

The application and detail drawings in this manual are strictly for illustration purposes and may not be applicable to all building designs or product installations. All projects should conform to applicable building codes for that particular area.

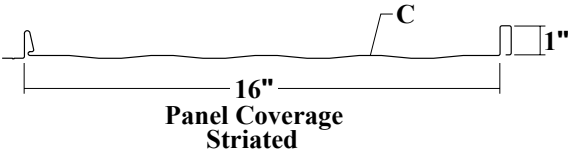
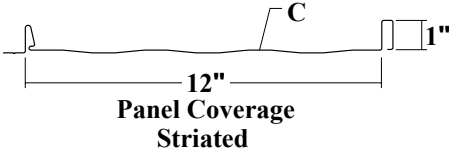
Metal Sales Manufacturing Corporation is not responsible for the performance of the metal panel system if it is not installed in accordance with the suggested instructions referenced in this manual. If there is a conflict between this manual and the approved Metal Sales' erection drawings, the approved erection drawings are to take precedence.

Prior to ordering and installing materials, all dimensions should be verified by field measurements.

Oil canning is not a cause for rejection.

Metal Sales reserves the right to modify, without notice, any details, recommendations or suggestions. This manual is designed to be utilized as a guide when installing a Image II Roof System.

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- **Minimum recommended slope for Image II is 3:12**
- **Recommended substrate is 5/8" plywood with 30# felt moisture barrier**
- **Available in 12" and 16" widths with 1" rib height**
- **Minimum panel length is 5'**
- **Maximum panel length is 30'**

Call a Metal Sales representative for more information.

***West Coast refers to Image II panels manufactured at the Woodland, California and Anchorage, Alaska branches**

C - Indicates colored side of panel

General Handling

Each bundle should be handled carefully to avoid being damaged. Care should be taken to prevent bending of the panel or scratching the finish. Whenever possible, the bundle should remain crated until it is located in its place of storage. If bundles must be opened, we recommend you recrate them before lifting. To avoid damage please lift the bundle at its center of gravity.

CAUTION

Improper loading and unloading of bundles and crates may result in bodily harm and/or material damage. Metal Sales is not responsible for bodily injuries and/or material damages resulting from improper loading and unloading.

Delivery & Storage

- Always check the shipment upon delivery. Check for damage and check material quantities against the shipping list. Note any damaged material or shortages at the time of delivery and notify your supplier within 24 hours.
- Store the panels and other materials in a dry, well-ventilated area away from traffic. Elevate one end of the bundle, maximum 2', so that any moisture that may have accumulated during shipping can run off. Be sure that air will be able to circulate freely around the bundles to avoid the build-up of moisture. Never store materials in direct contact with the ground.
- Some products may have a peel off plastic film over the painted surface. This film was factory applied to prevent damage to the finish that may occur during manufacturing or shipping. If this film is present, avoid exposure of the “peel-coated” parts to sunlight and remove the “peel-coat” prior to installation.
- Do not slide panels or accessories across one another.

Safety Considerations



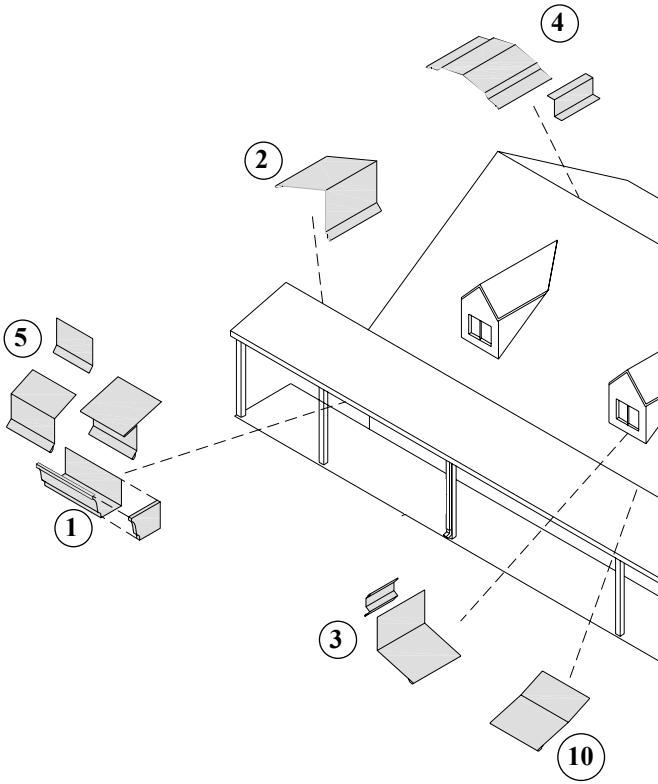
STUDY APPLICABLE OSHA AND OTHER STATE AND FEDERAL SAFETY REQUIREMENTS BEFORE FOLLOWING THESE INSTRUCTIONS.

The installation of metal roofing systems is a dangerous procedure and should be supervised by trained, knowledgeable installers. USE EXTREME CARE WHILE INSTALLING ROOFING PANELS. The installer of the roofing system is responsible for reading these instructions and determining the safest way to install the roofing system.

Proper personal protective equipment may include, but is not limited to:

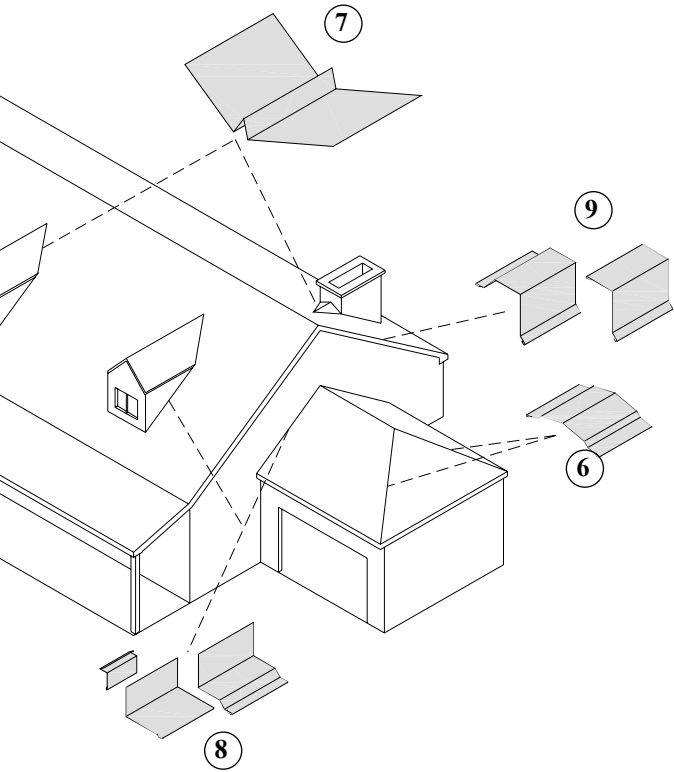
- **Hand Protection: Kevlar coated gloves to reduce risk of abrasion and laceration while handling product**
- **Eye Protection: Approved safety glasses to protect against flying debris when handling or cutting product**
- **Fall Protection: Never step on unsecured panels. Never work on a roof without protection from falls**

Note: Other personal protective equipment may be required, including: hard hats, protective clothing, or a harness.



Map of Typical Conditions

1. Gutter (See Page 24)
2. Peak (See Page 31)
3. Endwall (See Pages 29-30)
4. Ridge/Vented Ridge (See Page 32)
5. Eave (See Pages 16, 23)
6. Hip (See Page 32)
7. Valley (See Pages 17, 25)
8. Rakewall (See Pages 27-28)
9. Rake (See Page 26)
10. Slope Change (See Page 31)



The application and detail drawings that follow are strictly for illustration purposes and may not be applicable to all building designs or product installations. All projects should conform to applicable building codes for that particular area. It is recommended to follow all building regulations and standard industry practices.

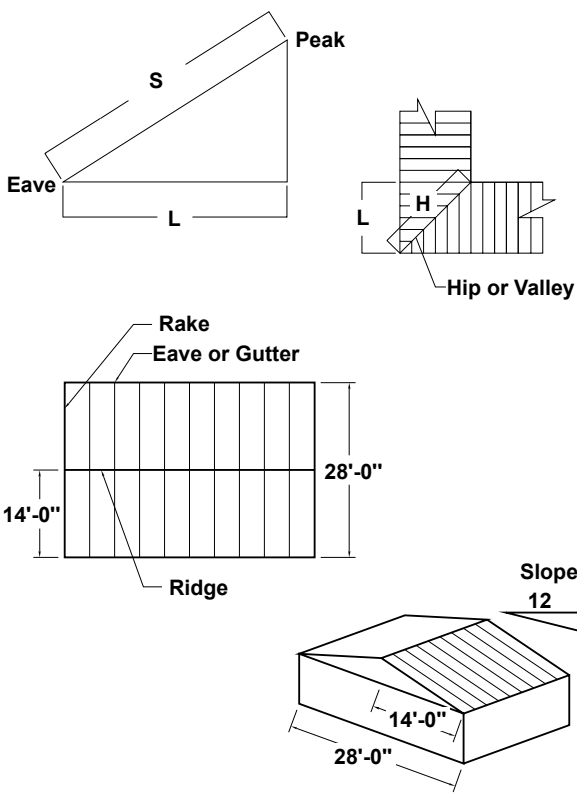
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Slope Data

This chart should be used when specifying and ordering panels and flashings. It will help you determine overall required length of material on sloped applications.

SLOPE	SLOPE FACTOR	HIP / VALLEY MULTIPLIER	SLOPE	SLOPE FACTOR	HIP / VALLEY MULTIPLIER
1:12	1.0035	1.4167	7:12	1.1577	1.5298
2:12	1.0138	1.4240	8:12	1.2019	1.5635
3:12	1.0308	1.4362	9:12	1.2500	1.6008
4:12	1.0541	1.4530	10:12	1.3017	1.6415
5:12	1.0833	1.4743	11:12	1.3566	1.6853
6:12	1.1180	1.5000	12:12	1.4142	1.7320

EXAMPLE:



Your building is 28'-0" wide with a 4:12 pitch
 To determine the panel lengths for each side:

$$(L) \times (\text{SLOPE FACTOR}) = S$$

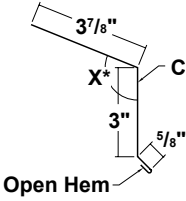
$$14\text{'-}0'' \times 1.0541(\text{from chart above}) = 14.7573' \quad \text{OR} \quad 14\text{'-}9''$$

Standard Flashings



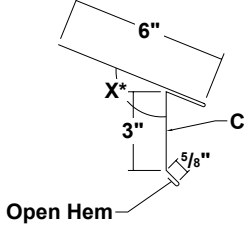
C - Indicates colored side of panel

Eave



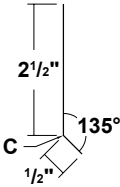
10'-2" Length
* Specify Slope Angle

Extended Eave



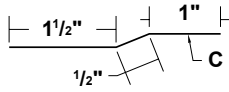
10'-2" Length
* Specify Slope Angle

Cleat



10'-2" Length

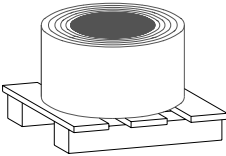
Offset Cleat



10'-2" Length

12" Coil

(For continuous gutters)



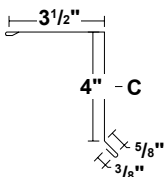
16" Inside Diameter

Valley



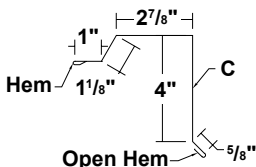
10'-2" Length
* Specify Slope Angle

Image II Rake



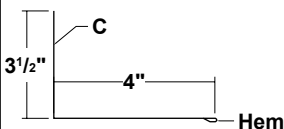
10'-2" or 20'-3" Length

Image II Step Rake



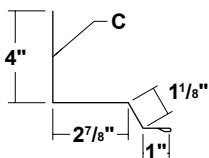
10'-2" or 20'-3" Length

Rakewall



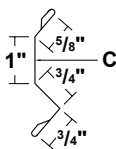
10'-2" Length

Image II Step Rakewall



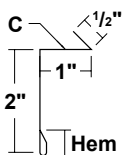
10'-2" Length

Counter Flashing



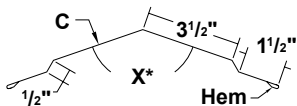
10'-2" Length

Reglet Flashing



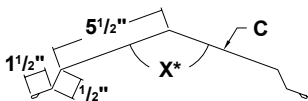
10'-2" Length

Step Ridge/Hip Cover



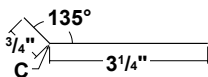
10'-2" Length
* Specify Slope Angle

13" Ridge/Hip Cover



10'-2" Length
* Specify Slope Angle

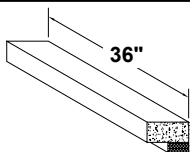
Perforated Vent Drip



10'-2" Length

<p>Peak</p> <p>10'-2" or 20'-3" Length * Specify Slope Angle</p>	<p>Pitch Break</p> <p>10'-2" Length * Specify Slope Angle</p>
<p>1.5" Sill/Head</p> <p>10'-2" Length</p>	<p>1.5" Sill To Soffit</p> <p>10'-2" Length</p>
<p>1" Z-Closure</p> <p>10'-2" Length</p>	

PROFILE/ FLASHING	3:12	4:12	5:12	6:12	7:12
EAVE	104°	108°	113°	117°	120°
PEAK	76°	72°	67°	63°	60°
PITCH BREAK	104°	108°	113°	117°	120°
VALLEY, HIP	160°	154°	148°	143°	138°
RIDGE	152°	143°	135°	127°	120°



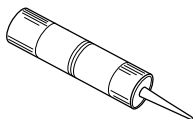
Cobra Vented Closure



Double Bead Tape Sealant

$7/8" \times 3/16" \times 25'-0"$

Butyl-Gray



Tube Sealant



Metal Panel Hemming Tool

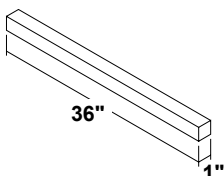
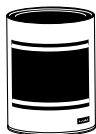
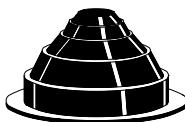


Image II Outside Closure



Touch-Up Paint

Available in pints
PVDF and CF45



Rubber Roof Jack

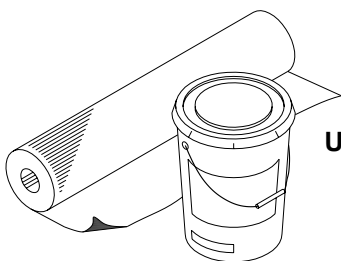
MINI ($1/4"$ to $1\ 1/8"$ O.D. Pipe)

#2 ($1\ 3/4"$ to $3"$ O.D. Pipe)

#4 ($3"$ to $6"$ O.D. Pipe)

#6 ($6"$ to $9"$ O.D. Pipe)

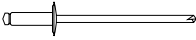
#8 ($7"$ to $13"$ O.D. Pipe)



**Underlayment
Primer**

**ms-HT
Peel-and-Stick
Underlayment**

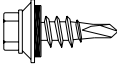
Pop Rivet



$1/8'' \times 3/16''$

Flashing - to - Flashing attachments

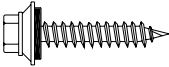
Stitch Screw



$1/4'' - 14 \times 7/8''$ Driller

Flashing - to - Flashing attachments

Woodscrew



#9-16 x 1" Type A
#9-16 x 1 1/2" Type A
#9-16 x 2" Type A

Exposed Panel / Trim - to - Wood attachments

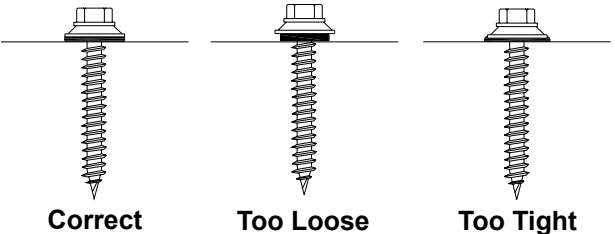
Truss Head Woodscrew



#8-18 x 3/4" Type A

Concealed Panel / Trim- to - Wood attachments
Alternate: #10-12 x 1" Pancake Head Woodscrew

Fastener Installation



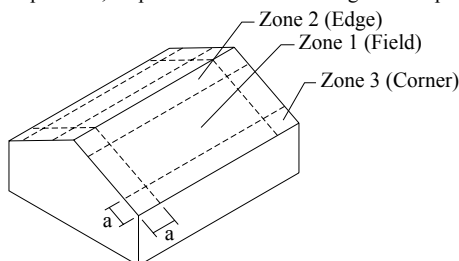
Note: Screws must be properly driven to ensure proper seal, holding strength, and allowance for expansion and contraction. Over-driven fasteners may restrict panel from expanding and contracting properly, and may cause buckling or oil canning of the panel. Correctly driven fasteners will have a very slight gap between the panel surface and the washer base.

Recommended Fastener Spacing (inches) For Slopes 3:12 to 6:12

Wind Speed (mph) Exposure Category	Roof Slope: 3:12 - 6:12		
90B	Field -13.3 psf	Edge -23.2 psf	Corner -34.3 psf
	24	24	24
90C	Field -17.2 psf	Edge -29.9 psf	Corner -44.2 psf
	24	24	18
100B	Field -16.5 psf	Edge -29.9 psf	Corner -42.2 psf
	24	24	18
100C	Field -21.2 psf	Edge -36.9 psf	Corner -54.6 psf
	24	24	18
110B	Field -19.9 psf	Edge -34.7 psf	Corner -51.3 psf
	24	24	18
110C	Field -25.6 psf	Edge -44.6 psf	Corner -66 psf
	24	18	12
120B	Field -23.7 psf	Edge -41.3 psf	Corner -61 psf
	24	24	12
120C	Field -30.5 psf	Edge -53.1 psf	Corner -78.6 psf
	24	18	6

Notes:

1. Fastener spacing is based on #8-18 x 3/4" Truss Head Woodscrew fastener in the nail strip attaching to 5/8" plywood . 1/3 allowable stress increase is not used.
2. Allowable spacing is based on an applied load determined using ASCE 7-05 for the Wind Speeds. Wind Exposure Categories, Roof area, Gable roof, Enclosed building, Topographic factor of 1, Importance factor of 1 and mean roof height of 20'.
3. Allowable spacing is determined for wind suction using the combination 0.6 DL + WL. Also considered is the appropriate inward wind pressure, 20 psf live load and the weight of the panel.



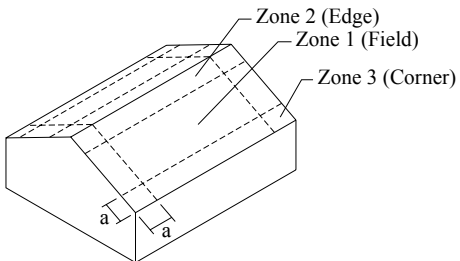
Contact Metal Sales for use of other types of fasteners and substrates.

Recommended Fastener Spacing (inches) For Slopes 6:12 to 12:12

Wind Speed (mph) Exposure Category	Roof Slope: 6:12 - 12:12		
90B	Field -14.6 psf	Edge -17 psf	Corner -17 psf
	24	24	24
90C	Field -18.8 psf	Edge -21.9 psf	Corner -21.9 psf
	24	24	24
100B	Field -18.8 psf	Edge -21.9 psf	Corner -21 psf
	24	24	24
100C	Field -23.2 psf	Edge -27.1 psf	Corner -27.1 psf
	24	24	24
110B	Field -21.8 psf	Edge -25.5	Corner -25.5
	24	24	24
110C	Field -28 psf	Edge -32.8 psf	Corner -32.8 psf
	24	24	24
120B	Field -25.9 psf	Edge -30.3 psf	Corner -30.3 psf
	24	24	24
120C	Field -33.3 psf	Edge -39 psf	Corner -39 psf
	24	24	24

Notes:

1. Fastener spacing is based on #8-18 x 3/4" Truss Head Woodscrew fastener in the nail strip attaching to 5/8" plywood . 1/3 allowable stress increase is not used.
2. Allowable spacing is based on an applied load determined using ASCE 7-05 for the Wind Speeds. Wind Exposure Categories, Roof area, Gable roof, Enclosed building, Topographic factor of 1, Importance factor of 1 and mean roof height of 20'.
3. Allowable spacing is determined for wind suction using the combination 0.6 DL + WL. Also considered is the appropriate inward wind pressure, 20 psf live load and the weight of the panel.



Contact Metal Sales for use of other types of fasteners and substrates.

Step 1

Installing Cleat & Eave Flashings

If your building requires a Gutter instead of Eave Flashing, please see page 22 for installation.

Moisture Barrier must be installed prior to beginning installation.

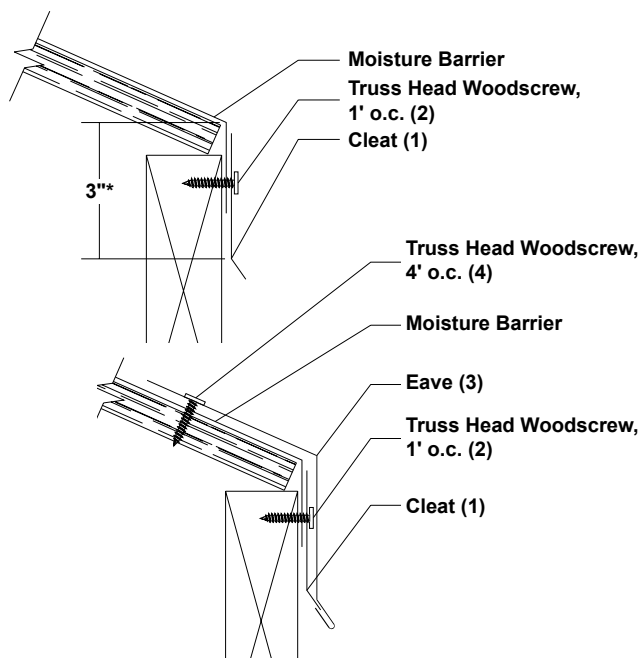
Metal Sales recommends a minimum 30# felt moisture barrier.

To avoid panel distortion, use a properly aligned and uniform substructure.

All Cleat and Eave flashings must be installed prior to panel installation.

1. Position Cleat on wall at the appropriate distance from roof-line. Make sure Cleat allows for proper Eave attachment.
2. Attach Cleat to wall with #8-18 x 3/4" Truss Head Woodscrews, 1' o.c.
3. Install Eave flashing by inserting the open hem of the Eave flashing onto the bottom leg of the Cleat and rest the Eave flashing against the substrate.
4. Fasten Eave flashing to substrate with #8-18 x 3/4" Truss Head Woodscrews, 4' o.c. to hold the Eave flashing in place during installation.

Note: If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing 2 beads of Tube Sealant between the flashings and securing with Pop Rivets, 2" o.c.



* 3" Dimension is based on the standard Eave Flashing (See page 9) Dimension may vary with different flashings.

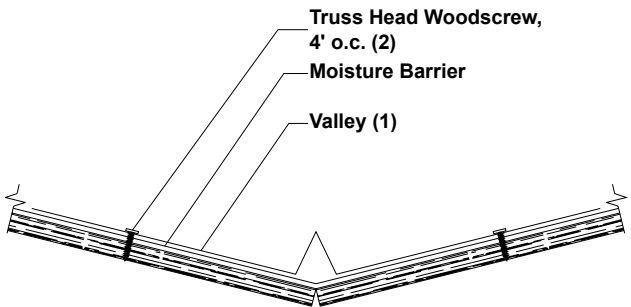
(X) Numbers indicate sequence of installation.

Step 2 Installing Valley Flashing

All Valley flashings must be installed prior to panel installation.

1. Position Valley on roof, working from the low end to the high end.
2. Attach Valley to substrate with #8-18 x 3/4" Truss Head Woodscrews, 4' o.c.
3. Make sure Truss Head Woodscrews are positioned as to be covered by the Image II Panel when installed.

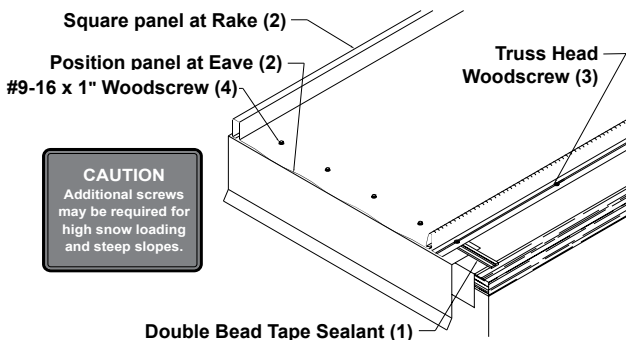
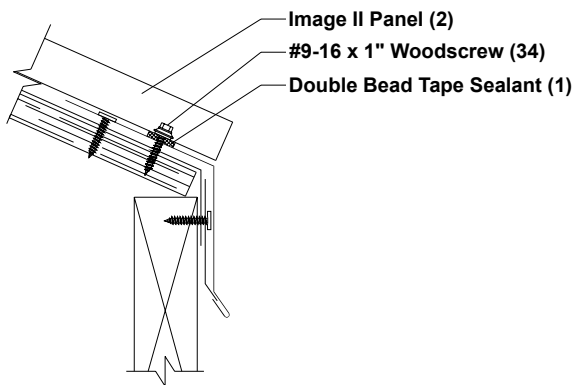
Note: If two or more Valley flashings are required, lap the Valley flashing over the previously installed Valley flashing by a minimum of 6" placing 2 beads of Tube Sealant between the flashings.



(X) Numbers indicate sequence of installation.

Step 1 Exposed Fastened Panel installation Installing First Panel

1. Apply a row of Double Bead Tape Sealant on the top leg of the Eave flashing.
2. Install first panel so that the panel end has proper overhang making sure that panel is square to eave and rake. It is critical that the first panel be straight and square with the building as it controls alignment of the following roof panels.
3. Fasten panel to substrate with a #8-18 x 3/4" Truss Head Wood-screw in center of the fastening groove located along the male leg of the panel. Fastener spacing must be designed to meet local building codes. It is important that the fastener be placed in the center of the fastening groove and make sure not to over tighten screws.
4. Fasten Image II panel with (4) #9-16 x 1" Woodscrews through Double Bead Tape Sealant, flashing, and into the solid substrate as shown below.



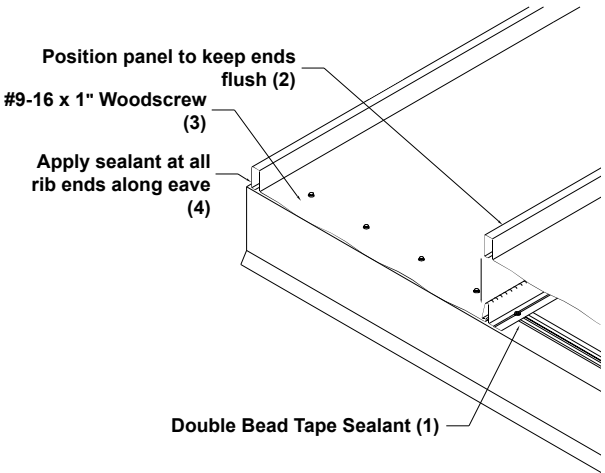
CAUTION
Additional screws may be required for high snow loading and steep slopes.

(X) Numbers indicate sequence of installation.

Step 2

Exposed Fastened Panel Installation Installing Second Panel

1. Snap second panel in place making sure panel ends are aligned. Snap panel in place working from one end to the other.
2. Fasten substrate with a #8-18 x 3/4" Truss Head Woodscrew in the center of the fastening groove located along the male leg of the panel. Fastener spacing must be designed to meet local building codes.
3. Fasten Image II panel with (4) #9-16 x 1" Woodscrews through Double Bead Tape Sealant, flashing, and into the solid substrate below.
4. Continue with previous step until installation is complete. It is important that the fastener is in the center of the fastening groove, and make sure not to over-tighten the screws.
5. Once installation is complete, fill each lower end of panel rib with Tube Sealant, and clean any debris and excess sealant before continuing to next area.



CAUTION
Additional screws may be required for high snow loading and steep slopes.

(X) Numbers indicate sequence of installation.

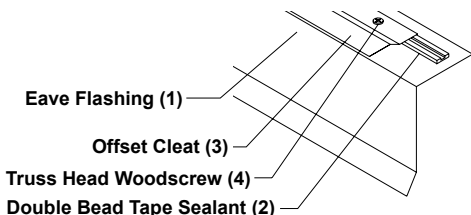
Step 1

Concealed Fastened Panel Installation Installing First Panel

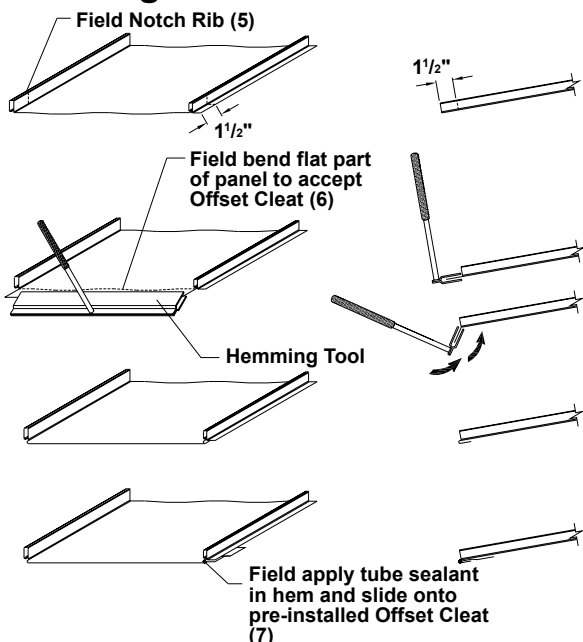
Note: Moisture Barriers, Eave, Valley, and Offset Cleat flashing must first be installed before panel installation can begin. Image II panels are installed from left to right or right to left.

1. Install Eave flashing and Valley flashing as shown on pages 16-17.
2. Apply a row of Double Bead Tape Sealant on the bottom leg of the Offset Cleat and align on substrate.
3. Fasten Offset Cleat to substrate with a #8-18 x 3/4" Truss Head Woodscrew through top of Eave flashing and into substrate, 1' o.c. Make sure Offset Cleat is lined up to properly accommodate hemmed panel.
4. Field notch and hem the Image II panel as shown below.
5. Apply a single bead of tube sealant inside the open hem of the Image II panel.

Note: If you are to field bend the panel ends to close off panels on the low side, see page 22 before field notching and hemming of the panels.



Hemming Detail

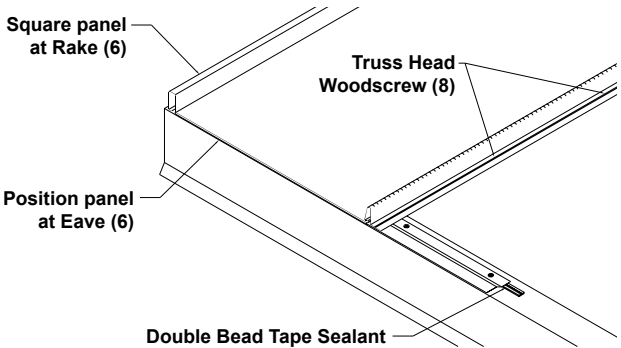


(X) Numbers indicate sequence of installation.

Step 1 (cont)

Concealed Fastened Panel Installation Installing First Panel

6. Install first panel so that eave has proper overhang making sure that the panel is square to eave and rake. Slide the panel toward the peak of the roof engaging the panel with the Offset Cleat. Offset Cleat must be fully engaged into the panel. Additional overhang must be considered if using wall panels. It is critical that the first panel be straight and square with the building as it controls alignment of the following roof panels.
7. Fasten panel to substrate with a #8-18 x $\frac{3}{4}$ " Truss Head Woodscrew in the center of the fastening groove located along the male leg of the panel. Fastener spacing must be designed to meet local building codes. (It is important that the fastener be placed in the center of the fastening groove and make sure not to over-tighten screws.)

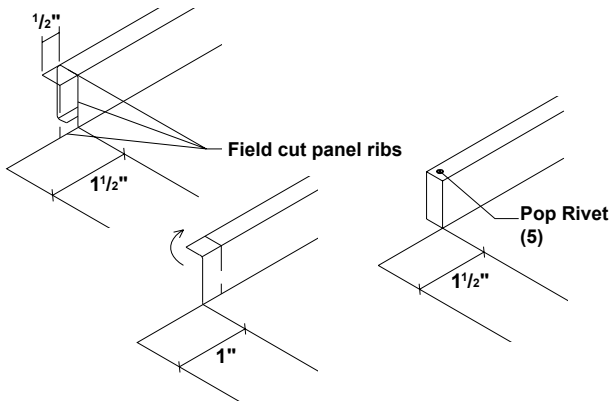
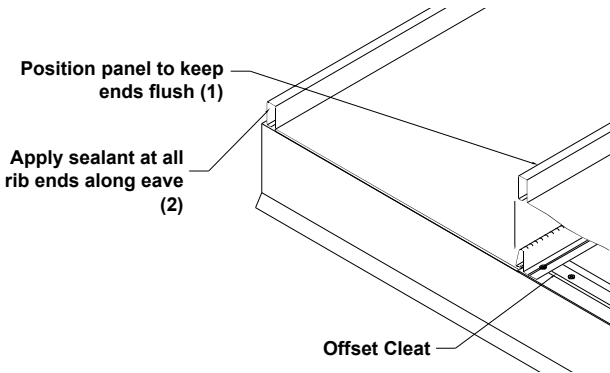


(X) Numbers indicate sequence of installation.

Step 2

Concealed Fastened Panel Installation Installing Second Panel

1. Field notch and hem the Image II panel as shown on page 20. Apply a single bead of Tube Sealant inside the open hem of the Image II panel.
2. Place the second panel on top of previously installed panel so that the second hemmed panel can be engaged with the Offset Cleat.
3. Begin snapping the panels together working from eave to peak. It is critical that panels only be snapped in one direction.
4. Repeat notes 2 and 3 for remaining panels.
5. Once installation is complete, fill each lower end of panel rib with sealant. Also, clean any debris and excess sealant. Panels may also be field notched and bent to close off panel end (See below).



Note: If you are to field bend the panel ends to close off panels on the low side, this must be done before hemming of panels (see page 20).

(X) Numbers indicate sequence of installation.

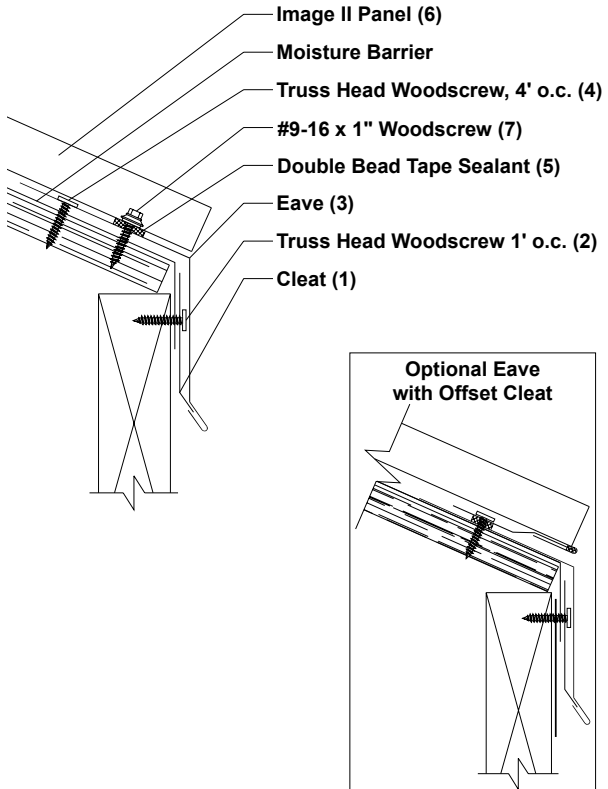
Eave Detail



All Eave flashings must be installed prior to panel installation.

1. Position and install Cleat to wall with #8-18 x 3/4" Truss Head Woodscrew, 1' o.c. Make sure Cleat allows for proper Eave attachment considering wall panels.
2. Install Eave flashing by resting the flashing against the substrate and fasten with #8-18 x 3/4" Truss Head Woodscrews, 4' o.c. to hold the Eave flashing in place during installation.
3. Apply a row of Double Bead Tape Sealant on the top leg of the Eave flashing.
4. Install first panel so that the panel end has proper overhang making sure that panel is square to eave and rake.
5. Fasten substrate with a #8-18 x 3/4" Truss Head Woodscrew in the center of the fastening groove located along the male leg of the panel. Fastener spacing must be designed to meet local building codes.
6. Fasten Image II panel with (4) #9-16 x 1" Woodscrews through Double Bead Tape Sealant, flashing, and into the solid substrate as shown below.

Note: If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets, 2" o.c.



(X) Numbers indicate sequence of installation.

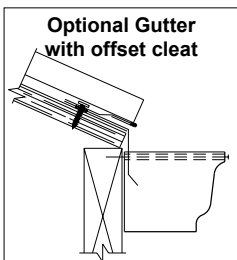
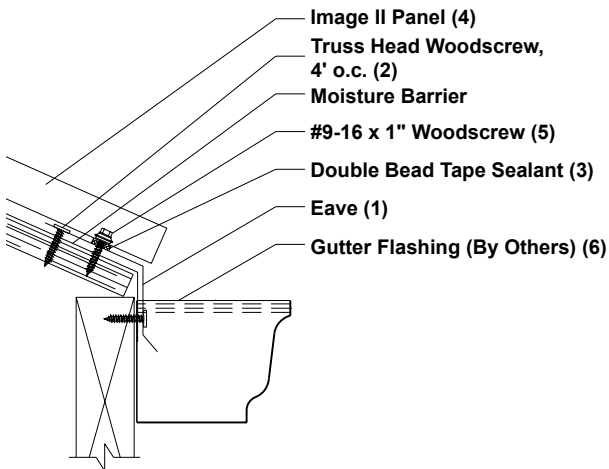
Post-Hung Gutter Detail



All Eave flashings must be installed prior to panel installation.

1. Install Eave flashing by resting the flashing against the substrate and fasten with #8-18 x 3/4" Truss Head Woodscrews, 4' o.c. to hold the Eave flashing in place during installation.
2. Apply a row of Double Bead Tape Sealant on the top leg of the Eave flashing.
3. Install first panel so that the panel end has proper overhang making sure that panel is square to eave and rake.
4. Fasten substrate with a #8-18 x 3/4" Truss Head Woodscrew in the center of the fastening groove located along the male leg of the panel. Fastener spacing must be designed to meet local building codes.
5. Fasten Image II panel with (4) #9-16 x 1" Woodscrews through Double Bead Tape Sealant, flashing, and into the solid substrate.
6. Slide the Gutter flashing behind Eave Flashing and fasten through Fascia Bracket and Flashing into the substrate. Pop Rivet the Gutter flashing to Fascia Bracket.

Note: If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets, 2" o.c.



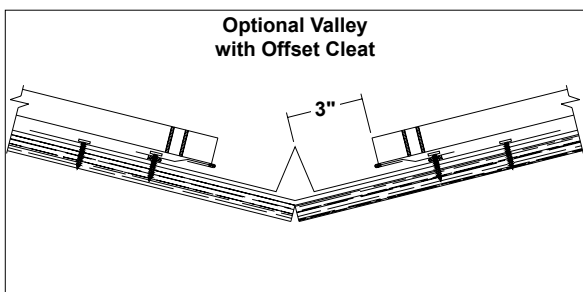
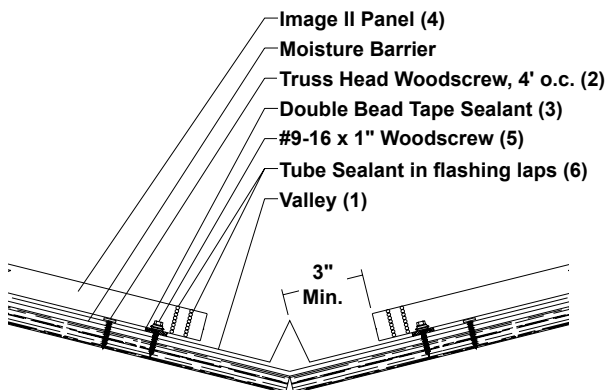
(X) Numbers indicate sequence of installation.

Valley Detail



Eave flashings must be installed before and Valley flashings. All Valley flashings must be installed prior to panel installation. If two or more Valley flashings are required, Valley flashing must be installed working from eave to peak. It is recommended that ms-HT underlayment be installed under Valley flashing for added moisture protection.

1. Install Valley flashing against substrate from the low end to the high end. To hold Valley flashing in place, fasten to substrate with #8-18 x 3/4" Truss Head Woodscrews, 4' o.c.
2. Apply a row of Double Bead Tape Sealant across both sides of Valley flashing approximately 5" from center of valley.
3. Miter cut panel and install first panel so that the panel end is located the proper distance from the center of the Valley flashing.
4. Fasten Image II panel with (4) #9-16 x 1" Woodscrews through Double Bead Tape Sealant, flashing, and into the solid substrate as shown below.
5. If two or more Valley flashings are required, lap the Valley flashing over the previously Valley installed flashing by a minimum of 2" placing 2 beads of Tube Sealant between the Valley flashings.

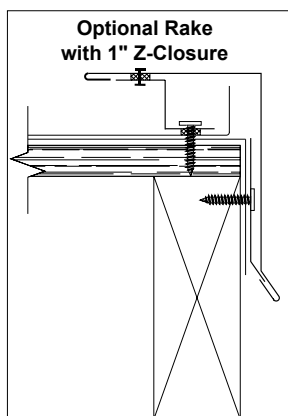
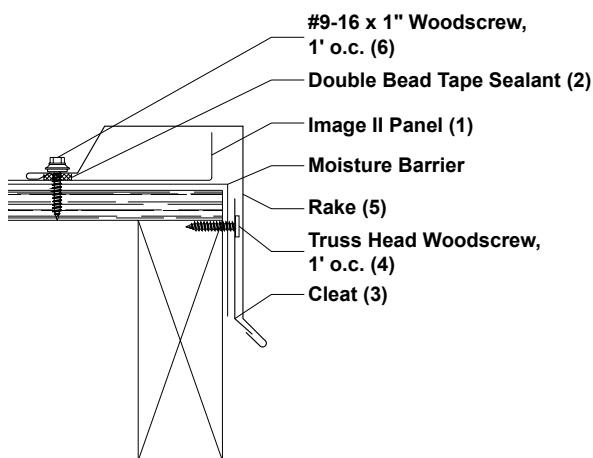


(X) Numbers indicate sequence of installation.

Rake Detail



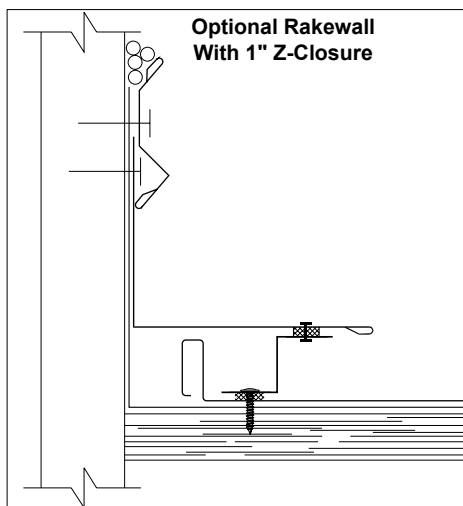
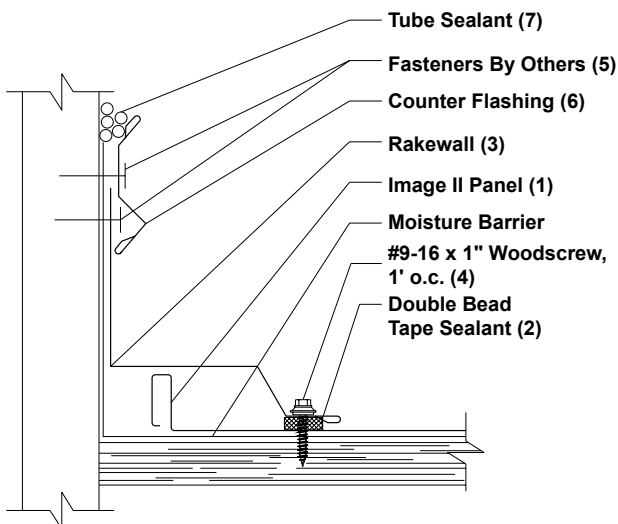
1. Roof panel must be installed before Rake flashing.
2. If the panel ends off module, bend flat part of the panel up a minimum of 1", otherwise skip to the next note.
3. Apply a row of Double Bead Tape Sealant to the flat part of the panel next to the panel rib or vertical field bent leg.
4. Position and install Cleat to wall with #8-18 x 3/4" Truss Head Woodscrew, 1' o.c. Make sure Cleat installation allows for proper Rake attachment.
5. Install Rake by sliding the open hem onto the Cleat and then attaching to the flat pan of the Image II panel with #9-16 x 1" Woodscrews, 1' o.c.
6. If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets, 2" o.c.



(X) Numbers indicate sequence of installation.

Rakewall with Counter Detail

1. If the panel ends off module, bend flat part of the panel up a minimum of 1", otherwise skip to the next note.
2. Apply a row of Double Bead Tape Sealant to the flat part of the panel next to the panel rib or vertical field bent leg.
3. Install Rakewall to the and attach with #9-16 x 1" Woodscrews, 1' o.c. to the flat pan of the Image II panel.
4. Install Counter Flashing, and fasten to parapet wall with appropriate fastener 1' o.c. Seal Counter Flashing to parapet wall with Tube Sealant.
5. If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets, 2" o.c.

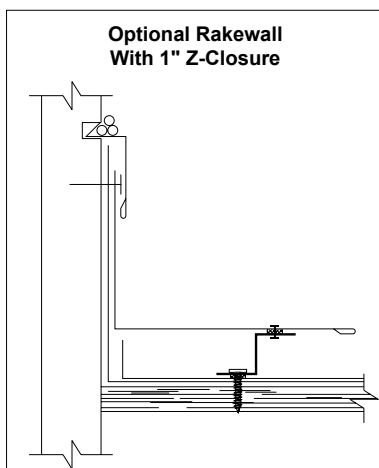
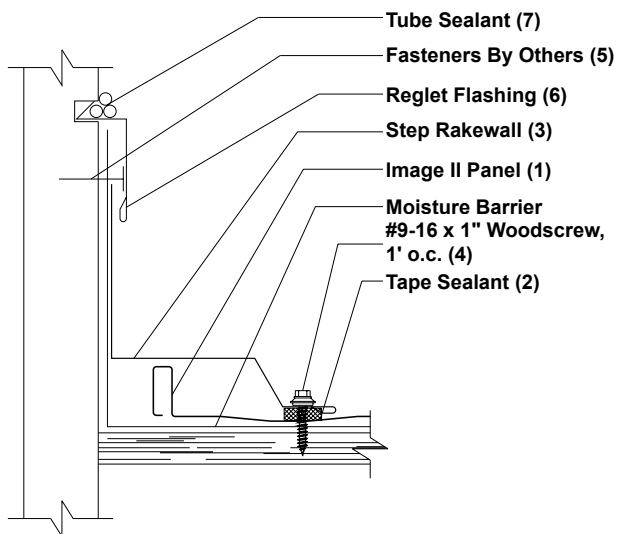


(X) Numbers indicate sequence of installation.

Rakewall with Reglet Detail



1. Roof panel must be installed before Rakewall flashing.
2. If the panel ends off module, bend flat part of the panel up a minimum of 1", otherwise skip to the next note.
3. Apply a row of Double Bead Tape Sealant to the flat part of the panel next to the panel rib or vertical field bent leg.
4. Install Rakewall to the and attach with #9-16 x 1" Woodscrews, 1' o.c. to the flat pan of the Image II Panel.
5. Install Reglet in field cut groove in the parapet wall. Seal Reglet to parapet wall with Tube Sealant.
6. If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets, 2" o.c.

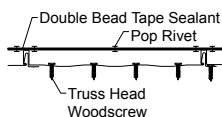
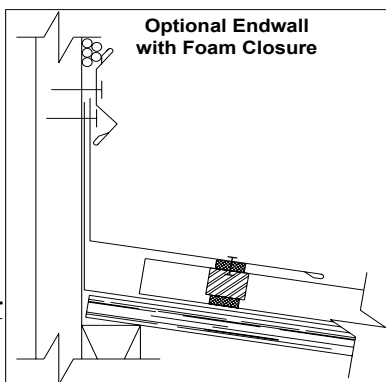
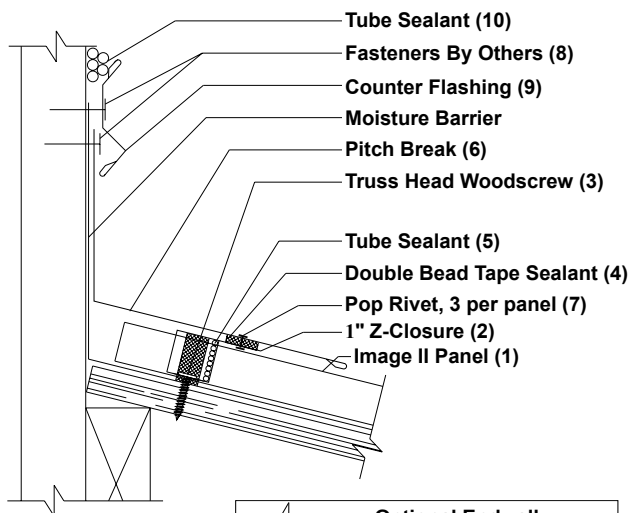


(X) Numbers indicate sequence of installation.

Endwall With Counter Detail



1. Once panels have been installed, field cut the 1" Z-Closure (See page 33) to fit between the panel ribs.
2. Place a row of Double Bead Tape Sealant across panel and over each panel rib approximately 2" from panel end. Before proceeding make sure 1" Z-Closure placement will accommodate Pitch Break flashing.
3. Install field cut 1" Z-Closure as shown on page 33.
4. Fasten 1" Z-Closure through panel with #8-18 x 3/4" Truss Head Woodscrews, 4 per panel.
5. Apply a continuous bead of Tube Sealant across top leg of 1" Z-Closure filling any gaps or openings around panel ribs. Position and install Pitch Break flashing to 1" Z-Closure with Pop Rivets, 3 per panel.
6. Fasten vertical leg of Pitch Break to the parapet wall with the appropriate fastener, 1' o.c.
7. Install Counter Flashing, and fasten to parapet wall with appropriate fastener, 1' o.c. Seal Counter Flashing to parapet wall with Tube Sealant.
8. If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets 2" o.c.

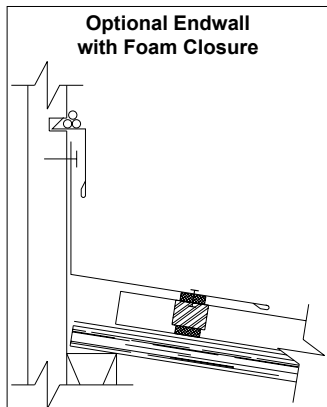
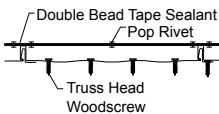
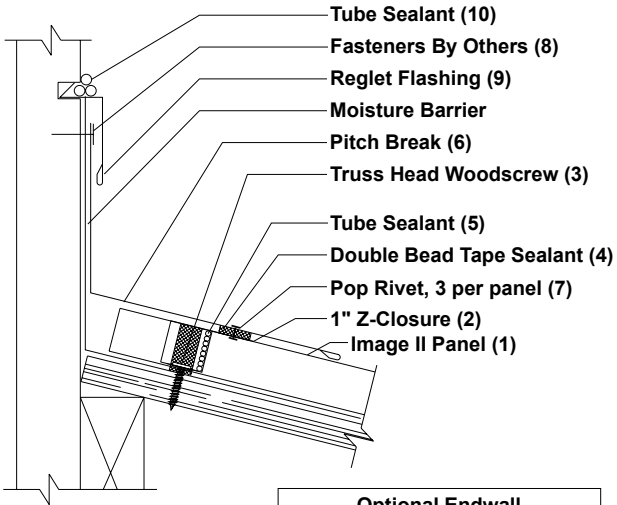


(X) Numbers indicate sequence of installation.

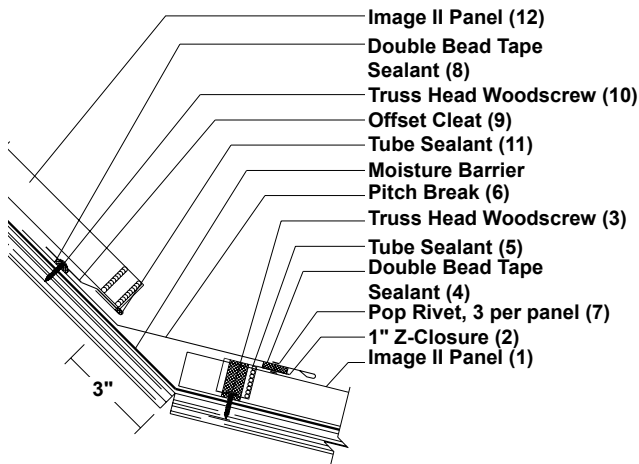
Endwall With Reglet Detail



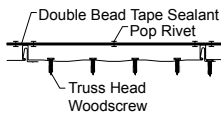
1. Once panels have been installed, field cut the 1" Z-Closure (See page 30) to fit between the panel ribs.
2. Place a row of Double Bead Tape Sealant across panel and over each panel rib approximately 2" from panel end. Before proceeding make sure 1" Z-Closure placement will accommodate Pitch Break flashing.
3. Install field cut 1" Z-Closure as shown on page 33.
4. Fasten 1" Z-Closure through panel with #8-18 x 3/4" Truss Head Woodscrews, 4 per panel.
5. Apply a continuous bead of Tube Sealant across top leg of 1" Z-Closure filling any gaps or openings around panel ribs. Position and install Pitch Break flashing to 1" Z-Closure with Pop Rivets, 3 per panel.
6. Fasten vertical leg of Pitch Break to the parapet wall with the appropriate fastener, 1' o.c.
7. Install Reglet in field cut groove in the parapet wall. Seal Reglet to parapet wall with Tube Sealant.
8. If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets, 2" o.c.



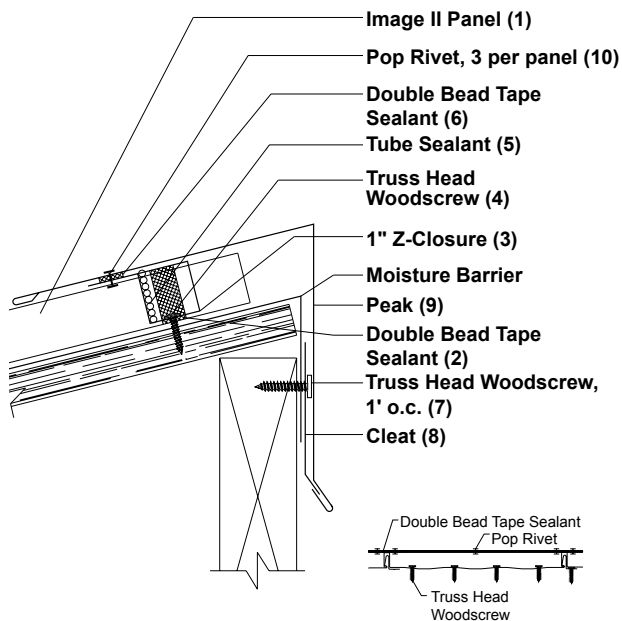
(X) Numbers indicate sequence of installation.



(X) Numbers indicate sequence of installation.

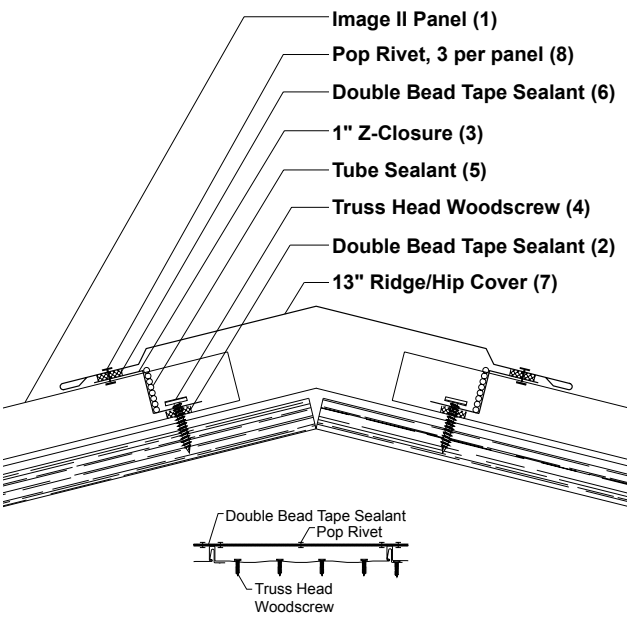


Peak Detail



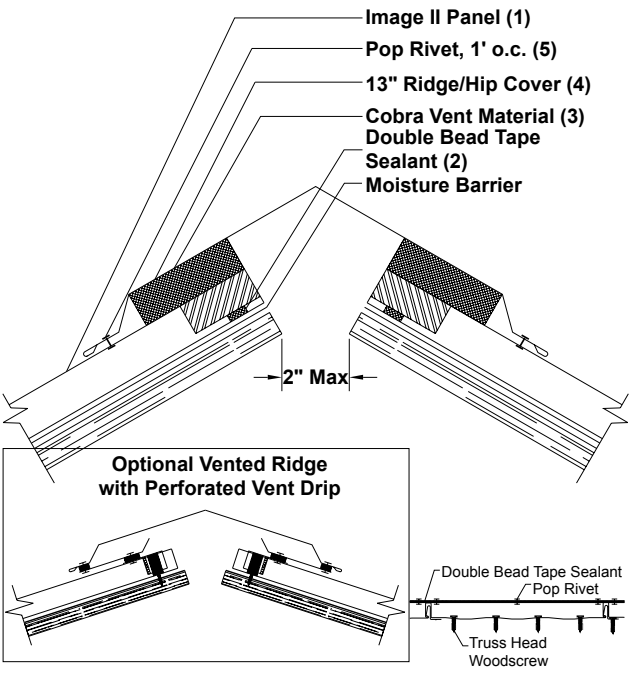
(X) Numbers indicate sequence of installation.

Ridge/Hip Detail



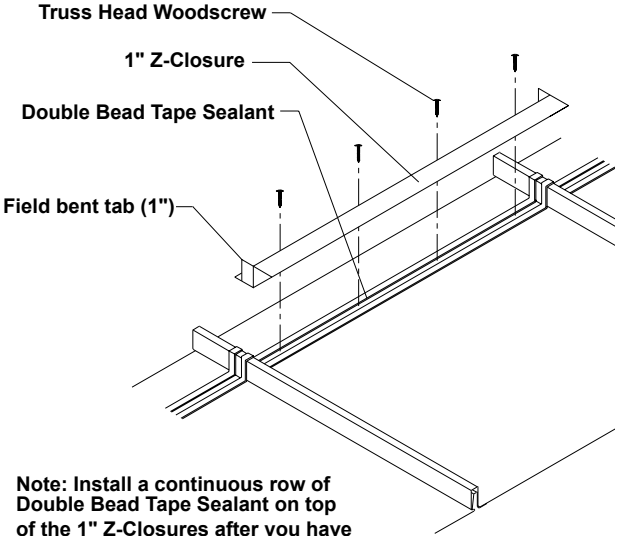
(X) Numbers indicate sequence of installation.

Vented Ridge Detail



(X) Numbers indicate sequence of installation.

1" Z-Closure Installation



Clean-Up

- Inspect panel surfaces and flashings for loose debris and metal shavings.
- Remove debris and metal shavings by wiping panels down with a soft cloth, being careful not to scratch panel surface.
- Dirt residue can be removed by washing panels with a mild detergent, water, and soft cloth.

Repair

- Severe scratches, dents and holes will require panel replacement.
- Small scratches do not require touch-up paint if the scratch does not penetrate the Galvalume substrate under the paint.
- Metal Sales does not recommend touch-up painting of damaged surfaces (minor scratches, etc.) due to fading and weathering differences of the touch-up paints in comparison to factory-applied paint systems.

Maintenance

- Inspect roof panels and flashings annually.
- Remove debris to ensure panels are moisture free.
- Tighten loose fasteners and repair joints that may need new sealant.
- If needed, wash panel surface with a mild detergent, water, and soft cloth.
- Re-painting panels should not be required for the life of the building. If a new color for panels or trim is required, please inquire with Metal Sales for more information.

Electrical Grounding (if required)

- All siding and flashings shall be grounded by attaching a No. 8 hot-dipped galvanized wire to an electrical ground rod with a connector approved by Underwriter's Laboratories.

Section Properties

SECTION PROPERTIES									
Panel Profile	Width in	Grade	Gauge	Yield ksi	Weight psf	Top in Compression		Bottom in Compression	
						Ixx in ⁴ /ft	Sxx in ³ /ft	Ixx in ⁴ /ft	Sxx in ³ /ft
Image II	12	80	26	80	0.99	0.0205	0.0225	0.0211	0.0232
Image II	16	80	26	80	0.92	0.0158	0.0170	0.0165	0.0177

NOTES:

1. Section properties are calculated per AISI 2007.
2. Ixx and Sxx are effective section properties for deflection and bending.

