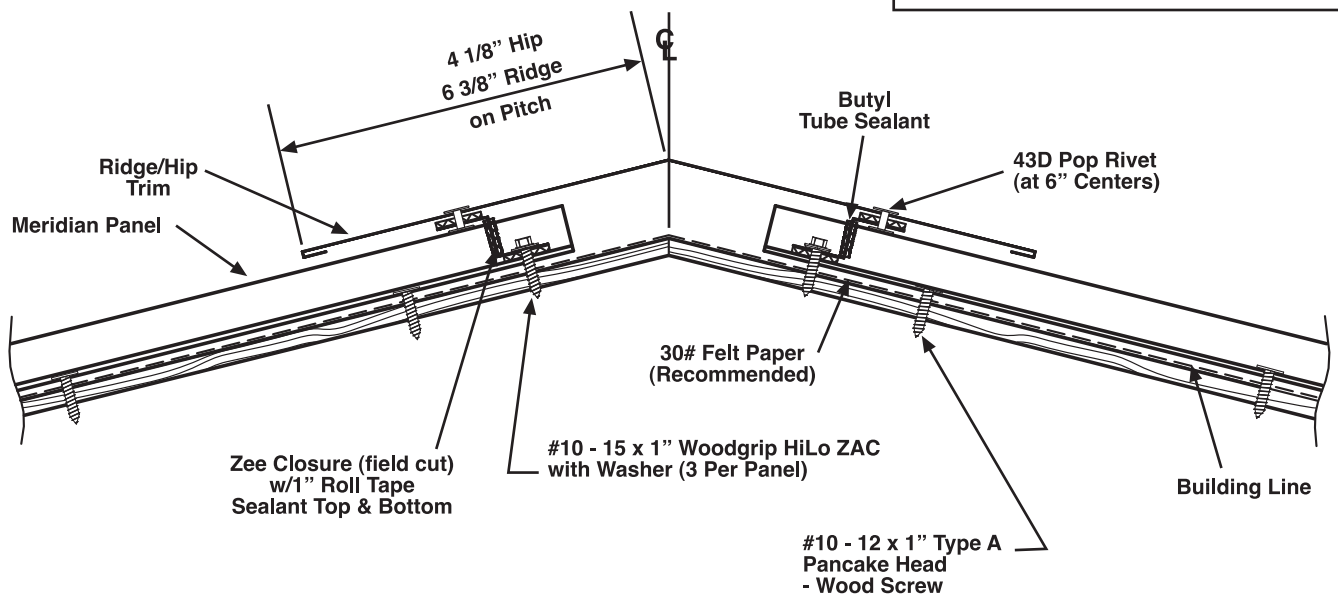
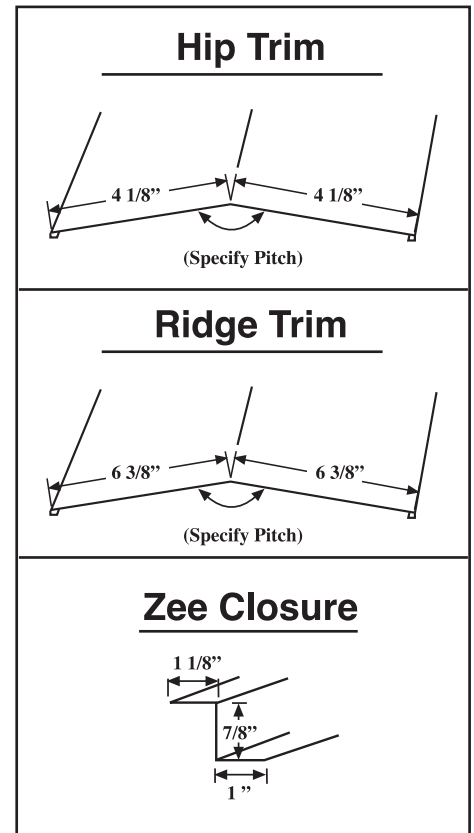
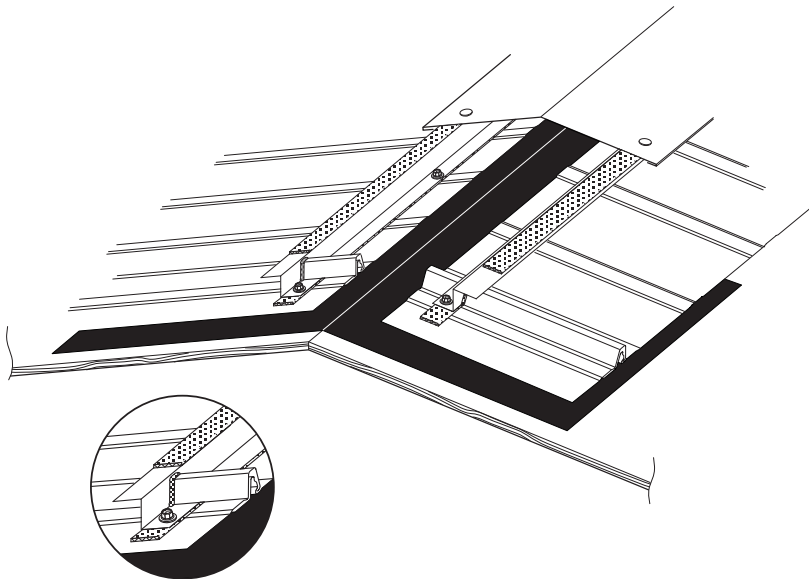
## Rake Trim Details - Architectural



1. Place roof panel per instructions on page #12.
2. Attach cleat as shown with #10 - 12 x 1" Type A Pancake Head - Wood Screw.
3. Place tape sealant on panel and attach zee closure with #10-15 x 1" Woodgrip HiLo ZAC with Washer.
4. Place tape sealant on zee closure, then install rake trim and attach with pop-rivets.

### Ridge/Hip Trim Details - Architectural

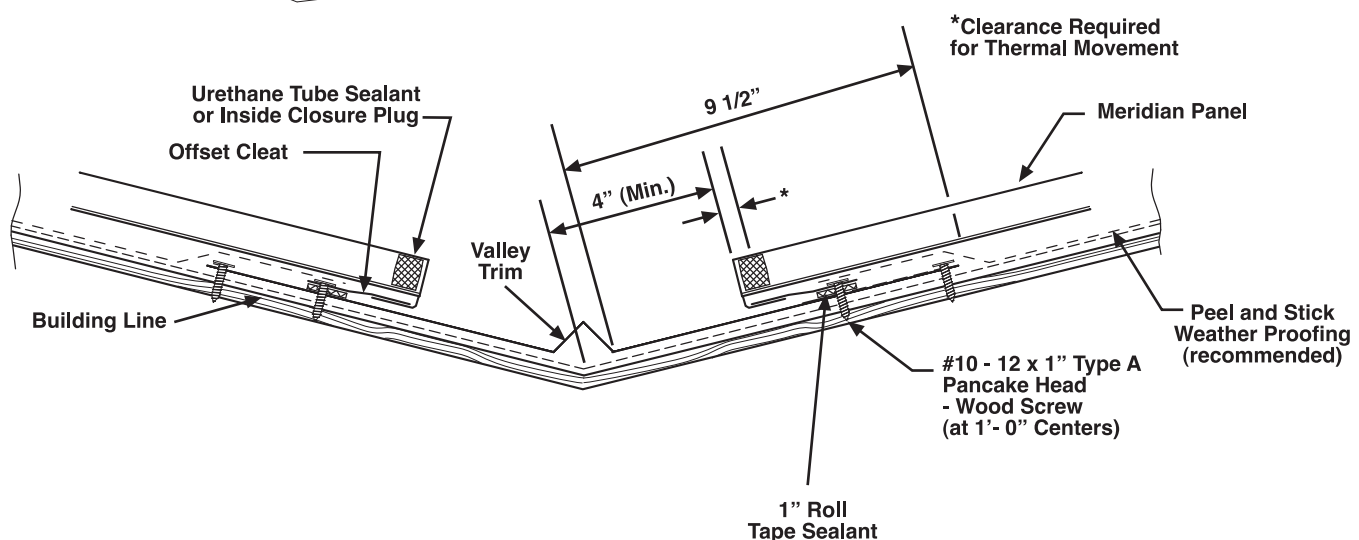
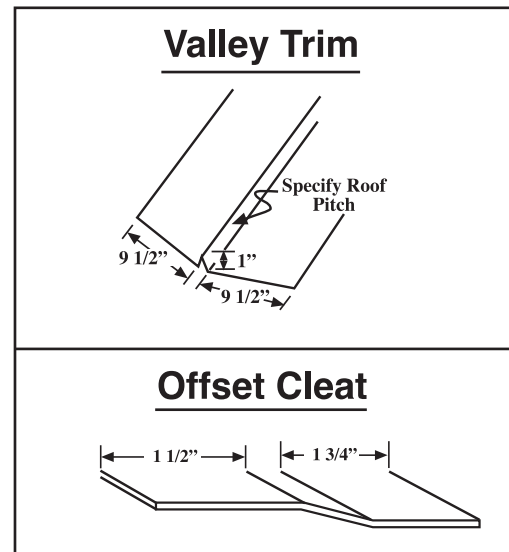
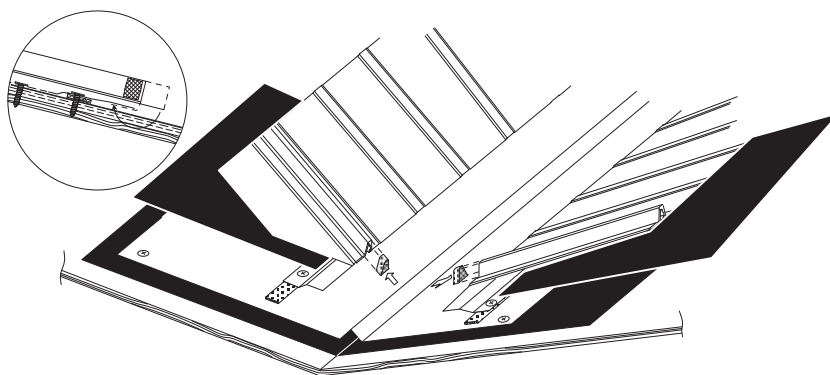
Note: Rake trim must be installed prior to installing ridge.  
Panels must be field cut at hip.



1. Panels should end parallel to ridge.
2. Place tape sealant on panel and attach zee closure parallel to ridge with woodgrip fasteners.
3. Place tape sealant on zee closure and attach ridge/hip trim with pop-rivets.

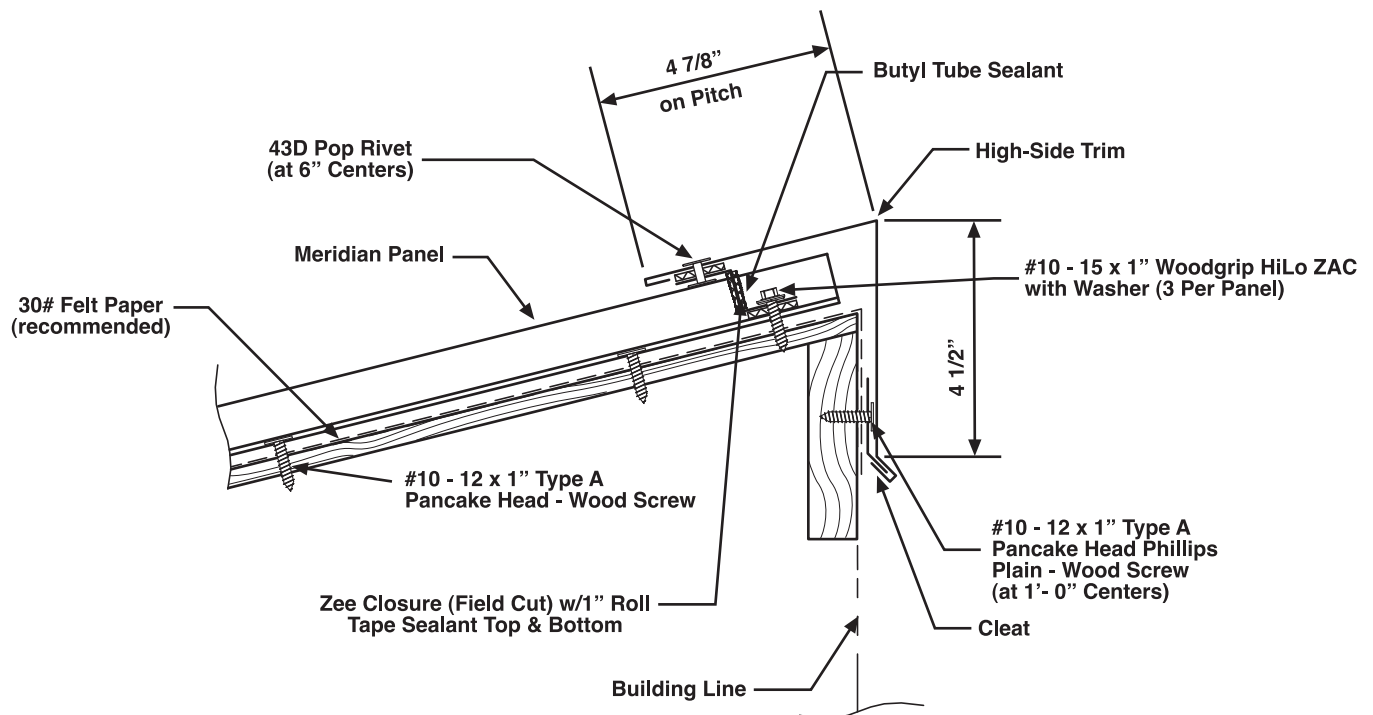
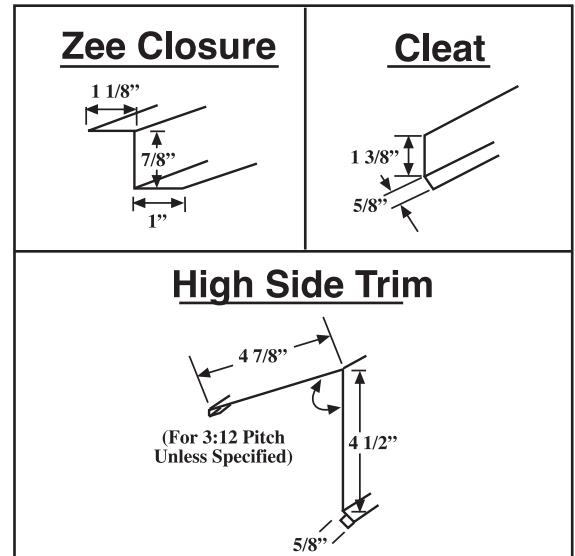
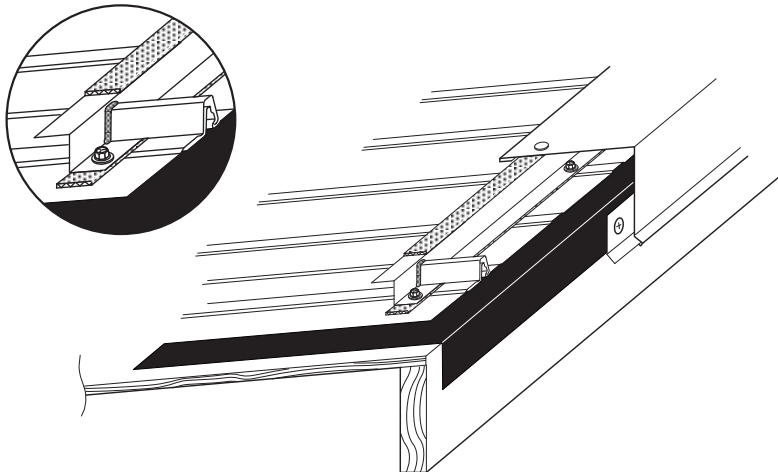
## Valley Trim Details - Architectural

Note: Valley trim must be installed prior to panel installation. Panels must be field cut at valley.



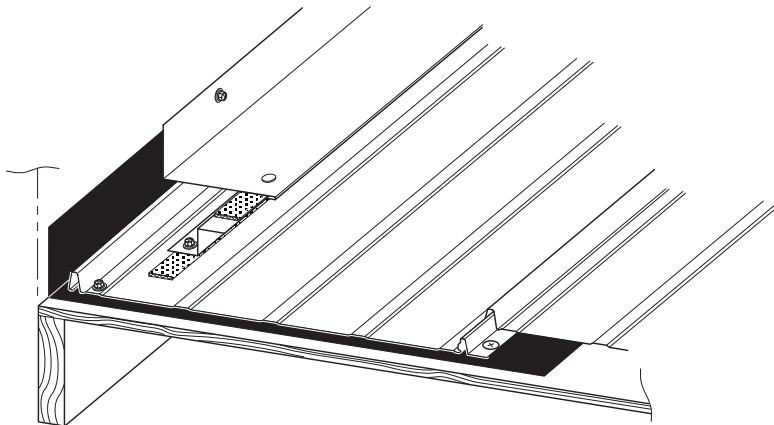
1. Place another layer of 36" roof felt on valley centerline with 18" of paper on each side of center.
2. Begin placing valley trim at eave with a 1" overhang.
3. Caulk and lap the sequential valley trims a minimum of 6".
4. Place tape sealant on valley trim parallel to valley and attach offset cleat with pancake head woodgrip.
5. For field hem panel see page #14.
6. Field cut the panels allowing for overlap with offset cleat and hem see page 14.
  - a. Make cuts through male/female rib (depending on side) at the angle required for the specific roof slope. See Figure #9.
  - b. Cut out shaded or marked area with sheet metal shears. See Figure #10.
7. Seal panel end with tube caulking or inside closure plug.

## High Side Trim Details - Architectural



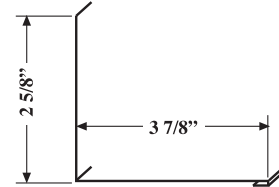
1. Panels should end parallel to the peak.
2. Attach cleat as shown with #10 - 12 x 1" Type A Pancake Head - Wood Screw.
3. Place tape sealant on panel parallel to the peak and attach the zee closure with (3) #10-15 x 1" Woodgrip HiLo ZAC with Washer.
4. Place tape sealant on zee closure and seal panel seam with tube sealant.
5. Install high-side trim with pop-rivets.

## Rake Tie-In Trim Details - Architectural

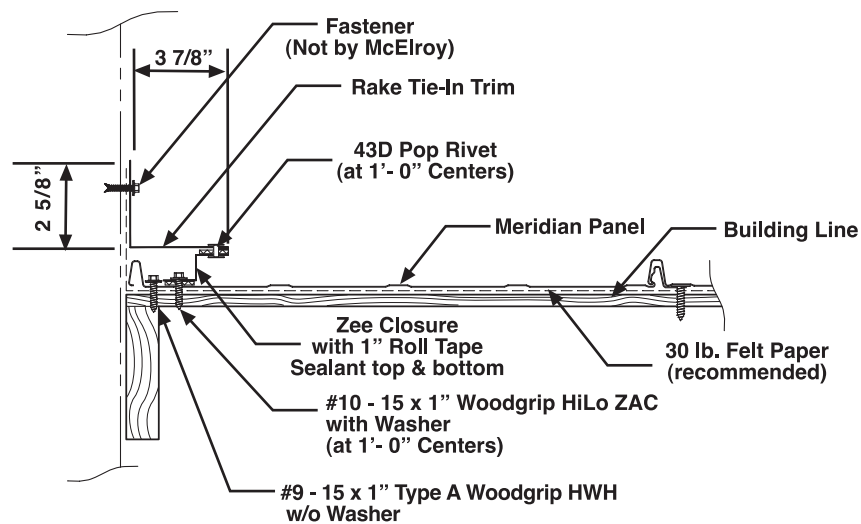
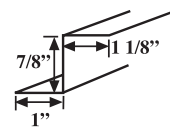


Counter flashing or wall panel (not by McElroy) weather seal as required

### Rake Tie-In Trim



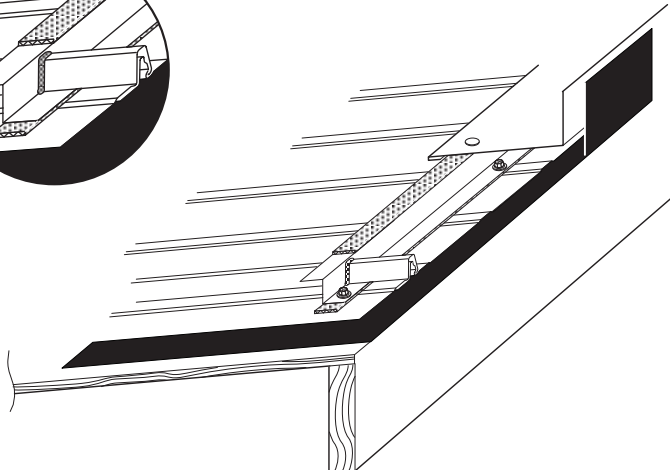
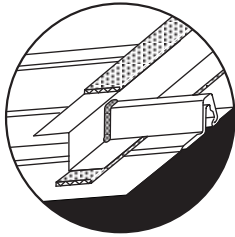
### Zee Closure



1. Place tape sealant on panel and attach the zee closure with #10-15 x 1" Woodgrip HiLo ZAC with Washer.
2. Place tape sealant on the zee closure, then install rake tie-in trim.
3. Caulk, lap and fasten the subsequent trims.

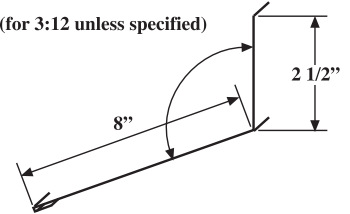


## High Side Tie-In Trim Details - Architectural

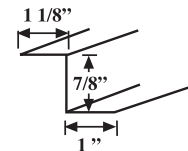


### High Side Tie-In Trim

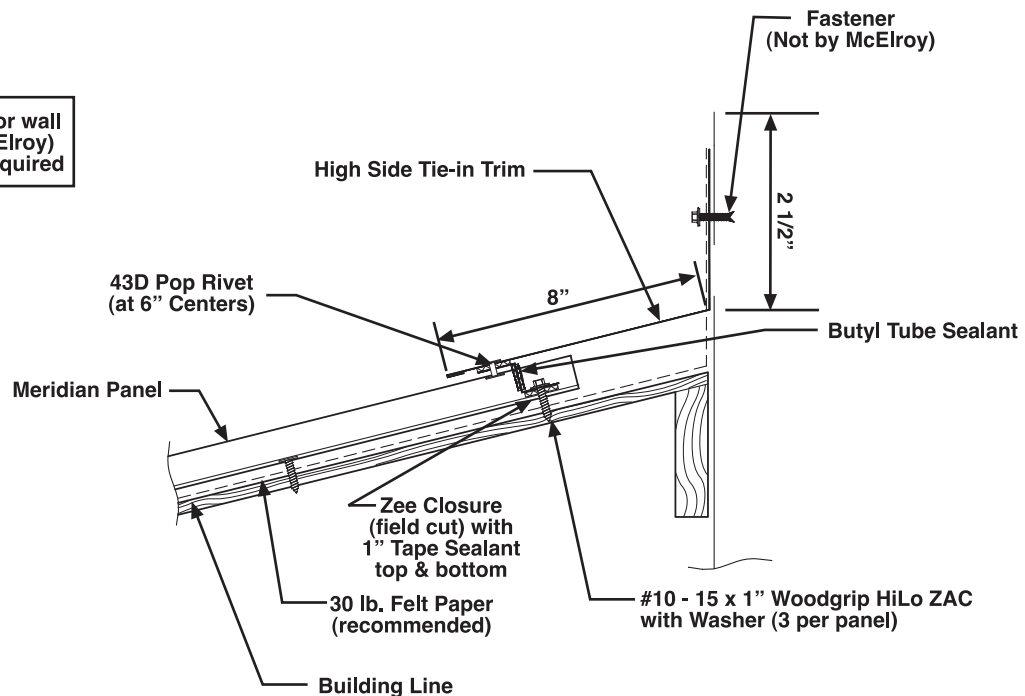
(for 3:12 unless specified)



### Zee Closure

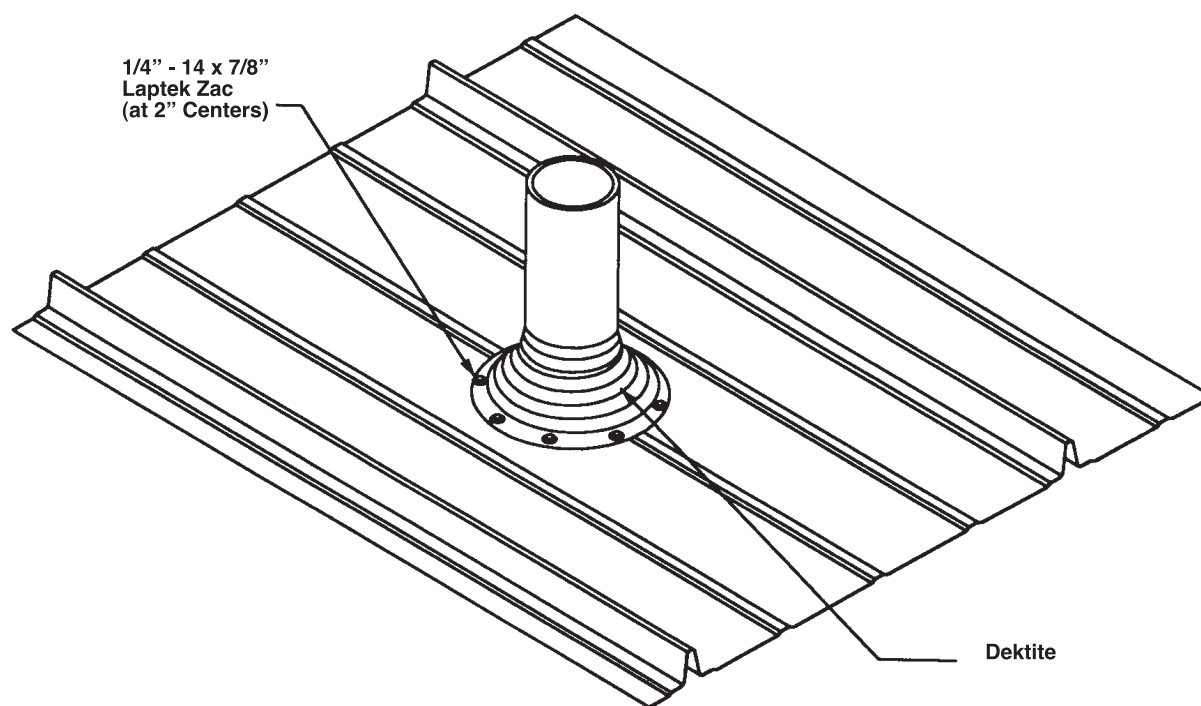


Counter flashing or wall panel (not by McElroy) weather seal as required



1. Attach the zee closure parallel to the high-side.
2. Fasten high side tie-in trim to the zee closure.
3. Caulk, lap, and fasten the subsequent trim.

## Vent Trim Details



1. Cut pliable Dektite at the appropriate pipe diameter marking on sleeve.
2. Slide the Dektite boot down over pipe.
3. Seal between the base of the dektite and the roof of the building.
4. Adjust base to fit profile of the roof.
5. Fasten the Dektite with 1/4 - 14 x 7/8" LAPTEK ZAC at 2" centers.



**MERIDIAN**



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