Metal Sales™

Installation Guide

IMAGE II™

metalsales.us.com

4-2026

Important Information

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. It is recommended to follow all building regulations and standard industry practices.

Metal Sales Manufacturing Corporation is not responsible for the performance of the roof 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 actual erection drawings, the erection drawings are to take precedence.

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

Metal Sales reserves the right to modify, without notice, any details, recommendations or suggestions. Any questions you may have regarding proper installation of these Residential roofing systems should be directed to your local Metal Sales representative, (see pages 2 and 3).

Oil canning is not a cause for rejection. Oil canning can be described as the amount of waviness found in the flat areas of metal panels. Oil canning is an inherent characteristic of light gauge cold formed metal products, particularly those with broad flat areas. There are many factors which may contribute to oil canning that Metal Sales is not able to control. These factors include: misalignment of the support system, over driving of fasteners used on the panels, stress (whether inherent in the panel or induced), thermal expansion and contraction of the panel, improper material handling, width, gauge, length, color of panels, and improper installation (reference Metal Construction Association "Oil Canning Position Paper"- Appendix A).

Consult your local Metal Sales Branch for any additional information not outlined in this manual.

This manual is designed to be utilized as a guide when installing a Residential roofing system. It is the responsibility of the erector to ensure the safe installation of this product system.

SAFETY

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

The installation of metal roof systems is a dangerous procedure and should be supervised by trained knowledgeable erectors. USE EXTREME CARE WHILE INSTALLING ROOF PANELS. It is not possible for Metal Sales to be aware of all the possible job site situations that could cause an unsafe condition to exist. The erector of the roof system is responsible for reading these instructions and determining the safest way to install the roof system.

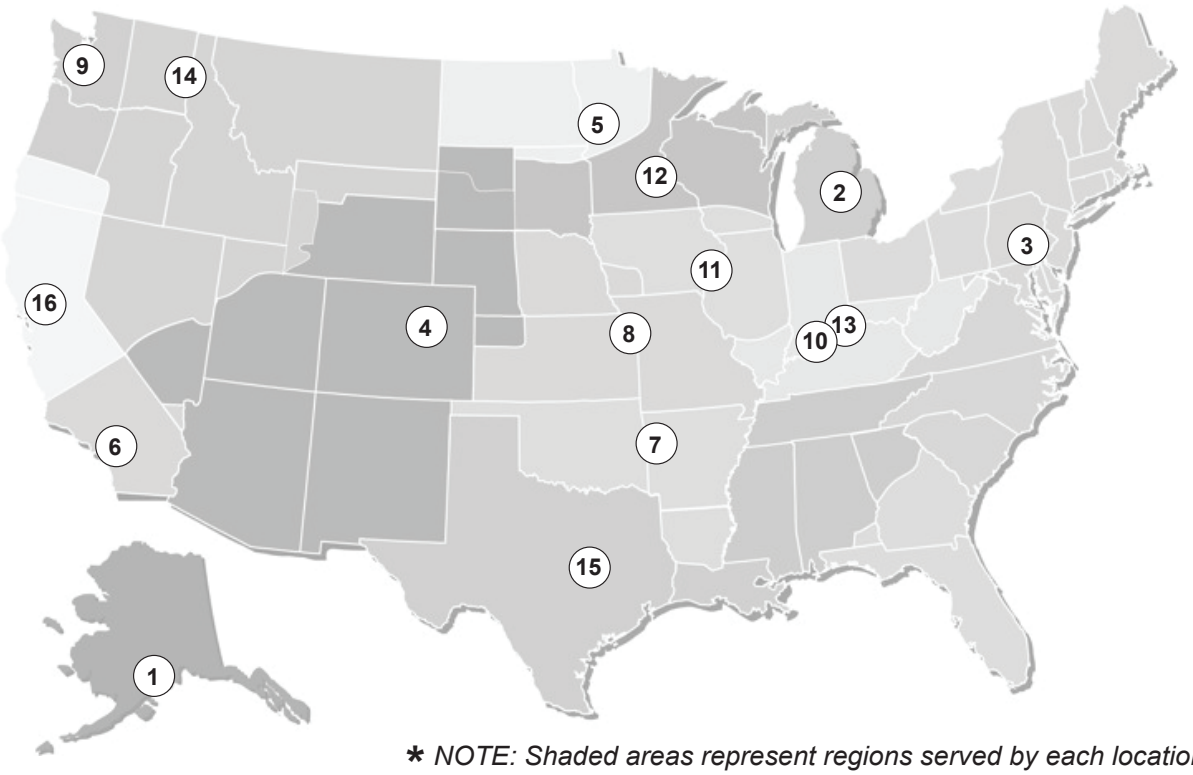
These instructions are provided only as a guide to show a knowledgeable, trained erector the correct relationship of parts to one another. If following any of the installation steps would endanger a worker, the erector should stop work and decide upon a corrective action.

Provide required safety railing, netting, or safety lines for crew members working on the roof.

Do not use the roof panel as a walking platform. The roof panels will not withstand the weight of a person standing at the edge of the panel.

Do not stand on any roof panels until the panels have been attached.

Branch Territory Map



✱ *NOTE: Shaded areas represent regions served by each location.*

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IMAGE II Branch Locations

1. ANCHORAGE
4637 Old Seward Highway
Anchorage, AK 99503
907.646.7663
866.640.7663
907.646.7664 Fax

2. BAY CITY
5209 Mackinaw Road
Bay City, MI 48706
989.686.5879
888.777.7640
989.686.5870 Fax
888.777.0112 Fax

3. DEER LAKE
29 Pinedale Industrial Road
Orwigsburg, PA 17961
570.366.2020
800.544.2577
570.366.1648 Fax
800.544.2574 Fax

4. DENVER
7990 East I-25 Frontage Road
Longmont, CO 80504
303.702.5440
800.289.7663
800.289.1617 Fax

5. DETROIT LAKES
1435 Egret Avenue
Detroit Lakes, MN 56501
218.847.2988
888.594.1394
218.847.4835 Fax
888.594.1454 Fax

6. FONTANA
14213 Whittram Avenue
Fontana, CA 92335
909.829.8618
800.782.7953
909.829.9083 Fax

7. FORT SMITH
7510 Ball Road
Fort Smith, AR 72908
479.646.1176
877.452.3915
479.646.5204 Fax

8. INDEPENDENCE
1306 South Powell Road
Independence, MO 64057
816.796.0900
800.747.0012
816.796.0906 Fax

9. KELSO
2680 Coweeman Park Drive
Kelso, WA 98626
253.872.5750
800.431.3470
253.872.2008 Fax

10. NEW ALBANY
999 Park Place
New Albany, IN 47150
812.944.2733
812.944.1418 Fax

11. ROCK ISLAND
8111 West 29th Street
Rock Island, IL 61201
309.787.1200
800.747.1206
309.787.1833 Fax

12. ROGERS
22651 Industrial Boulevard
Rogers, MN 55374
763.428.8080
800.328.9316
763.428.8525 Fax
800.938.9119 Fax

13. SELLERSBURG
7800 Highway 60
Sellersburg, IN 47172
812.246.1866
800.999.7777
812.246.0893 Fax
800.477.9318 Fax

14. SPOKANE
2727 East Trent Avenue
Spokane, WA 99202
509.536.6000
800.572.6565
509.534.4427 Fax

15. TEMPLE
3838 North General Bruce Drive
Temple, TX 76501
254.791.6650
800.543.4415
254.791.6655 Fax
800.543.4473 Fax

16. WOODLAND
1326 Paddock Place
Woodland, CA 95776
530.668.5690
800.759.6019
530.668.0901 Fax

IMAGE II Material Handling

RECEIVING MATERIAL

It is the responsibility of the installer to unload material from the delivery truck. The installer shall be responsible for providing suitable equipment for unloading of material from the delivery.

Metal Sales is not responsible for any damages or shortages unless they are documented in writing and presented to Metal Sales within 48 hours. A claim should be made against the carrier as soon as possible.

After receiving material:

- Check the condition of the material
- Review the shipment against the shipping list to ensure all materials are all accounted for
- If damages or shortages are discovered, it should be noted on the Bill of Lading at the time of delivery

GENERAL HANDLING

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

MECHANICAL HANDLING

Forklift - A forklift may be used for panels up to 20'-0" long. Make sure the forks are at their maximum separation. Do not transport open bundles. When transporting bundles across rough terrain, or over a longer distance, some means of supporting the panel load must be used.

Crane - A crane should be used when lifting panels with lengths greater than 20'-0". Be sure to utilize a spreader bar to ensure the even distribution of the weight to the pick up points. As a rule when lifting panels, no more than $^1/_3$ of the length of the panel should be left unsupported. Never use wire rope because this will damage the panels.

IMAGE II Material Handling (cont.)

UNSTACKING MATERIAL

For panels over 5′-0″ in length at least two people on the ends of the panel are required. Additional help will be needed for every 10′-0″ in length beyond that.

Panels will arrive stacked vertically in a crate. If panels are moved out of the crate for staging, take care when unstacking to ensure panels are lifted up and not across other panels in the stack. Minimize handling of panels when unstacking and stacking to avoid damage. Be sure to wear appropriate safety equipment including clean gloves, as panel edges are sharp.

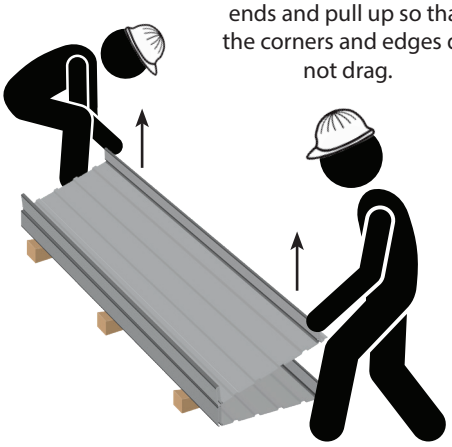
Inspect panels before lifting. Metal Sales is not responsible for damage created by unstacking panels incorrectly. Dragging or sliding the panels will cause the corners and edges to scratch the paint.

Defect claims must be reported upon inspection and *before* panels are handled or installed.

Restacking – Align bottom-side edge with the stack and lay panel onto the stack.

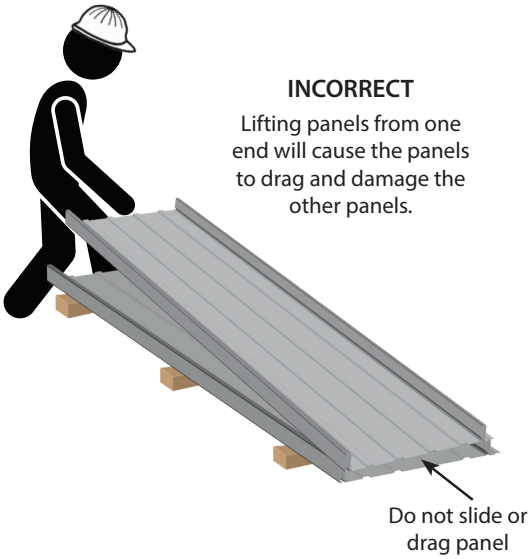
CORRECT

Lift the panels from the ends and pull up so that the corners and edges do not drag.



INCORRECT

Lifting panels from one end will cause the panels to drag and damage the other panels.



TRANSPORTING MATERIAL

Handling of individual panels should be done carefully and properly to avoid bending or damaging. Panels should be carried by grasping the edge so that the panel is vertical to the ground.

Normally, individual panels can be handled by people placed every 6′-0″ to 8′-0″ along the length of the panel.

The panel should not be carried with the width of the panel horizontal to the ground as this could cause the panel to buckle or bend in the center.

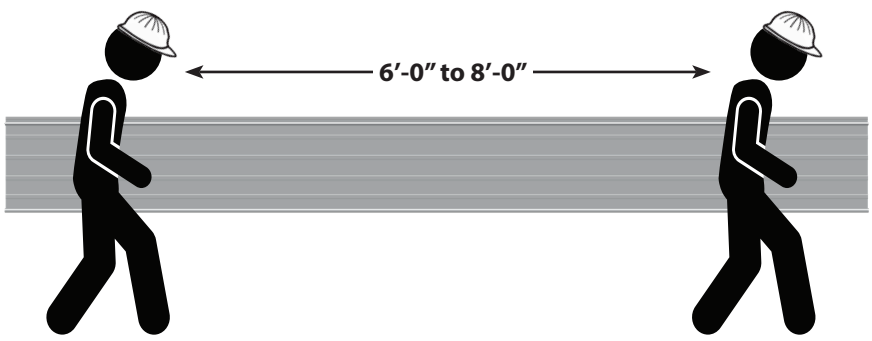


IMAGE II Storage and Foot Traffic

STORAGE

Please inspect panels for moisture accumulation. If moisture has formed, the panels should be unbundled, wiped dry, and allowed to dry completely. Once dry, carefully re-stack the panels and loosely recover allowing for ample air circulation.

Bundled sheets should be stored high enough off of the ground to allow for air circulation and prevent contact with accumulating water. Elevate one end of the bundle to allow any moisture to run off the panels. Metal Sales recommends covering the bundle with a tarp. Do not use tight fitting plastic-type tarps as panel bundle covers. While they may provide protection from heavy downpours, they can also retard necessary ventilation and trap heat and moisture that may accelerate metal corrosion. If panels are to be stored in possible bad weather, we suggest they be stored inside. Extended storage of panels in a bundle is not recommended.

NOTE:
Under no circumstances should panels be stored near or come in contact with salt water, corrosive chemicals, ash or fumes generated or released inside the building or nearby plants, foundries, plating works, kilns, fertilizer and wet or green lumber.

FOOT TRAFFIC

Care of metal panels and flashings must be exercised throughout erection. Foot traffic can cause distortion of panel and damage to finish.

BEFORE YOU STEP ON THE ROOF:

■ Wear proper footwear. Soft-soled, non-slip shoes. Avoid hard soles or shoes with embedded rocks/debris.

■ Ensure the roof is clean and dry. Metal panels can be very slippery with dust, moisture, or oil. Never walk on frosty, icy, or wet panels.

■ Use proper fall protection. Harnesses, guardrails, lifelines, and anchors are essential, especially on steep-slope roofs.

■ Avoid stepping on panels before installation if they are staged or stored on the ground. Any foot traffic on these panels will cause damage and hinder proper installation.

WHERE AND HOW TO STEP:

■ Step on the low or flat areas, not the high ribs. The low flats are supported directly by the decking or purlins and are structurally stronger.

■ Walk along the panel supports. Step where the panel is fastened to framing avoid unsupported spans that can flex or crease.

■ Distribute your weight. Walk slowly and flat-footed. Don't stomp, jump, or twist it can dent or distort the metal.

■ Avoid walking on laps and edges. Overlaps and panel edges are weak points that can deform or open up seams.

■ Plan foot paths to limit wear.

WHAT TO AVOID:

■ Don't drag tools or fasteners they'll scratch the finish.

■ Don't stack heavy materials in one spot on the panels.

■ Don't step on panels that are not fully secured or still being positioned.

■ Don't walk on translucent panels, skylights, or flashing.

ROOF SQUARNESS

Metal Sales' panels are designed to be installed over open framing and/or directly over a wood substrate with synthetic building wrap. Always check with local building codes prior to all installations for any additional requirements that may be specific to your area.

Galvalume panels should not be in contact with, or subject to, water runoff from copper, lead or uncoated steel materials. Condensate water from air conditioning units typically contains dissolved copper. This condensate should be discharged through a plastic pipe extended beyond the edge of the roof.

The roof should be inspected for any trapped moisture or structural damage such as bowing or sagging members and warped or loose sheathing. Also make sure there are no nails or fasteners protruding from the wall framing or wood substrate which could damage the panels and impede the installation process. These areas must be repaired prior to installing new metal wall panels. Panel distortion may occur if not applied over properly aligned and uniform substructure.

Whether installing over new or existing roof, the installer should check the sheathing for squareness before installing panels. Several methods can be used to verify squareness of the structure for proper installation of the panels.

METHOD "A" - One method for checking the roof for squareness is to measure diagonally across one plane from similar points at the eave and base and obtain the same dimension.

METHOD "B" - The 3-4-5 triangle system may also be used. To use this system, measure a point from the corner along the edge of the roof at a module of three (3). Measure a point from the same corner along another edge at a module of four (4). By measuring diagonally between the two points established, the dimension should be exactly a module of five (5) to have a square corner. Multiple uses of this system may be required to determine building squareness. If the roof cannot be made square, the wall system cannot be installed as shown in these instructions.

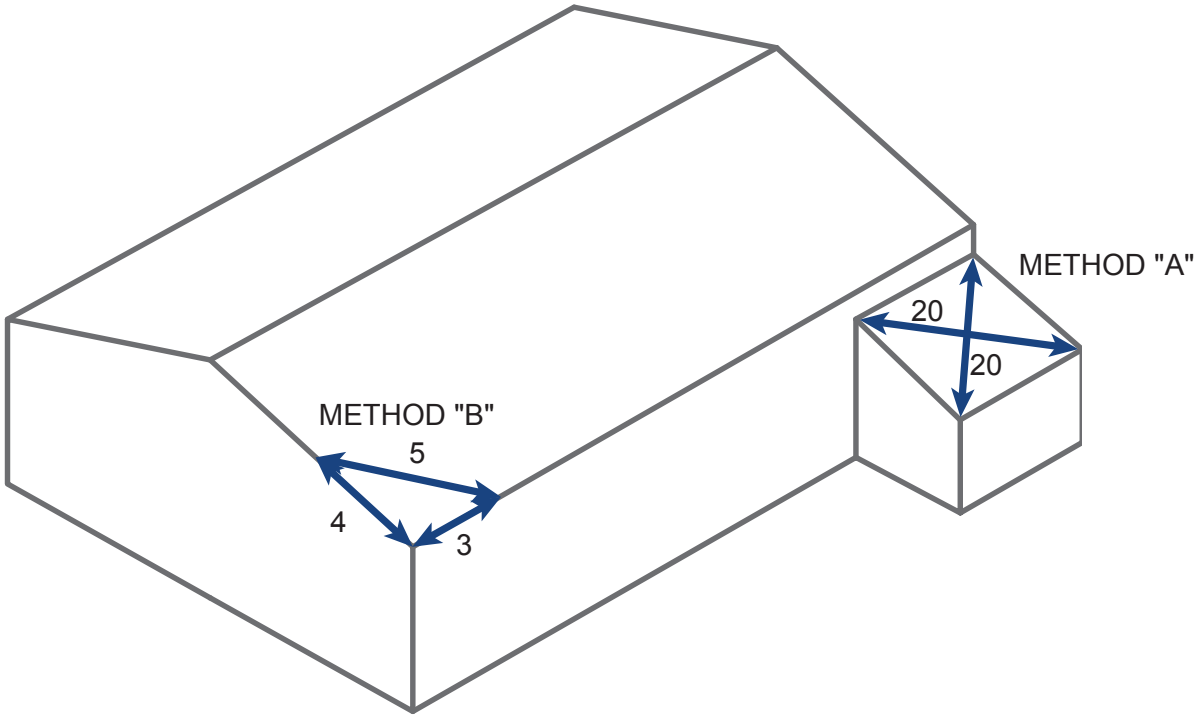


IMAGE II Field Cutting and Touch-up

FIELD CUTTING

Tin snips or a "nibbler" type electric tool are recommended for field cutting metal panels. Cutting the steel generates slivers or metal chips. These slivers and metal chips must be immediately removed from the panels because they will damage the finish and shorten the life of the product.

One method of preventing this problem is to flip the panels over when cutting. This allows the slivers and metal chips to be brushed from the back side and avoids damaging the paint on the top side of the panels.

When cutting metal panels and flashings, goggles must be worn for eye protection.

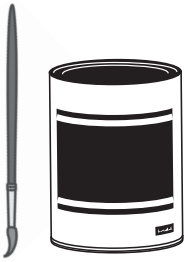
CAUTION

All product surfaces should be free of debris at all times. Installed surfaces should be wiped clean at the end of each work period. Never cut panels over metal surfaces. Metal shavings will rust on the surface, voiding the warranty.

TOUCH-UP PAINT

All painted panels and flashings have a factory applied baked on finish. Handling and installing panels may result in some small scratches or nicks to the paint finish. Touch-up paint is available in matching colors from Metal Sales. It is recommended that a small brush be used to apply touch-up paint to those areas that are in need of repair. Touch-up paint does not have the superior chalk and fade resistance of the factory applied paint finish and will normally discolor at an accelerated rate. Aerosol paint should not be used because of the over-spray that may occur.

SPRAY PAINT



TOUCH-UP PAINT

CAUTION

Use as little Touch-up paint as possible. Paint will fade and there is no finish warranty with this product.

VENTILATION

Proper design and installation of vapor barriers and ventilation systems are important to prevent condensation and the resulting problems of moisture damage and loss of insulation efficiency.

Condensation occurs when moisture laden air comes in contact with a surface temperature equal to or below the dew point of the air. This phenomenon creates problems that are not unique with metal buildings; these problems are common to all types of construction.

The underside of the metal roof on a typical metal building (no attic) should be protected from condensation by insulating with a faced insulation. This should reduce the potential of condensation forming on the underside of the panels. On buildings that have an attic space or are being retrofitted with a metal roofing system, vents should be placed at both the eave and peak of the roof in order to prevent a buildup of moisture (humidity) in the attic space.

IMAGE II Tools and Safety Equipment

RECOMMENDED TOOLS

Standard tools for field installation include, but not limited to:

CUTTING TOOLS
Tin Snips
Electric Metal Shears
Turbo-Shears
Circular Saw

FASTENING
Nut Drivers or magnetic hex drivers
Screw Gun with adjustable torque
Pop Rivet Tool

SAFETY
Gloves
Safety Googles
Ear Protection
Safety Harness and Fall Protection

MEASURING/MARKING
Tape Measure
Speed Square
Chalk Line
Marker or Scribe

GENERAL
Hammer
Utility knife
Caulking gun
Hand seamer
Ladder and/or scaffolding
Laser Level
Panel Lifters or Suction Cups
Deburring Tool
Tool Belt

20" HEMMER

20" DUAL BAR FOLDER/HEMMER

TURN-UP TOOL

TURBO SHEARS

TIN SNIPS

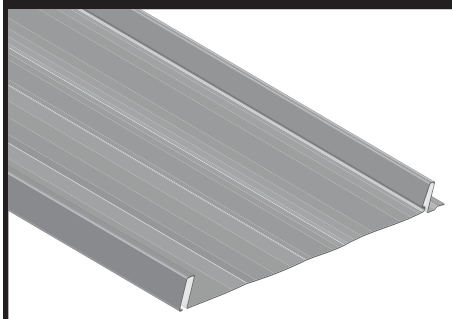
POP RIVET TOOL

VERSA HEMMER

VERSA BENDER SINGLE

VERSA BENDER DOUBLE STATION

STRIATED

Panel Profile	Product No.	Coverage	Gauge	Finish
	2544141	12"	26	Galvalume® (ACG)
	25441XX	12"	26	MS Colorfast45® (CF45)
	2718841	12"	24	Galvalume® (ACG)
	27188XX	12"	24	PVDF (Kynar 500®)
	2544441	16"	26	Galvalume® (ACG)
	25444XX	16"	26	MS Colorfast45® (CF45)
	2718741	16"	24	Galvalume® (ACG)
	27187XX	16"	24	PVDF (Kynar 500®)

MINOR RIBS

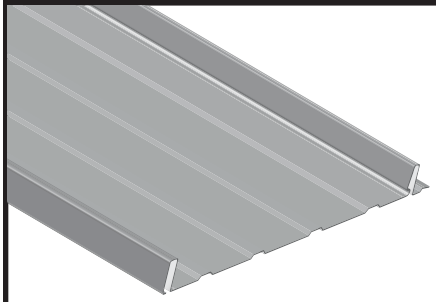
Panel Profile	Product No.	Coverage	Gauge	Finish
	2514641	12"	26	Galvalume® (ACG)
	25146XX	12"	26	MS Colorfast45® (CF45)
	2718641	12"	24	Galvalume® (ACG)
	27186XX	12"	24	PVDF (Kynar 500®)
	2534641	16"	26	Galvalume® (ACG)
	25346XX	16"	26	MS Colorfast45® (CF45)
	2718941	16"	24	Galvalume® (ACG)
	27189XX	16"	24	PVDF (Kynar 500®)

IMAGE II Design Information

PANEL OVERVIEW

- Finishes: PVDF, MS Colorfast45 and Acrylic-Coated Galvalume®
- Corrosion Protection: AZ55 per ASTM A 792 for unpainted Galvalume®
  AZ50 per ASTM A 792 for painted Galvalume®
  G90 per ASTM A 653 for Galvanized
- Gauges: 26 ga standard, 24 ga optional
- Minimum roof slope: 3:12
- 12" and 16" panel coverage, 1" rib height
- Panel Length: Minimum: 5'-0"; Maximum: 30'-0" recommended. For longer panel runs consider using Vertical Seam or Magna-Loc panel profiles.
- Installs over solid substrate with 30# felt underlayment
- Concealed-fastened roof and wall system

FASTENING INFORMATION

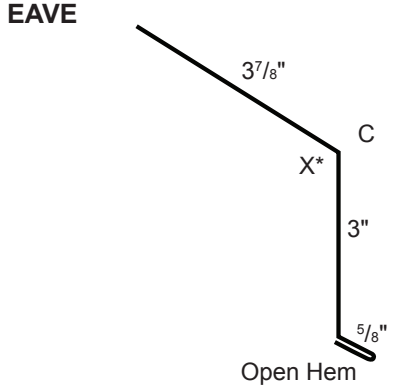
- Overdriven fasteners will cause panel distortions.
- Fasteners should extend 1/2" or more past the inside face of the support material.
- Panel Fastener:
  - #10-12 x 1" Pancake Head Wood Screw
- Trim Fastener:
  - 1/4"-14 x 7/8" XL Stitch Screw
  - 1/8"-3/16" Pop Rivet

LOAD TABLE

SECTION PROPERTIES								ALLOWABLE UNIFORM LOADS, psf For various fastener spacings			
Ga.	Width in	Yield ksi	Weight psf	Top In Compression		Bottom In Compression		Outward Load			
				Ixx in^4/ft	Sxx in^3/ft	Ixx in^4/ft	Sxx in^3/ft	0'-6"	1'-0"	1'-6"	2'-0"
26	16	50	0.90	0.0165	0.0174	0.0165	0.0177	103	96	90	84
24	16	50	1.19	0.0210	0.0226	0.0210	0.0226	103	96	90	84

1. Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. Ixx and Sxx are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending & shear and deflection. Allowable load does not address web crippling, fasteners, support material or load testing. Allowable load considers the three or more equal spans condition. Panel weight is not considered.
3. Deflection consideration is limited by a maximum deflection ratio of L/180ofspan.
4. Allowable loads do not include a 1/3 stress increase for wind.

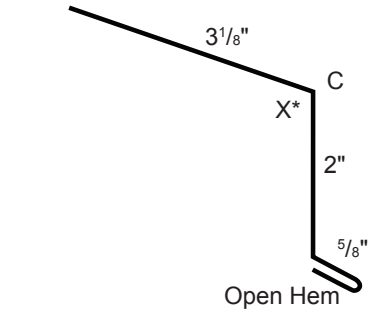
EAVE



Specify Angle - See Chart on Page 25

Product No.	Length	Gauge	WT (lbs)	Finish
5506541	10'-2"	26	5.25	ACG
55065XX	10'-2"	26	5.25	MS Colorfast45
5706541	10'-2"	24	6.35	ACG
58065XX	10'-2"	24	6.35	PVDF

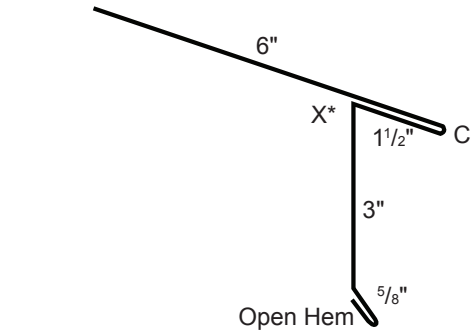
RESIDENTIAL EAVE



Specify Angle - See Chart on Page 25

Product No.	Length	Gauge	WT (lbs)	Finish
5002241	10'-2"	26	4.0	ACG
50022XX	10'-2"	26	4.0	MS Colorfast45
5022241	10'-2"	24	5.1	ACG
50322XX	10'-2"	24	5.1	PVDF

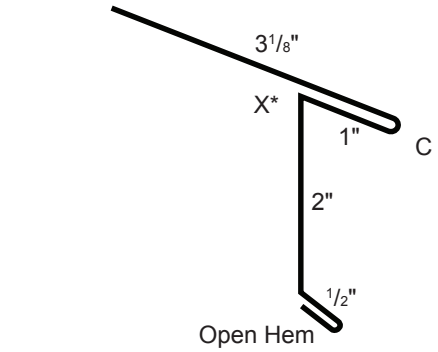
EXTENDED EAVE



Specify Angle - See Chart on Page 25

Product No.	Length	Gauge	WT (lbs)	Finish
5507341	10'-2"	26	7.65	ACG
55073XX	10'-2"	26	7.65	MS Colorfast45
5707341	10'-2"	24	9.55	ACG
58073XX	10'-2"	24	9.55	PVDF

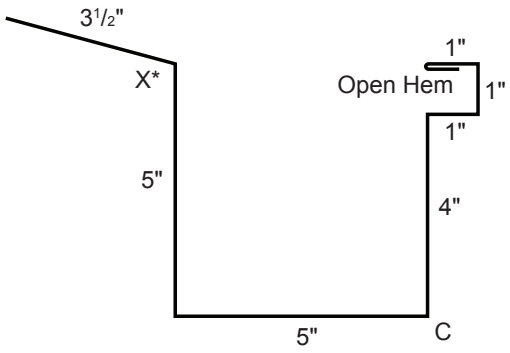
RESIDENTIAL EXTENDED EAVE



Specify Angle - See Chart on Page 25

Product No.	Length	Gauge	WT (lbs)	Finish
5002441	10'-2"	26	4.7	ACG
50024XX	10'-2"	26	4.7	MS Colorfast45
5022441	10'-2"	24	5.9	ACG
50324XX	10'-2"	24	5.9	PVDF

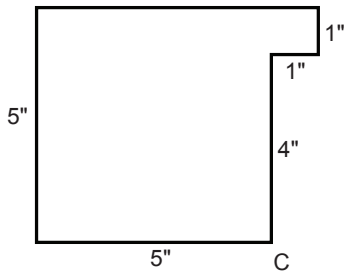
BOX GUTTER



Product No.	Length	Gauge	WT (lbs)	Finish
5507741	10'-2"	26	14.0	ACG
5507941	20'-3"	26	28.0	ACG
55077XX	10'-2"	26	14.0	MS Colorfast45
55079XX	20'-3"	26	28.0	MS Colorfast45
5707741	10'-2"	24	16.95	ACG
5707941	20'-3"	24	33.90	ACG
58077XX	10'-2"	24	16.95	PVDF
58079XX	20'-3"	24	33.90	PVDF

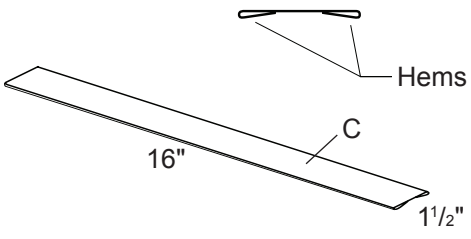
**Specify Angle - See Chart on Page 25*

BOX GUTTER END



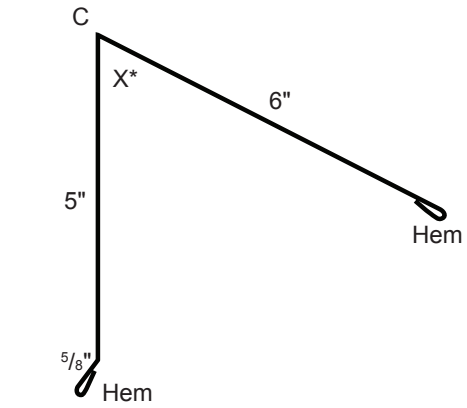
Product No.	Side	Gauge	WT (lbs)	Finish
5508141	Left	26	.20	ACG
5508241	Right	26	.20	ACG
55081XX	Left	26	.20	MS Colorfast45
55082XX	Right	26	.20	MS Colorfast45
5708141	Left	24	.24	ACG
5708241	Right	24	.24	ACG
58081XX	Left	24	.24	PVDF
58082XX	Right	24	.24	PVDF

UNIVERSAL GUTTER/ DOWNSPOUT STRAP



Product No.	Length	Gauge	WT (lbs)	Finish
5509241	1'-4"	26	.32	ACG
55092XX	1'-4"	26	.32	MS Colorfast45
5709241	1'-4"	24	.32	ACG
58092XX	1'-4"	24	.32	PVDF

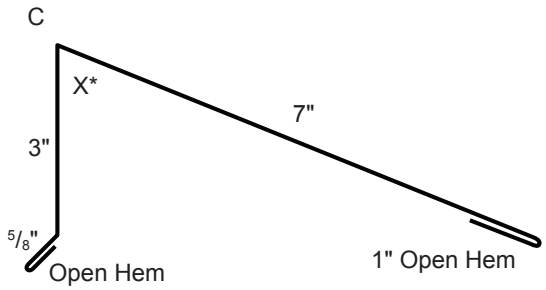
PEAK



Product No.	Length	Gauge	WT (lbs)	Finish
5502241	10'-2"	26	8.25	ACG
5502441	20'-3"	26	16.50	ACG
55022XX	10'-2"	26	8.25	MS Colorfast45
55024XX	20'-3"	26	16.50	MS Colorfast45
5702241	10'-2"	24	9.95	ACG
5702441	20'-3"	24	19.90	ACG
58022XX	10'-2"	24	9.95	PVDF
58024XX	20'-3"	24	19.90	PVDF

Specify Angle - See Chart on Page 25

IMAGE II RESIDENTIAL PEAK

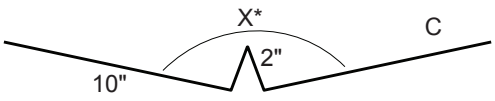


Product No.	Length	Gauge	Finish
5013441	10'-2"	26	Galvalume (ACG)
50134XX	10'-2"	26	CF45
5213441	10'-2"	24	Galvalume (ACG)
52134XX	10'-2"	24	PVDF

Flashing Stretch Out = 12-1/8"

Specify Angle - See Chart on Page 25

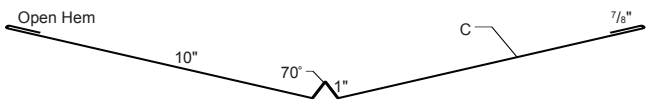
VALLEY



Product No.	Length	Gauge	WT (lbs)	Finish
5301841	10'-2"	26	13.90	ACG
5502041	20'-3"	26	27.80	ACG
53018XX	10'-2"	26	13.90	MS Colorfast45
55020XX	20'-3"	26	27.80	MS Colorfast45
5701841	10'-2"	24	16.85	ACG
5702041	20'-3"	24	33.70	ACG
58018XX	10'-2"	24	16.85	PVDF
58020XX	20'-3"	24	33.70	PVDF

Specify Angle - See Chart on Page 25

RESIDENTIAL W-VALLEY

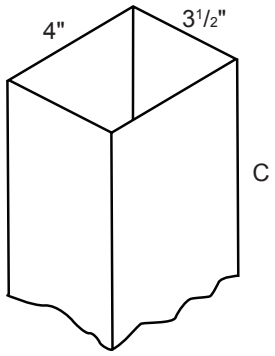


Product No.	Length	Gauge	Finish
5013641	10'-2"	26	Galvalume (ACG)
50136XX	10'-2"	26	CF45
5213641	10'-2"	24	Galvalume (ACG)
52136XX	10'-2"	24	PVDF

Flashing Stretch Out = 23 3/4"

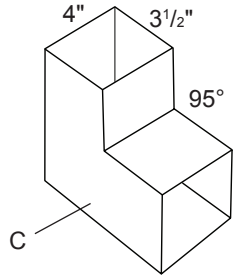
Specify Angle - See Chart on Page 25

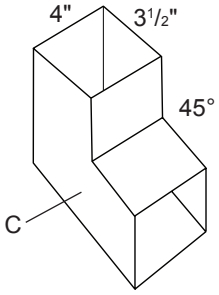
3 1/2" X 4" DOWNSPOUT



Product No.	Length	Gauge	WT (lbs)	Finish
5509441	10'-2"	26	10.40	ACG
5509741	20'-3"	26	20.80	ACG
55094XX	10'-2"	26	10.40	MS Colorfast45
55097XX	20'-3"	26	20.80	MS Colorfast45
5709441	10'-2"	24	12.90	ACG
5708741	20'-3"	24	25.80	ACG
58094XX	10'-2"	24	12.90	PVDF
58097XX	20'-3"	24	25.80	PVDF

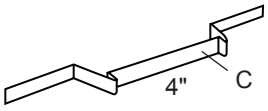
ELBOWS (TYPE A)





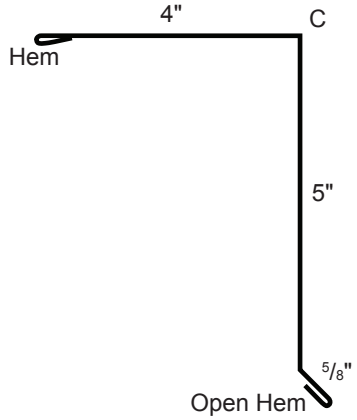
Product No.	Degree	Gauge	WT (lbs)	Finish
5510241	95	26	2.0	ACG
55102XX	95	26	2.0	MS Colorfast45
5710241	95	24	2.30	ACG
58102XX	95	24	2.30	PVDF
5510641	45	26	2.0	ACG
55106XX	45	26	2.0	MS Colorfast45
5710641	45	24	2.30	ACG
58106XX	45	24	2.30	PVDF

4" DOWNSPOUT BRACKET



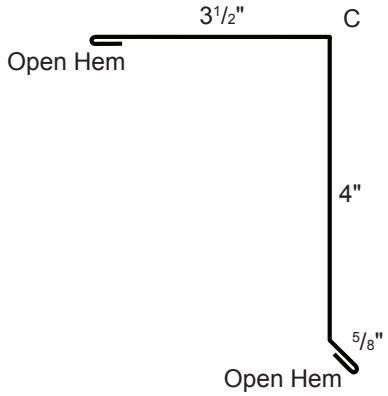
Product No.	Part	Gauge	WT (lbs)	Finish
5511041	Each	26	.10	ACG
55110XX	Each	26	.10	MS Colorfast45
5711041	Each	24	.12	ACG
58110XX	Each	24	.12	PVDF

RAKE



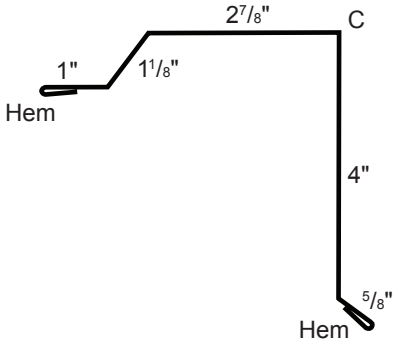
Product No.	Length	Gauge	WT (lbs)	Finish
5503441	10'-2"	26	8.25	ACG
5503641	20'-3"	26	16.50	ACG
55034XX	10'-2"	26	8.25	MS Colorfast45
55036XX	20'-3"	26	16.50	MS Colorfast45
5703441	10'-2"	24	9.95	ACG
5703641	20'-3"	24	19.90	ACG
58034XX	10'-2"	24	9.95	PVDF
58036XX	20'-3"	24	19.90	PVDF

IMAGE II RAKE



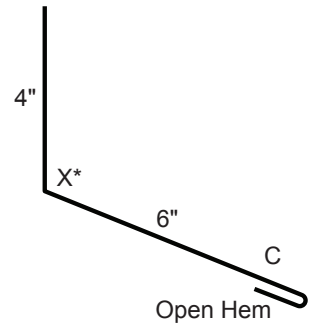
Product No.	Length	Gauge	WT (lbs)	Finish
5595141	10'-2"	26	5.75	ACG
5595341	20'-3"	26	11.50	ACG
55951XX	10'-2"	26	5.75	MS Colorfast45
55953XX	20'-3"	26	11.50	MS Colorfast45

IMAGE II STEP RAKE



Product No.	Length	Gauge	WT (lbs)	Finish
5695441	10'-2"	26	5.75	ACG
5695641	20'-3"	26	11.50	ACG
55954XX	10'-2"	26	5.75	MS Colorfast45
55956XX	20'-3"	26	11.50	MS Colorfast45

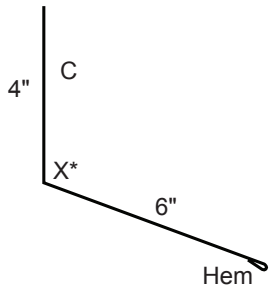
RESIDENTIAL PITCH BREAK



**Specify Angle - See Chart on Page 25*

Product No.	Length	Gauge	WT (lbs)	Finish
5394341	10'-2"	26	6.95	ACG
53943XX	10'-2"	26	6.95	MS Colorfast45

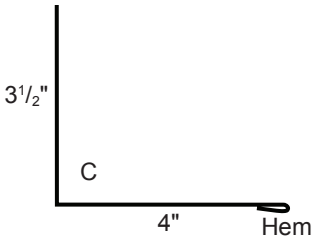
PITCH BREAK



*Specify Angle - See Chart on Page 25

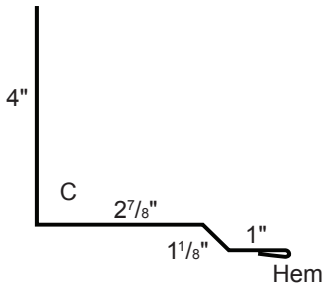
Product No.	Length	Gauge	WT (lbs)	Finish
5504841	10'-2"	26	6.90	ACG
55048XX	10'-2"	26	6.90	MS Colorfast45
5704841	10'-2"	24	8.30	ACG
58048XX	10'-2"	24	8.30	PVDF

RAKEWALL



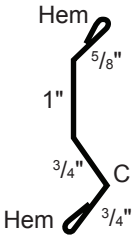
Product No.	Length	Gauge	WT (lbs)	Finish
5505641	10'-2"	26	6.90	ACG
55056XX	10'-2"	26	6.90	MS Colorfast45
5705641	10'-2"	24	8.30	ACG
58056XX	10'-2"	24	8.30	PVDF

IMAGE II STEP RAKEWALL



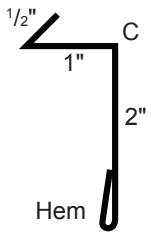
Product No.	Length	Gauge	WT (lbs)	Finish
5695741	10'-2"	26	6.45	ACG
55957XX	10'-2"	26	6.45	MS Colorfast45

COUNTER FLASHING



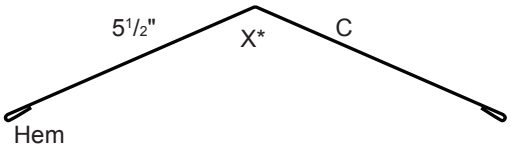
Product No.	Length	Gauge	WT (lbs)	Finish
5505241	10'-2"	26	2.75	ACG
55052XX	10'-2"	26	2.75	MS Colorfast45
5705241	10'-2"	24	3.35	ACG
58052XX	10'-2"	24	3.35	PVDF

REGLET FLASHING



Product No.	Length	Gauge	WT (lbs)	Finish
5505441	10'-2"	26	2.65	ACG
55054XX	10'-2"	26	2.65	MS Colorfast45
5705441	10'-2"	24	3.20	ACG
58054XX	10'-2"	24	3.20	PVDF

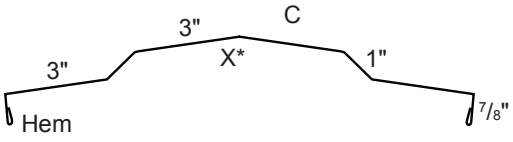
11" RIDGE/HIP COVER



Product No.	Length	Gauge	WT (lbs)	Finish
5500241	10'-2"	26	7.90	ACG
5500441	20'-3"	26	15.80	ACG
55002XX	10'-2"	26	7.90	MS Colorfast45
55004XX	20'-3"	26	15.80	MS Colorfast45
5700241	10'-2"	24	9.50	ACG
5700441	20'-3"	24	19.0	ACG
58002XX	10'-2"	24	9.50	PVDF
58004XX	20'-3"	24	19.0	PVDF

**Specify Angle - See Chart on Page 25*

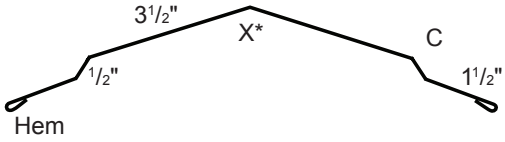
VENTED RIDGE COVER



Product No.	Length	Gauge	WT (lbs)	Finish
5501341	10'-2"	26	11.05	ACG
5501541	20'-3"	26	22.10	ACG
55013XX	10'-2"	26	11.05	MS Colorfast45
55015XX	20'-3"	26	22.10	MS Colorfast45
5701341	10'-2"	24	13.40	ACG
5701541	20'-3"	24	26.80	ACG
58013XX	10'-2"	24	13.40	PVDF
58015XX	20'-3"	24	26.80	PVDF

**Specify Angle - See Chart on Page 25*

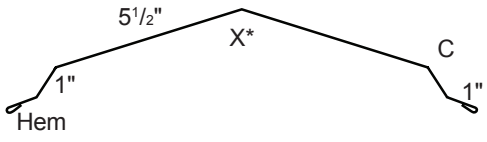
10" STEP RIDGE/HIP COVER



Product No.	Length	Gauge	WT (lbs)	Finish
5594741	10'-2"	26	10.80	ACG
5594941	20'-3"	26	21.50	ACG
55947XX	10'-2"	26	7.50	MS Colorfast45
55949XX	20'-3"	26	15.00	MS Colorfast45

**Specify Angle - See Chart on Page 25*

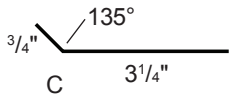
13" STEP RIDGE HIP COVER



Product No.	Length	Gauge	WT (lbs)	Finish
5597441	10'-2"	26	7.0	ACG
5597541	20'-3"	26	14.0	ACG
55974XX	10'-2"	26	7.0	MS Colorfast45
55975XX	20'-3"	26	14.0	MS Colorfast45
5797441	10'-2"	24	9.0	ACG
5798441	20'-3"	24	18.0	ACG
58974XX	10'-2"	24	9.0	PVDF
57974XX	20'-3"	24	18.0	PVDF

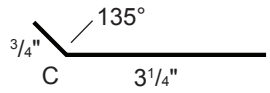
**Specify Angle - See Chart on Page 25*

VENT DRIP



Product No.	Length	Gauge	WT (lbs)	Finish
5501741	10'-2"	26	2.70	ACG
55017XX	10'-2"	26	2.70	MS Colorfast45
5701741	10'-2"	24	3.30	ACG
58017XX	10'-2"	24	3.30	PVDF
6013981	10'-2"	.032 AL	2.85	PVDF

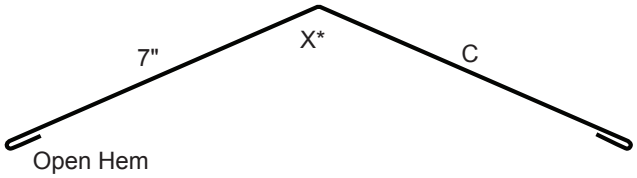
IMAGE II PERFORATED VENT DRIP



1/8" holes 1/4" centers (staggered)
23% open area

Product No.	Length	Gauge	WT (lbs)	Finish
6013981	10'-2"	.032 Aluminum		Perforated (Linen White Only)

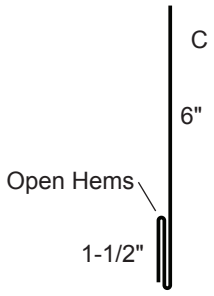
7" RESIDENTIAL RIDGE/HIP COVER



**Specify Angle - See Chart on Page 25*

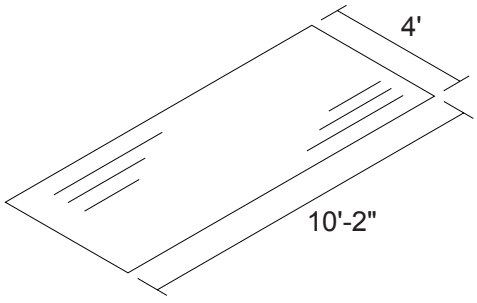
Product No.	Length	Gauge	Finish
5013141	10'-2"	26	Galvalume (ACG)
50131XX	10'-2"	26	MS Colorfast45
5213141	10'-2"	24	Galvalume (ACG)
52131XX	10'-2"	24	PVDF

RESIDENTIAL RAKEWALL TRIM (SEE PAGE 55)



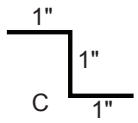
Product No.	Length	Gauge	Finish
5012941	10'-2"	26	Galvalume (ACG)
50129XX	10'-2"	26	MS Colorfast45

FLAT SHEET (SEE PAGE 55)



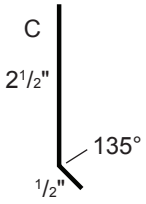
Product No.	Length	Gauge	Finish
2568341	10'-2"	26	Galvalume (ACG)
25683XX	10'-2"	26	MS Colorfast45

1" Z-CLOSURE



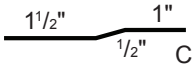
Product No.	Length	Gauge	WT (lbs)	Finish
5560341	10'-2"	26	2.0	ACG
55603XX	10'-2"	26	2.0	MS Colorfast45
5760341	10'-2"	24	2.40	ACG
58603XX	10'-2"	24	2.40	PVDF

CLEAT



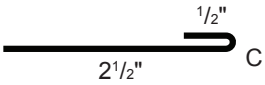
Product No.	Length	Gauge	WT (lbs)	Finish
5506099	10'-2"	26	2.0	Supplied in Various Colors
5806099	10'-2"	24	2.40	Supplied in Various Colors

OFFSET CLEAT



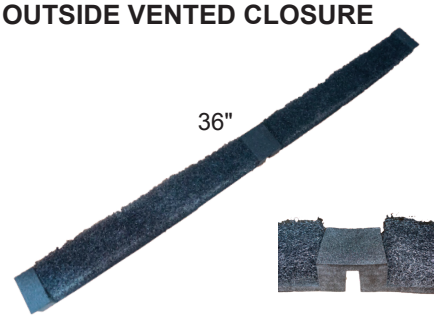
Product No.	Length	Gauge	WT (lbs)	Finish
5506499	10'-2"	26	2.0	Supplied in Various Colors
5806499	10'-2"	24	2.40	Supplied in Various Colors

STARTER



Product No.	Length	Gauge	WT (lbs)	Finish
5506241	10'-2"	26	2.0	ACG
55062XX	10'-2"	26	2.0	MS Colorfast45
5706241	10'-2"	24	2.40	ACG
58062XX	10'-2"	24	2.40	PVDF

OUTSIDE VENTED CLOSURE



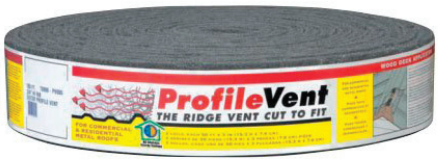
Product No.	Size	WT (lbs)	Finish
6460599	3" x 1" x 36"	.90	Polyester Composite Vent and Polyehtylene Foam Closure

IMAGE II OUTSIDE CLOSURE

Product No.	Size	WT (lbs)	Finish
6460499	1" x 36"	0.90	Polyethylene Foam

For 16" profile field cut closure to 15-5/8"
For 12" profile field cut closure to 11-5/8"

PROFILE VENT



Product No.	Panel Profile	Length	Type
6441799	12" Image II	100'	Notched
6441898	16" Image II	50'	Notched
6441899	16" Image II	100'	Notched

PROFILE VENT CLIPS

Product No.	Length	Height	Finish
6540000	Image II	1"	Black

UNIVERSAL CLOSURE

SIZE	TYPE	PRODUCT NO.	WT/100	COLOR
1" x 1½" x 25'	Polyethylene Foam	6411499	2.0 lbs	Grey
1" x 1½" x 50'	Polyethylene Foam	6411299	4.0 lbs	Grey

TUBE SEALANT

Product No.	Length	Weight	Finish
6403200	Acrylic Tube Sealant	3.31 lbs	Clear
64032XX	Tube Sealant	3.31 lbs	Color Match

DOUBLE BEAD TAPE SEALANT

Product No.	Length	Weight	Color
6403899	25'-0"	1.75 lbs	Gray

SINGLE BEAD TAPE SEALANT

Product No.	Length	Weight	Color
6404099	50'-0"	1.75 lbs	Gray

ms-HT UNDERLAYMENT

Product No.	Size	WT (lbs)	Finish
4121200	36" x 66.67' (2 Sq Roll)	44	Peel and Stick

IMAGE II Roof Jacks

ROUND BASE

Hi-Temp

SIZE	TYPE	PRODUCT NO.	BASE DIAMETER	WEIGHT
#1 Flasher	Rubber	68501XX*	1/4" - 2"	0.9 lbs
#2 Flasher	Rubber	68502XX*	1 3/4" - 3 1/4"	1.5 lbs
#3 Flasher	Rubber	68503XX*	1/4" - 5"	2.1 lbs
#4 Flasher	Rubber	68504XX*	3" - 6 1/4"	2.8 lbs
#5 Flasher	Rubber	68505XX*	4 1/4" - 7 1/2"	3.9 lbs
#6 Flasher	Rubber	68506XX*	5" - 9"	4.6 lbs
#7 Flasher	Rubber	68507XX*	6" - 11"	5.9 lbs
#8 Flasher	Rubber	68508XX*	7" - 13"	7.0 lbs
#9 Flasher	Rubber	68509XX*	10" - 19"	10.2 lbs
*Special order colors: 93=Brown; 94=Green; 95=Red; 96=Blue; 97=White; 98=Grey; 99=Black				
#1 Flasher	HT Silicone	6850011	1/4" - 2"	3.0 lbs
#2 Flasher	HT Silicone	6850012	1 3/4" - 3 1/4"	3.5 lbs
#3 Flasher	HT Silicone	6850013	1/4" - 5"	4.0 lbs
#4 Flasher	HT Silicone	6850014	3" - 6 1/4"	4.5 lbs
#5 Flasher	HT Silicone	6850015	4 1/4" - 7 1/2"	5.0 lbs
#6 Flasher	HT Silicone	6850016	5" - 9"	6.0 lbs
#7 Flasher	HT Silicone	6850017	6" - 11"	11.0 lbs
#8 Flasher	HT Silicone	6850018	7" - 13"	12.0 lbs
#9 Flasher	HT Silicone	6850019	10" - 19"	13.0 lbs

RETROFIT

SIZE	TYPE	PRODUCT NO.	PIPE DIAMETER	WEIGHT
#1 Masterflash	Retrofit HT	6850060	1/4" - 2"	1.2 lbs
#2 Masterflash	Retrofit HT	6850061	1-1/4" - 3"	2.5 lbs
#3 Masterflash	Retrofit HT	6850062	1/4" - 4"	3.9 lbs
#1 Masterflash	Retrofit E.P.D.M	6850073	3/4" - 2-3/4"	1.2 lbs
#2 Masterflash	Retrofit E.P.D.M	6850074	2" - 7-1/4"	2.5 lbs
#3 Masterflash	Retrofit E.P.D.M	6850075	3/4" - 10"	3.9 lbs
#1 Masterflash	Retrofit E.P.D.M	6850070	3/4" - 2-3/4"	1.2 lbs
#2 Masterflash	Retrofit E.P.D.M	6850071	2" - 7-1/4"	2.5 lbs
#3 Masterflash	Retrofit E.P.D.M	6850072	3/4" - 10"	3.9 lbs
#1 Masterflash	Retrofit E.P.D.M	6850046	1/2" - 4"	1.2 lbs
#2 Masterflash	Retrofit E.P.D.M	6850047	1-1/4" - 3"	2.5 lbs
#3 Masterflash	Retrofit E.P.D.M	6850048	1/4" - 5"	3.9 lbs

POP RIVET

Product No.	Description	WT/250	Finish
8240201	1/8" x 3/8" Pop Rivet	0.75 lbs	Bare
82402XX	1/8" x 3/8" Pop Rivet	0.75 lbs	Painted

Used to attach trim to trim or trim to panel.

PANCAKE HEAD WOOD SCREW

Product No.	Description	WT/250	Finish
8243100	#10-12 x 1" PH Wood Screw	1.90 lbs	Plated
8243500	#10-12 x 2" PH Wood Screw	5.00 lbs	Plated

Used to attach trim to wood supports.

PANCAKE HEAD DRILLER

Product No.	Description	WT/250	Finish
8242100	#10-16 x 1" Pancake Head Driller	1.90 lbs	Plated

Used to attach trim or panel clip to steel framing supports.

LOW PROFILE WOOD SCREW

Product No.	Description	WT/250	Finish
8244100	#12-11 x 1 1/2" Low Profile Wood Screw	2.75 lbs	Plated

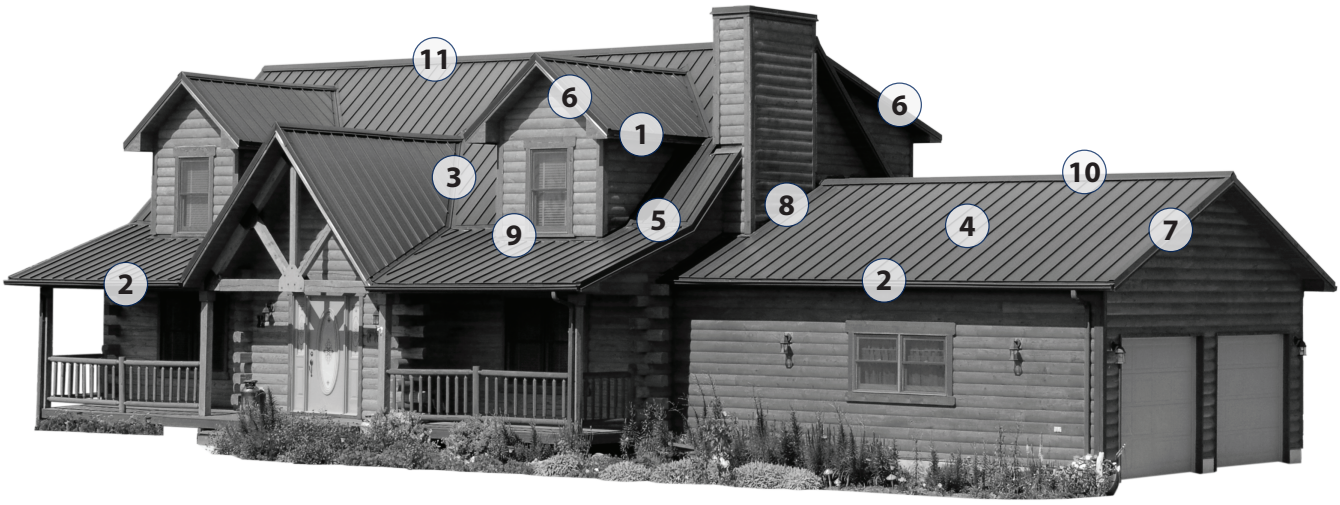
Used to attach panel clip to wood supports.

WOOD SCREW XL

Product No.	Description	WT/250	Finish
8212300	#10-14 x 1 1/2" Wood Screw XL	3.75 lbs	Plated
82123XX	#10-14 x 1 1/2" Wood Screw XL	3.75 lbs	Painted

Used to attach a vertical panel to wood supports.

IMAGE II Roof Detail Layout

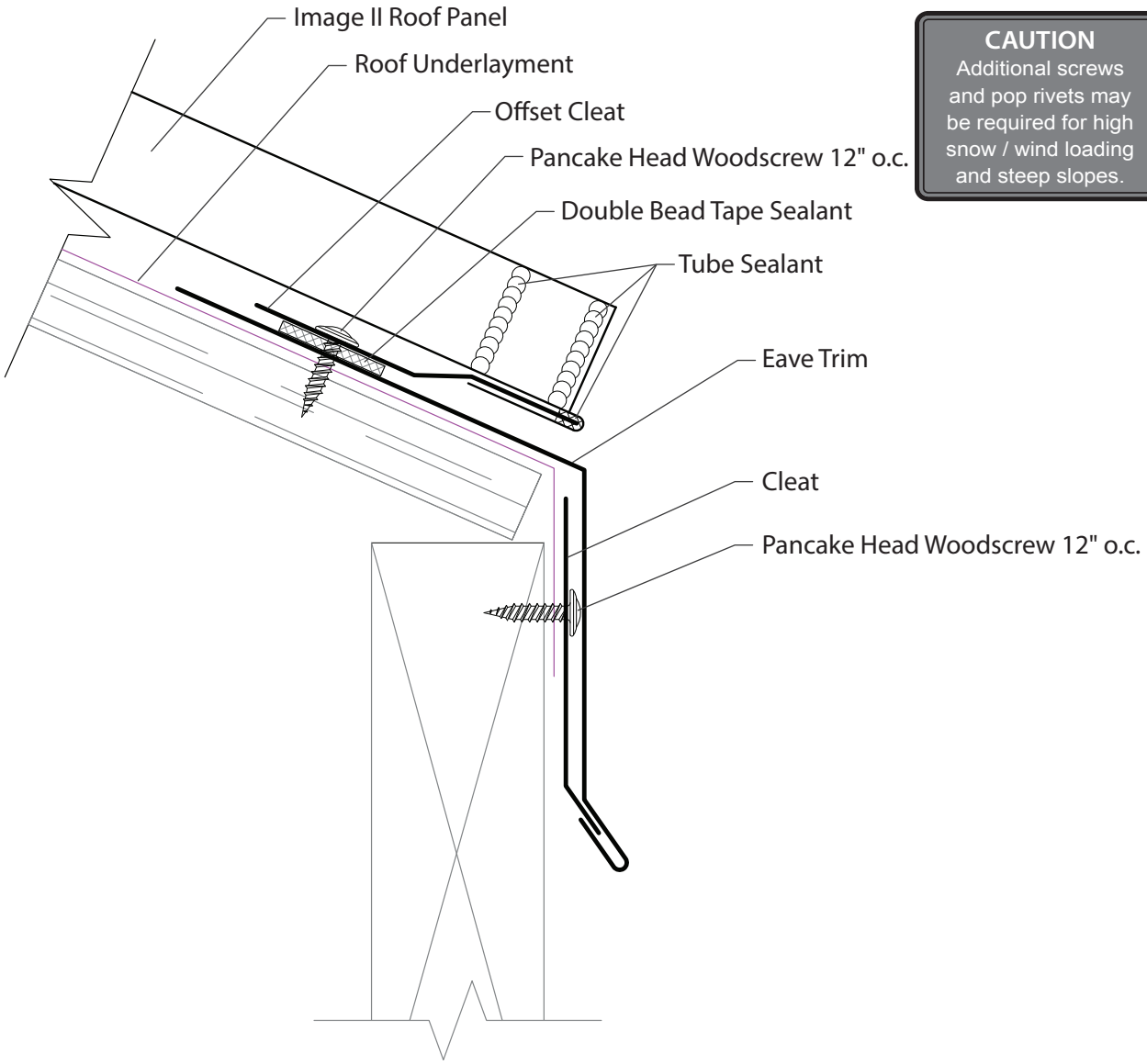


DETAIL	DETAIL DESCRIPTION	CONCEALED FASTENER	EXPOSED FASTENER
1	Eave	28	50
1	Extended Eave	29	—
2	Box Gutter	30	51
2	Residential Gutter	31	—
3	Valley	32	52
4	Image II Panels	33-35	—
5	Slope Change	37	—
6	Rake (On Module)	38	53
7	Rake (Off Module)	39	54
8	Sidewall with Counter Flashing	40	55
8	Sidewall with Reglet Flashing	41	56
9	Endwall with Counter Flashing	42	57
9	Endwall with Reglet Flashing	43	58
10	Ridge	44	59
11	Vented Ridge	45	—

FLASHING ANGLE CHART

PROFILE/FLASHING	1:12	2:12	3:12*	4:12	5:12	6:12	7:12	8:12	9:12
EAVE EXTENDED EAVE	95°	99°	104°	108°	113°	117°	120°	124°	129°
BOX GUTTER	95°	99°	104°	108°	113°	117°	120°	124°	129°
PEAK	85°	81°	76°	72°	67°	63°	60°	56°	52°
VALLEY	173°	167°	160°	154°	148°	143°	138°	134°	130°
PITCH BREAK	95°	99°	104°	108°	**113°	**117°	**120°	**124°	**129°
RIDGE	170°	161°	152°	143°	135°	127°	119°	113°	107°
STEP RIDGE	170°	161°	152°	143°	**135°	**127°	**119°	**113°	**107°
VENTED RIDGE	170°	161°	152°	143°	**135°	**127°	**119°	**113°	**107°
HIP	173°	167°	160°	154°	148°	143°	138°	134°	130°

* 3:12 is the recommended minimum slope for Image II Roof Panels.
** Standard trim dimensions may not fit properly when installed on steep angle roofs.

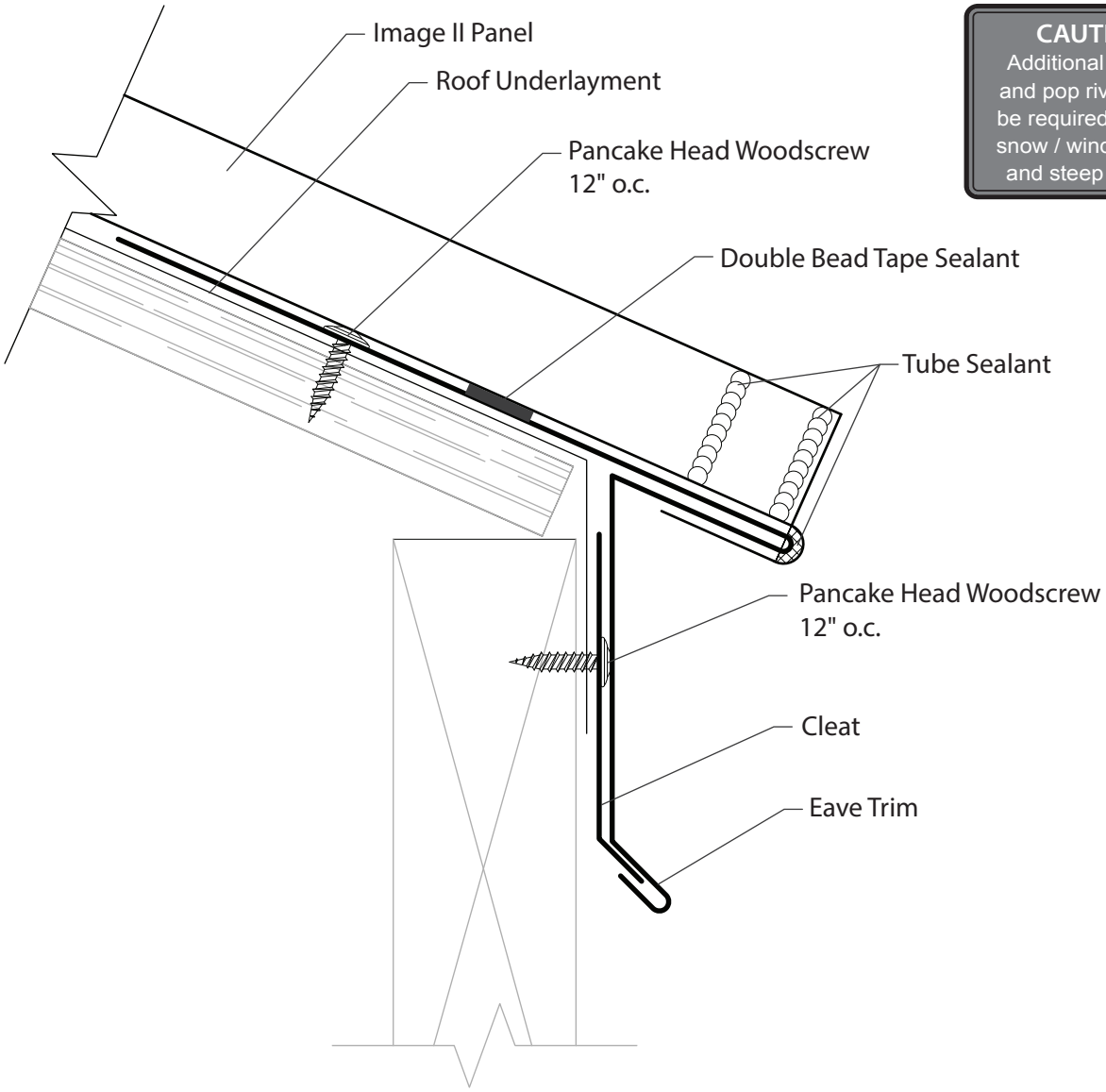


CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

Note: **Panel ribs must be field notched and the flat part of the panel must be field hemmed to accept Offset Cleat (see page 31).**	**Note:** **The high end of the panels must be direct fastened to secure the panels to the decking.**	**Note:** **Fill exposed end of ribs with tube sealant.**

All Eave flashings must be installed prior to panel installation.

1. Position and install Cleat to wall with appropriate fastener, 1'-0" o.c. Make sure Cleat location allows proper Eave attachment.
2. Install Eave flashing by sliding open hem onto Cleat and resting the Eave flashing against the decking and fasten with #10-12 x 1" Pancake Head Wood Screws, 4'-0" o.c. to hold the Eave Flashing in place during installation.
3. Apply a row of Double Bead Tape Sealant on the bottom leg of the Offset Cleat and fasten to decking with Pancake Head Wood Screw through top of Eave flashing and into decking, 1'-0" o.c. Make sure Offset Cleat is lined up to properly accommodate hemmed panel.
4. Install panel by engaging field-hemmed end of panel (see page 31) to Offset Cleat (see pages 32 and 33 for panel installation).
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 $^{1}/_{8}$" Pop Rivets spaced $2^{1}/_{2}$" o.c.

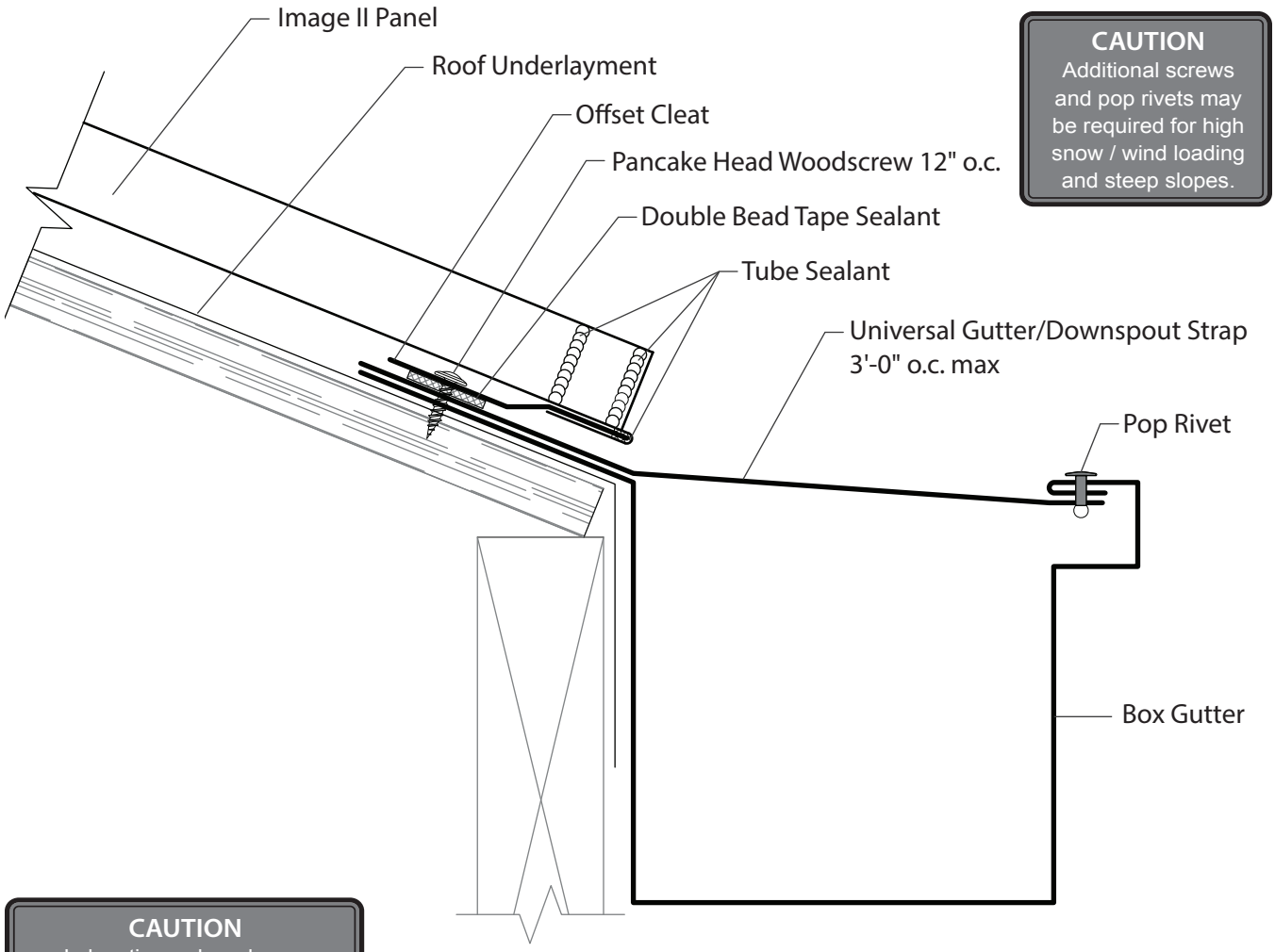


CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

Note: **The high end of the panels must be direct fastened to secure the panels to the decking.**	**Note:** **Panel ribs must be field notched and the flat part of the panel must be field hemmed to accept Offset Cleat (see page 31).**	**Note:** **Fill exposed end of ribs with tube sealant.**

All Extended Eave flashings must be installed prior to panel installation.

1. Position and install Cleat to wall with appropriate fastener, 1'-0" o.c. Make sure Cleat location allows for proper Extended Eave attachment.
2. Install Extended Eave flashing by sliding open hem onto Cleat and resting Extended Eave flashing back against decking. Fasten to decking with Pancake Head Wood Screw, 1'-0" o.c.
3. Apply a row of Double Bead of Tape Sealant to extended leg of the Extended Eave flashing.
4. Install panel by engaging field-hemmed end of panel (see page 31) to Extended Eave (see pages 32 and 33 for panel installation).
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 $^{1}/_{8}$" Pop Rivets spaced $2^{1}/_{2}$" o.c.



CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

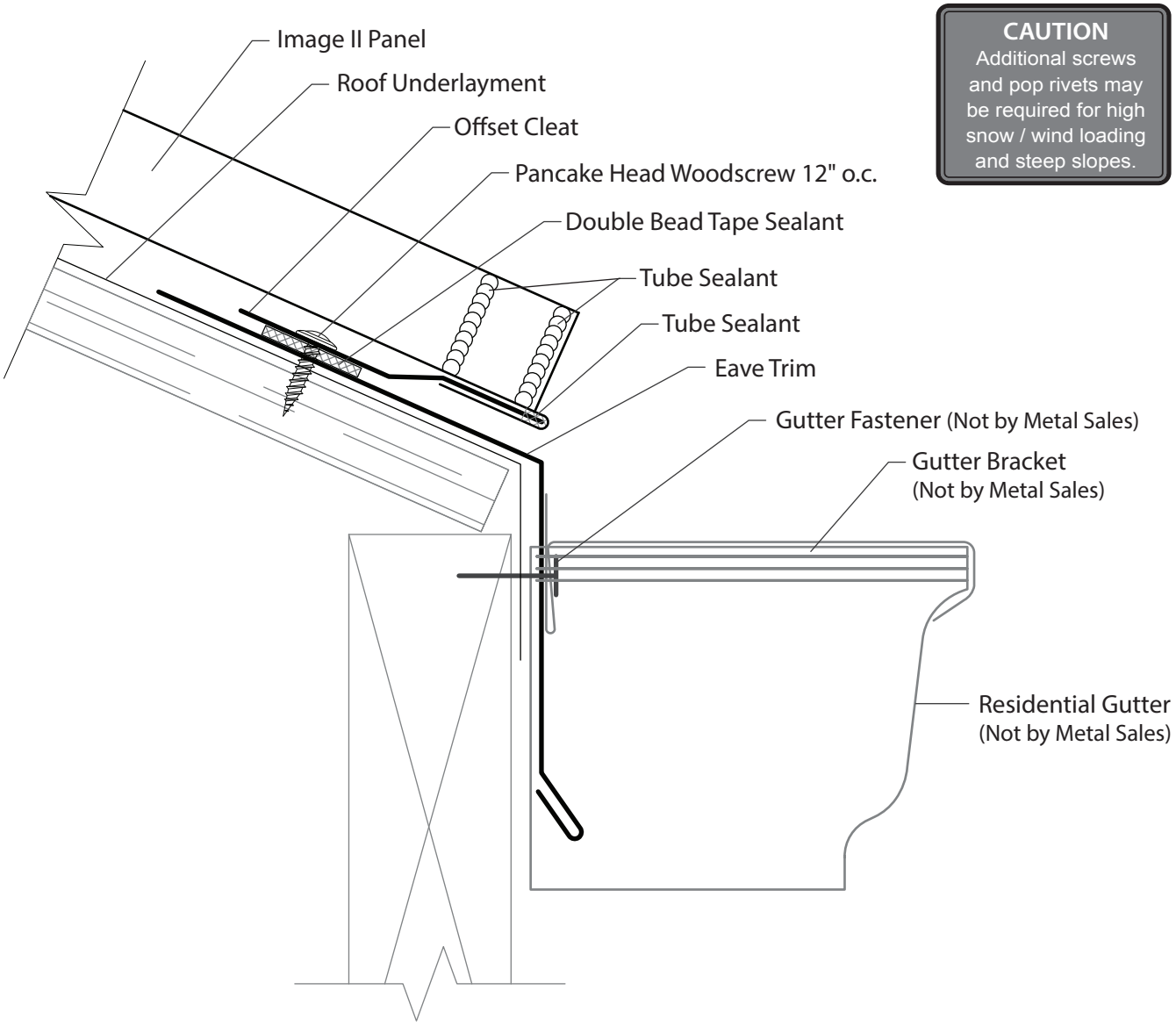
CAUTION
In locations where heavy rainfall or severe ice and snow may occur, Metal Sales' standard gutters may not be suitable for use.

Note:
Expansion Joint spacing for Box Gutter should be no more than 50'.
Downspout spacing should be no more than 50'.

All Box Gutter flashing must be installed prior to panel installation.

1. Install Box Gutter flashing back against decking. To hold Box Gutter flashing in place, fasten to decking with Pancake Head Wood Screw, 4'-0" o.c.
2. Install Universal Gutter/Downspout Straps every 3'-0" of gutter length to decking with #10-12 x 1" Pancake Head Wood Screw and fasten to Box Gutter with (1) $^1/_8$" Pop Rivet per strap.
3. Apply a row of Double Bead of Tape Sealant to bottom leg of Offset Cleat, position on back leg of Box Gutter and fasten to decking with #10-12 x 1" Pancake Head Wood Screw, 1'-0" o.c.
4. Install panel by engaging field-hemmed end of panel (see page 31) to Offset Cleat (see pages 32 and 33 for panel installation).
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 $^1/_8$" Pop Rivets spaced 2$^1/_2$" o.c.
6. Fill ends of Image II ribs with Tube Sealant.

Note: Size and gauge of Box Gutter must be designed to applicable governing building code.



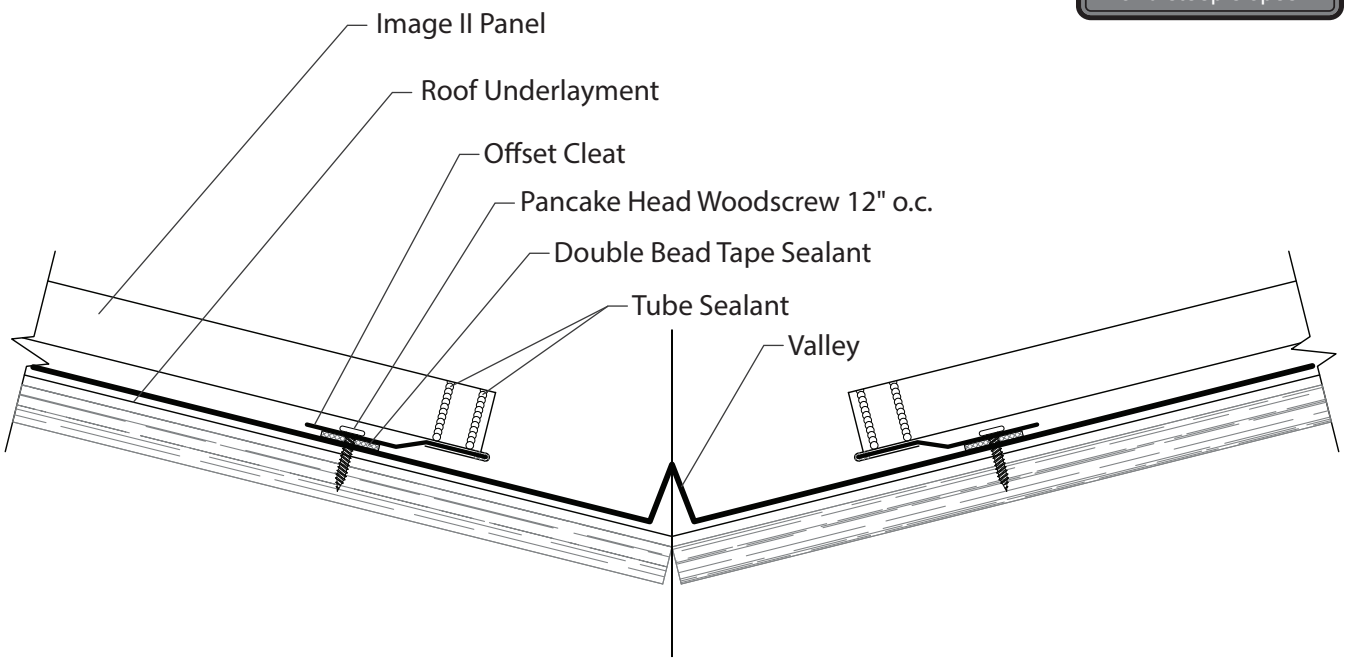
CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

Residential Gutter flashing is installed after the panel installation.

1. Establish the "high point" of the run. To ensure proper drainage, the gutter must slope toward the downspout at a rate of 1/2" for every 10'-0".
2. If the fascia is vertical and accessible, screw the internal hangers directly through the back of the gutter into the fascia board.
3. Drive 1.5" stainless steel or ceramic-coated screws (not by Metal Sales) through the hanger and the back of the gutter into the wood fascia. Ensure the back flange of the 4K gutter slides behind the metal roof's drip edge. This prevents water from "wicking" behind the gutter and rotting the fascia.
4. Overlap the sections by 3 inches in the direction of the water flow (the "upstream" piece inside the "downstream" piece). Apply two beads of sealant between the overlap. Secure the joint with pop rivets or zip screws along the sides and bottom, then seal the fastener heads inside the gutter.
5. Ensure the metal roof overhangs the gutter by roughly 1/3 of the gutter's width. If the panels overhang too far, water may overshoot the gutter during heavy rain.
6. Fill ends of Image II ribs with Tube Sealant.

Note: Never use standard silicone. Use a gutter-specific tri-polymer sealant (like Geocel) for a permanent, flexible bond.

CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

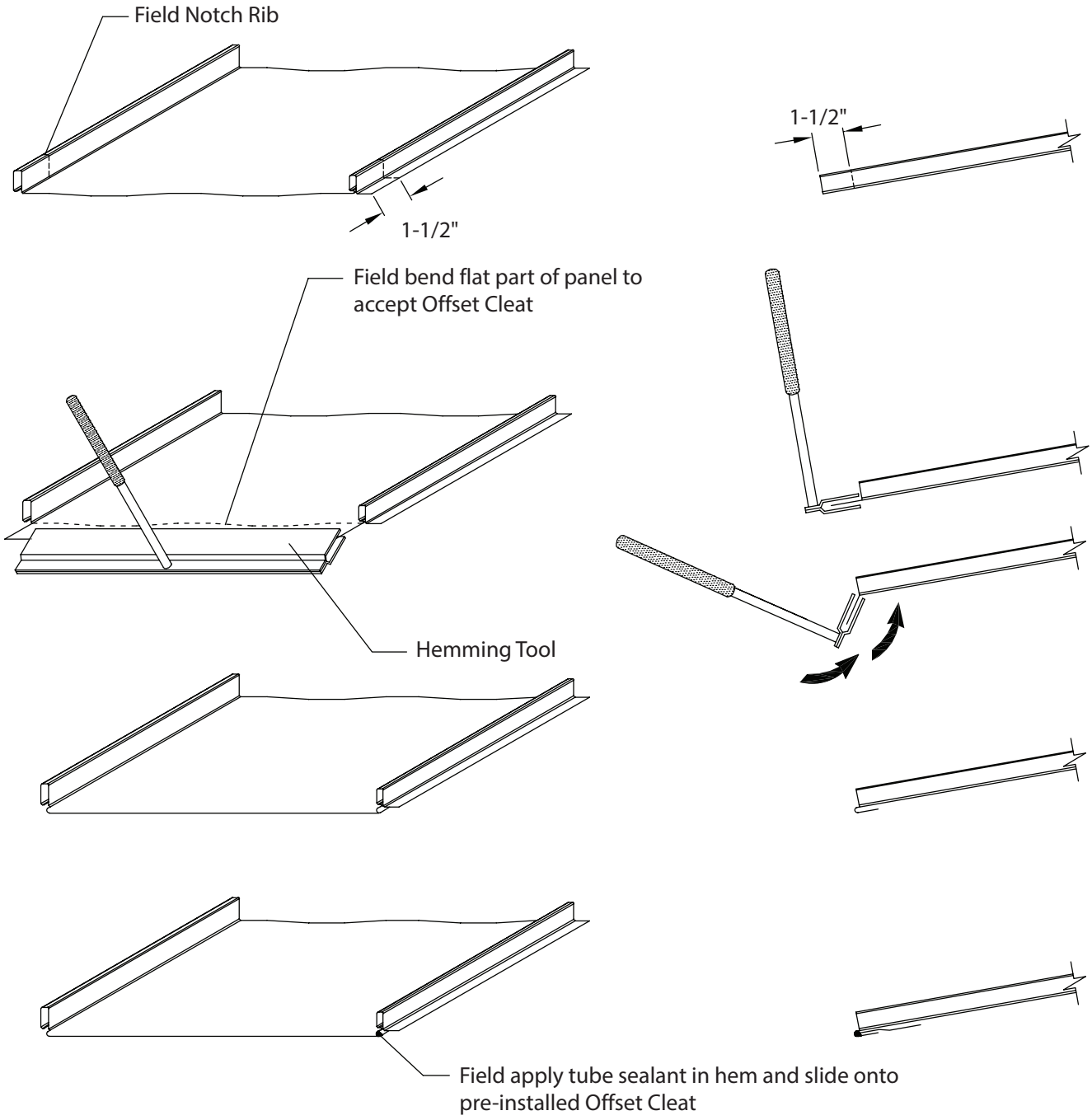


Note: **The high end of the panels must be direct fastened to secure the panels to the decking.**	**Note:** **Panel ribs must be field notched and the flat part of the panel must be field hemmed to accept Offset Cleat (see page 31).**	**Note:** **Fill exposed end of ribs with tube sealant**

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

1. Install Valley flashing on decking. To hold Valley flashing in place, fasten to decking with #10-12 x 1" Pancake Head Wood Screw, 4'-0" o.c.
2. Apply a row of Double Bead Tape Sealant across both sides of Valley flashing approximately 5" from center of valley.
3. Properly align and install Offset Cleat on both sides of Valley flashing to accommodate panel hem and fasten to decking with #10-12 x 1" Pancake Head Wood Screw, 1'-0" o.c.
4. Install panel by engaging field-hemmed end of panel (see page 31) to Offset Cleat (see pages 32 and 33 for panel installation).
5. If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 6", placing 3 beads of Tube Sealant between the flashings and securing each side of the lap but not through the lap.

Panels must be field notched and hemmed when using an Offset Cleat or Extended Eave.



Field-apply Tube Sealant in bend and slide Panel over Offset Cleat or Extended Eave.

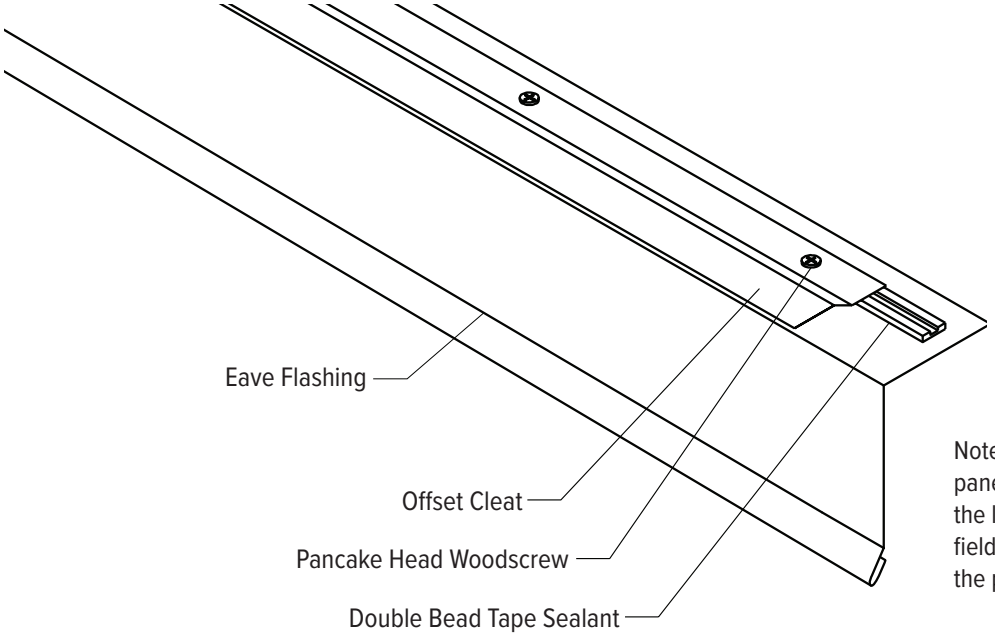
1. Field notch underlap and overlap ribs of panel up to 1-1/2" from end of panel.
2. Place the hemming tool onto the protruding pan of the panel and bend down to form an open hem.
3. Place a continuous bead of Tube Sealant inside the open hem.
4. Engage Offset Cleat or Extended Eave into open hem at the end of the panel to start panel installation.

STEP 1

INSTALLING EAVE FLASHING

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 #10-12 x 1" Pancake 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.

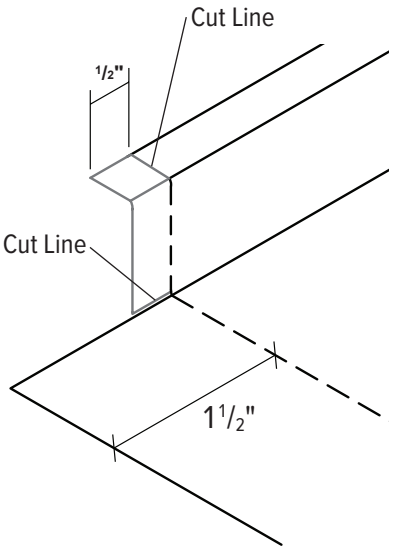


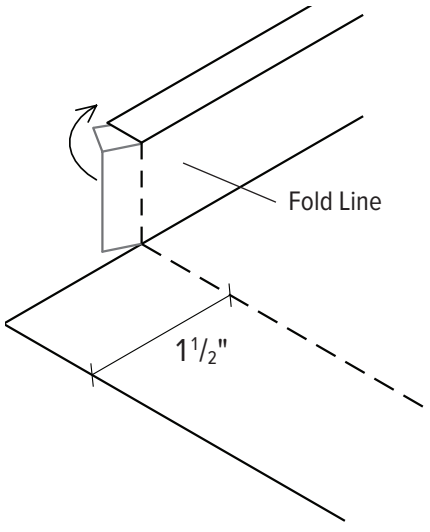
Note: If you are to field bend the panel ends to close off panels on the low side, see below before field notching and hemming of the panels.

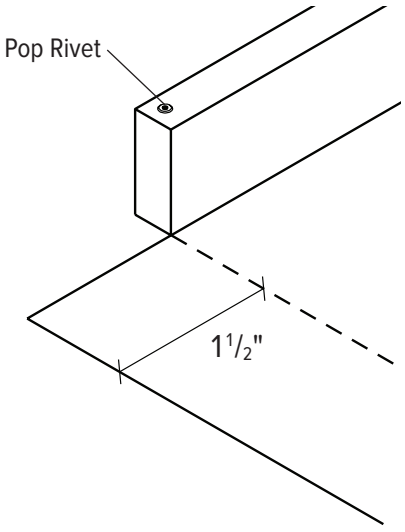
STEP 2

CAPPING PANEL RIB ENDS

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.



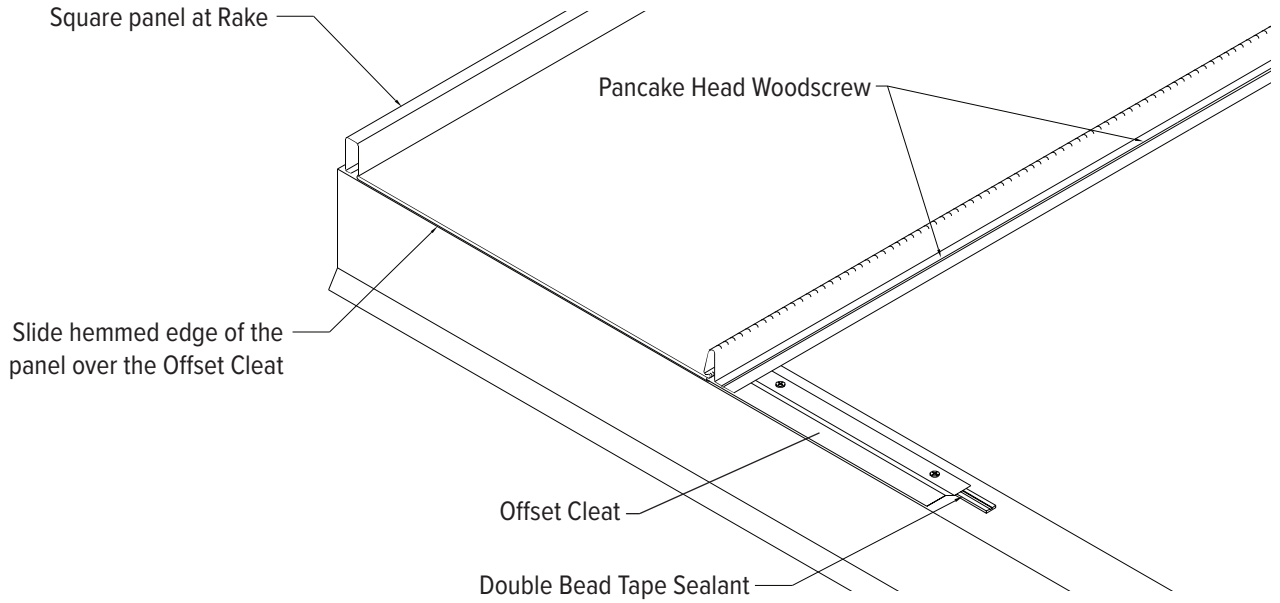




STEP 3

INSTALLING FIRST PANEL

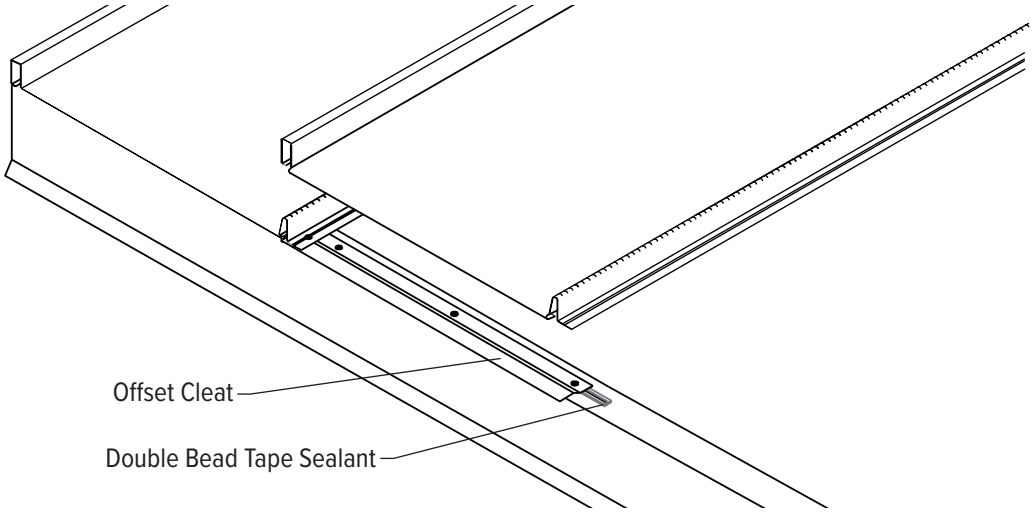
1. Remove strippable film before installing panels.
2. Install first panel so that eave has proper overhang making sure that the panel is square to eave and rake.
3. Slide the panel toward the peak of the roof engaging the panel with the Offset Cleat. Offset Cleat must be fully engaged into the panel. Additional overhang must be considered if using wall panels. It is critical that the first panel be straight and square to the eave as it controls alignment of the following roof panels.
4. Fasten panel to substrate with a #10-12 x 1" Pancake 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. **Note: It is important that the fastener be placed in the center of the fastening groove and make sure not to overtighten screws.**



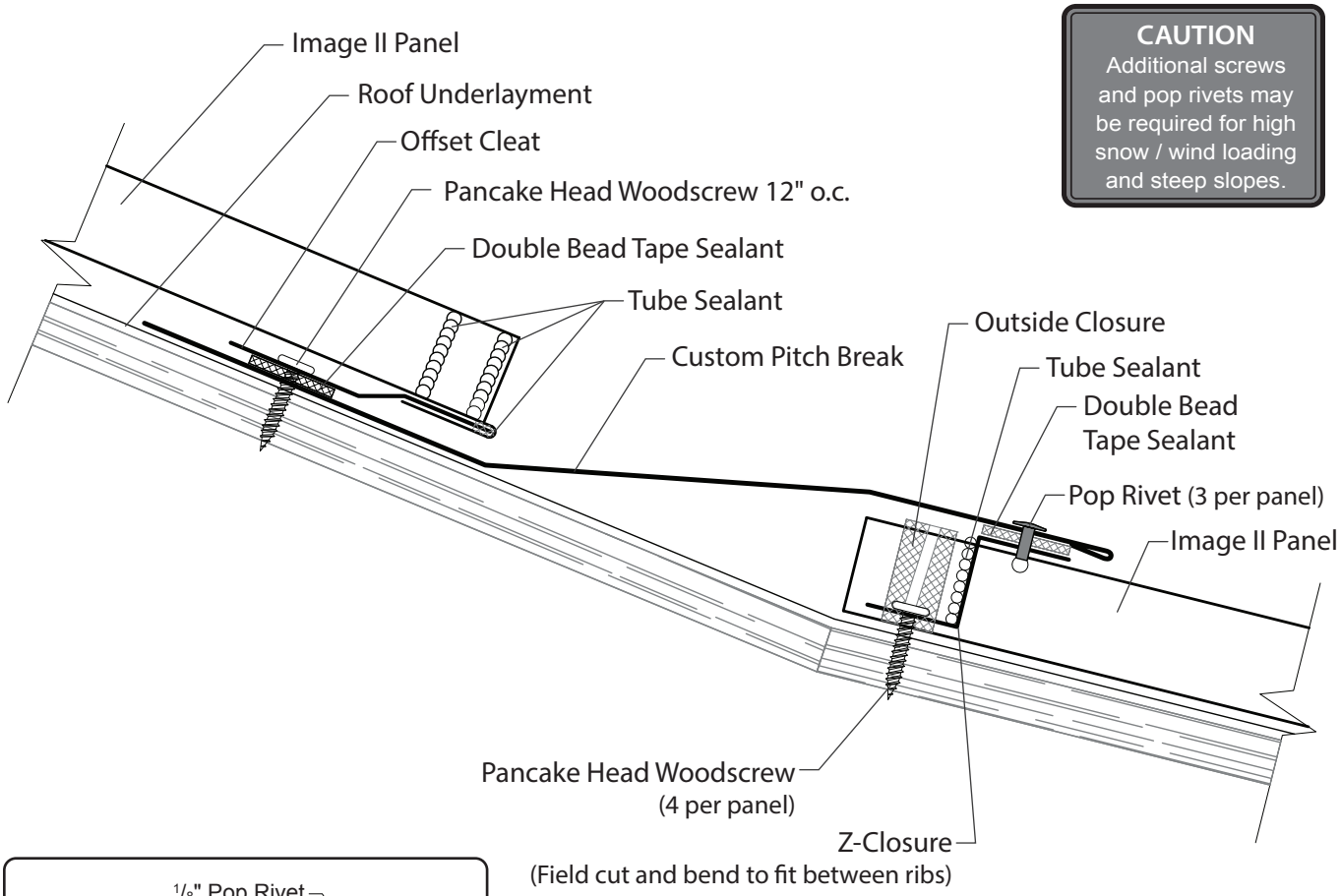
STEP 4

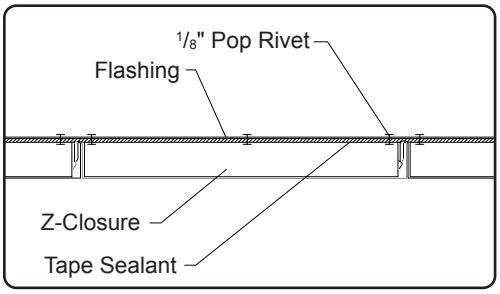
INSTALLING SECOND PANEL

1. Remove strippable film before installing panels.
2. Place the second panel on top of previously installed panel and engages, second hemmed panel with the Offset Cleat. Then begin snapping the panels together working from eave to peak. It is critical that panels only be snapped in one direction. Repeat for remaining panels.
3. Clean any debris and excess sealant. Panels may also be field notched and bent to close off panel end.
4. Apply a single bead of tube sealant inside the open hem of the Image II panel.

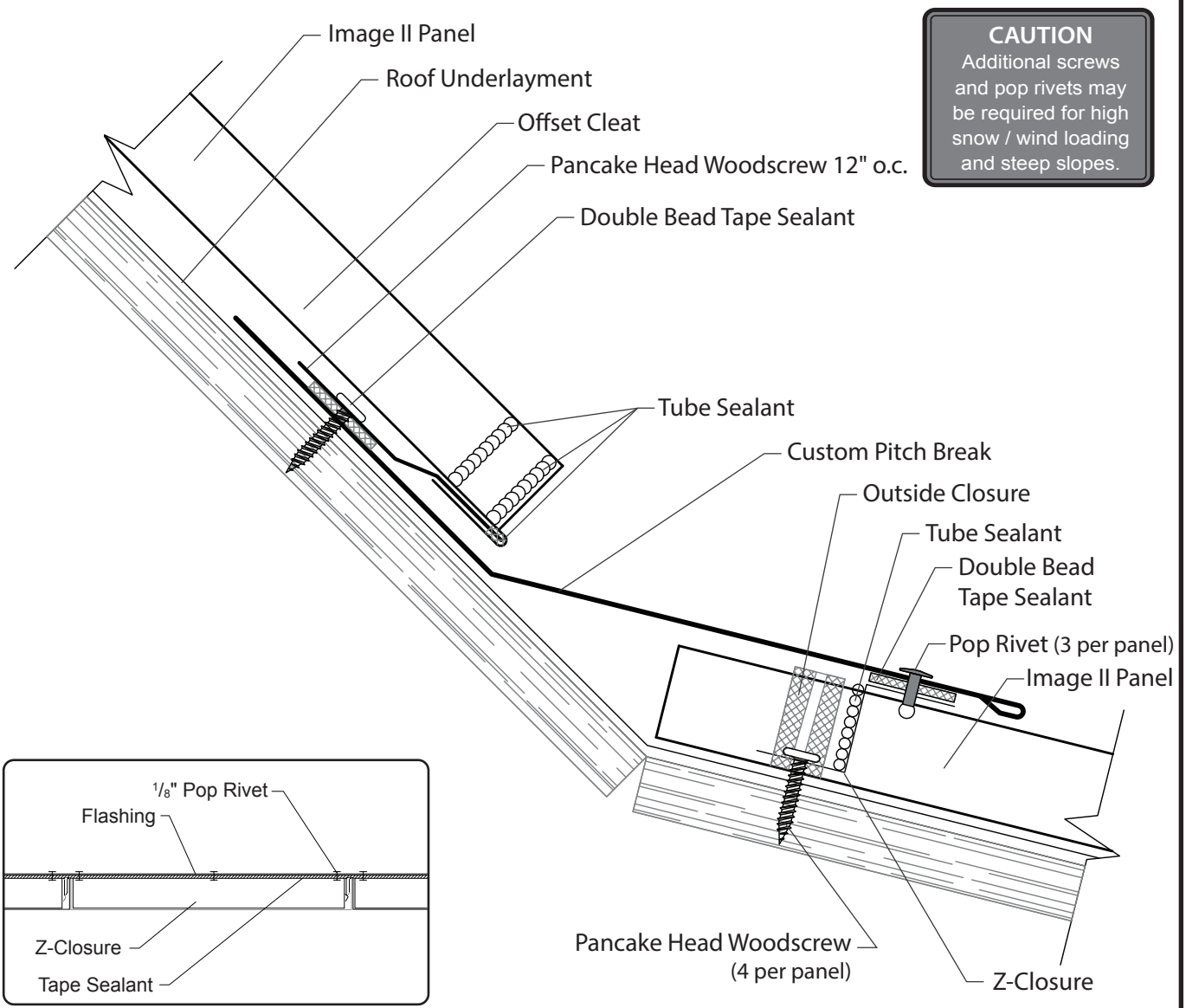


CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.



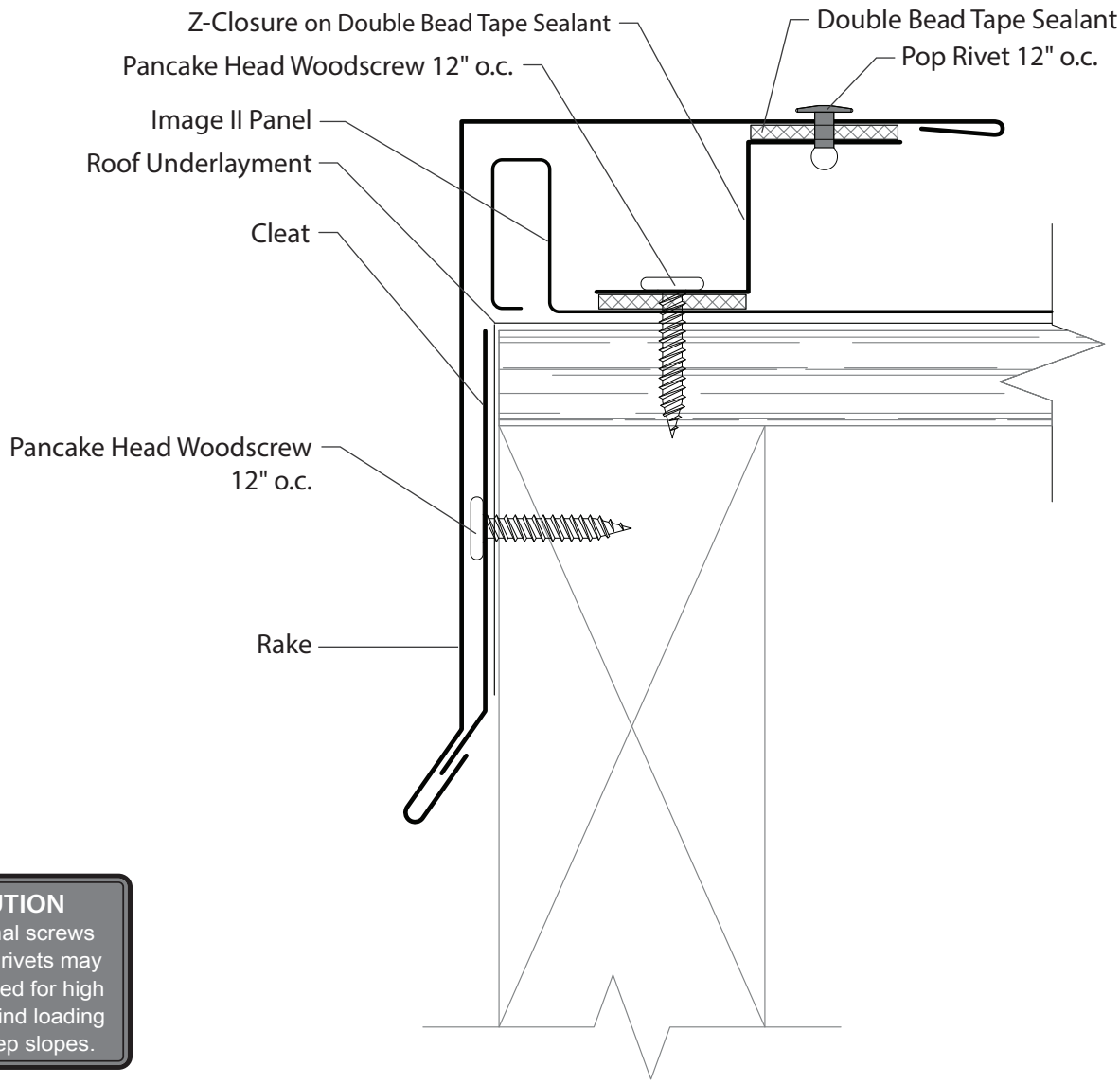


1. Once lower panels have been installed, field cut the Z-Closure (see page 46) to fit between the panel ribs.
2. Place a row of Double Bead Tape Sealant across panel and over each panel rib approximately 2" from panel end. Before proceeding make sure Z-Closure location will accommodate Pitch Break flashing.
3. Install field-cut Z-Closure (see page 46).
4. Fasten Z-Closure through panel with (4) Pancake Head Wood Screws per panel.
5. Apply a continuous bead of Tube Sealant across top leg of Z-Closure filling any gaps or openings around panel ribs. Position and install Pitch Break flashing to Z-Closure with 1/8" Pop Rivets (as shown).
6. Place Offset Cleat onto upper edge of Pitch Break with Double Bead Tape Sealant and Pancake Head Woodscrew.
7. Make sure Pitch Break flashing has a positive slope so that water flows naturally with gravity onto the lower panel.
8. Fill ends of Image II ribs with Tube Sealant.
9. 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 1/8" Pop Rivets spaced 2 1/2" o.c.



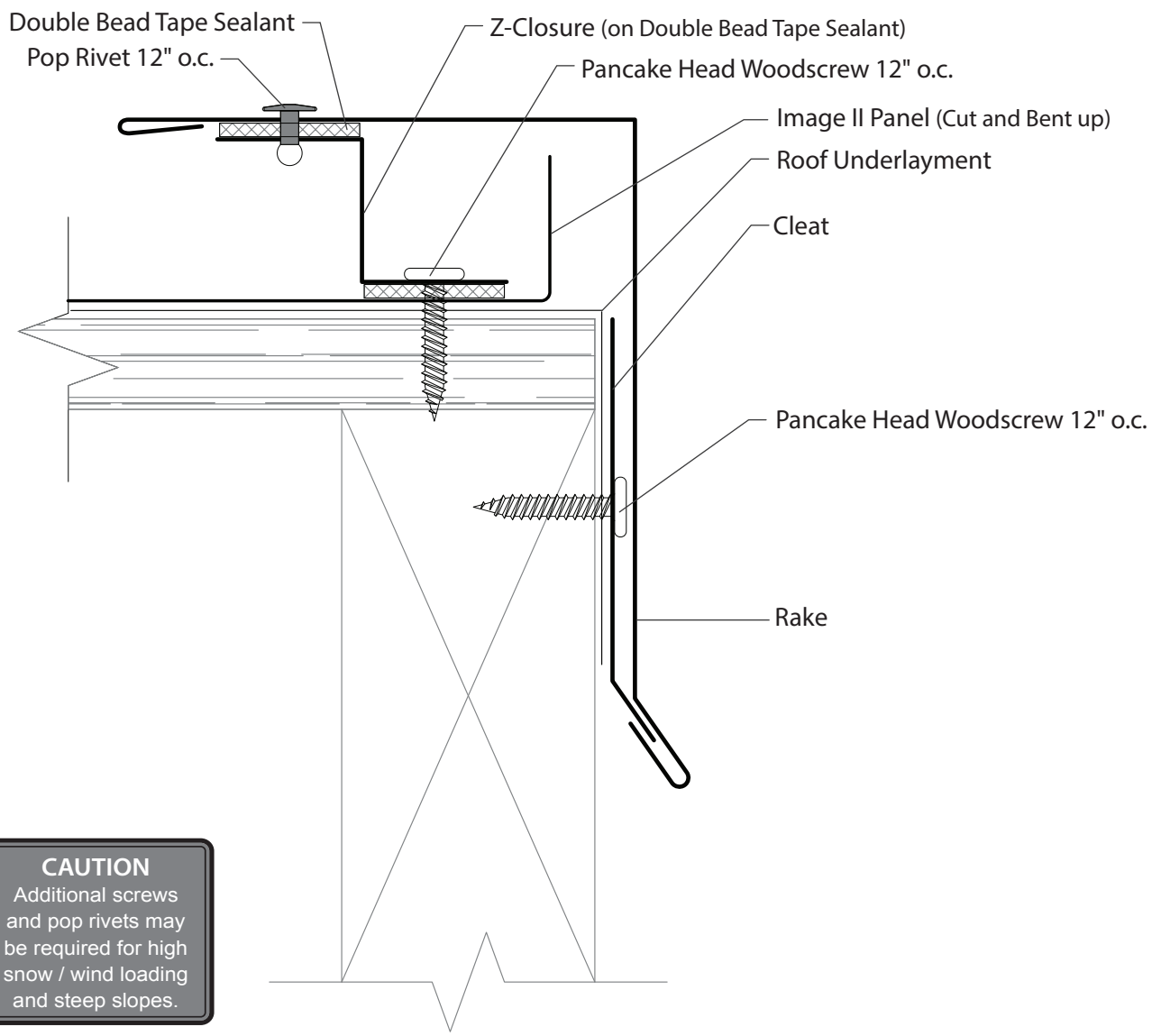
CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

1. Once lower panels have been installed, field cut the Z-Closure (see page 46) 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 Z-Closure location will accommodate Pitch Break flashing.
3. Install field-cut Z-Closure (see page 46).
4. Fasten Z-Closure through panel with (4) Pancake Head Wood Screws per panel.
5. Apply a continuous bead of Tube Sealant across top leg of Z-Closure filling any gaps or openings around panel ribs. Position and install Pitch Break flashing to Z-Closure with 1/8" Pop Rivets (as shown).
6. Place Offset Cleat onto upper edge of Pitch Break with Double Bead Tape Sealant and Pancake Head Woodscrew.
7. Make sure Pitch Break flashing has a positive slope so that water flows naturally with gravity onto the lower panel.
8. Fill ends of Image II ribs with Tube Sealant.
9. 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 1/8" Pop Rivets spaced 2 1/2" o.c.



CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

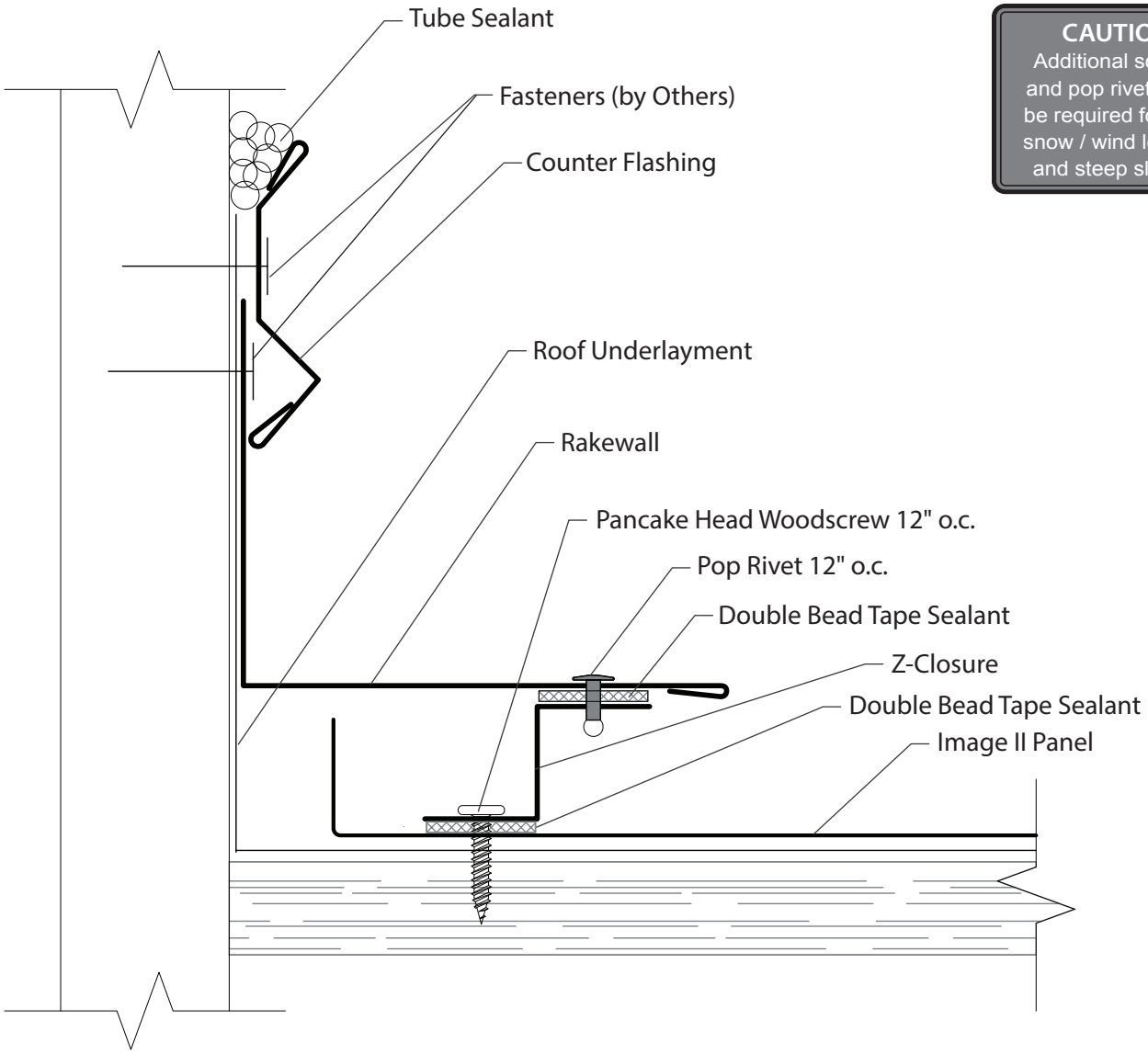
1. Roof panel must be installed before Rake flashing.
2. Apply a row of Double Bead Tape Sealant to the flat part of the panel next to the panel rib and install Z-Closure. Place Double Bead Tape Sealant on the top leg of the Z-Closure.
3. Position and install Cleat to wall with Pancake Head Woodscrew at 12" o.c. Make sure Cleat installation allows for proper Rake attachment.
4. Install Rake by sliding the open hem onto the Cleat and then attaching to Z-Closure with Pop Rivet at 12" o.c.
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.



CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

1. Roof panel must be installed before Rake flashing.
2. If the panel ends off module, cut off panel rib bend flat part of the panel up a minimum of 1".
3. Apply a row of Double Bead Tape Sealant to the flat part of the panel next to the vertical field bent leg and install Z-Closure. Place Double Bead Tape Sealant on the top leg of the Z-Closure.
4. Position and install Cleat to wall with Pancake Head Woodscrew at 12" 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 Z-Closure with Pop Rivets at 12" 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.

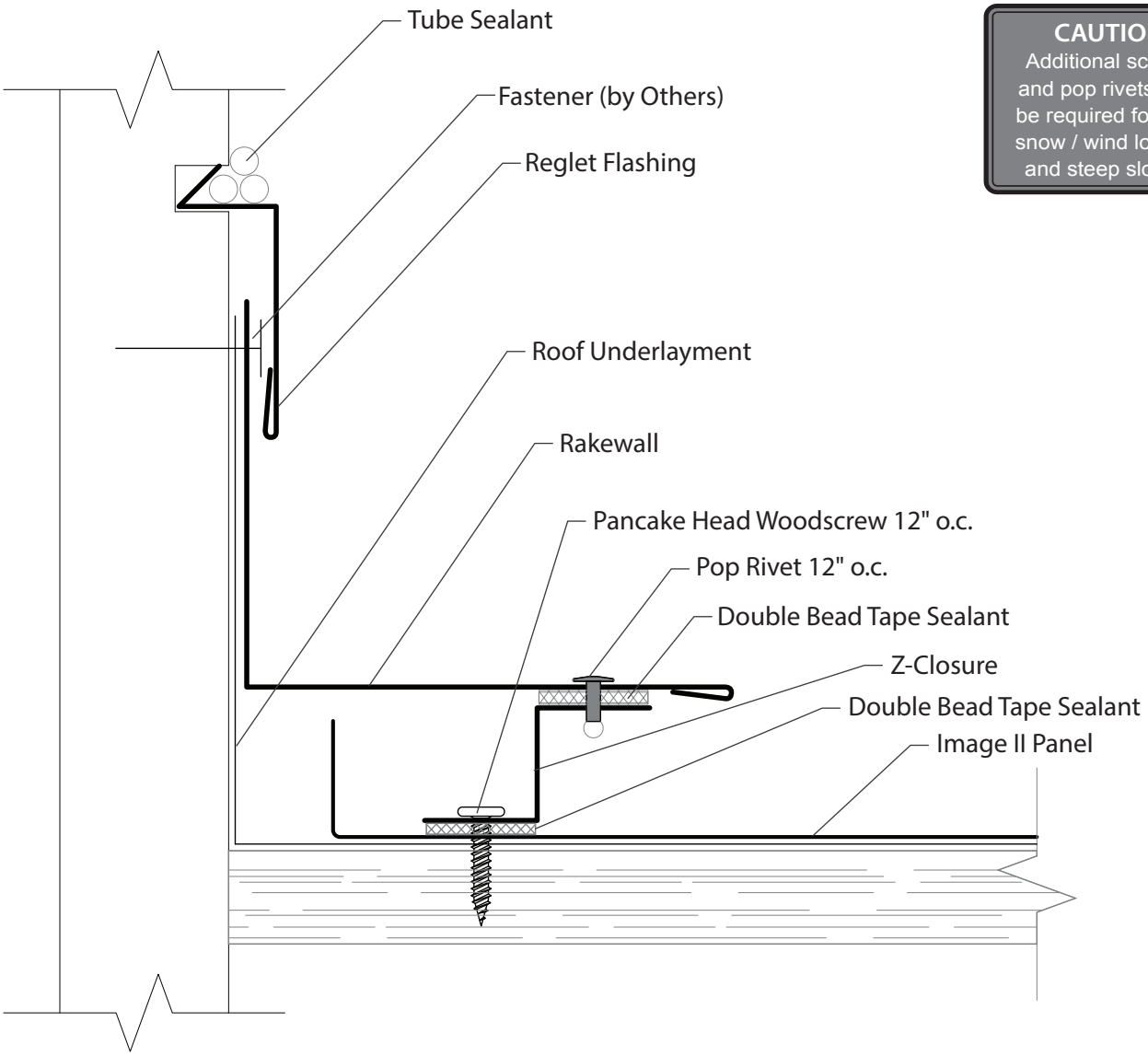
IMAGE II Sidewall with Counter Flashing Concealed Fastener



CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

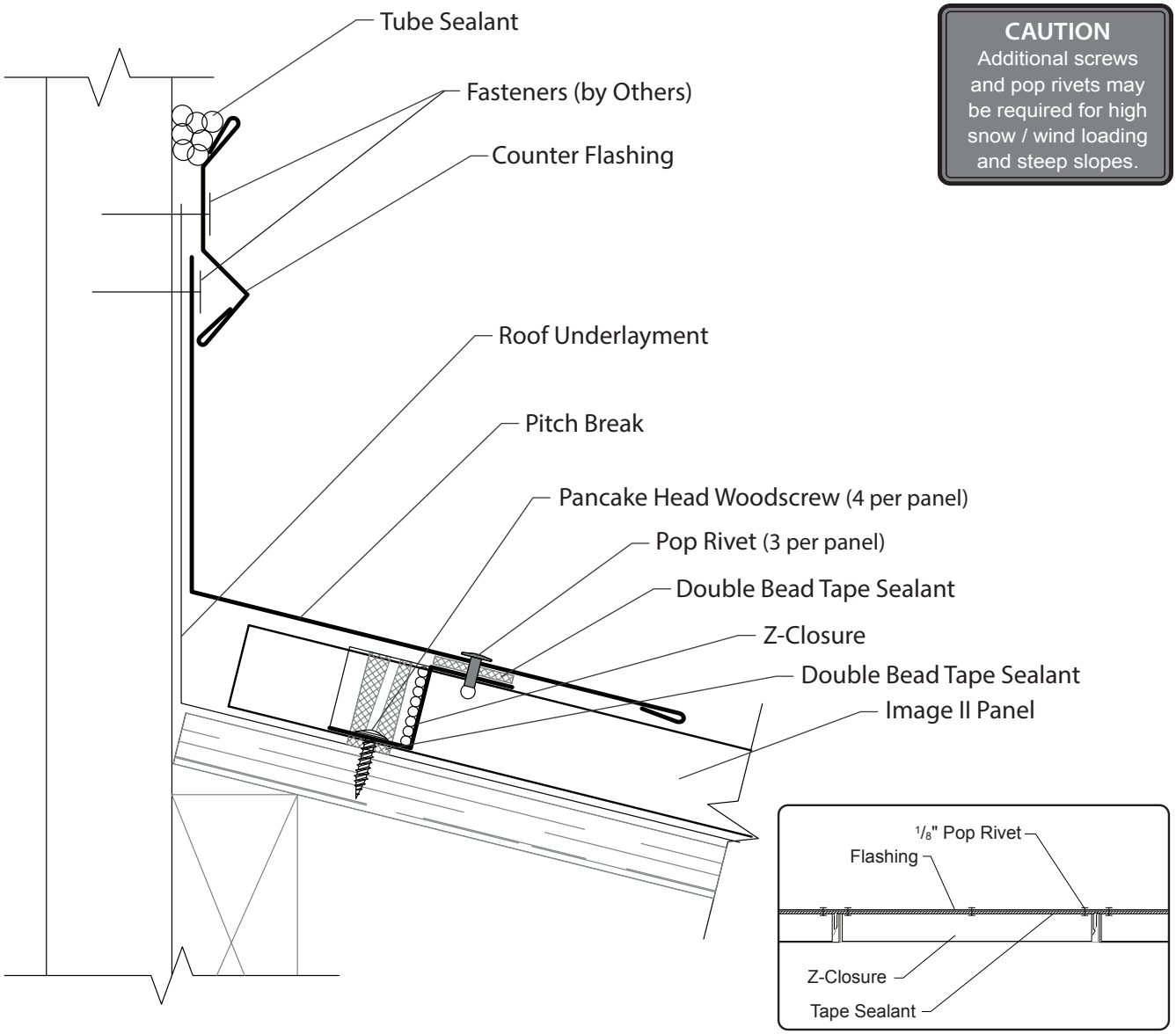
1. Roof panel must be installed before Rakewall flashing.
2. Apply a row of Double Bead Tape Sealant to the flat part of the panel next to the panel rib.
3. Install Z-Closure over the Double Bead Tape Sealant making sure the painted side faces away from the wall and the top leg does not extend past the Rakewall flashing.
4. Fasten Z-Closure through the panel 1'-0" o.c. before Rakewall flashing is installed.
5. Apply Double Bead Tape Sealant to the top leg of the Z-Closure.
6. Install Rakewall flashing and predrill the flashings to install the Pop Rivet at Z-Closure.
7. Install the Counter Flashing or wall panel over top of the Rakewall flashing with the appropriate fastener (not by Metal Sales).
8. Fill top of the Counter Flashing with a liberal amount of Tube Sealant to prevent water from getting behind the flashing.
9. 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.

IMAGE II Sidewall with Reglet Flashing Concealed Fastener



CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

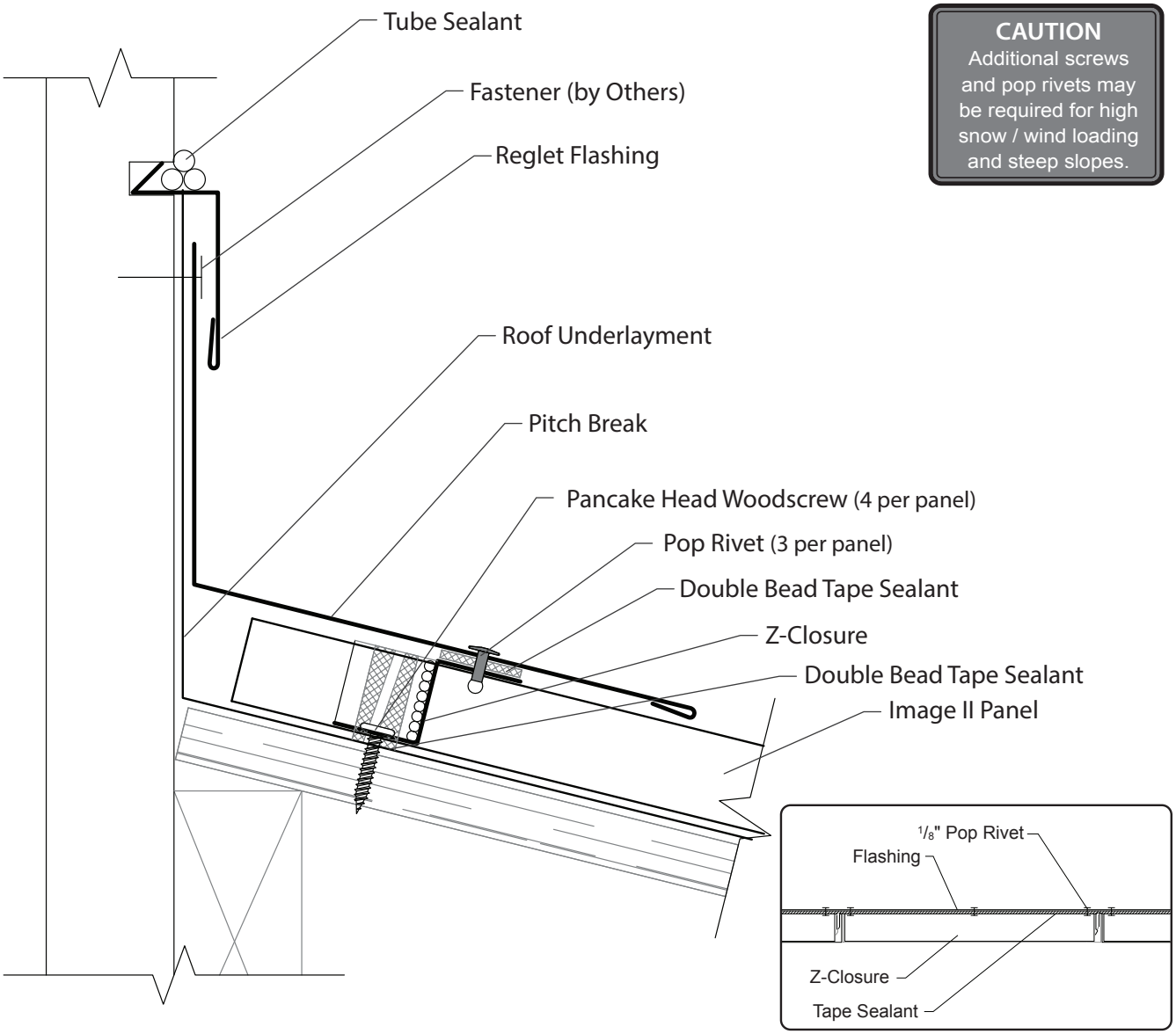
1. Roof panel must be installed before Rakewall flashing.
2. Apply a row of Double Bead Tape Sealant to the flat part of the panel next to the panel rib.
3. Install Z-Closure over the Double Bead Tape Sealant making sure the painted side faces away from the wall and the top leg does not extend past the Rakewall flashing.
4. Fasten Z-Closure through the panel 1'-0" o.c. before Rakewall flashing is installed.
5. Apply Double Bead Tape Sealant to the top leg of the Z-Closure.
6. Install Rakewall flashing and predrill the flashings to install the Pop Rivet at Z-Closure.
7. Install the Reglet Flashing or wall panel over top of the Rakewall flashing with the appropriate fastener (not by Metal Sales).
8. Fill top of the Reglet Flashing with a liberal amount of Tube Sealant to prevent water from getting behind the flashing.
9. 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.



CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

1. Roof panel must be installed before Pitch Break flashing.
2. Install field-cut Z-Closure so that painted side faces down slope (see page 46).
3. Place a row of Double Bead Tape Sealant across panel and over each panel rib approximately 2" from panel end. Before proceeding make sure Z-Closure location will accommodate Pitch Break flashing.
4. Fasten Z-Closure through the panel with (4) Pancake Head Woodscrews as shown on page 46.
5. Apply a bead of Tube Sealant filling any gaps or openings around panel ribs.
6. Apply a continuous row of Double Bead Tape Sealant to the top leg of the Z-Closure.
7. Install Pitch Break flashing and predrill the flashings to install 3 Pop Rivet per panel to Z-Closure, fasten to wall on the vertical leg.
8. Install the Counter Flashing or wall panel over top of the Pitch Break flashing with the appropriate fastener (not by Metal Sales).
9. Fill top of the Counter Flashing with a liberal amount of Tube Sealant to prevent water from getting behind the flashing.
10. 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 $^1/_8$" Pop Rivets spaced $2^1/_2$" o.c.

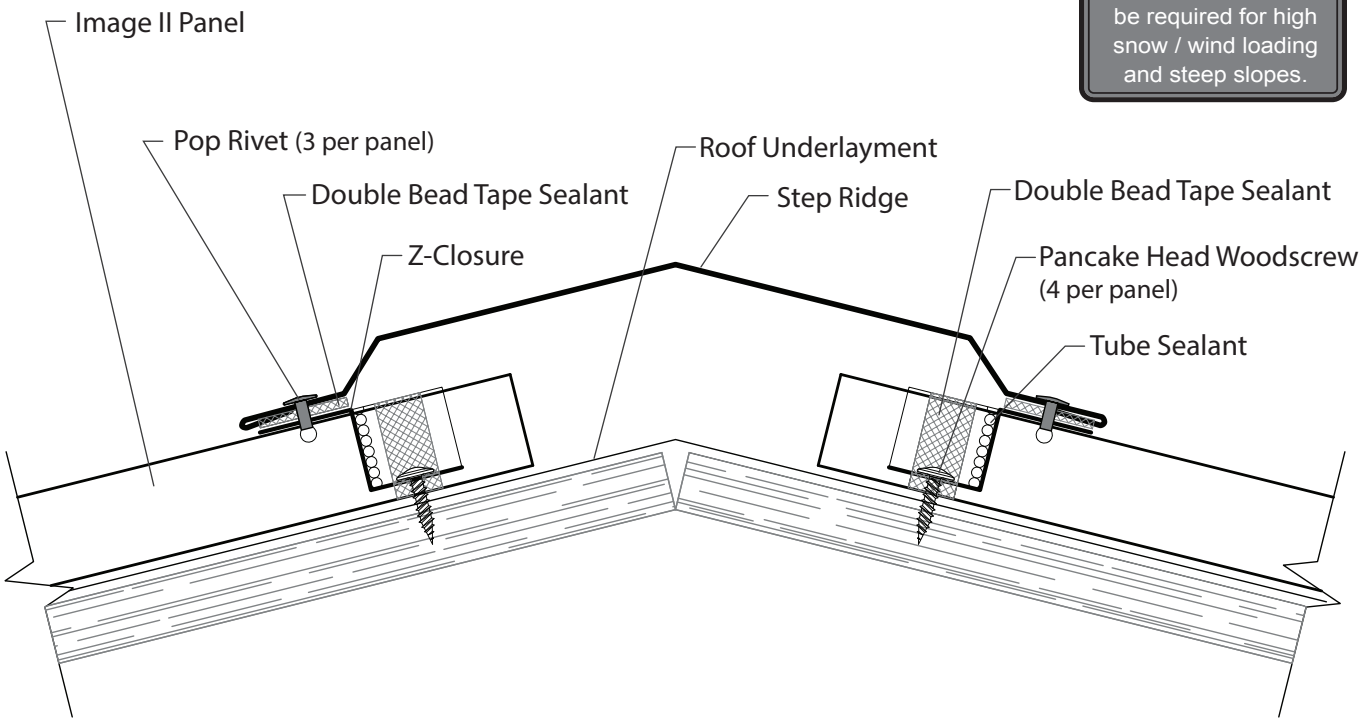
IMAGE II Endwall with Reglet Flashing Concealed Fastener

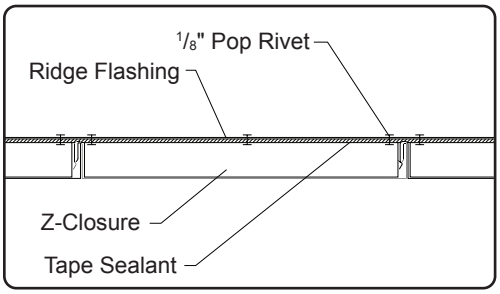


CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

1. Roof panel must be installed before Pitch Break flashing.
2. Install field-cut Z-Closure so that painted side faces down slope (see page 46).
3. Place a row of Double Bead Tape Sealant across panel and over each panel rib approximately 2" from panel end. Before proceeding make sure Z-Closure location will accommodate Pitch Break flashing.
4. Fasten Z-Closure through the panel with (4) Pancake Head Woodscrews as shown on page 46.
5. Apply a bead of Tube Sealant filling any gaps or openings around panel ribs.
6. Apply a continuous row of Double Bead Tape Sealant to the top leg of the Z-Closure.
7. Install Pitch Break flashing and predrill the flashings to install 3 Pop Rivet per panel to Z-Closure, fasten to wall on the vertical leg.
8. Install the Reglet Flashing or wall panel over top of the Pitch Break flashing with the appropriate fastener (not by Metal Sales).
9. Fill top of the Reglet Flashing with a liberal amount of Tube Sealant to prevent water from getting behind the flashing.
10. 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 $^1/_8$" Pop Rivets spaced $2^1/_2$" o.c.

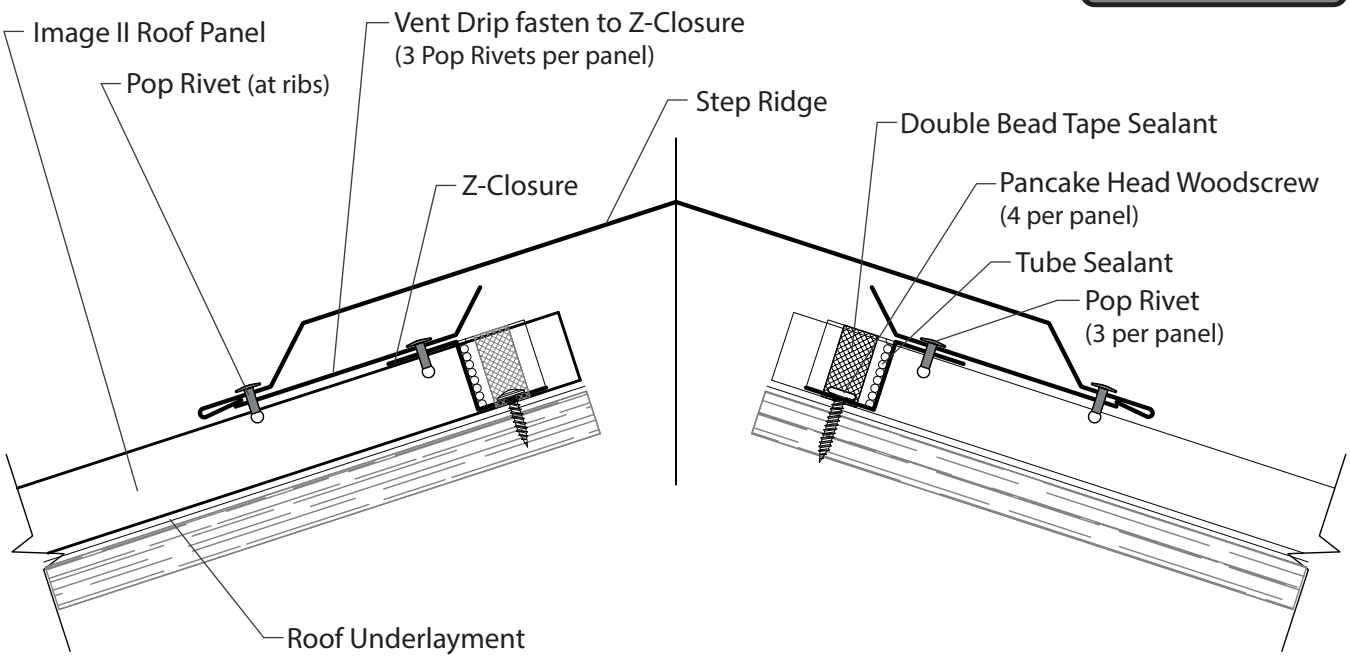
CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

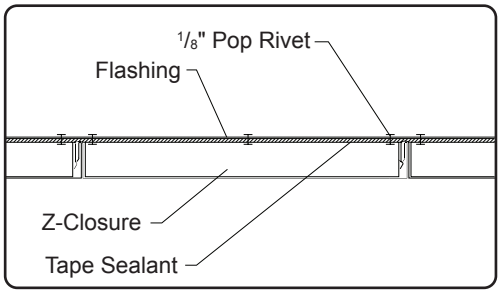




1. Once panels have been installed, field cut the Z-Closure (see page 46) to fit between the panel ribs.
2. Place a row of Double Bead Tape Sealant across panel and over each panel rib approximately 2" from panel end. Before proceeding make sure Z-Closure location will accommodate ridge flashing.
3. Install field-cut Z-Closure so that painted side faces down slope (see page 46). Fasten Z-Closure through panel with (4) #10-12 x 1" Pancake Head Wood Screws per panel.
4. Apply Tube Sealant at the ribs to fill any voids.
5. Apply a row of Double Bead Tape Sealant across top leg of Z-Closure filling any gaps or openings around panel ribs.
6. Position and install ridge flashing to Z-Closure with 1/8" Pop Rivets (as shown).
7. 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 1/8" Pop Rivets spaced 2 1/2" o.c.

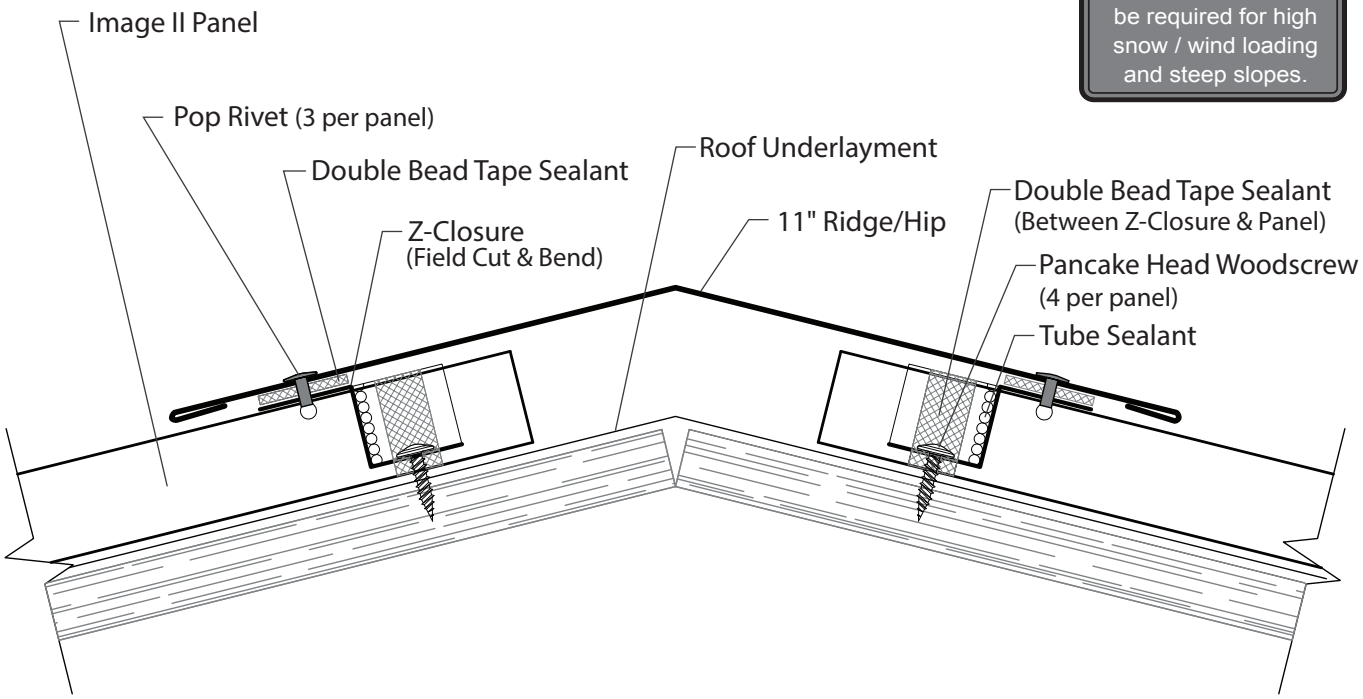
CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

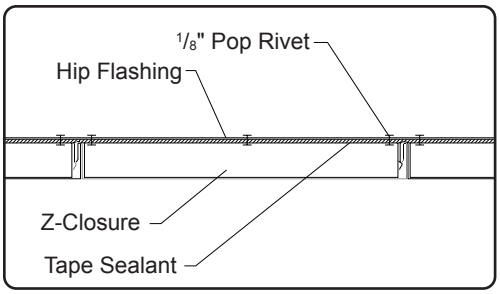




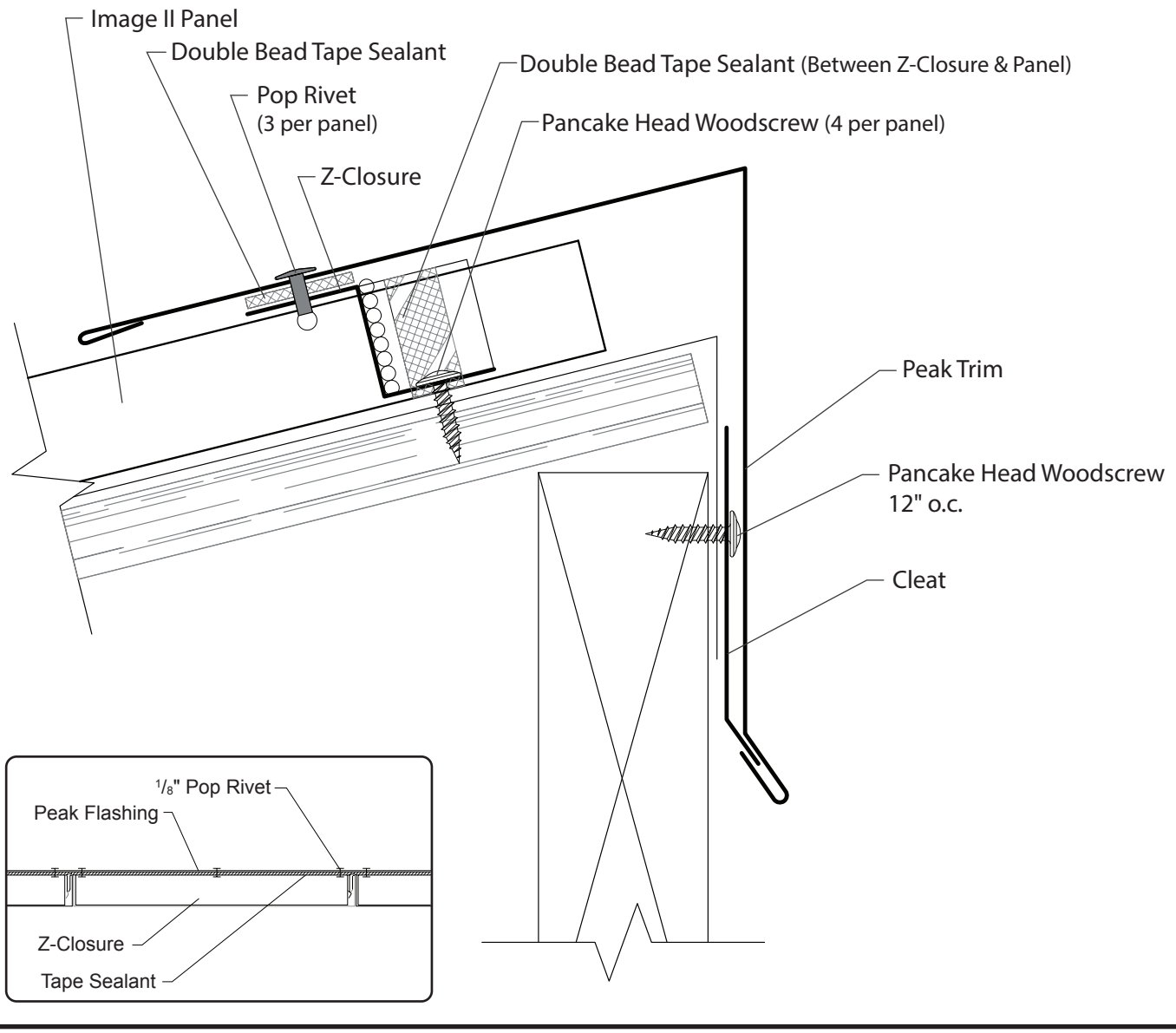
1. Once panels have been installed, field cut the Z-Closure (see page 46) to fit between the panel ribs.
2. Place a row of Double Bead Tape Sealant across panel and over each panel rib approximately 2" from panel end. Before proceeding make sure Z-Closure location will accommodate ridge flashing.
3. Install field-cut Z-Closure so that painted side faces down slope (see page 46). Fasten Z-Closure through panel with (4) #10-12 x 1" Pancake Head Wood Screws per panel.
4. Apply Tube Sealant at the ribs to fill any voids.
5. Apply a row of Double Bead Tape Sealant across top leg of Z-Closure filling any gaps or openings around panel ribs.
6. Install Vent Drip as shown above with Pop Rivets 12" o.c. and apply a row of Double Bead Tape Sealant to the top leg of the Z-Closure.
7. Place Step Ridge on top of Vent Drip flashings as shown above and fasten to Image II panel ribs with Pop Rivets. Pop Rivets must be attached to every panel rib.
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 1/8" Pop Rivets spaced 2 1/2" o.c.

CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.



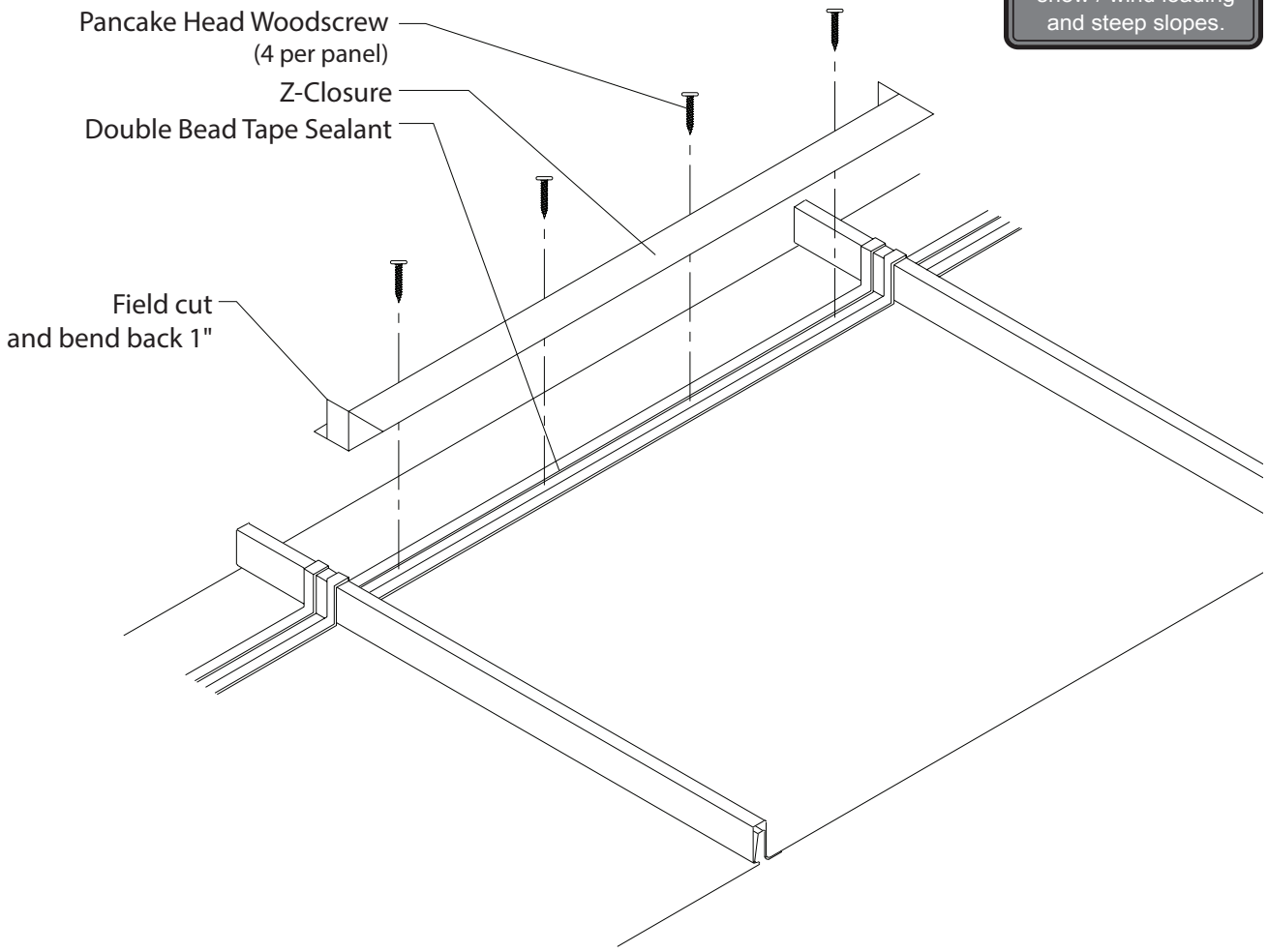


1. Once panels have been installed, field cut the Z-Closure (see page 46) to fit between the panel ribs.
2. Place a row of Double Bead Tape Sealant across panel and over each panel rib approximately 2" from panel end. Before proceeding make sure Z-Closure location will accommodate 11" Ridge/Hip flashing.
3. Install field cut Z-Closure (see page 46).
4. Make sure painted side of the Z-Closure is facing down slope. Fasten Z-Closure through panel with (4) Pancake Head Wood Screws per panel.
5. Apply a bead of Tube Sealant filling any gaps or openings around panel ribs.
6. Apply a continuous row of Double Bead Tape Sealant across top leg of Z-Closures.
7. Position and install 11" Ridge/Hip Cover flashing to Z-Closures with 1/8" Pop Rivets 12" o.c. on each side.
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 1/8" Pop Rivets spaced 2 1/2" o.c.



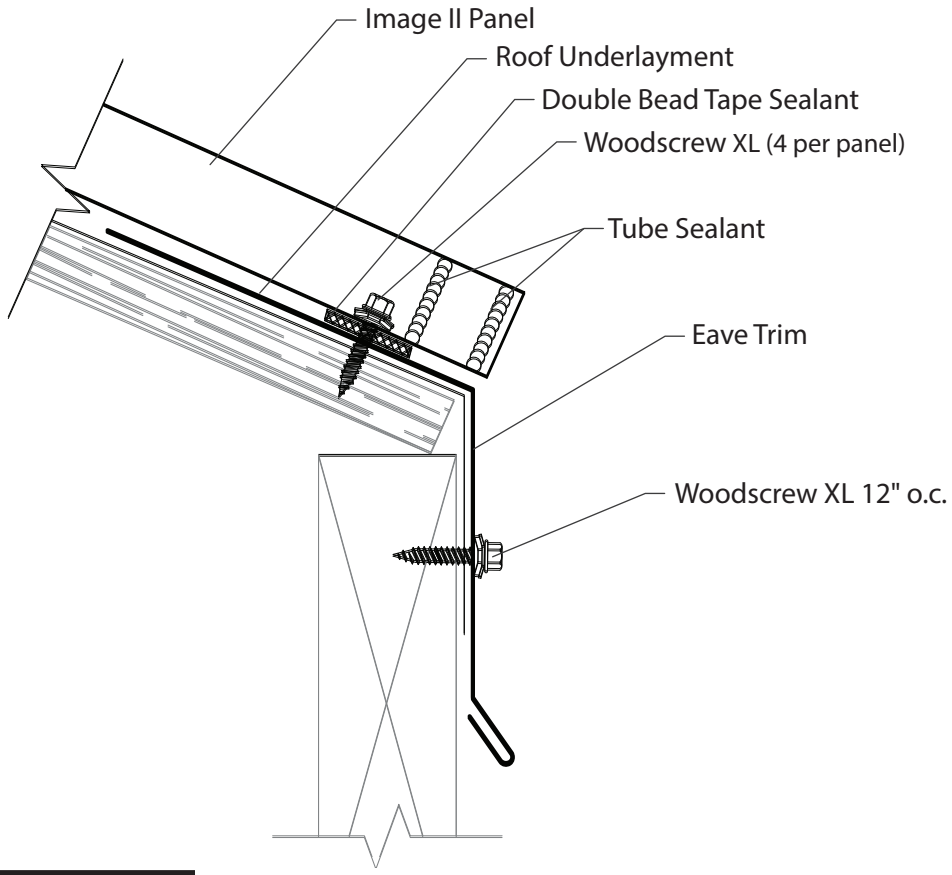
1. Once panels have been installed, field cut the Z-Closure (see page 46) to fit between the panel ribs.
2. Place a row of Double Bead Tape Sealant across panel and over each panel rib approximately 2" from panel end. Before proceeding, make sure Z-Closure location will accommodate Vented Ridge cover.
3. Install field-cut Z-Closure (see page 46).
4. Fasten Z-Closure through panel with (4) #10-12 x 1" Pancake Head Wood Screws per panel.
5. Apply a bead of Tube Sealant filling any gaps or openings around panel ribs.
6. Apply a continuous row of Double Bead Tape Sealant across top leg of Z-Closure.
7. Position and install Cleat to the wall with the appropriate fastener, 1'-0" o.c. Make sure Cleat allows for proper Peak attachment.
8. Install Peak flashing by sliding the open hem onto the Cleat and then attaching to the Z-Closure with Pop Rivets, at the spacing shown above.
9. 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 1/8" Pop Rivets spaced 2 1/2" o.c.

CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.



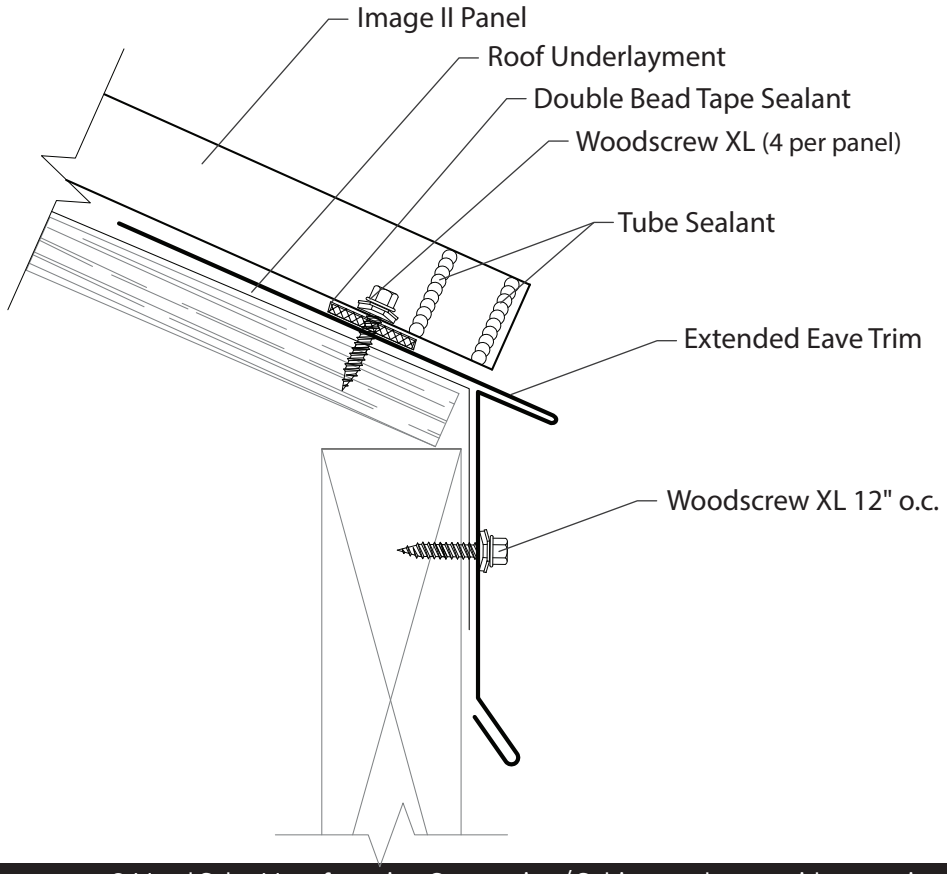
1. Determine location for Bouble Bead Tape Sealant for flashings to align to the building.
2. Place a row of Double Bead Tape Sealant across panel and over each rib as determined, approximately 4" from panel end. Before proceeding, make sure Z-Closure placement will accommodate flashing.
3. Field cut the Z-Closure 2" longer than the clear width between ribs. Snip the top and bottom leg of the Z-Closure at each end and bend both tabs back, as shown above.
4. Fasten through the Z-Closure, Tape Sealant, Image II panel and support material with (4) Pancake Head Woodscrews per panel for solid decking or (4) #10-16 x 1" PHD per panel for open framing.
5. Apply a bead of Tube Sealant filling any gaps or openings around panel ribs.
6. Apply a row of Double Bead Tape Sealant across the top of the Z-Closure filling any gaps or openings around the panel ribs with Tube Sealant.This will be fastened through when the flashing is installed.

IMAGE II Eave — Direct Fastened



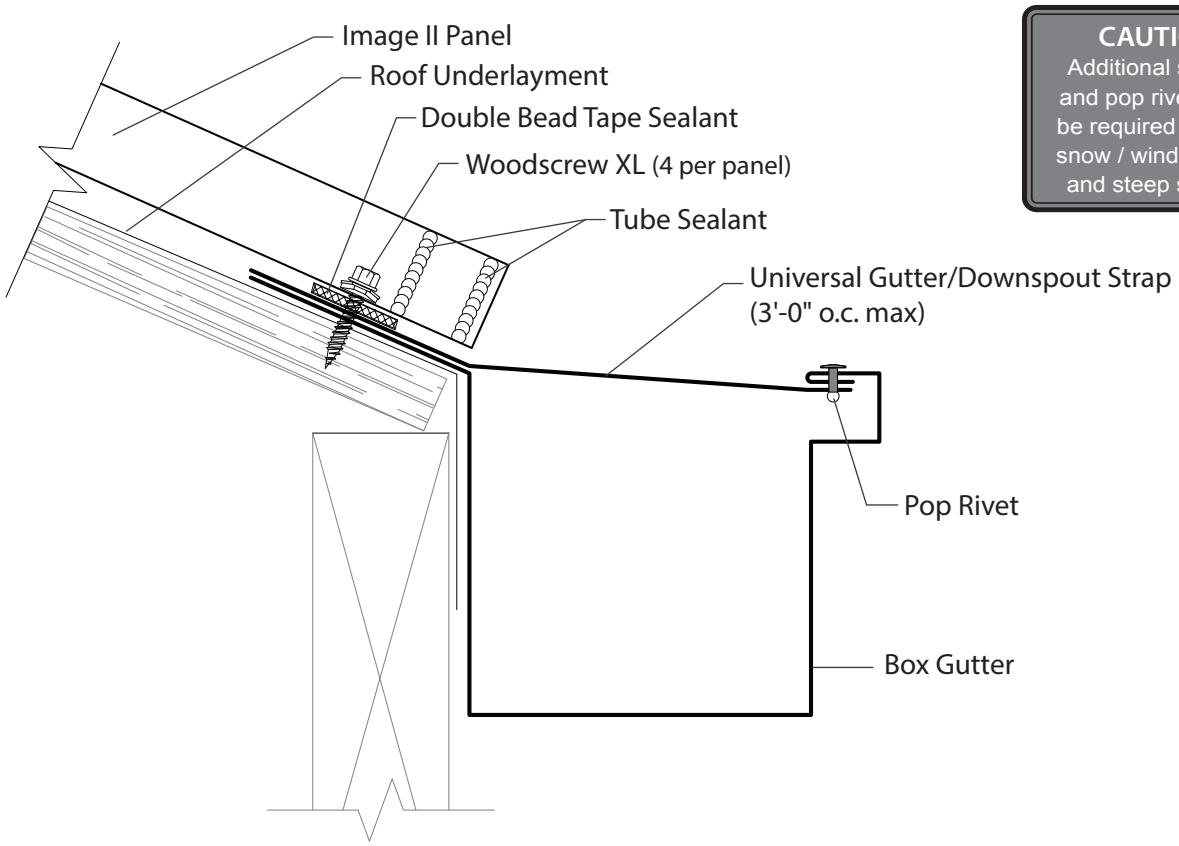
CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

IMAGE II Extended Eave — Direct Fastened



CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

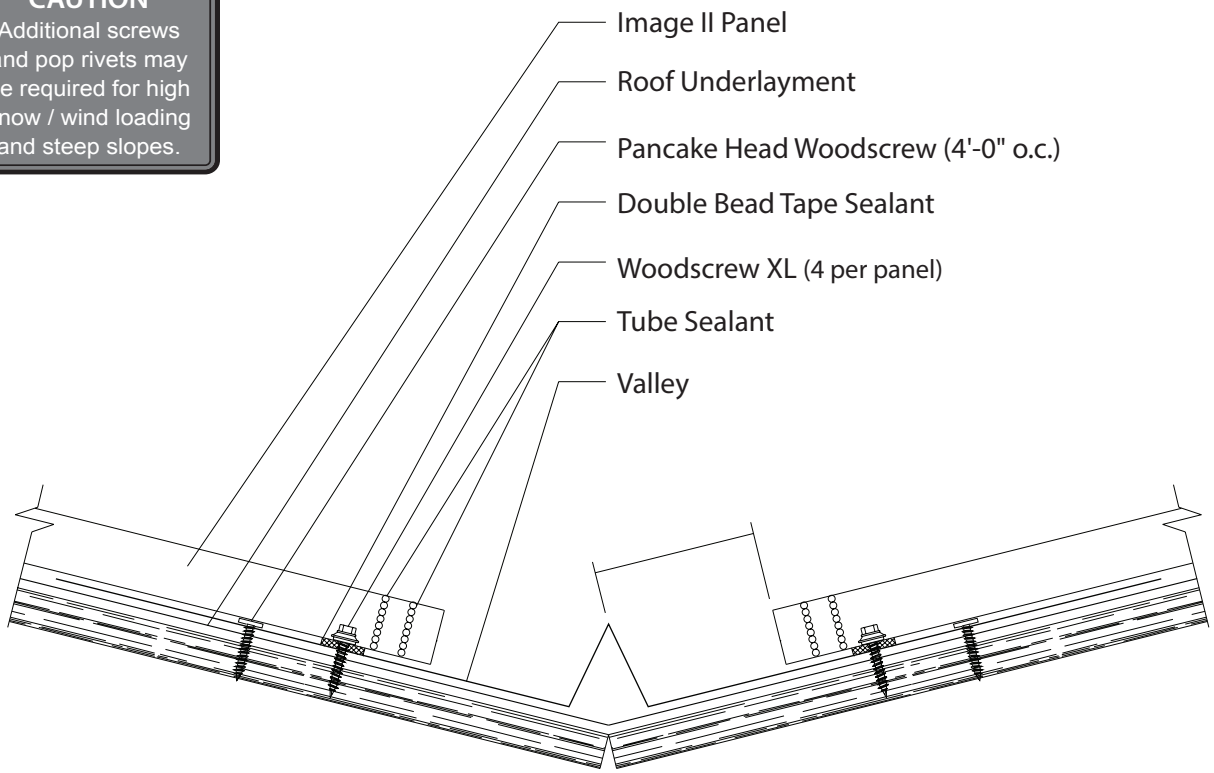
IMAGE II Box Gutter — Direct Fastened



CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

IMAGE II Valley — Direct Fastened

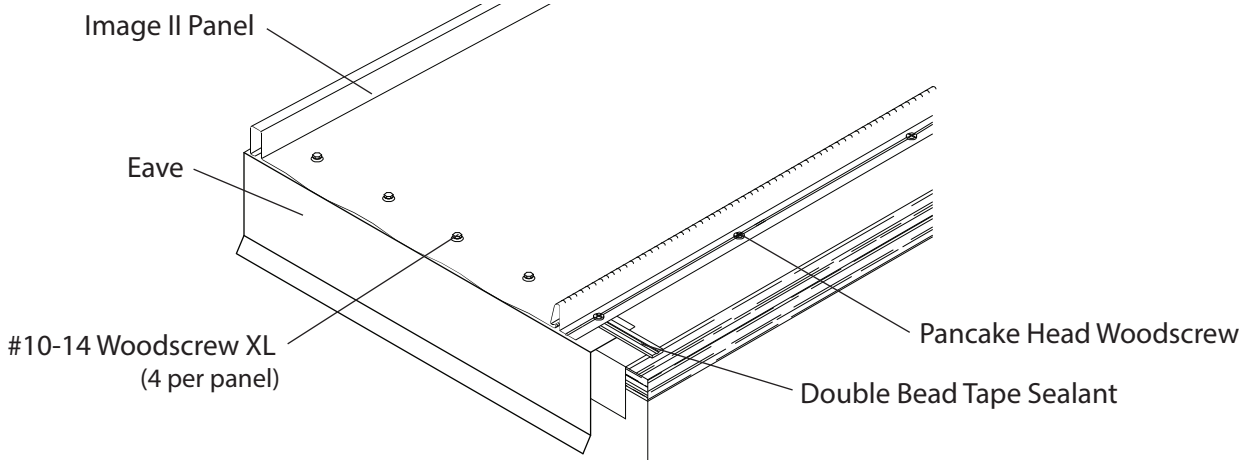
CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.



STEP 1

INSTALLING FIRST PANEL

1. Apply a row of Double Bead Tape Sealant on the top leg of the Eave or Box Gutter flashing.
2. Remove strippable film from Image II panel before installing.
3. 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.
4. Fasten panel to substrate with a Pancake Head Woodscrew 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.
5. Fasten Image II panel with #10-14 Woodscrew XL's through Double Bead Tape Sealant, flashing, and into the solid substrate as shown below.



STEP 2

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. Remove strippable film from Image II panel before installing.
3. Fasten substrate with a Pancake 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.
4. Fasten panel with (4) #10-14 Woodscrew XL's through Double Bead Tape Sealant, flashing, and into the solid substrate below.
5. 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.)
6. 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.

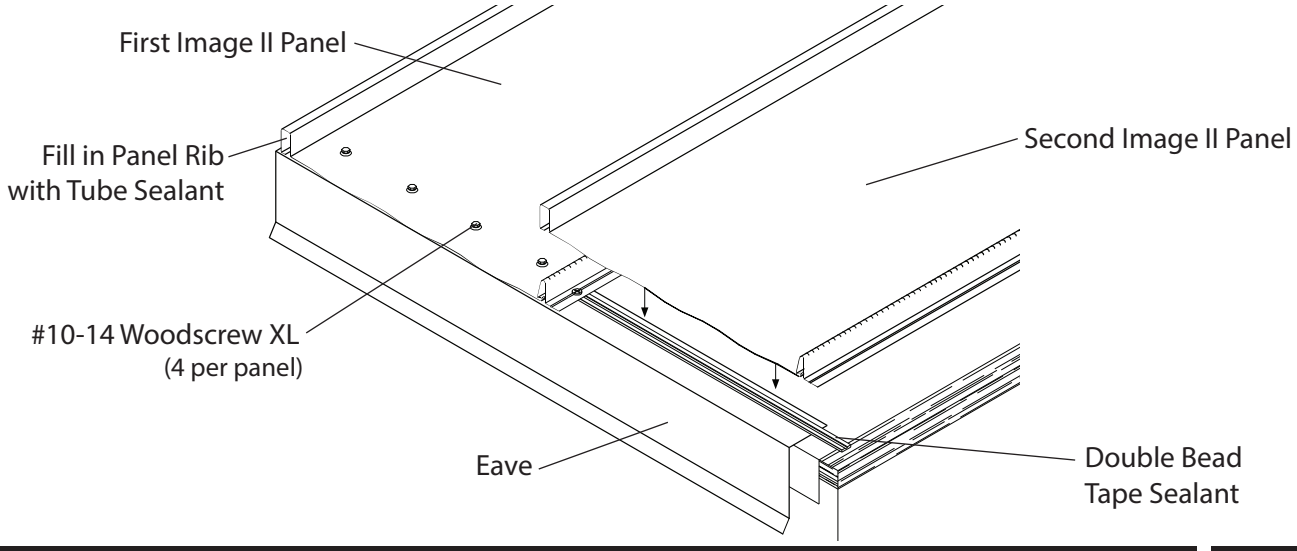
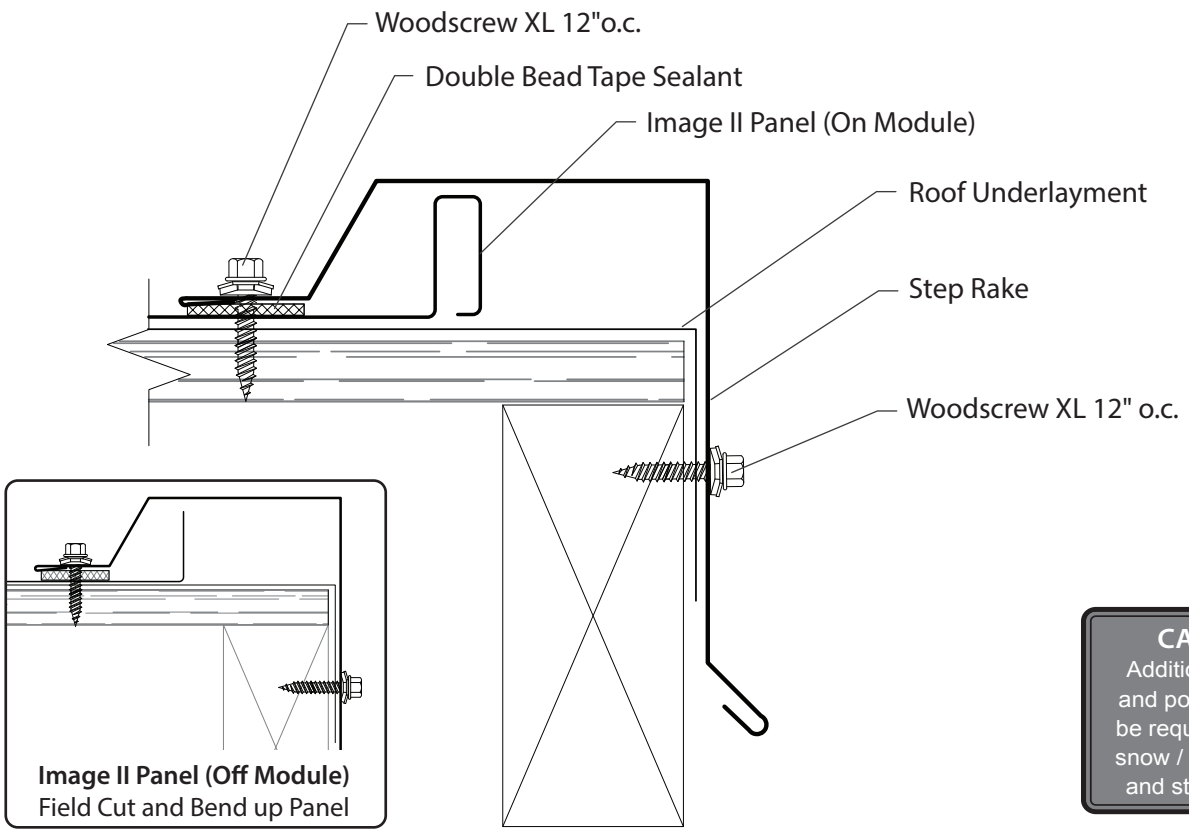
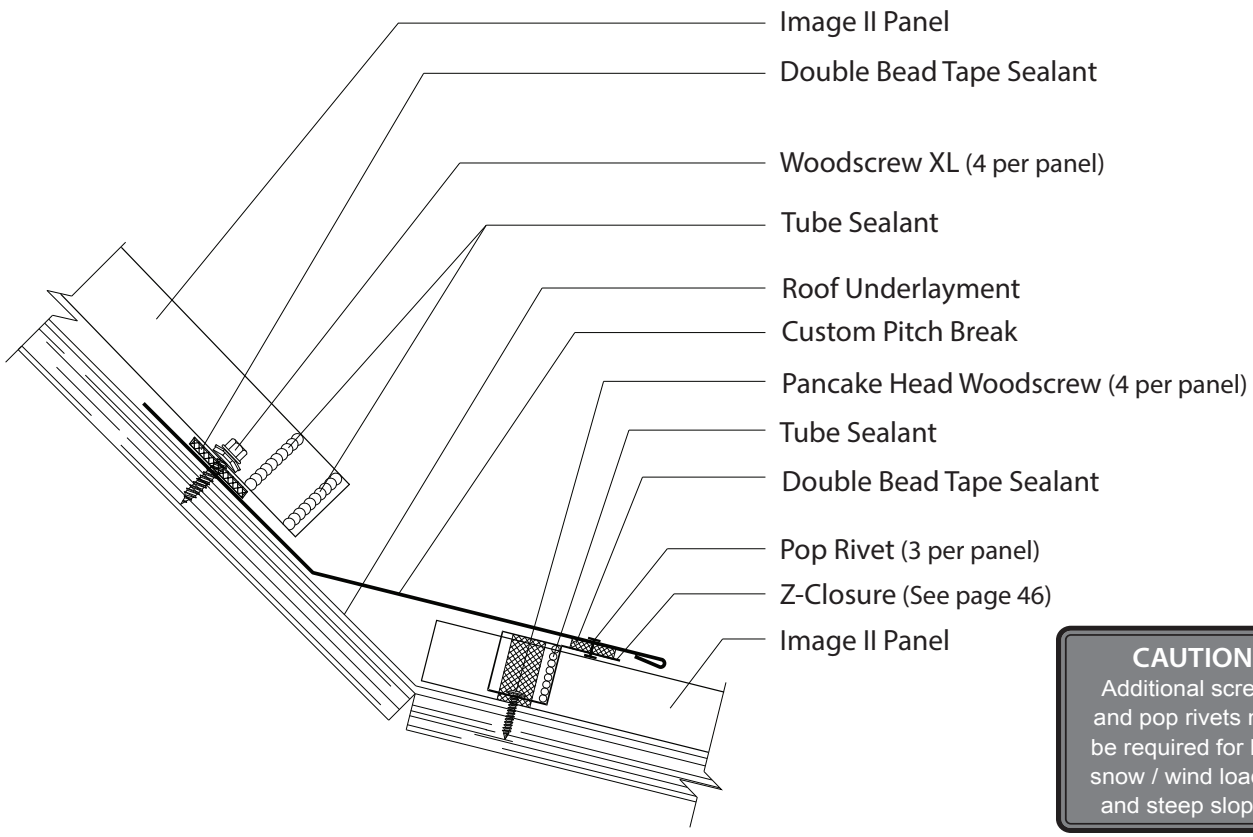


IMAGE II Step Rake — Direct Fastened



CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

IMAGE II Slope Change — Direct Fastened



CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

IMAGE II Step Rakewall Direct Fastened

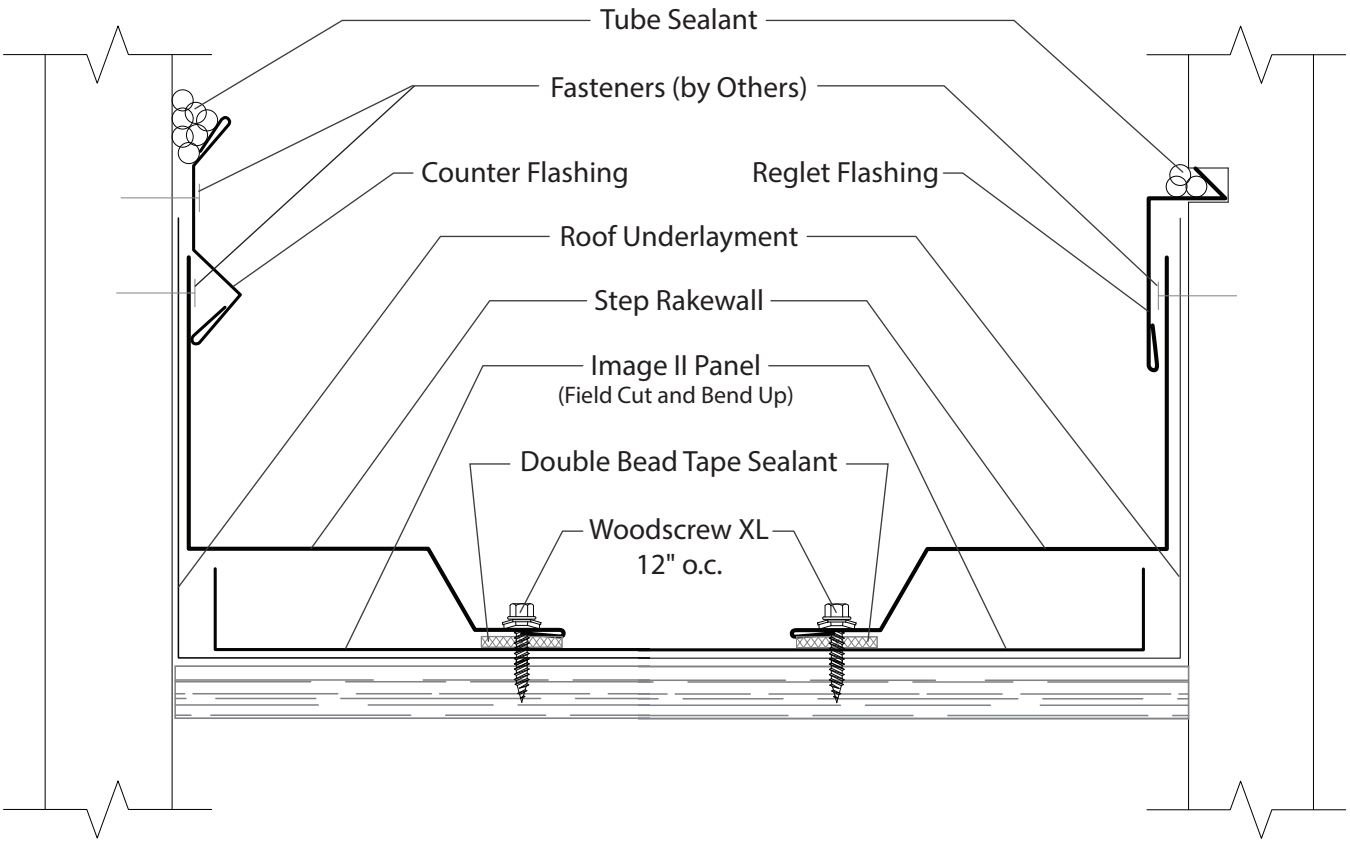
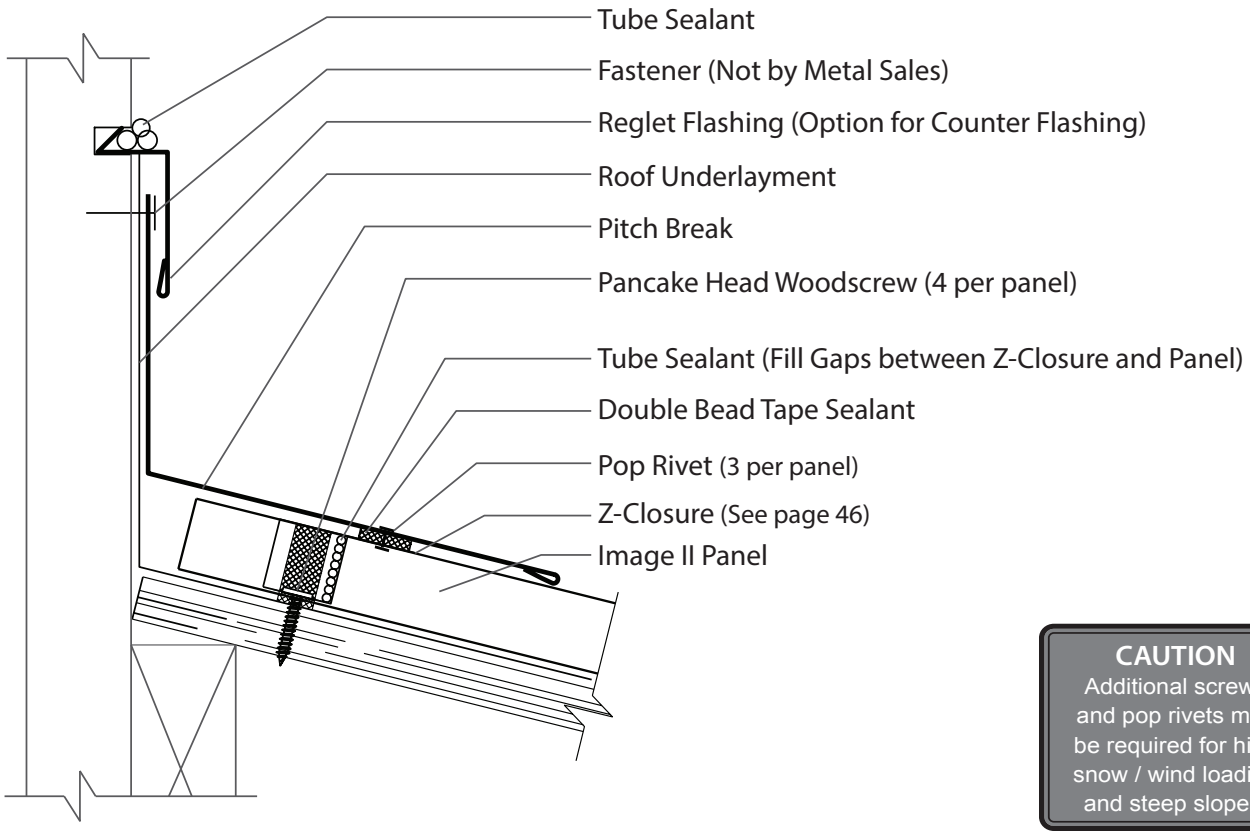
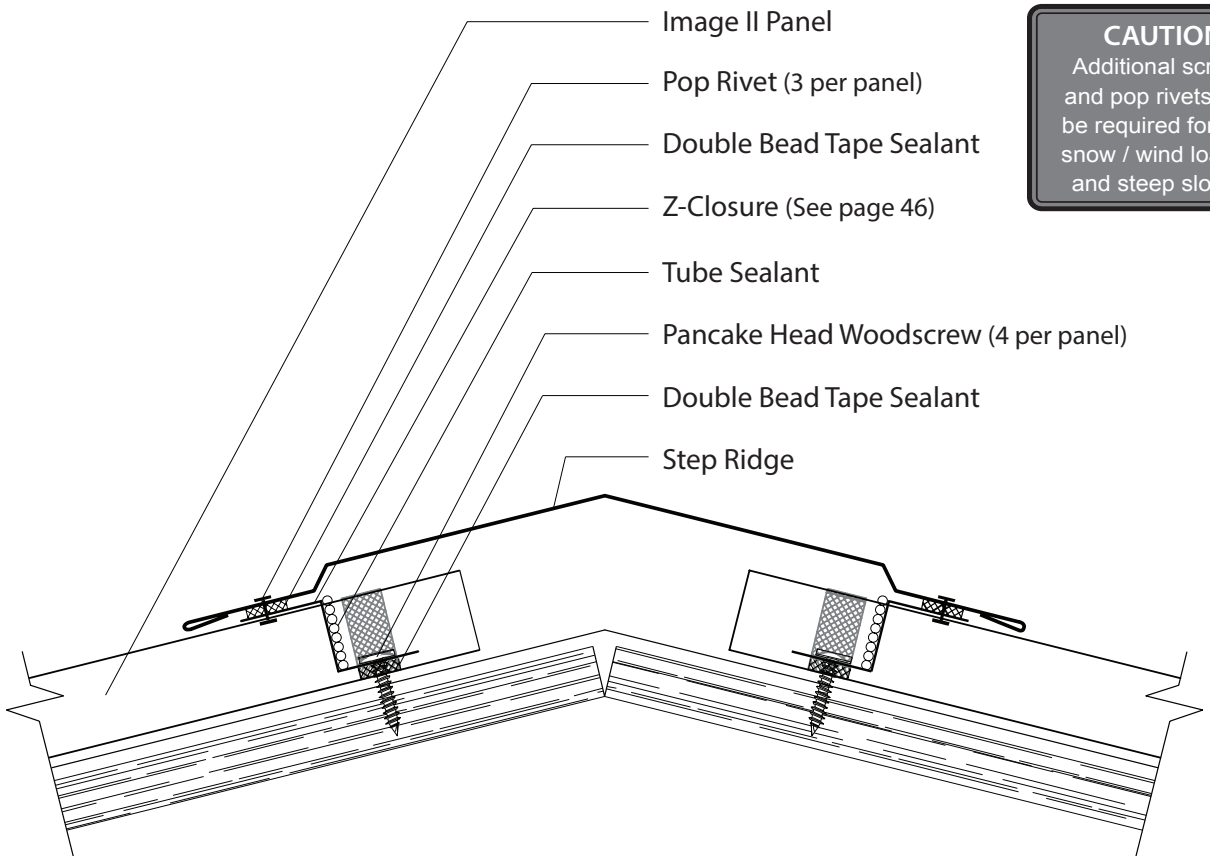


IMAGE II Endwall Direct Fastened



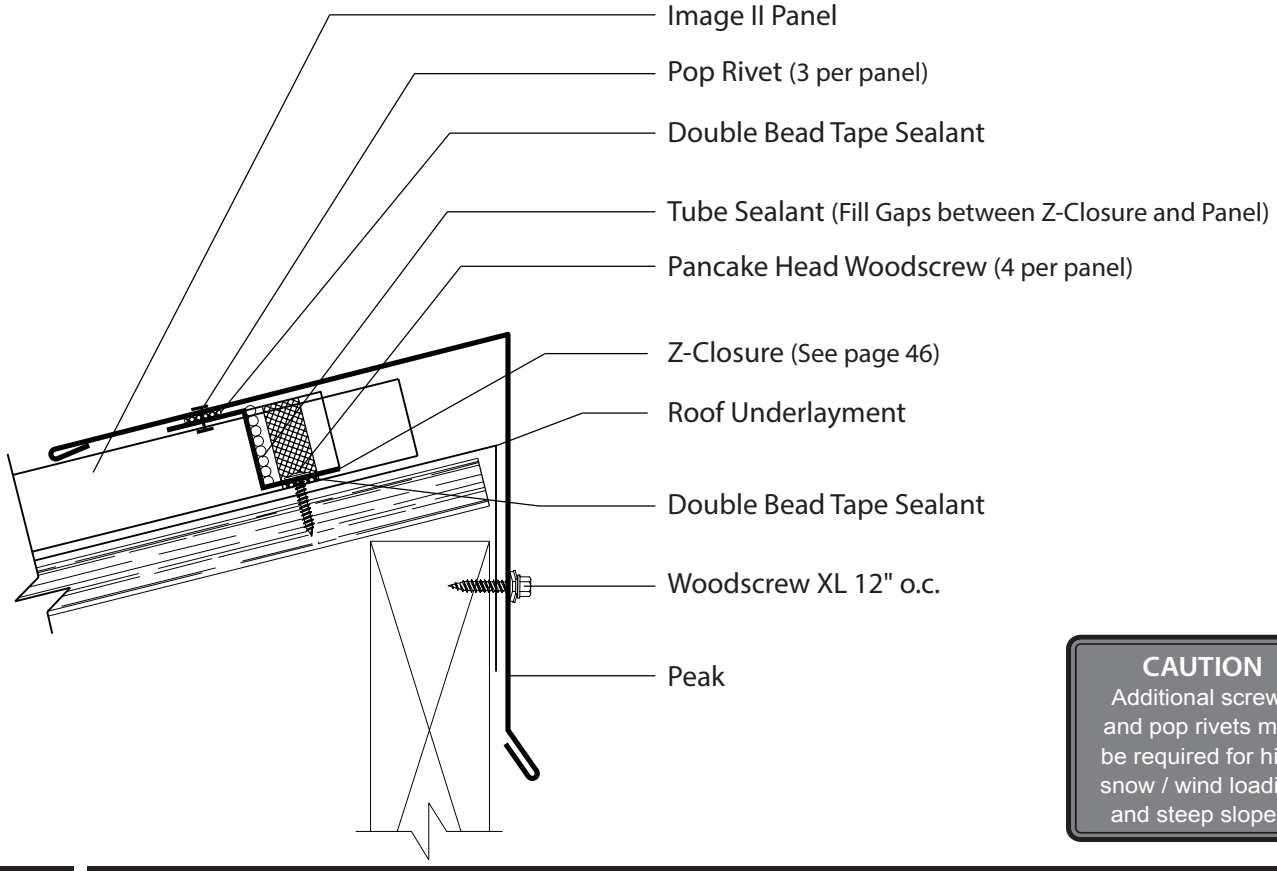
CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

IMAGE II Step Ridge Direct Fastened



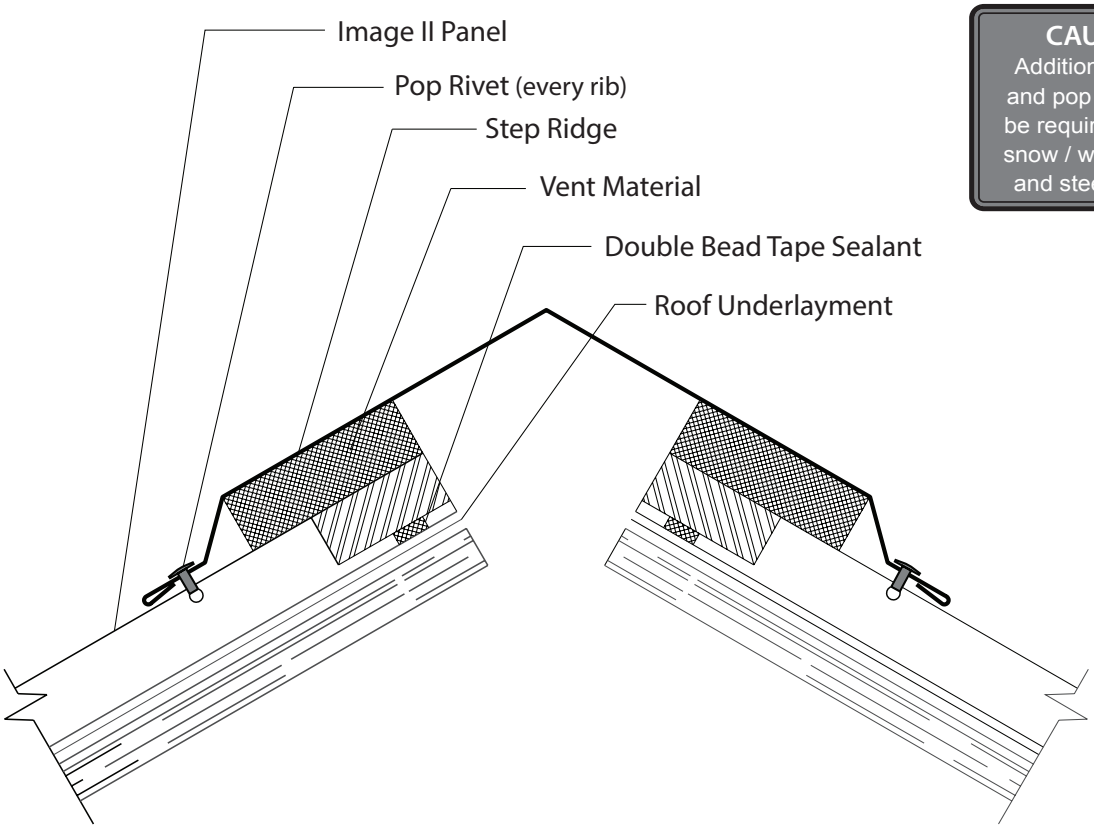
CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

IMAGE II Peak Direct Fastened



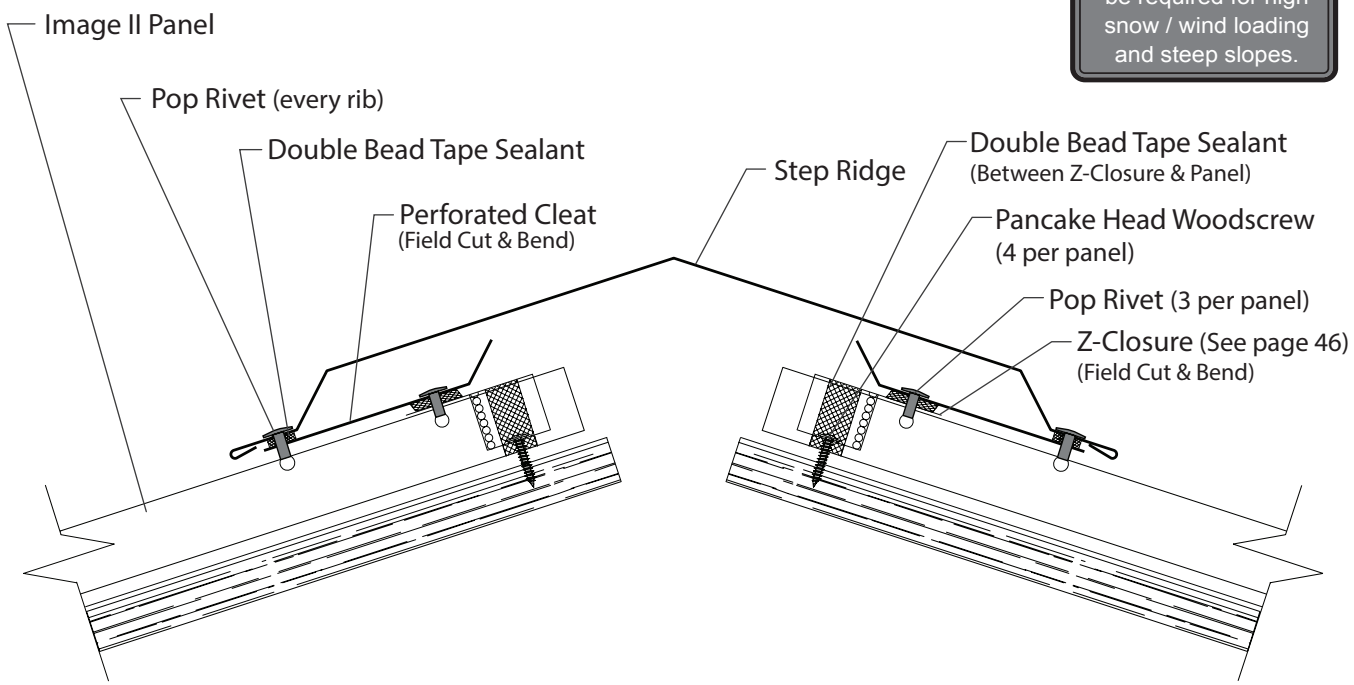
CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

IMAGE II Vented Ridge — Direct Fastened



CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

IMAGE II Vented Ridge - Perforated Vent Drip — Direct Fastened

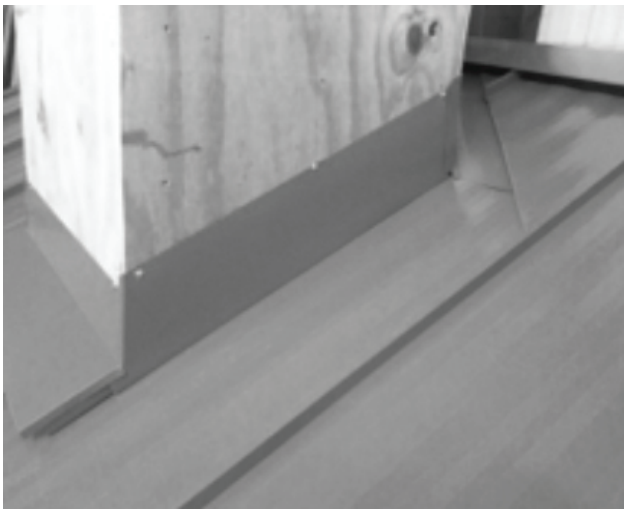


CAUTION
Additional screws and pop rivets may be required for high snow / wind loading and steep slopes.

IMAGE II Skylight/Chimney Detail

SKYLIGHT INSTALLATION

CHIMNEY INSTALLATION



LOW SIDE OF SKYLIGHT/CHIMNEY

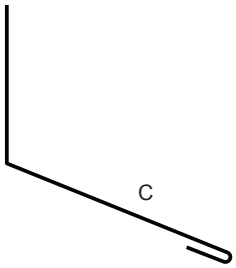
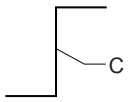
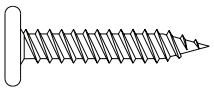
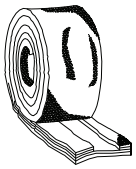
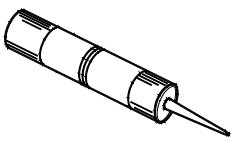
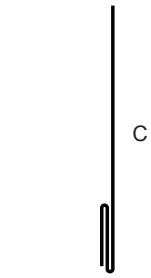
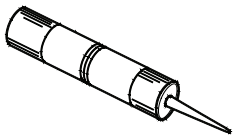
Part	Description	Product No.	Length	Installation Information
	Residential Pitch Break	53943XX 26 Gauge	10'-2"	▸ Cut 2'-0" longer than the width of the Skylight or Chimney.
	Image II Z-Closure	55603XX 26 Gauge	10'-2"	▸ 1" end tabs on Z-Closure.
	Pancake Head Wood Screw	8243100	1"	▸ 4 required at every Z-Closure fastening through the Double Bead Tape Sealant.
	Double Bead Tape Sealant	6403899	25'-0"	▸ Continuous Double Bead Tape Sealant over face of panels and up and over ribs. ▸ Continuous Double Bead Tape Sealant over top of Z-Closures.
	Tube Sealant	6403200 64032XX		▸ Fill in gaps as needed.

IMAGE II Skylight/Chimney Detail

RIGHT AND LEFT SIDE

Part	Description	Product No.	Length	Installation Information
	Residential Rakewall	50129XX 26 Gauge	10'-2"	▸ Cut the Residential Rakewall 2'-0" longer than the length of the Skylight or Chimney. Use a single flashing, no laps. ▸ Slide Residential Rakewall over the vertical panel edge.
	Tube Sealant	6403200 64032XX		▸ Apply a continuous bead of Tube Sealant to the slip pocket and inside corner of panel (see rakewall detail).

HIGHSIDE OF SKYLIGHT/CHIMNEY

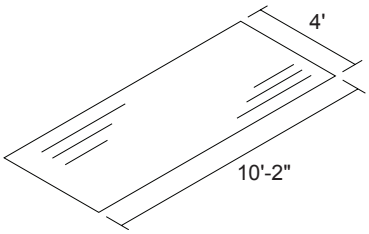
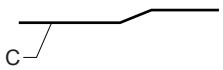
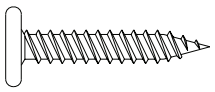
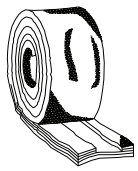
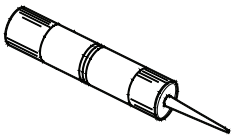
Part	Description	Product No.	Length	Installation Information
	Flat Sheet	25683XX 26 Gauge	10'-2"	▸ *Flat pan only - Use full sheet for fabrication of cricket.* ▸ 12" plus height up the Skylight/Chimney. **x** ▸ Dimension from full panel rib on each side of the Skylight/Chimney.
	Offset Cleat	5506499 26 Gauge	10'-2"	Cut the Offset Cleat 4'-0" longer than the width of the Skylight or Chimney.
	Pancake Head Wood Screw	8243100	1"	▸ 1 Pancake Head Wood Screw every 6" of the Offset Cleat. ▸ Fasten through the Double Bead Tape Sealant.
	Double Bead Tape Sealant	6403899	25'-0"	▸ Apply to the panel before attaching the Offset Cleat.
	Tube Sealant	6403200 64032XX		▸ Apply under flat pan or cricket and at the corners of the penetration.

IMAGE II Chimney/Cricket Detail

CHIMNEY / CRICKET DETAIL

1. Prepare the Chimney. Ensure chimney siding (brick, stucco, or siding) is in good condition. Clean any old caulk, debris, or damaged flashing. Consider adding a reglet cut (a groove) into brick mortar joints if using counter flashing.

2. Cut Roof Panels to Fit. If installing new roofing, cut panels to fit around the chimney with a 1–2 inch gap for flashing. If panels are already installed, remove any interfering ones carefully or cut back as needed.

3. Install Front Pan Flashing (Down-slope then Side Panels). This flashing sits at the front (bottom) of the chimney. Like the back pan, it should extend past the chimney on both sides and sit on top of the roof panels. Seal underneath and screw down. This flashing should overlap the side wall flashings.

4. Install Side Wall Flashings (Left and Right Sides) Bend metal flashing into an L-shape to wrap the sides of the chimney and lay flat on the roof panels. The vertical leg should go up the chimney 4–6 inches; the horizontal leg should go under the side edges of the metal roofing panels. Use sealant underneath and screw into place. These side flashings should overlap the back pan flashing at the bottom and extend past it at the top.

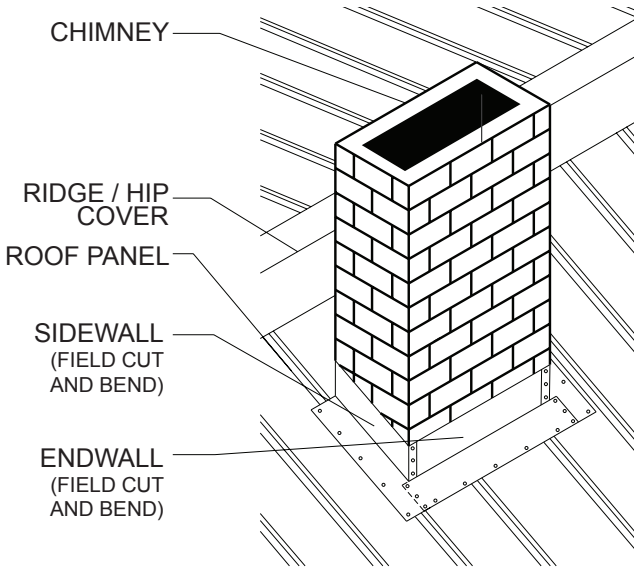
5. Install Back Pan Flashing (Up-slope Side). Cut a piece of flashing that extends wider than the chimney on both sides (6–12 inches past). Place it up the slope behind the chimney. The bottom edge of this flashing should direct water around the chimney. Seal the underside with roofing sealant and secure with screws.

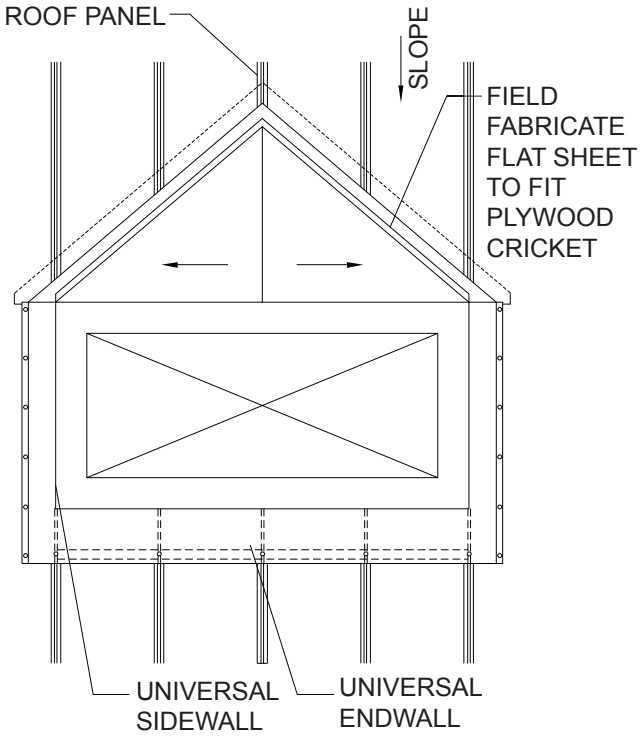
6. Install Counter Flashing. Counter Flashing is a second layer of flashing that covers the top edge of the pan and side flashings on the chimney. It is typically embedded into a groove (reglet) in the brick or fastened to siding. Seal the top edge with a bead of Tube Sealant.

7. Final Sealing. Apply roofing sealant at all critical areas:

a) Where flashing meets chimney
b) At flashing overlaps,
c) Around screw heads for added protection

8. Inspect. Ensure all flashing overlaps are installed shingle style (higher layers over lower layers). Check that water will shed properly downhill and not be trapped. Confirm that all seams are sealed and fastened securely.





PRO TIP:

- ***Never rely on sealant alone. Proper flashing installation should manage water flow first, then use sealant as backup protection.***

IMAGE II Roof Penetration Detail

ROOF PENETRATION DETAIL

1. Choose the Right Pipe Boot. Make sure the rubber pipe boot is compatible with and correctly sized for the pipe diameter.

2. Mark and Cut the Boot. Slide the Pipe Boot over the pipe and mark the correct size if not pre-cut. Use a utility knife or scissors to trim the rubber to the correct size so it fits snugly around the pipe.

3. Prepare the Roof. Clean the area around the pipe where the boot will sit. Remove any debris, rust or sealant so the flashing and sealant can bond properly.

4. Cut the Metal Panel. (If pipe isn't already through)
If the pipe hasn't been installed yet, measure and mark the panel where the pipe will go. Use tin snips or a metal cutting blade to cut a hole slightly larger than the pipe.

5. Apply Single Bead Tape Sealant. Apply a continuous line of tape sealant around the underside base of the Pipe Boot. Also add a generous bead of Tube Sealant around the pipe where the rubber will contact it.

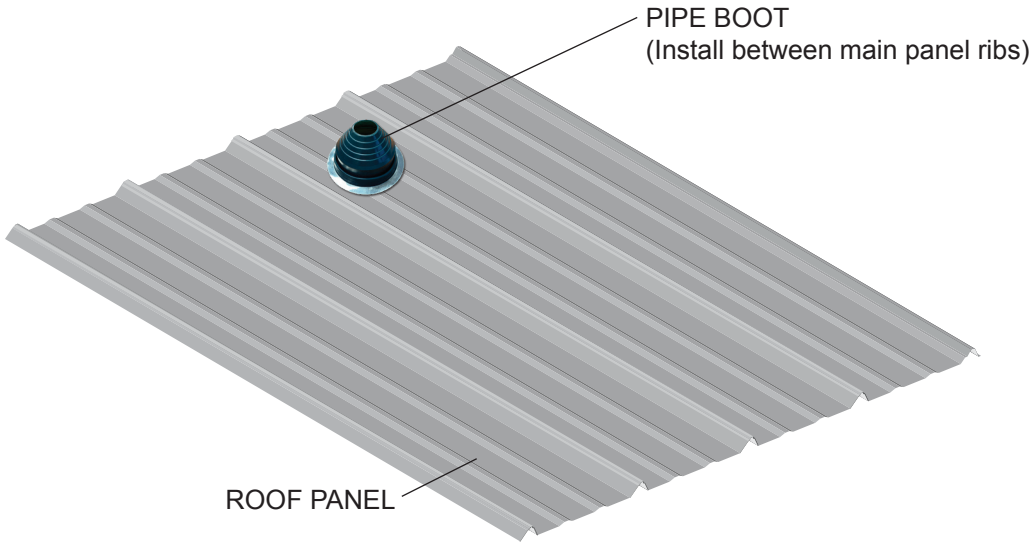
6. Install the Boot. Slide the rubber boot over the pipe until the base flange lays flat on the metal roofing. Press down firmly to embed the Pipe Boot into the sealant.

7. Secure the Pipe Boot. Use self-tapping stitch screws to secure the base flange. Space screws evenly (about every 1–2 inches) around the perimeter.
NOTE: Do not overtighten – you want compression, not distortion.

8. Final Sealant Pass. Apply an extra bead of sealant around the top edge where the rubber meets the pipe. You can also run a light bead along the screw heads for extra water protection (optional but common).

9. Inspect the installation. Double check for gaps, missed spots, or uncompressed areas. Ensure the boot is flush and the sealant is fully covering the base.

Notes: Water must be able to drain around the Pipe Boot. Provide bracing for pipe to resist sliding snow.



PRO TIP:
- ***Install on a warm day so the rubber is flexible and easier to work with.***
- ***Use Metal Sales roofing-specific sealant, not just general silicone.***

IMAGE II Panel Cleaning

Though factory applied pre-painted finishes are very durable and will last many years, eventually it may be desirable to thoroughly clean or repaint them.

Dirt pickup may cause apparent discoloration of the paint when it has been exposed in some dirt-laden environments for long periods of time. In areas of strong sunlight, slight chalking may cause some change in appearance. A good cleaning will often restore the appearance of these buildings and render repainting unnecessary. An occasional light cleaning will help maintain a good appearance.

In many cases, simply washing the building with plain water using a hose or pressure sprayer will be adequate. In areas where heavy dirt deposits dull the surface, a cloth or soft bristle brush and solution of water and detergent ($^1/_3$ cup of laundry detergent per gallon of water for example) may be used. This should be followed by an adequate rinse of water. Do not use wire brushes, abrasives or cleaning tools which will damage the coating surface.

Mildew may occur in areas subject to high humidity but is not normally a problem due to the high inherent mildew resistance of the baked finish that is used. To remove mildew along with the dirt, the following solution is recommended.

$^1/_3$ cup detergent (Tide® or equivalent)
$^2/_3$ cup trisodium phosphate (Solex® or equivalent)
1 quart of 5% sodium hypochlorite solution (Clorox® or equivalent)
3 quarts of water

Strong solvents and abrasive type cleaners should be avoided. Most organic solvents are flammable and toxic and must be handled accordingly. When using a solvent, consult maintenance professionals and label instructions for proper handling and disposal of washings. If required, a mild solvent such as mineral spirits can be used to remove caulking compounds, oil, grease, tars, wax and similar substances. Use a cloth dampened with mineral spirits and apply only to areas which are contaminated. Follow up the use of this mild solvent with detergent cleaning and rinsing.