

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.

We are 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.

We reserve the right to modify, without notice, any details, recommendations or suggestions. Any questions you may have regarding proper installation of these roofing systems should be directed to your representative.

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 the plant 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 representative for any additional information not outlined in this manual.

This manual is designed to be utilized as a guide when installing these roofing systems. 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.

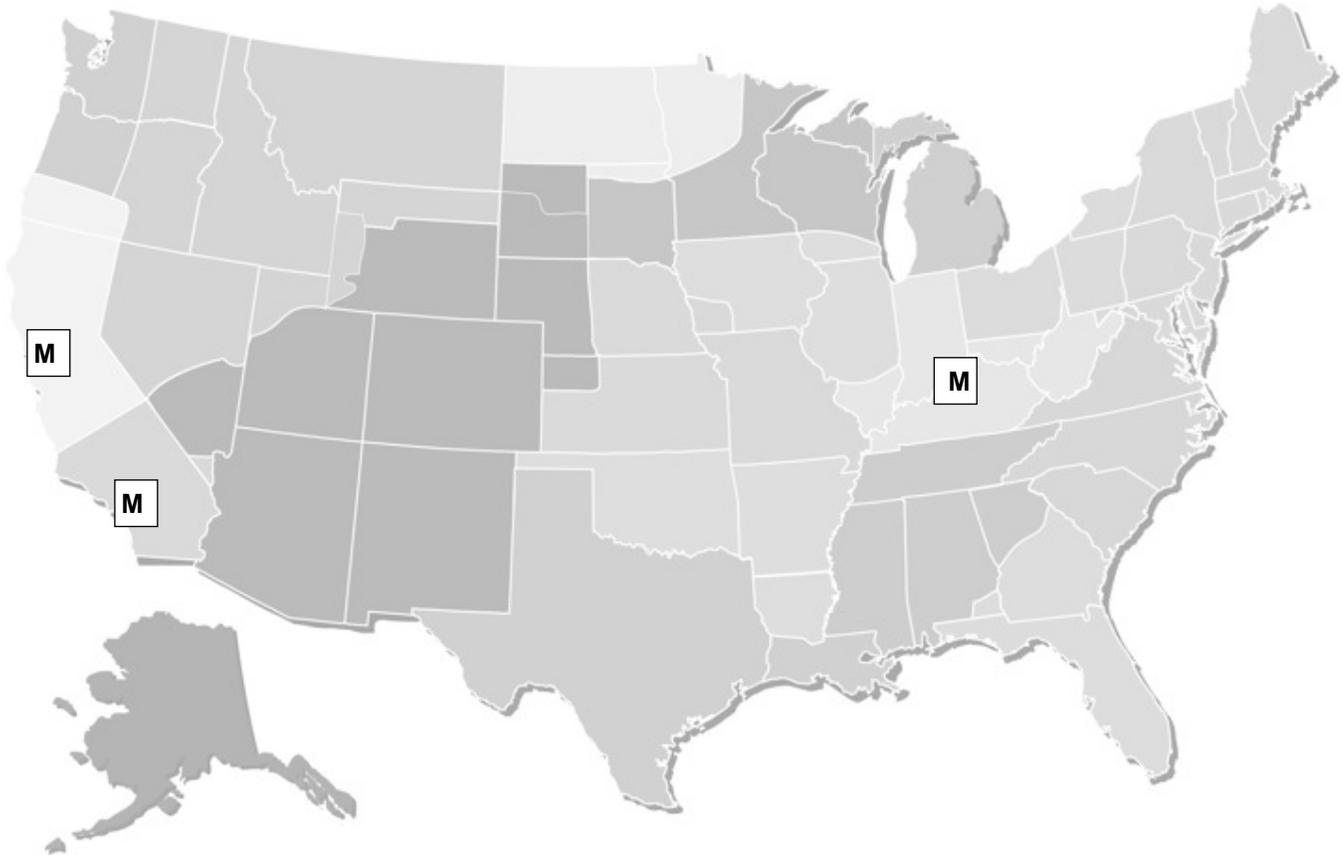
The installation of metal roof systems is a dangerous procedure and should be supervised by trained knowledgeable erectors. **USE EXTREME CARE WHILE INSTALLING ROOF PANELS.** It is not possible for us to be aware of all the possible job site situations that could cause an unsafe condition to exist. The 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 parts placement one to 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 the roof panel at the ends until the panels have been attached.



M Manufactures Mini-Batten Panels

Materials may be delivered, shipped direct, or in many cases transferred to a nearby plant for delivery.

We offer a complete line of metal roof, wall, and fascia panel systems for the commercial, architectural, industrial, residential, and agricultural markets. We offer over 75 profiles with a wide selection of widths, colors, and gauges - new construction or retrofit.

Best Buy Metals National Sales

**1652 S Lee Hwy
Cleveland, TN 37311**

800-728-4010

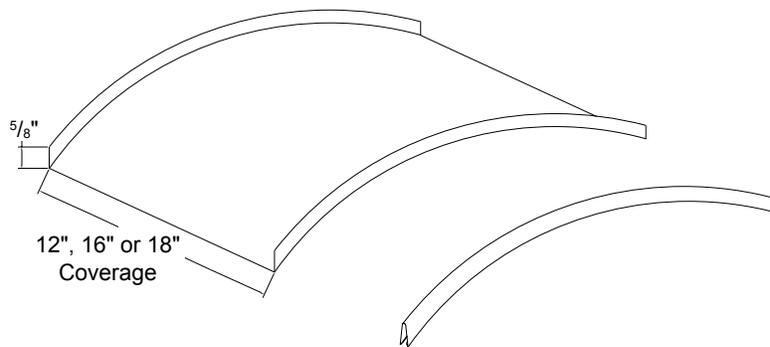
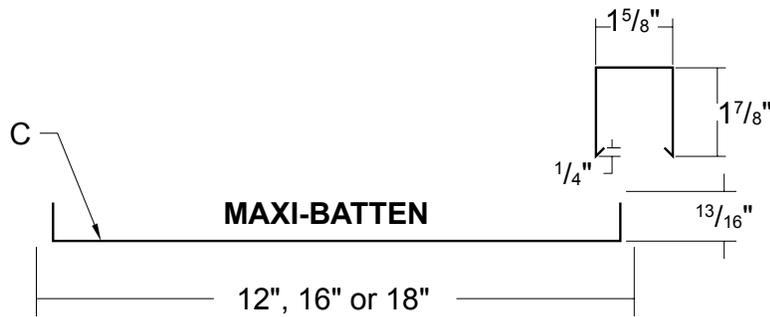
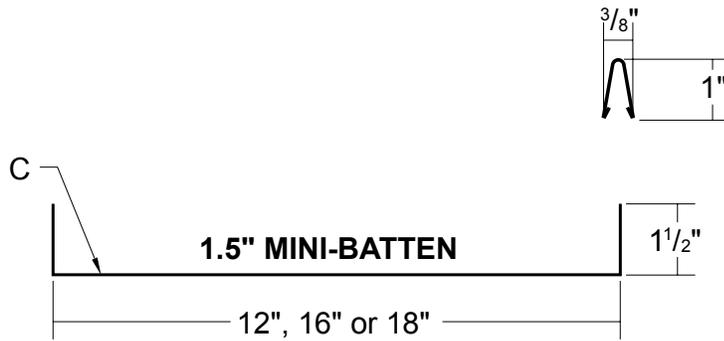
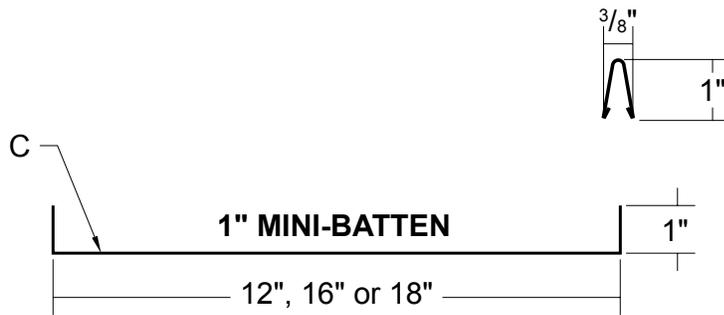
info@bestbuymetals.com

ARCHITECTURAL TABLE OF CONTENTS

	PAGE NO.
General Information	
Important Information	1
Manufacturing Branches	2
Customer Service	3
Table of Contents	4 - 5
Panel Profiles	6
Flashing Profiles	7 - 10
Accessory Profiles	11 - 12
Handling Material	
Receiving Material	13
General Handling	13
Mechanical Handling	13
Manual Handling	14
Storage	
General	16
Storage on Roof	17
Foot Traffic	17
Field Cutting and Touch-up	
Field Cutting	18
Touch-up Paint	18
Fastener Selection Guide	19
Design / Installation Considerations	
Fastener Installation Technique	20
Condition of Substructure	21
Ventilation	21
Panel Applications	22
Installation of Mini-Batten Panel	23 - 24
Installation of Maxi-Batten Panel	25 - 26
Mini / Maxi-Batten Installation - Batten End Installation	27

	PAGE NO.
Architectural Details	
Eave with Offset Cleat	28
Extended Eave	29
Gutter with Offset Cleat	30
Valley with Offset Cleat	31
Rake	32
Rake Parapet with Counter	33
Rake Parapet with Reglet	34
Ridge / Hip	35
Vented Ridge	36
Peak	37
High Side Eave at Parapet with Counter	38
High Side Eave at Parapet with Reglet	39
Transition	40
Gambrel	41
Gravel Stop	42
Outside Corner	43
Inside Corner	44
Sill/Head	45
Sill to Soffit	46
Coping	47
Panel Splice	48
Mini/Maxi-Batten Hemming	49
Z-Closure Installation	50
Care and Maintenance	51
Contact	52

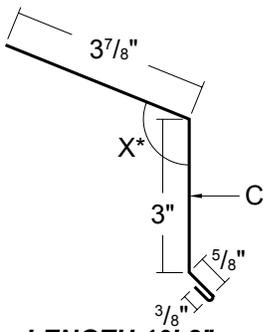
MINI / MAXI-BATTEN



CURVED 1" MINI-BATTEN

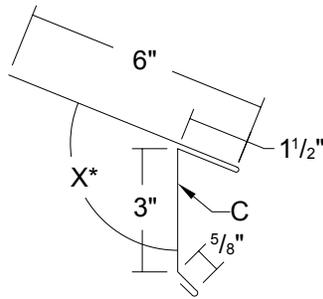
ARCHITECTURAL FLASHING PROFILES

EAVE



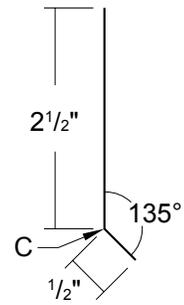
LENGTH 10'-2"
*Specify Slope Angle

EXTENDED EAVE



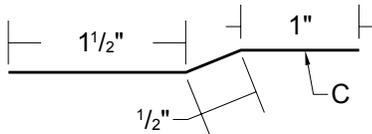
LENGTH 10'-2"
*Specify Slope Angle

CLEAT



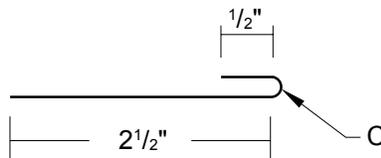
LENGTH 10'-2"

OFFSET CLEAT



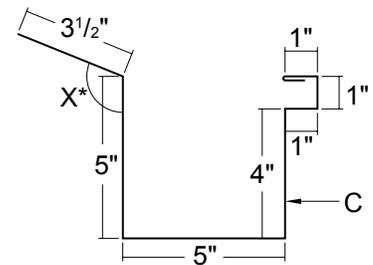
LENGTH 10'-2"

STARTER



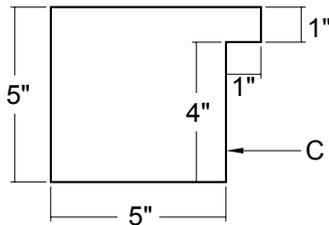
LENGTH 10'-2"

BOX GUTTER

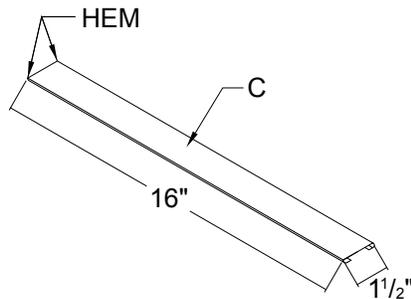


LENGTH 10'-2", 20'-3"
*Specify Slope Angle

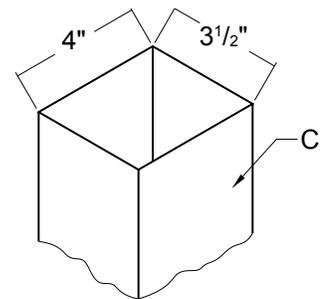
GUTTER END



UNIVERSAL GUTTER / DOWNSPOUT STRAP

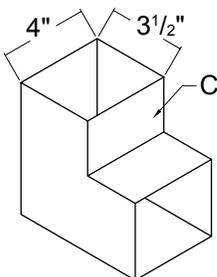


4" x 3.5" DOWNSPOUT



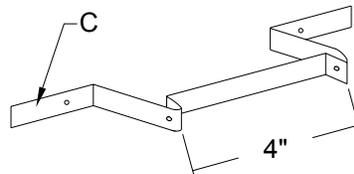
LENGTH 10'-2", 20'-3"
(Also available 4" x 6")

95° ELBOW (4" x 3.5")

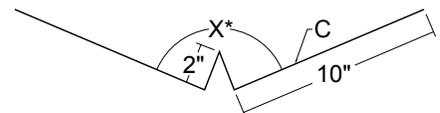


(Also available 4" x 6")

DOWNSPOUT BRACKET



VALLEY

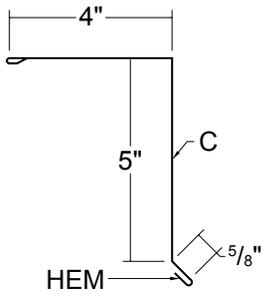


LENGTH 10'-2", 20'-3"
*Specify Slope Angle

ARCHITECTURAL

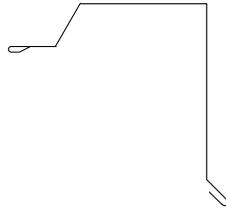
FLASHING PROFILES (CONT.)

RAKE

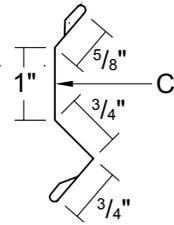


LENGTH 10'-2", 20'-3"

STEP RAKE (measurements vary)

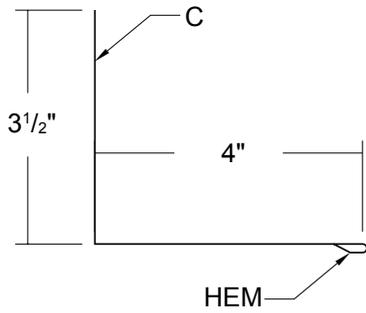


COUNTER FLASHING



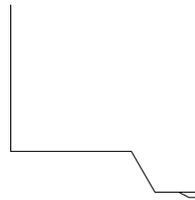
LENGTH 10'-2"

RAKEWALL



LENGTH 10'-2"

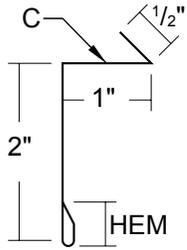
STEP RAKEWALL (measurements vary)



LENGTH 10'-2"

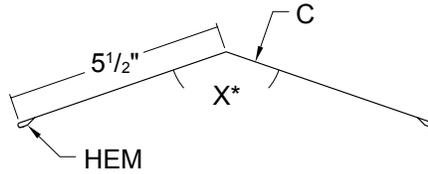
ARCHITECTURAL FLASHING PROFILES (CONT.)

REGLET FLASHING



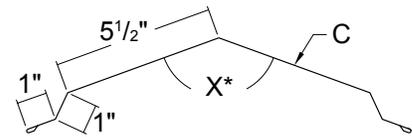
LENGTH 10'-2"

11" RIDGE / HIP COVER



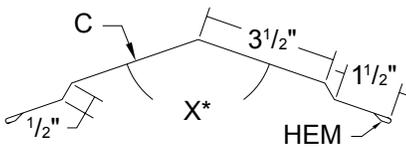
LENGTH 10'-2", 20'-3"
*Specify Slope Angle

13" RIDGE / HIP COVER



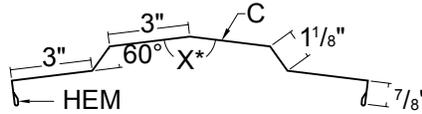
LENGTH 10'-2", 20'-3"
*Specify Slope Angle

STEP RIDGE/HIP COVER



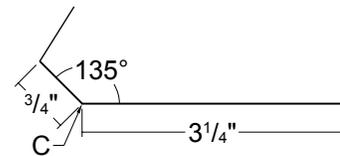
LENGTH 10'-2"
*Specify Slope Angle

VENTED RIDGE COVER



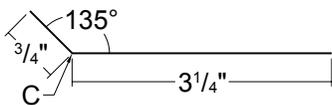
LENGTH 10'-2", 20'-3"
*Specify Slope Angle

VENT DRIP



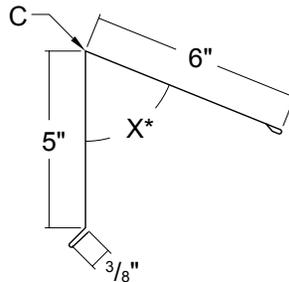
LENGTH 10'-2"

PERFORATED VENT DRIP



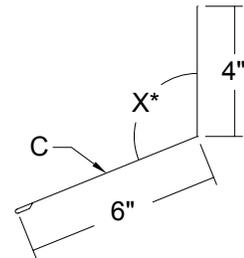
LENGTH 10'-2"
(.032 ALUMINUM
LINEN WHITE ONLY)

PEAK



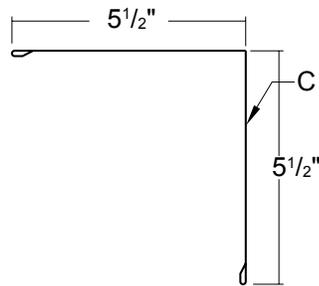
LENGTH 10'-2", 20'-3"
*Specify Slope Angle

PITCH BREAK



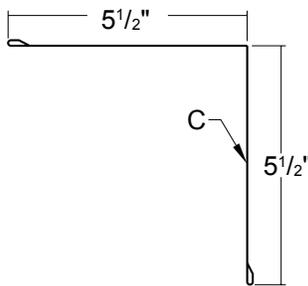
LENGTH 10'-2"
*Specify Slope Angle

OUTSIDE CORNER



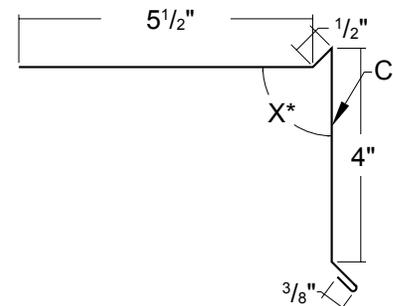
LENGTH 10'-2", 20'-3"

INSIDE CORNER



LENGTH 10'-2", 20'-3"

GRAVEL STOP

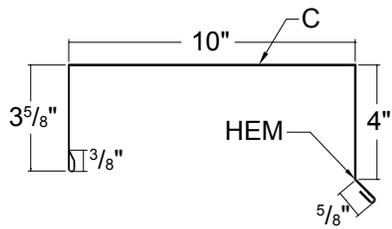


LENGTH 10'-2", 20'-3"

ARCHITECTURAL

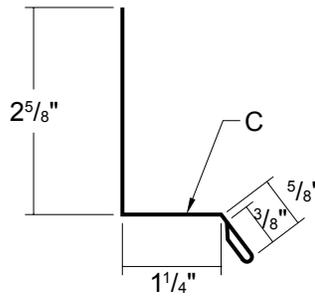
FLASHING PROFILES (CONT.)

COPING



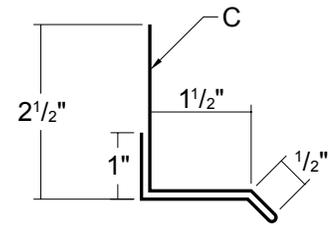
LENGTH 10'-2", 20'-3"

1.25" BASE



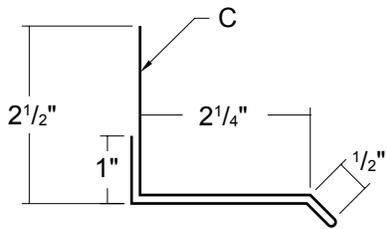
LENGTH 10'-2"

1.5" SILL / HEAD



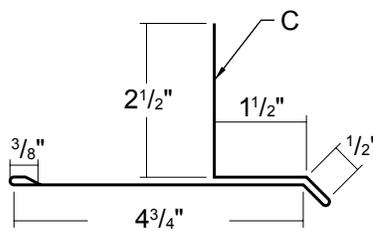
LENGTH 10'-2"

2.25" SILL / HEAD



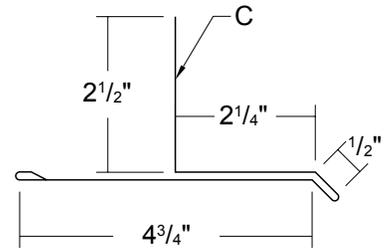
LENGTH 10'-2"

1.5" SILL TO SOFFIT



LENGTH 10'-2"

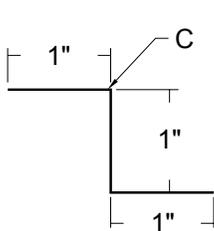
2.25" SILL TO SOFFIT



LENGTH 10'-2"

1" Z-CLOSURE

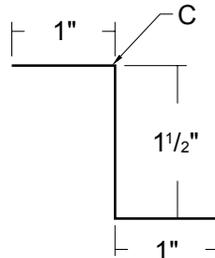
(1" MINI-BATTEN)



LENGTH 10'-2"

1.5" Z-CLOSURE

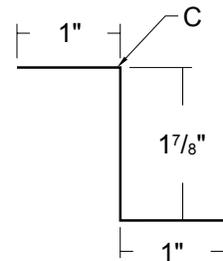
(1.5" MINI-BATTEN)



LENGTH 10'-2"

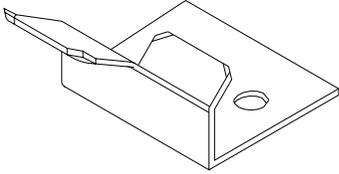
1.875" Z-CLOSURE

(MAXI-BATTEN)

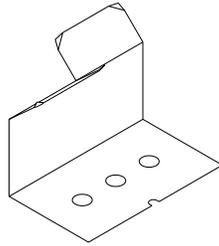


LENGTH 10'-2"

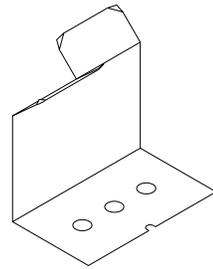
**CURVED MINI-BATTEN
(5/8") CLIP**



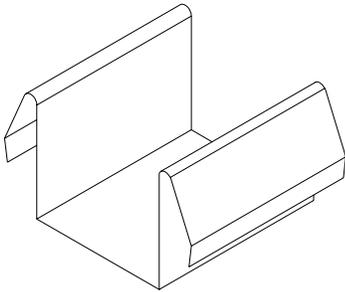
MINI-BATTEN (1") CLIP



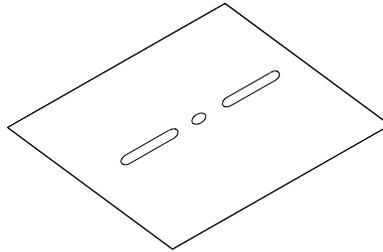
MINI-BATTEN (1.5") CLIP



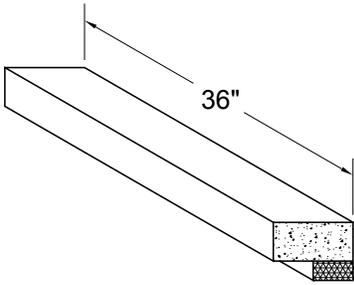
MAXI-BATTEN CLIP



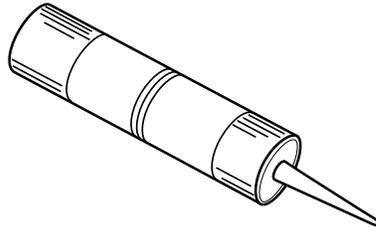
BEARING PLATE



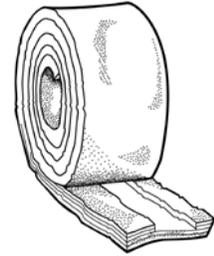
COBRA VENTED CLOSURE



TUBE SEALANT

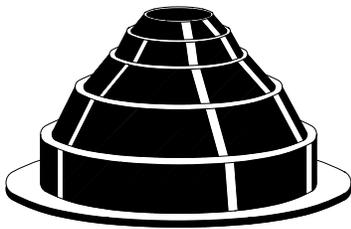


BUTYL TAPE SEALANT



DOUBLE BEAD
BUTYL - GRAY

RUBBER ROOF JACK



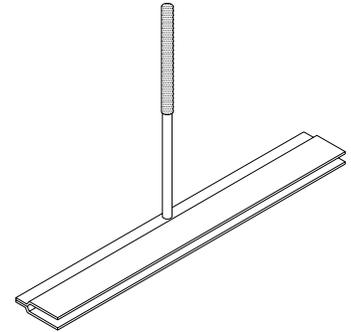
EPDM, HIGH TEMP, AND
ELECTRICAL IN VARIOUS SIZES

TOUCH-UP PAINT

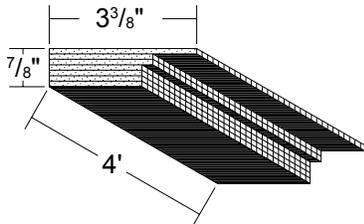


PVDF / MS CF45

METAL PANEL HEMMING TOOL



VENT MATERIAL



ARCHITECTURAL HANDLING MATERIAL

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.

After receiving material, check the condition of the material, and review the shipment against the shipping list to ensure all materials are accounted for. If damages or shortages are discovered, it should be noted on the Bill of Lading at the time of delivery. A claim should be made against the carrier as soon as possible. **(The branch is not responsible for any damages or shortages unless they are documented in writing and presented to your representative within 48 hours.)**

GENERAL HANDLING

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

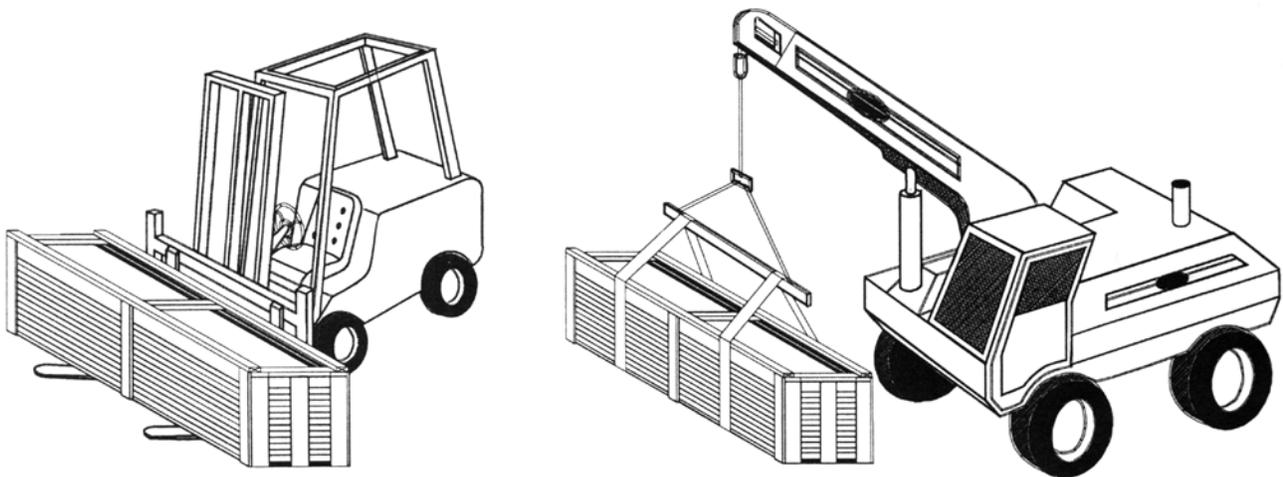
CAUTION

Improper loading and unloading of bundles and crates may result in bodily harm and/or material damage. We are 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. Please 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". Please 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 $\frac{1}{3}$ of the length of the panel should be left unsupported. Never use wire rope because this will damage the panels.



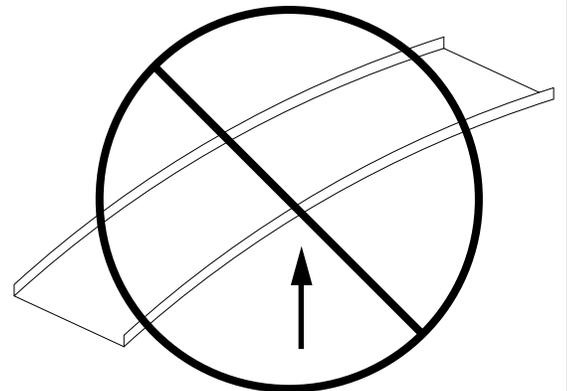
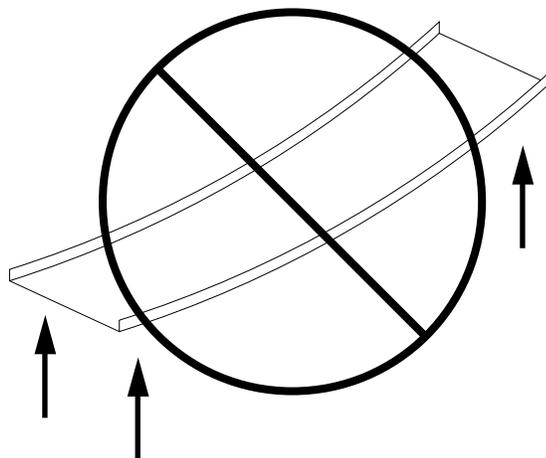
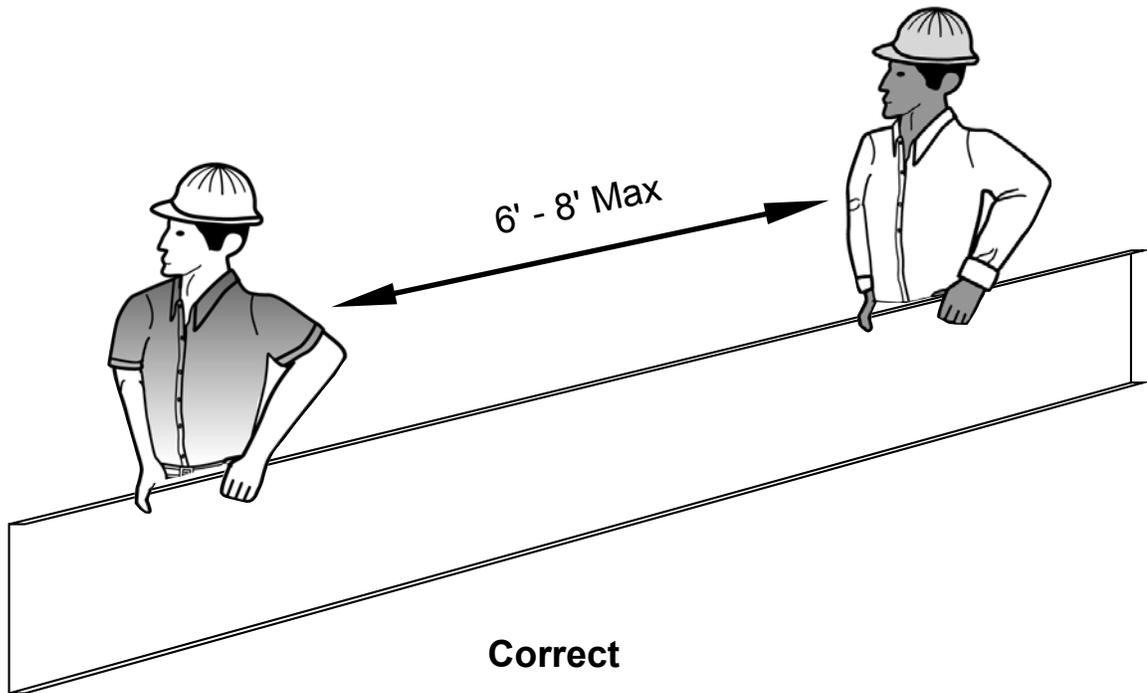
ARCHITECTURAL HANDLING MATERIAL (CONT.)

MANUAL HANDLING

When handling painted steel care should be taken to prevent scratching of material. Clean gloves should be worn at all times to prevent a reaction with salts found on bare skin. Installers should wear rubber sole shoes to keep from scuffing material while walking on the roof.

Handling of individual panels should be done carefully and properly to avoid bending or damaging. Architectural panels should be carried by grasping the edge of the panel so that the Architectural panel is vertical to the ground. The Architectural panel should not be carried with the panel horizontal to the ground as this could cause the panel to buckle or bend in the center.

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



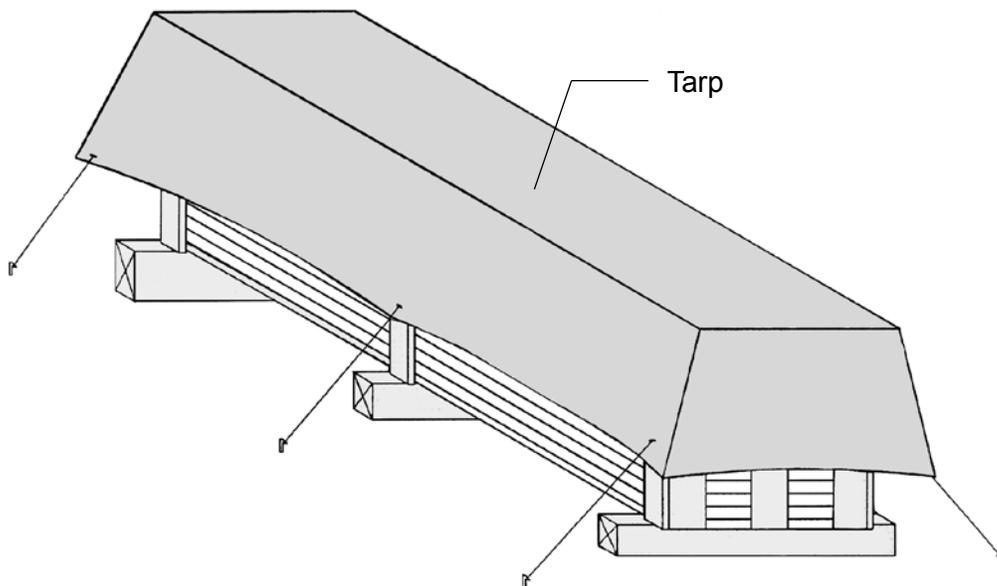
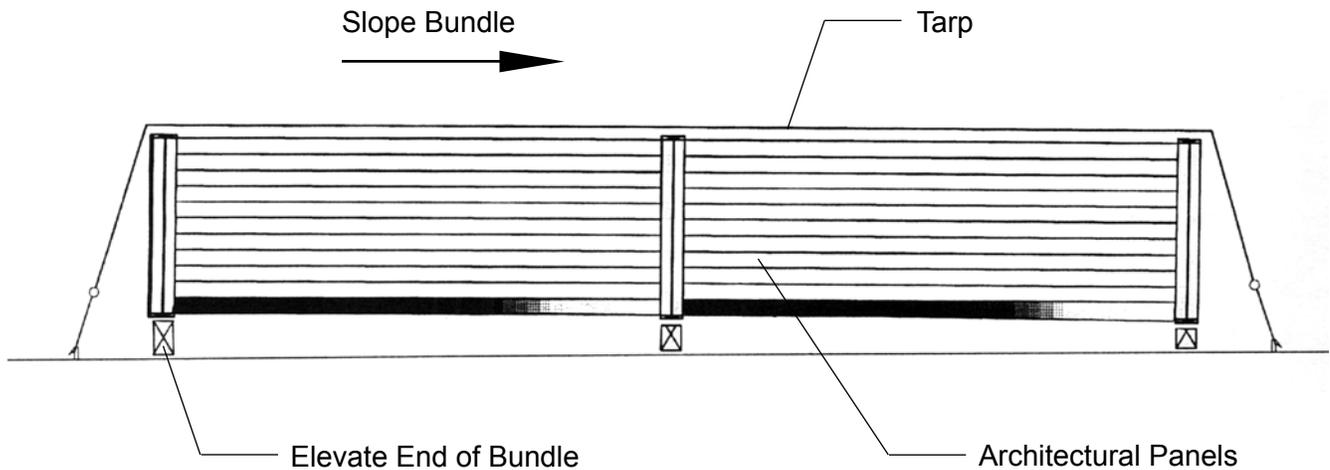
Incorrect

ARCHITECTURAL STORAGE

GENERAL

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. We recommend 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. **Under no circumstances should the sheets 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.**



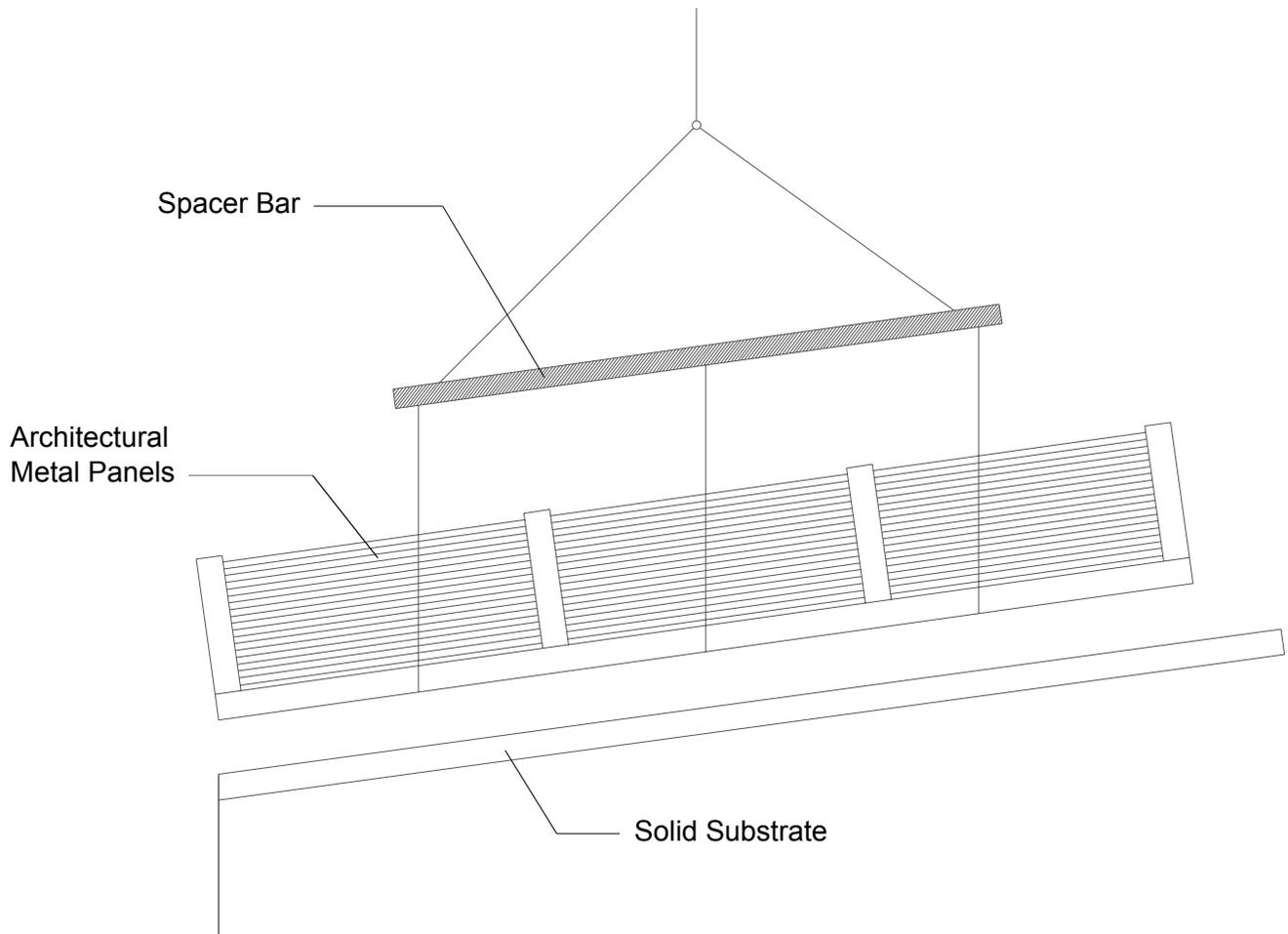
ARCHITECTURAL STORAGE (CONT.)

STORAGE ON ROOF

To facilitate the handling of Architectural panels, panel bundles can be lifted and placed on the roof. Bundles need to be placed on the roof in order for the roof structure to handle the weight. Loading capabilities of the structure must be checked.

When lifting packaged sheets, make certain they are adequately supported. Panels less than 20'-0" in length can normally be lifted with a forklift; however, when lifting panels in excess of 20'-0", it is recommended that a spreader bar and slings be used. As a rule, when lifting, no more than $\frac{1}{3}$ of the length of the panel should be left unsupported.

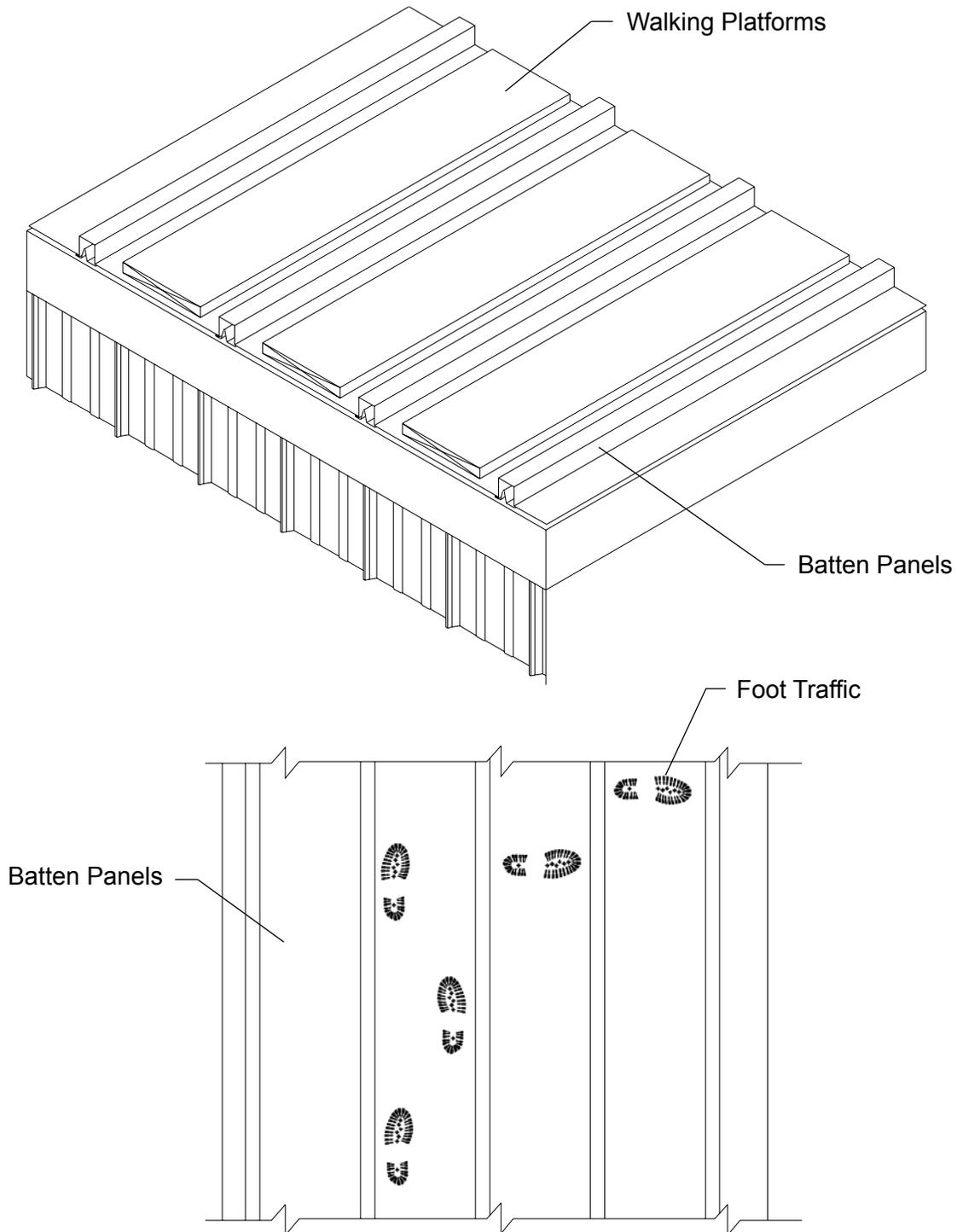
Make a plan for bundle placement by determining how much area a bundle of panels will cover. Bundles should be placed on the roof in accordance with the direction the panel will be installed. Consider where the string line, if any, is to run at the eave to set roof panels by. Roof bundles should not interfere with this string line.



ARCHITECTURAL FOOT TRAFFIC

Care of Architectural metal panels and flashings must be exercised throughout erection. Foot traffic can cause distortion of panel and damage to finish. Traffic over the installed system must be kept to an absolute minimum. If continuous foot traffic is necessary for maintenance over certain areas of the roof, then a permanent walkway should be installed.

If continuous foot traffic is necessary during installation, provide walking platforms to avoid any panel damage as shown below. When walking on the roof panels is unavoidable, walk only in the flats of the panel. Walking on the ribs can cause damage to the panels.



FIELD CUTTING

Tin snips or a "nibbler" type electric tool are recommended for field cutting Architectural panels. Cutting the steel generates slivers or metal chips. These slivers and metal chips must be immediately removed from the Architectural 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, goggles must be worn for eye protection.

CAUTION

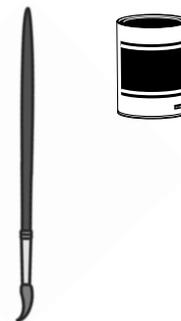
All product surfaces should be free of debris at all times. Installed surfaces should be wiped clean at the end of each work period. Never cut panels over metal surfaces. Metal shavings will rust on the surface, voiding the warranty.

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. 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 overspray that may occur.



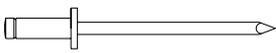
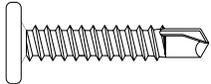
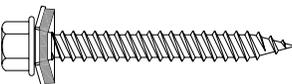
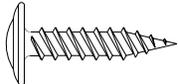
SPRAY PAINT



TOUCH-UP PAINT

ARCHITECTURAL

FASTENER SELECTION GUIDE

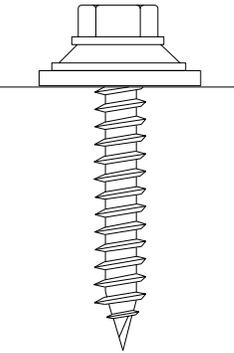
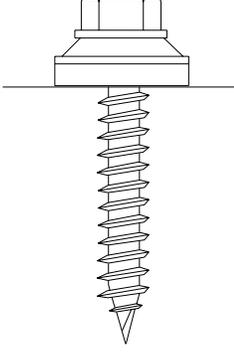
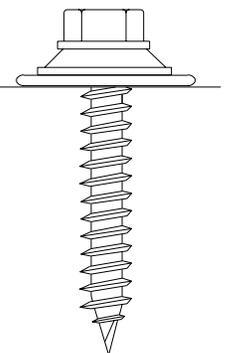
POP RIVET	SIZE	TYPE	FINISH	APPLICATION
	1/8" x 3/16"	A	Unpainted	Flashing to Panel or Flashing
	1/8" x 3/16"	A	Painted	
PANCAKE HEAD DRILLER	SIZE	TYPE	FINISH	APPLICATION
	#10-16 x 1" (# 2 Point)	Driller	Plated	Panel/clip/flashings to metal framing or decking
PANCAKE HEAD WOODSCREW	SIZE	TYPE	FINISH	APPLICATION
	#10-12 x 1"	A	Plated	Panel/clip/flashings to wood substructure
WOODSCREW	SIZE	TYPE	FINISH	APPLICATION
	#10-14 x 1"	A	Painted	Panel or Flashing to wood substructure
	#10-14 x 1 1/2"	A	Painted	
	#10-14 x 2"	A	Painted	
TRUSS HEAD WOODSCREW	SIZE	TYPE	FINISH	APPLICATION
	#8-15 x 3/4"	A	Plated	Attaching Panels and Flashings to wood roof deck
DECK SCREW	SIZE	TYPE	FINISH	APPLICATION
	#14-13 x 2"	Driller	Black	Panel Clip to metal deck and rigid board insulation assembly or wood substructure

FASTENER INSTALLATION TECHNIQUE

Recommended Tool Type - Use depth locating nose or adjustable clutch on screw gun to prevent over-drilling and strip out.

Do not use impact tools or runners.

Seating the washer - Apply sufficient torque to seat the washer - do not overdrive the fastener.

	CORRECT Sealing material slightly visible at edge of metal washer. Assembly is watertight.	TOO LOOSE Sealing material is not visible; not enough compression to seal properly.	TOO TIGHT Metal washer deformed; sealing material pressed beyond washer edge.
WOODSCREW			

To prevent wobbling - Make sure fastener head is completely engaged in the socket. If the head does not go all the way in the socket - tap the magnet deeper into the socket to allow full head engagement. Metal chips will build up from drilling and should be removed from time to time.

Protect drill point - Push only hard enough on the screw gun to engage clutch. This prevents excess friction and burn out of the drill point. Correct pressure will allow screw to drill and tap without binding.

Drilling through sheet and insulation - Ease up on pressure when drilling through insulation to avoid striking the purlin or girt with the point - apply more pressure after drill point contacts purlin or girt.

Drilling through purlin overlaps - Drilling through lapped purlins requires extra care. Excessive voids between purlins sometimes damages drill points and two self-drillers might be necessary to complete the operation. It is sometimes advantageous to pre-drill.

ARCHITECTURAL DESIGN / INSTALLATION CONSIDERATIONS

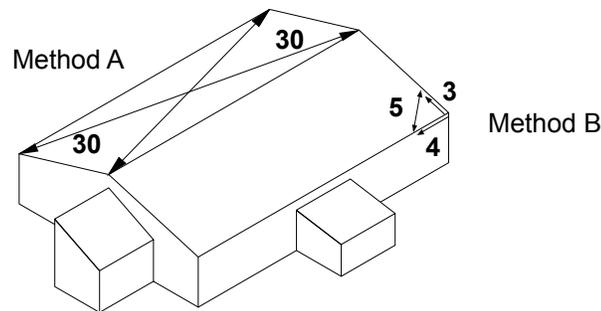
CONDITION OF SUBSTRUCTURE

When installing over solid substrate, panel distortion may occur if not applied over properly aligned and uniform substructure.

The installer should check the roof deck for squareness before installing Architectural 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 slope of the roof from similar points at the ridge and eave 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). Then 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 endwall cannot be made square, the roof system cannot be installed as shown in these instructions.

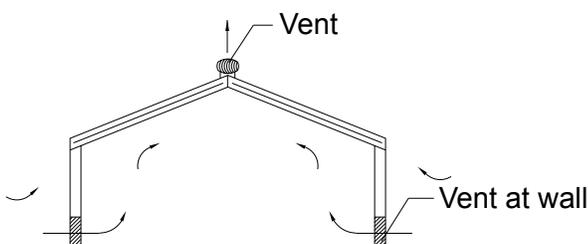


VENTILATION

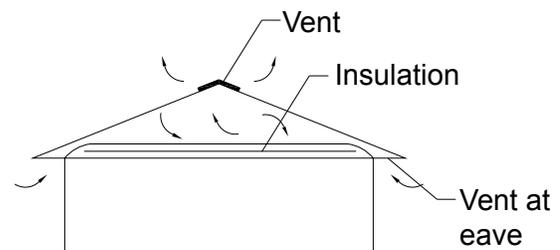
Proper design and installation of vapor barriers and ventilation systems are important to prevent condensation and the resulting problems of moisture damage and loss of insulation efficiency.

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 roofing; these problems are common to all types of construction.

The underside of the metal roof on a typical Architectural building should be protected from condensation by installing panels directly over a minimum 30 lb moisture barrier and uniform solid substrate. This reduces airspace and the potential of condensation forming on the underside of the panels.



TYPICAL METAL BUILDING (NO ATTIC)



BUILDING WITH ATTIC OR RETROFITTED

ARCHITECTURAL DESIGN / INSTALLATION CONSIDERATIONS

PANEL APPLICATIONS

The following chart highlights UL 580 Class 90 for clip installation on the selected applications. (See Fastener Selection Guide page 20 for other fasteners available.) For more information on UL Construction numbers, refer to UL Roofing Materials and System Directories. Panel gauges and clip spacing should be determined by a professional engineer according to the governing building code.

PANEL TYPE	APPLICATION	INSTALLATION REQUIREMENTS		CLIP SPACING	FASTENER	NUMBER REQUIRED
		UL-90	GA			
MINI-BATTEN	CLIPS OVER 5/8" WOOD DECK CONST. #460 ¹	UL-90	24 GA	2'-0" O.C.	#10-12 x 1" PANCAKE WOODSCREW	1 FASTENER
		UL-90	22 GA	2'-0" O.C.	#10-12 x 1" PANCAKE WOODSCREW	1 FASTENER
	CLIPS OVER RIGID INSULATION / METAL DECK CONST. #397A	UL-90	24 GA	2'-0" O.C.	#10-12 x 1" PANCAKE WOODSCREW	1 FASTENER
		UL-90	22 GA	2'-0" O.C.	#10-12 x 1" PANCAKE WOODSCREW	1 FASTENER
MAXI-BATTEN	CLIPS OVER 5/8" WOOD DECK CONST. # 398	UL-90	24 GA	1'-6" O.C.	#10-12 x 1" PANCAKE WOODSCREW	1 FASTENER
		UL-90	22 GA	1'-6" O.C.	#10-12 x 1" PANCAKE WOODSCREW	1 FASTENER
	CLIPS OVER 5/8" WOOD DECK CONST. # 398A	UL-90	24 GA	1'-6" O.C.	#10-12 x 1" PANCAKE WOODSCREW	1 FASTENER
		UL-90	22 GA	1'-6" O.C.	#10-12 x 1" PANCAKE WOODSCREW	1 FASTENER

* Length of Deck Screw will vary depending on the total thickness of the rigid insulation and metal decking. (See page 20.)

** Contact your representative for more information.

1. For 1" Mini-Batten over 5/8" plywood deck only.
2. Subject to project loading, closer fastener spacing may be required.
3. Maxi-Batten Cap from Fontana, CA branch only meets UL Construction Numbers shown.

ARCHITECTURAL MINI-BATTEN INSTALLATION

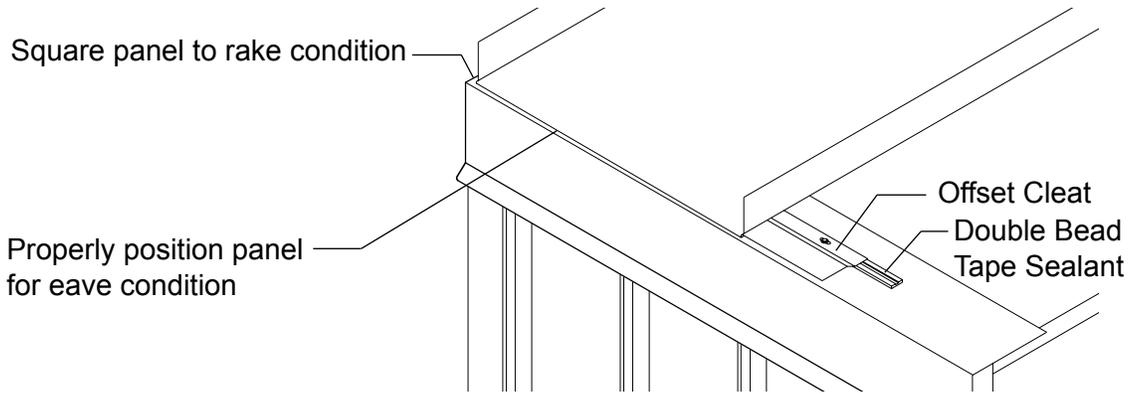
INSTALLING FIRST PANEL

STEP 1

Note: Moisture Barriers, Eave, Gutter, Valley and Offset Cleat flashings must first be installed before panel installation can begin (see pages 33-36).

Mini-Batten panels are installed from left to right or right to left.

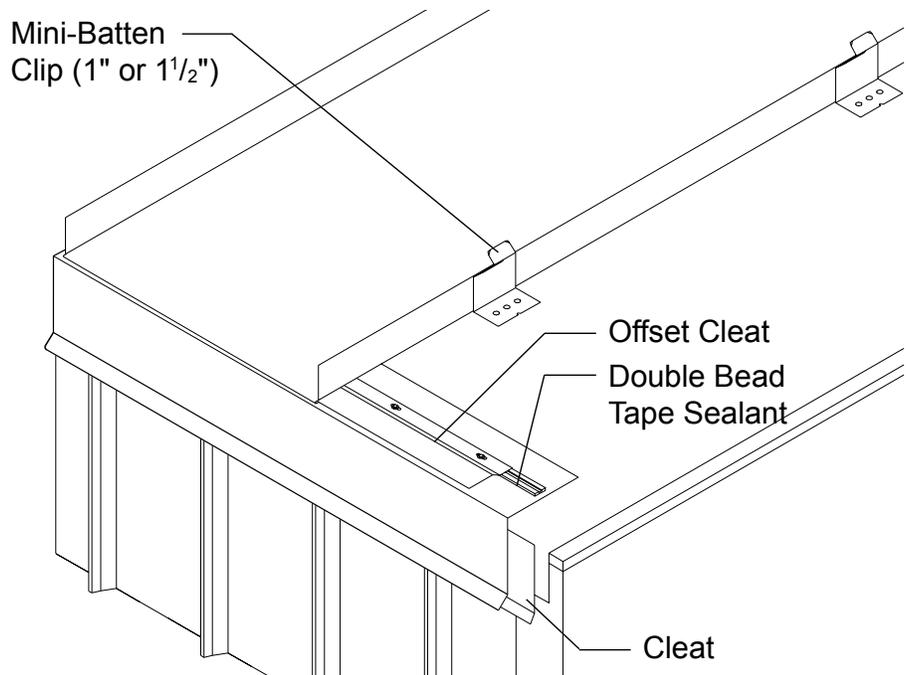
1. Field notch and hem the Mini-Batten panel as shown on page 56. Apply a single bead of tube sealant inside the open hem of the Mini-Batten panel.
2. Install first panel so that eave has proper overhang making sure that panel is square to eave and rake. Slide the panel toward the peak of the roof engaging the panel and the Offset Cleat. Offset Cleat must be fully engaged into the panel. Additional overhang must be considered if using wall panels. **It is critical that the first panel be straight and square with the building as it controls alignment of the following roof panels.**



INSTALLING CLIPS

STEP 2

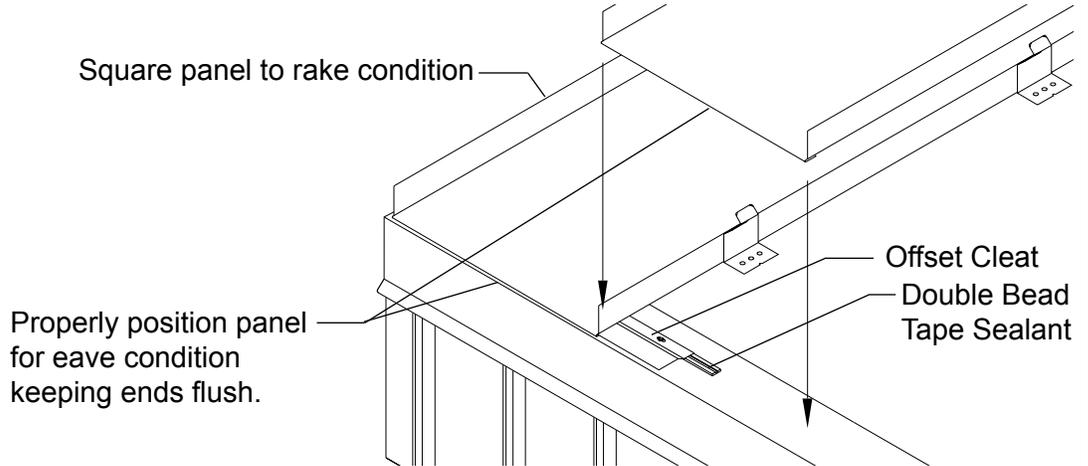
1. Once the first panel has been installed, engage clips at proper spacing along the male leg and fasten with appropriate fastener. Fastener spacing must be designed to meet local building codes (see page 23). If a fastener strips out, you must remove the clip and reposition it so the fastener can drill a new hole at least $\frac{3}{8}$ " from the stripped hole or install an oversized fastener in the stripped hole. Failure to do so will result in weakening the wind uplift resistance.



INSTALLING SECOND PANEL

STEP 3

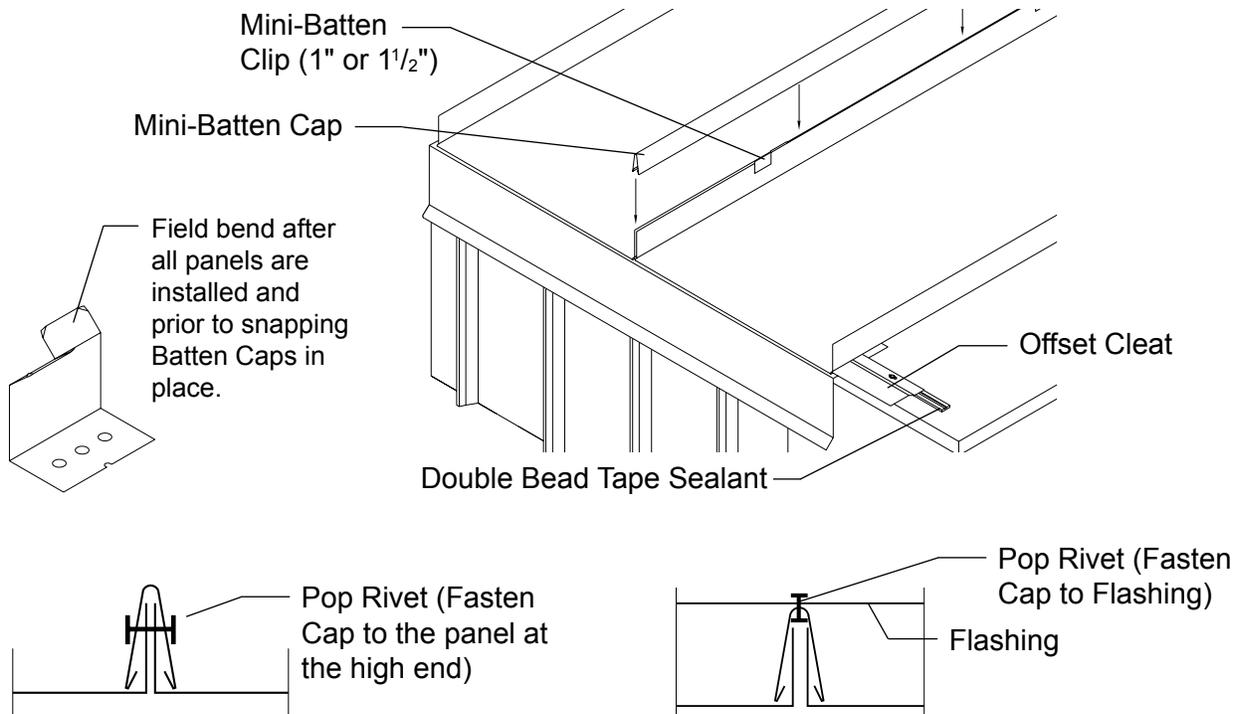
1. Field notch and hem the Mini-Batten panel as shown on page 56. Apply a single bead of tube sealant inside the open hem of the Mini-Batten panel.
2. Install second panel so that eave has proper overhang making sure that panel is square to eave and rake. Slide the panel toward the peak of the roof engaging the panel and the Offset Cleat. Offset Cleat must be fully engaged into the panel. Additional overhang must be considered if using wall panels. Make sure all panels are properly snapped in place.
3. Continue with previous steps until panel installation is complete.



INSTALLING BATTEN CAP

STEP 4

1. Tabs on Mini-Batten Clip must be field bent down to accept Mini-Batten Cap. Bend tabs over vertical leg of the panel.
2. Install Mini-Batten Cap over the panel rib and Mini-Batten Clip. Snap the Mini-Batten Cap into place working from one end to the other.
3. Once installation is complete, fill each end of batten with proper sealant (see page 28), and clean any debris and excess sealant from the panels.
4. Attach every Batten Cap to the panel or flashing, near the high end of the Batten Cap, with a Pop Rivet as shown below.



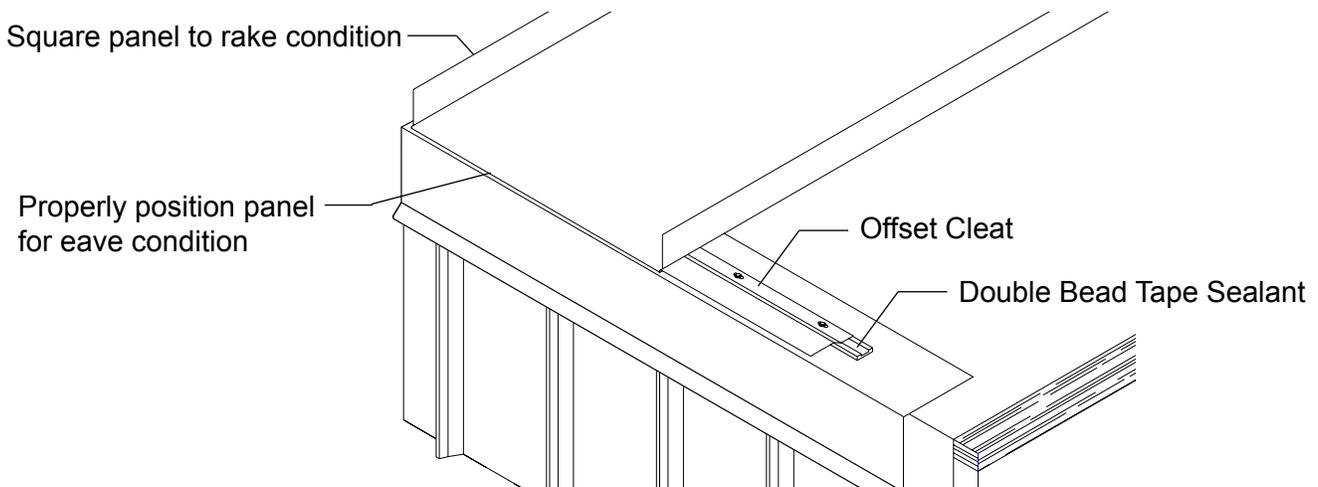
INSTALLING FIRST PANEL

STEP 1

Note: Moisture Barriers, Eave, Gutter, Valley and Offset Cleat flashings must first be installed before panel installation can begin (see pages 33-36).

Maxi-Batten panels are installed from left to right or right to left.

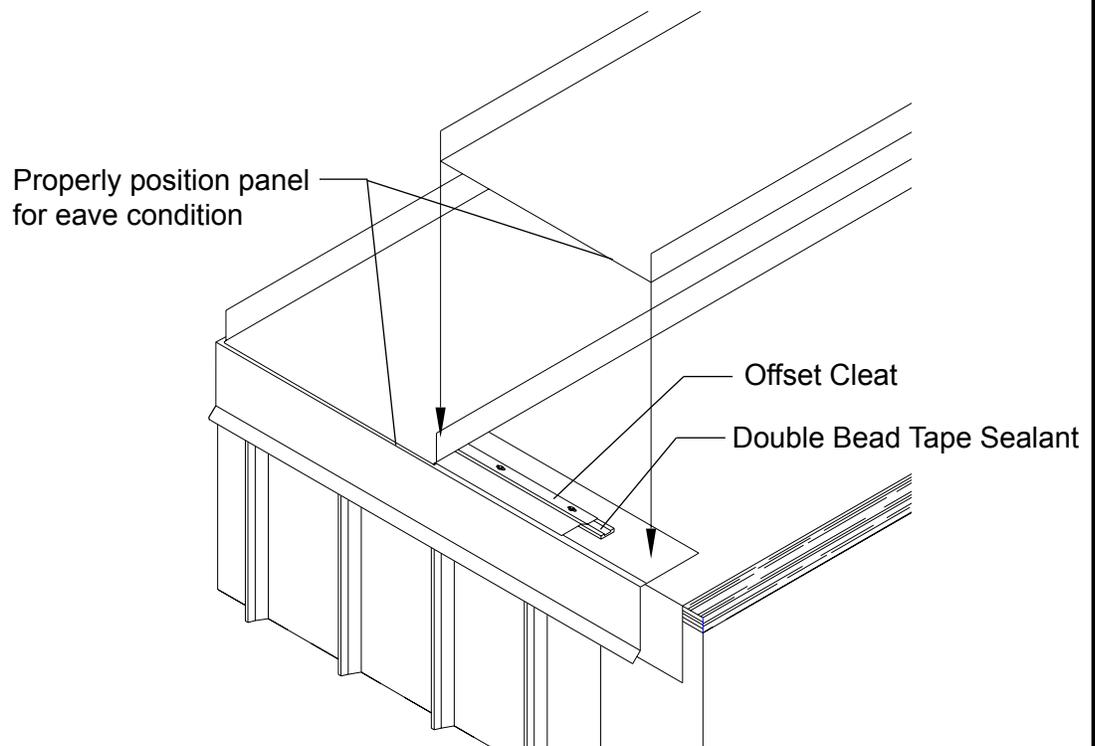
1. Field notch and hem the Maxi-Batten panel as shown on page 56. Apply a single bead of tube sealant inside the open hem of the Maxi-Batten panel.
2. Install first panel so that eave has proper overhang making sure that panel is square to eave and rake. Slide the panel toward the peak of the roof engaging the panel and the Offset Cleat. Offset Cleat must be fully engaged into the panel. Additional overhang must be considered if using wall panels. **It is critical that the first panel be straight and square with the building as it controls alignment of the following roof panels.**



INSTALLING SECOND PANEL

STEP 2

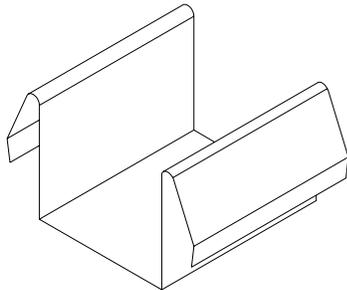
1. Install second panel in place making sure panel is positioned with adequate space to allow for placement of Maxi-Batten Clip. Make sure panel ends at eave are aligned.



INSTALLING CLIPS

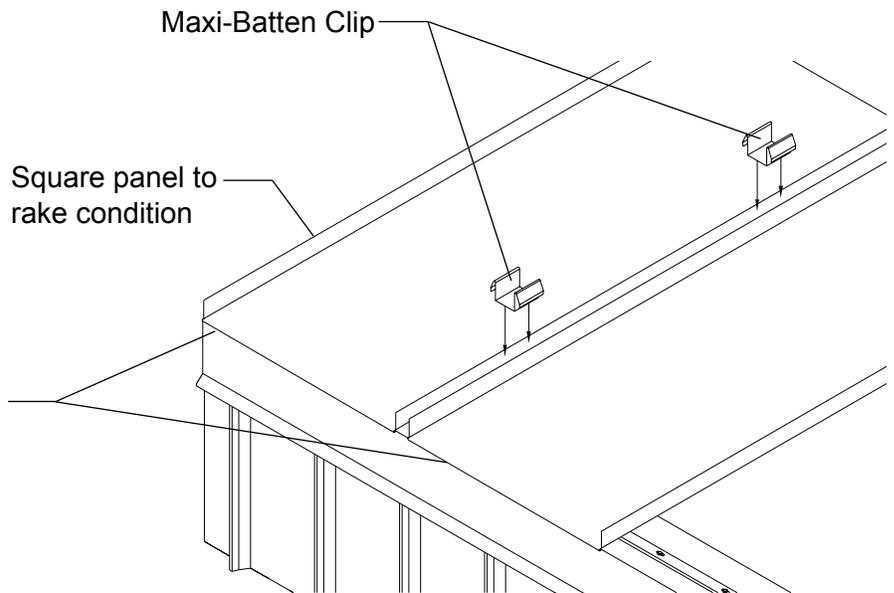
STEP 3

1. Engage clips at proper spacing along the male legs and fasten with appropriate fastener to meet local building codes (see page 23). If a fastener strips out, you must remove the clip and reposition it so the fastener can drill a new hole at least $\frac{3}{8}$ " from the stripped hole or install an oversized fastener in the stripped hole. Failure to do so will result in weakening the wind uplift resistance.
2. Continue with previous steps until panel installation is complete.



Maxi-Batten Clip

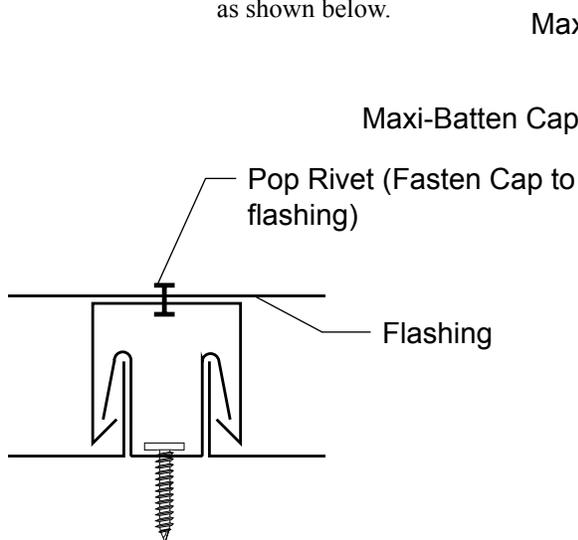
Properly position panel for eave condition



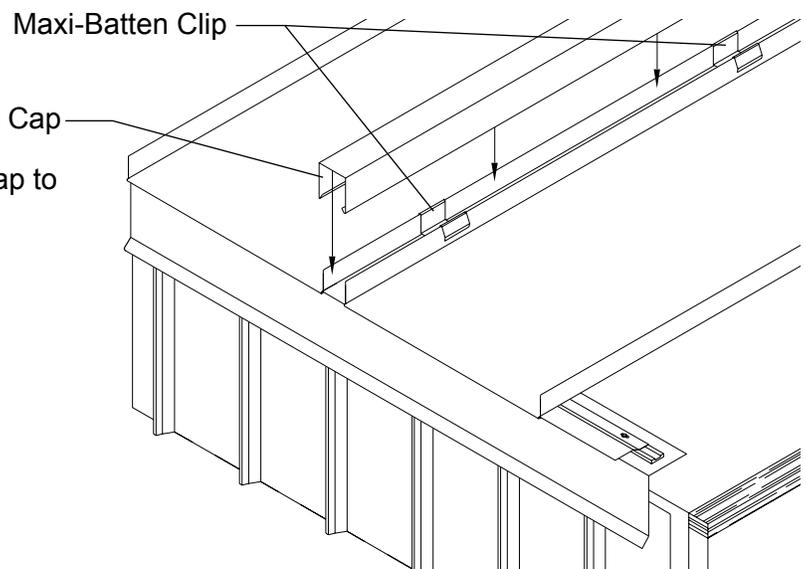
INSTALLING BATTEN CAP

STEP 4

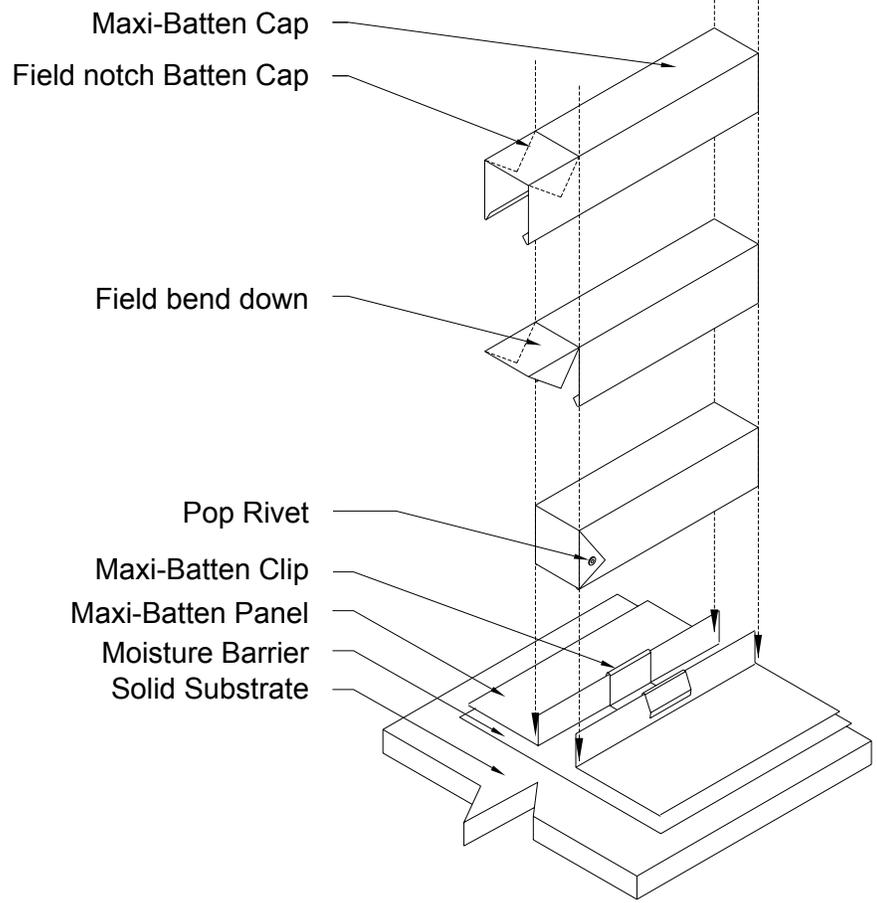
1. Install Maxi-Batten Cap over the panel rib and Maxi-Batten Clip. Snap Maxi-Batten Cap into place working from one end to the other. Make sure all batten caps are properly snapped in place. Clean any debris and excess sealant from the panels.
2. Once installation is complete, close open end of panel with either field fabricated piece or order Batten Cap 1" longer (see detail on page 28).
3. Attach every Batten Cap to the flashing, near the high end of the Batten Cap, with a Pop Rivet as shown below.



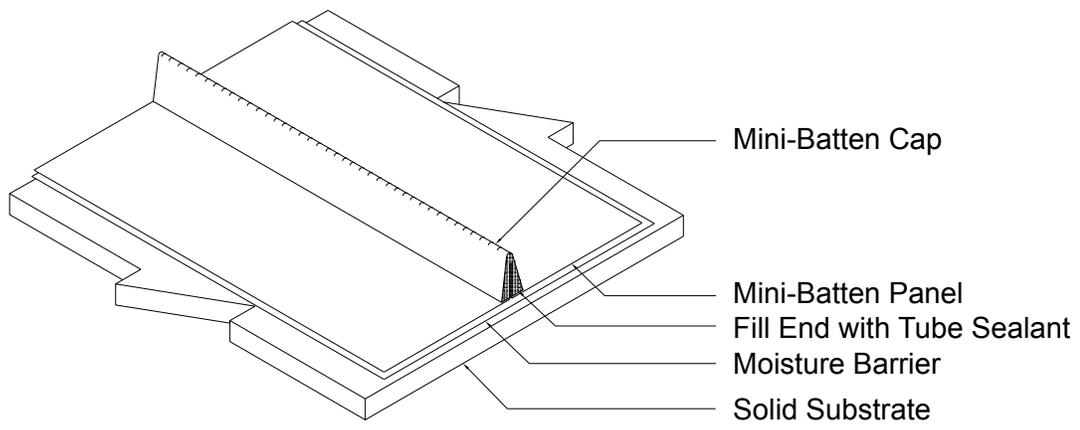
Maxi-Batten Assembly



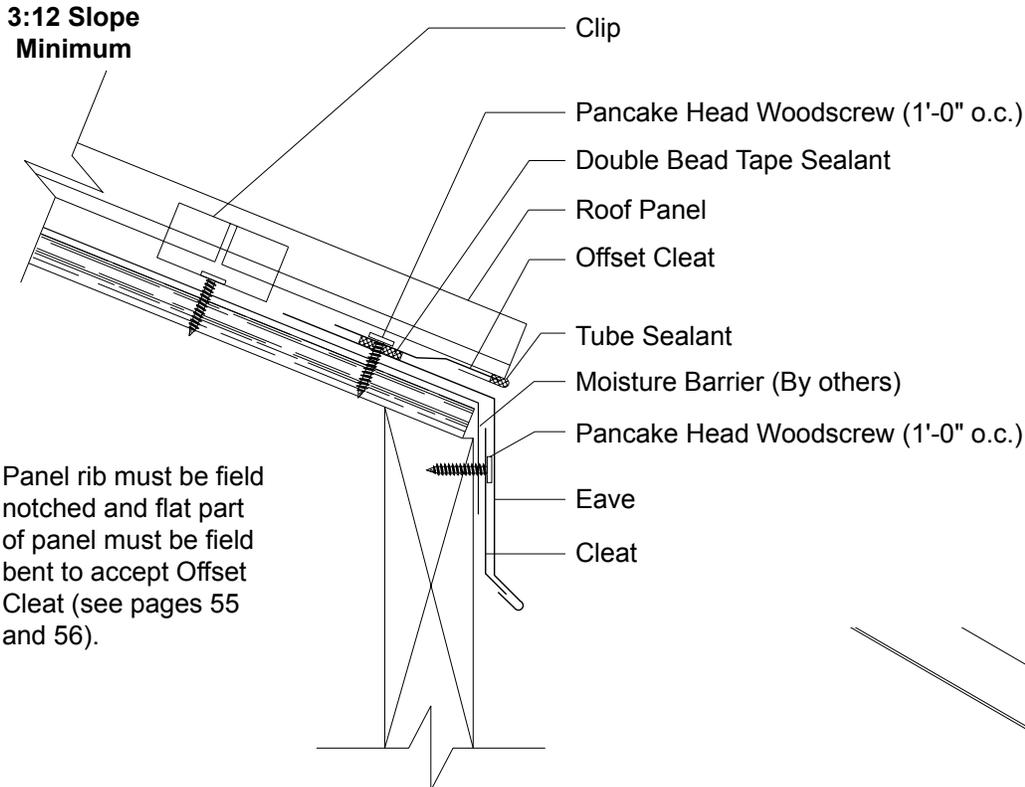
MAXI-BATTEN END INSTALLATION



MINI-BATTEN END INSTALLATION

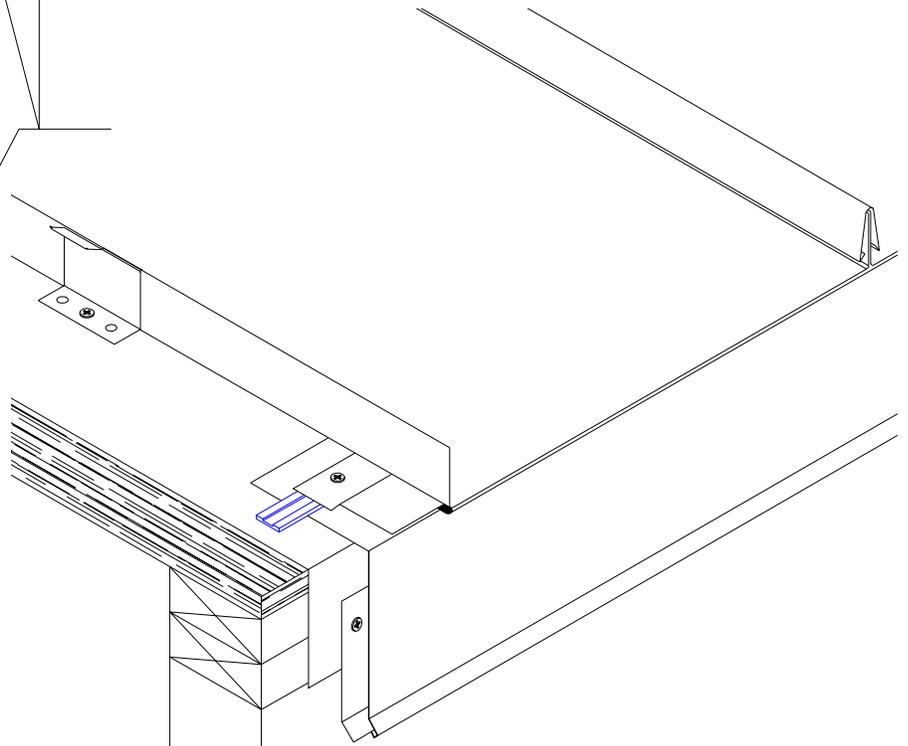
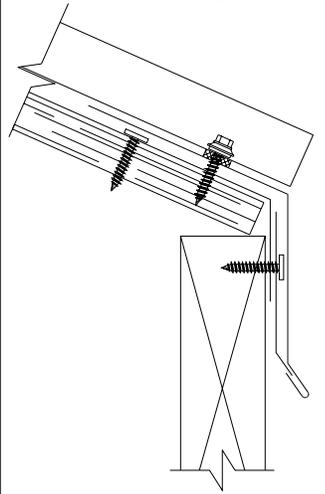


3:12 Slope
Minimum



Panel rib must be field notched and flat part of panel must be field bent to accept Offset Cleat (see pages 55 and 56).

(Direct Fasten)
(Optional for Image II)

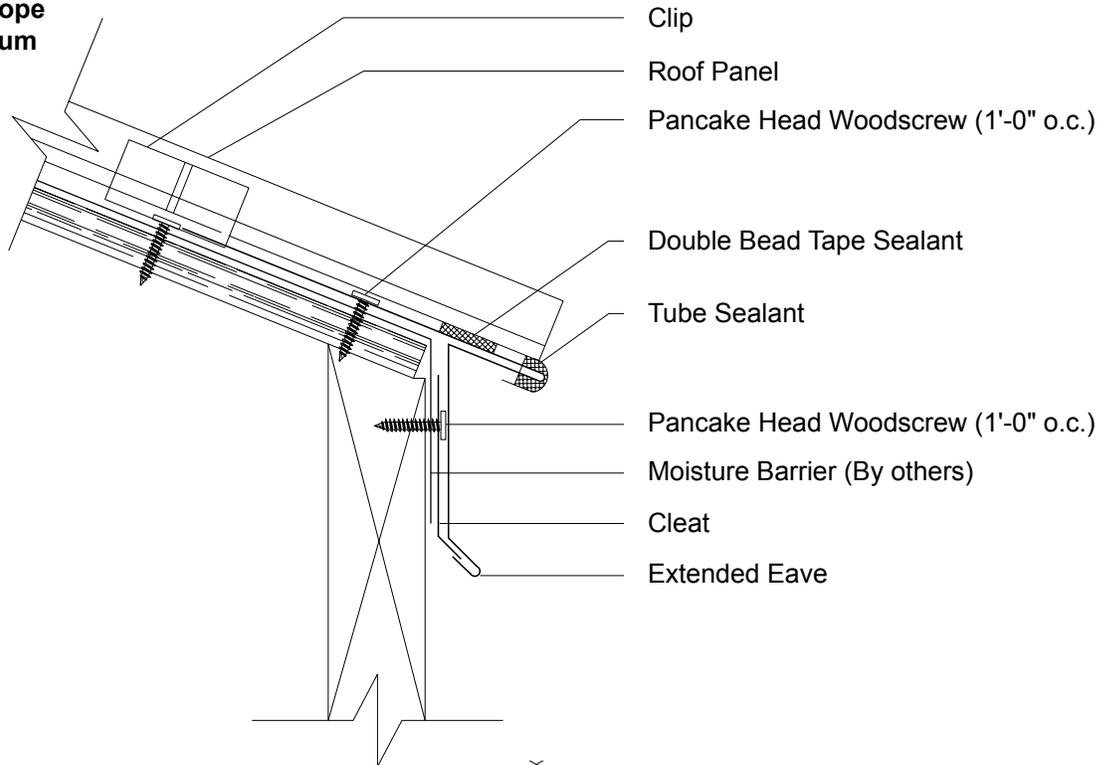


INSTALLATION NOTES

All Eave flashings must be installed prior to panel installation.

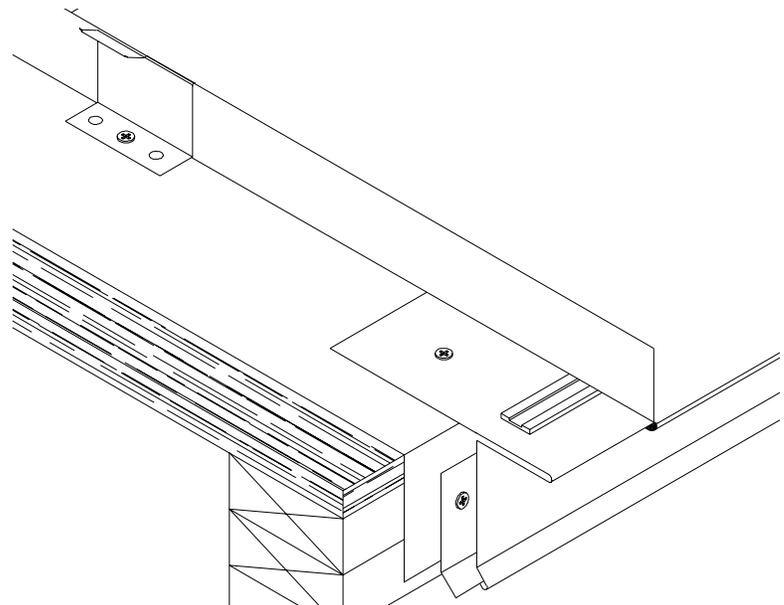
1. Position and install Cleat to wall with appropriate fastener, 12" o.c. Make sure Cleat allows for proper Eave attachment.
2. Install Eave flashing by sliding open hem onto Cleat and resting the Eave flashing against the substrate and fasten with #10-12 x 1" Pancake Head Woodscrew (4'-0" o.c.) to hold 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 substrate with #10-12 x 1" Pancake Head Woodscrew through top of Eave flashing and into substrate, 12" 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 pages 55 and 56) to Offset Cleat (See pages 24-30 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 Pop Rivets 2.5" o.c.

3:12 Slope
Minimum



Clip
Roof Panel
Pancake Head Woodscrew (1'-0" o.c.)
Double Bead Tape Sealant
Tube Sealant
Pancake Head Woodscrew (1'-0" o.c.)
Moisture Barrier (By others)
Cleat
Extended Eave

Panel rib must be field notched and flat part of panel must be field bent to accept Extended Eave (see pages 55 and 56).



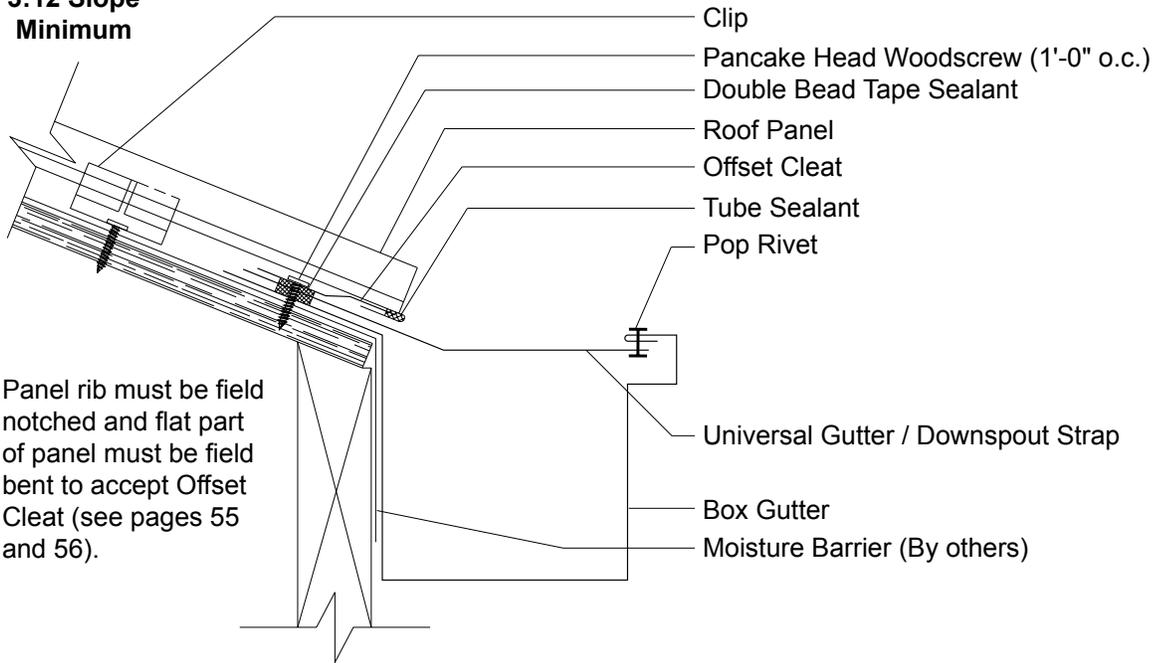
INSTALLATION NOTES

All Eave flashings must be installed prior to panel installation.

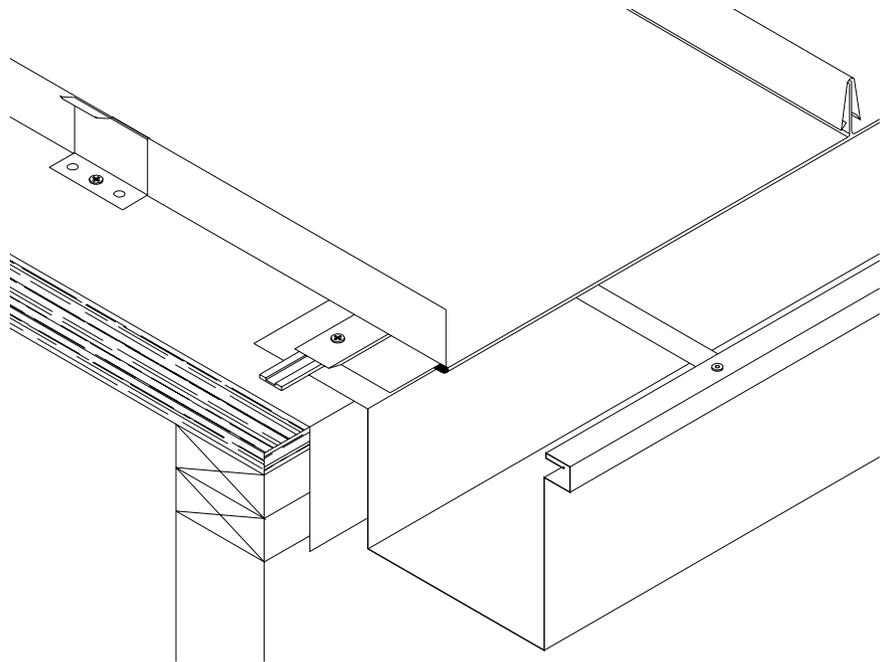
1. Position and install Cleat to wall with appropriate fastener, 12" o.c. Make sure Cleat allows for proper Extended Eave attachment.
2. Install Extended Eave flashing by sliding open hem onto Cleat and resting Extended Eave Flashing back against substrate. Fasten to substrate with #10-12 x 1" Pancake Head Woodscrew, 12" 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 pages 55 and 56) to Extended Eave (see pages 24-30 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 Pop Rivets 2.5" o.c.

**3:12 Slope
Minimum**

Panel rib must be field notched and flat part of panel must be field bent to accept Offset Cleat (see pages 55 and 56).



We recommend a Gutter Expansion Joint every 50'.

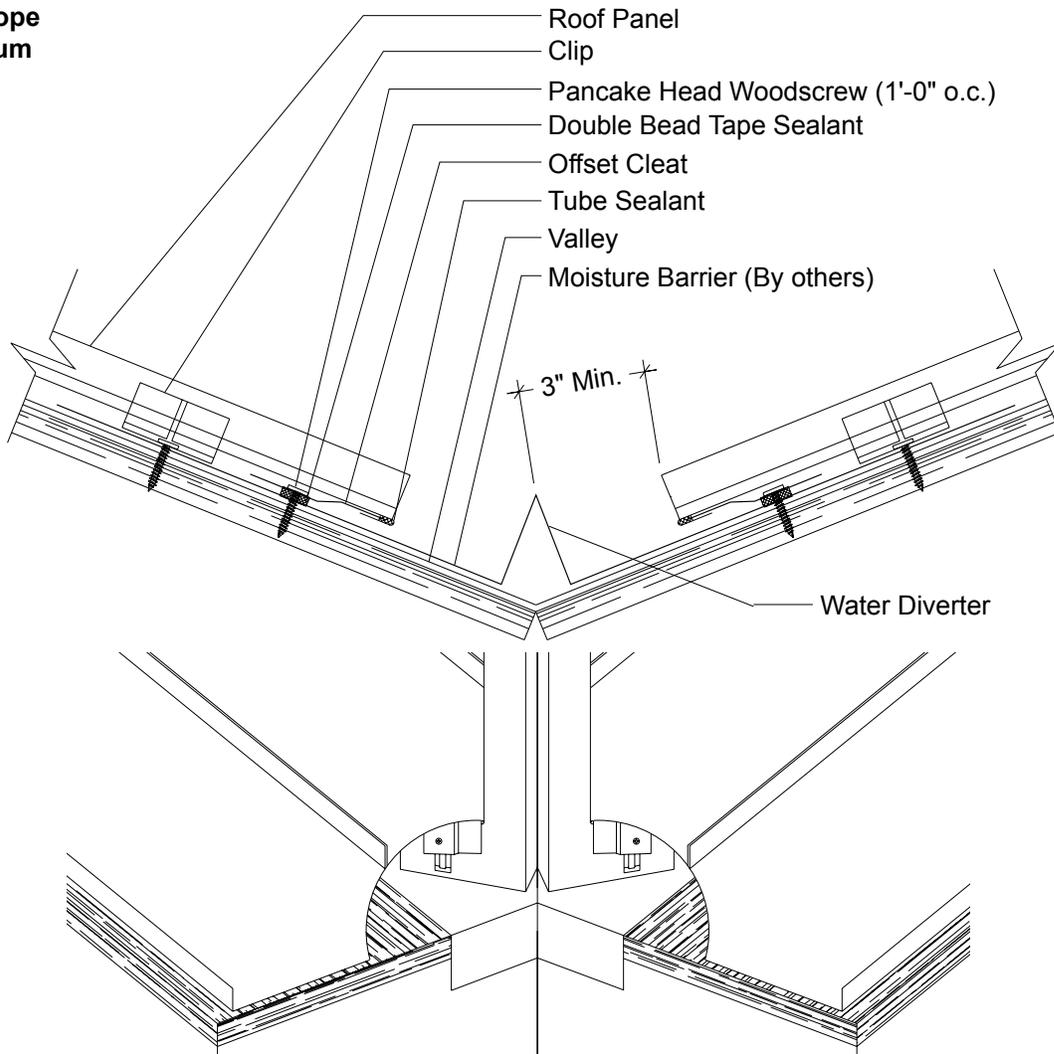


INSTALLATION NOTES

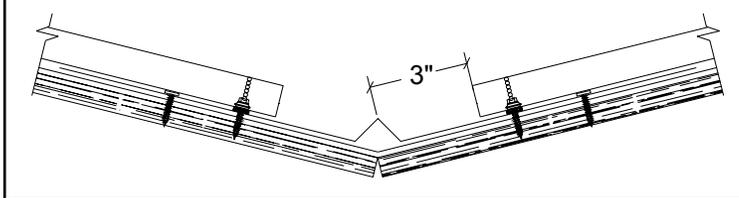
All Gutter Flashings must be installed prior to panel installation.

1. Install Box Gutter flashing back against substrate. To hold Box Gutter flashing in place, fasten to substrate with #10-12 x 1" Pancake Head Woodscrew 4'-0" o.c.
2. Install Universal Gutter/Downspout Straps every 3'-0" of gutter length to substrate with #10-12 x 1" Pancake Head Woodscrew, and fasten to Box Gutter with (1) 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 substrate with #10-12 x 1" Pancake Head Woodscrew, 12" o.c.
4. Install panel by engaging field-hemmed end of panel (see pages 55 and 56) to Offset Cleat (see pages 24-30 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 Pop Rivets 2.5" o.c.
6. Note: Size and gauge of box gutter must be designed to applicable governing building code.

**3:12 Slope
Minimum**



Direct Fasten (Optional)



Panel rib must be field notched and flat part of panel must be field bent to accept Offset Cleat (see pages 55 and 56).

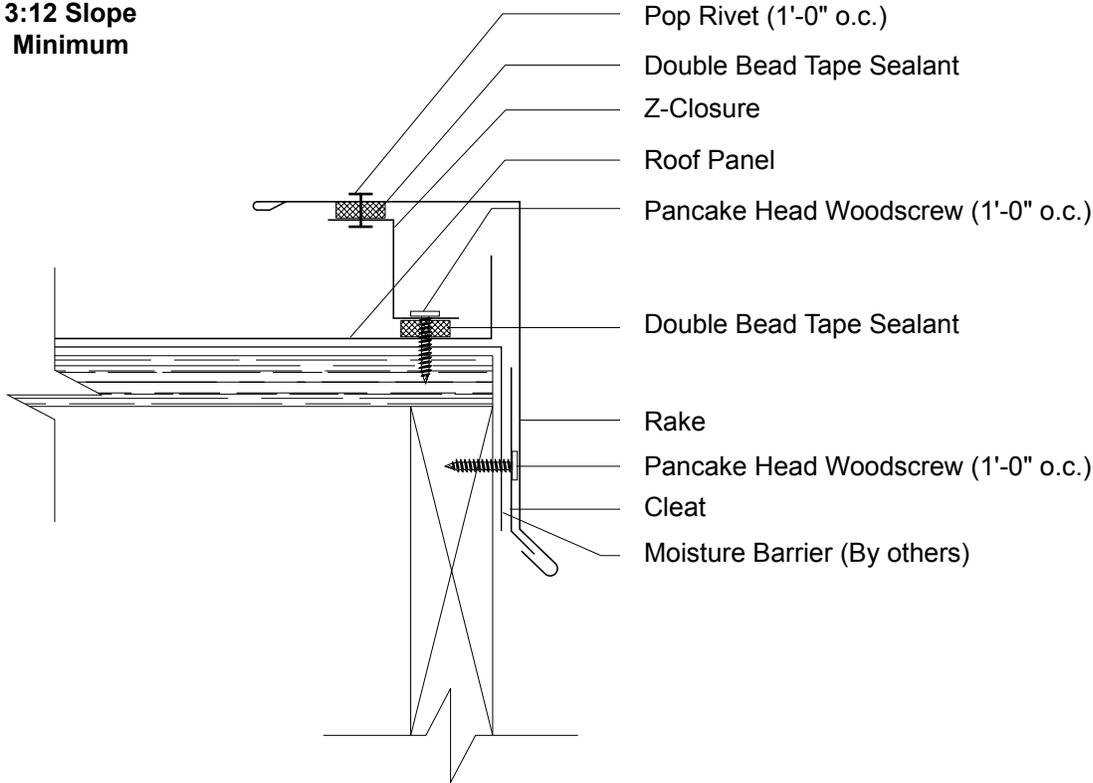
INSTALLATION NOTES

All Valley flashings must be installed prior to panel installation. If two or more valley flashings are required, valley must be installed working from eave to peak. It is recommended that high temp ice & water shield be installed under valley flashing for added moisture protection.

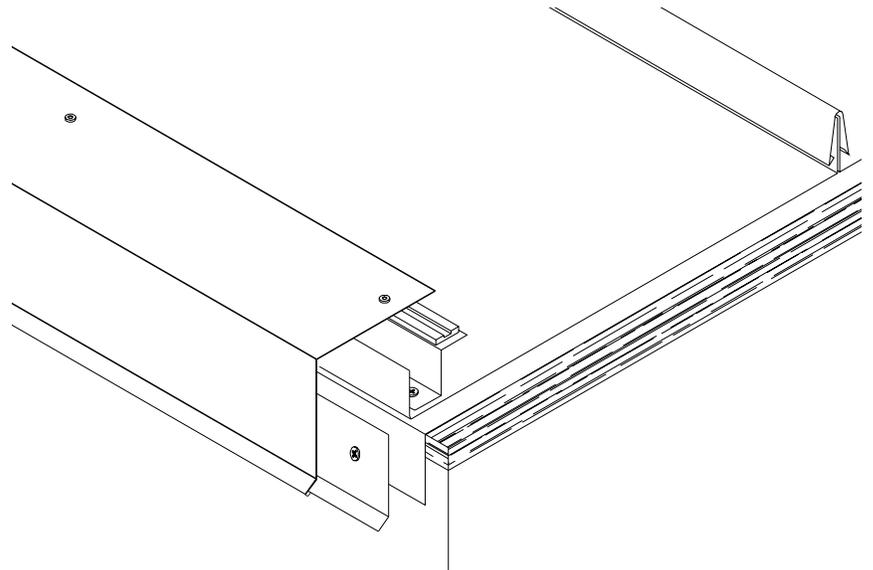
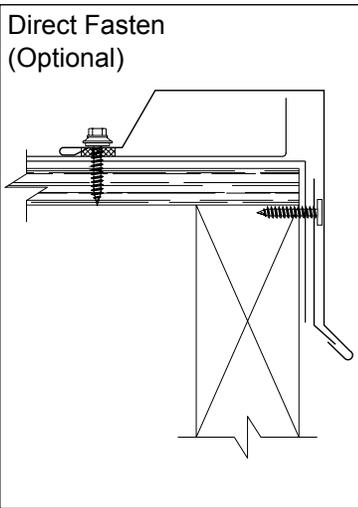
1. Install Valley flashing against substrate. To hold Valley flashing in place, fasten to substrate with #10-12x1" Pancake Head fastener 4'-0" o.c.
2. Apply a row of Double Bead Tape Sealant across both sides of Valley flashing approximately 5" from center of valley.
3. Properly align and install Offset Cleat on both sides of Valley flashing to accommodate panel hem and fasten to substrate with #10-12x1" Pancake Head fastener 12" o.c..
4. Install panel by engaging field-hemmed end of panel (see pages 55 and 56) to Offset Cleat (see pages 24-30 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 (2) Pop Rivets in the 1" water diverter.

ARCHITECTURAL RAKE DETAIL

3:12 Slope
Minimum



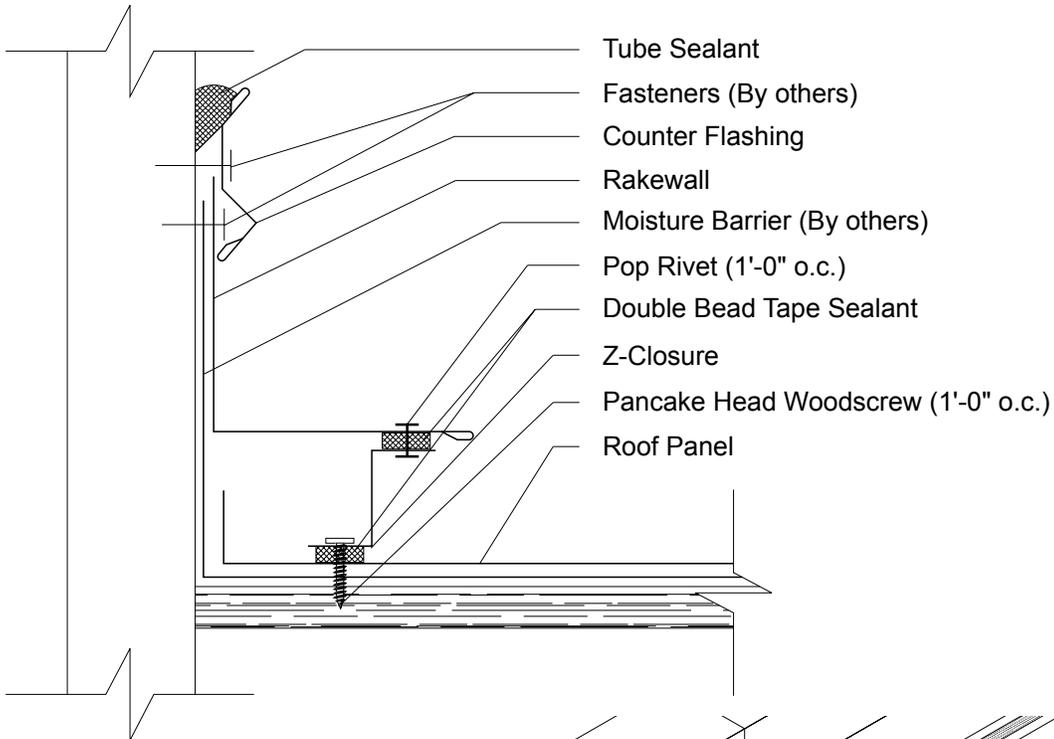
Direct Fasten
(Optional)



INSTALLATION NOTES

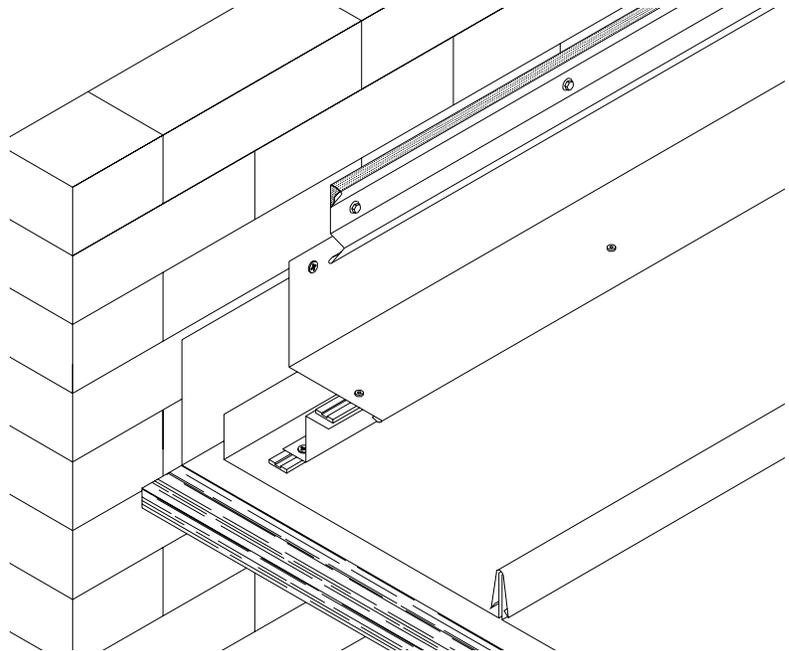
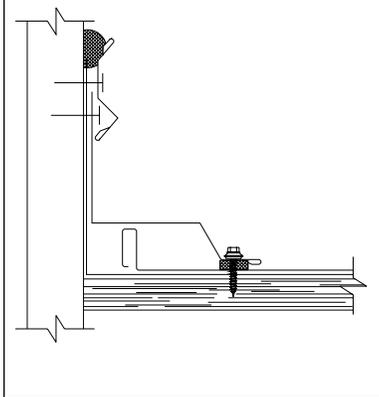
1. If panel ends off module bend flat part of the panel up a minimum of 1", otherwise skip to the next note.
2. Apply a row of Double Bead of Tape Sealant to the flat part of the panel next to the panel rib or vertical, field-bent leg.
3. Position Z-Closure over tape sealant and fasten to wood substrate with #10-12 x 1" Pancake Head Woodscrew, 12" o.c. Fastener must penetrate through the Z-Closure, Tape Sealant and panel.
4. Position and install Cleat to wall with appropriate fastener, 12" o.c. Make sure Cleat installation allows for proper Rake attachment.
5. Apply a row of Double Bead Tape Sealant to top leg of the Z-Closure.
6. Install Rake by sliding the open hem onto the Cleat and then attaching to the Z-Closure with $\frac{1}{8} \times \frac{3}{16}$ " Pop Rivets at 12" o.c.
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 Pop Rivets 2.5" o.c.

3:12 Slope
Minimum



Tube Sealant
Fasteners (By others)
Counter Flashing
Rakewall
Moisture Barrier (By others)
Pop Rivet (1'-0" o.c.)
Double Bead Tape Sealant
Z-Closure
Pancake Head Woodscrew (1'-0" o.c.)
Roof Panel

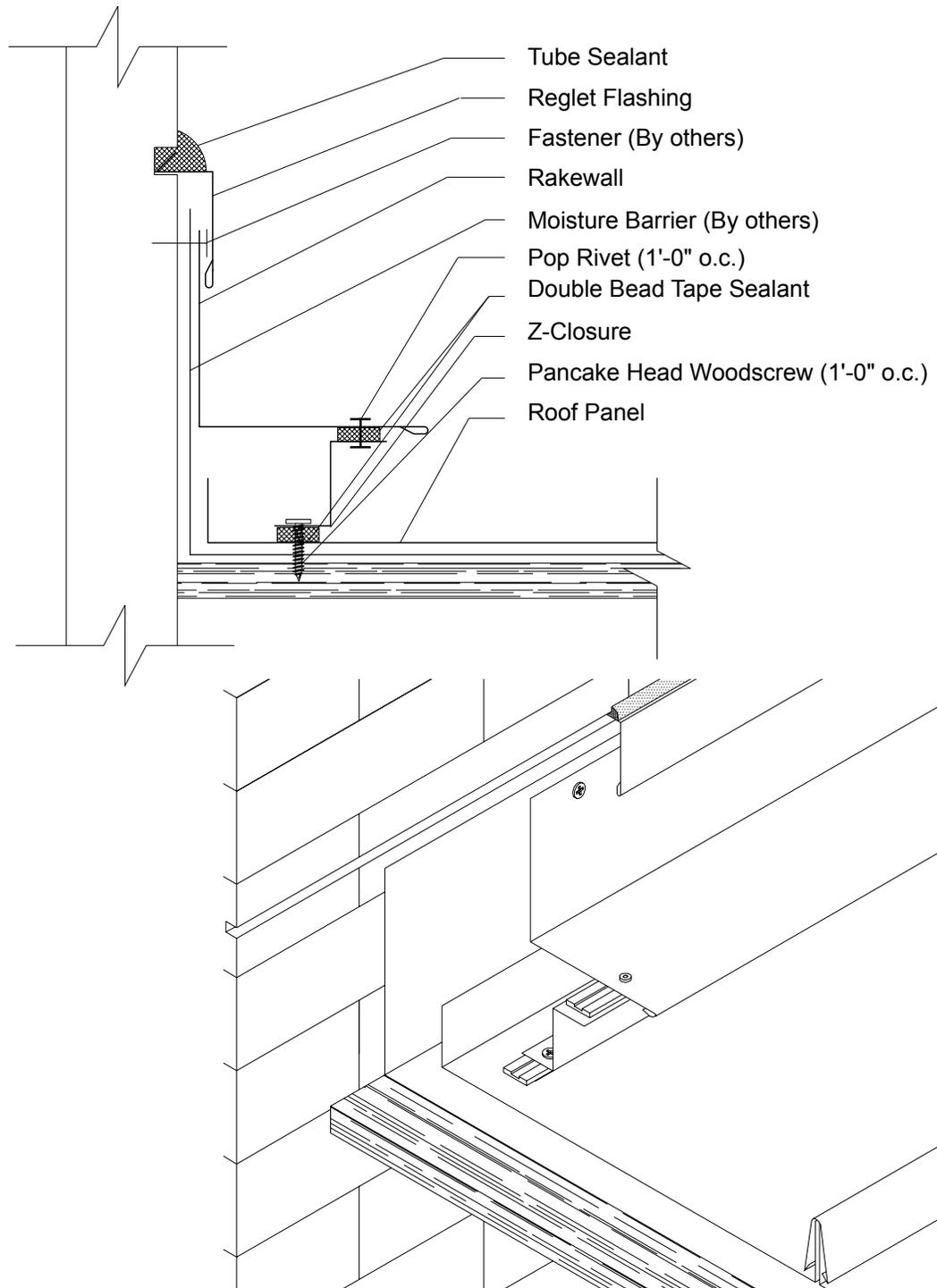
Direct Fasten
(Optional)



INSTALLATION NOTES

1. If panel ends off module bend flat part of the panel up a minimum of 1", otherwise skip to the next note.
2. Apply a row of Double Bead of Tape Sealant to the flat part of the panel next to the panel rib or vertical, field-bent leg.
3. Position Z-Closure over tape sealant and fasten to wood substrate with #10-12 x 1" Pancake Head Woodscrew, 12" o.c. Fastener must penetrate through the Z-Closure, Tape Sealant and panel.
4. Install Rakewall to the Floating Z-Closure with 1/8" x 3/16" Pop Rivets at 12" o.c.
5. Install Counter Flashing, and fasten to parapet wall with appropriate fastener 12" o.c. Seal Counter Flashing to parapet wall with Tube Sealant.
6. If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets 2.5" o.c.

3:12 Slope
Minimum

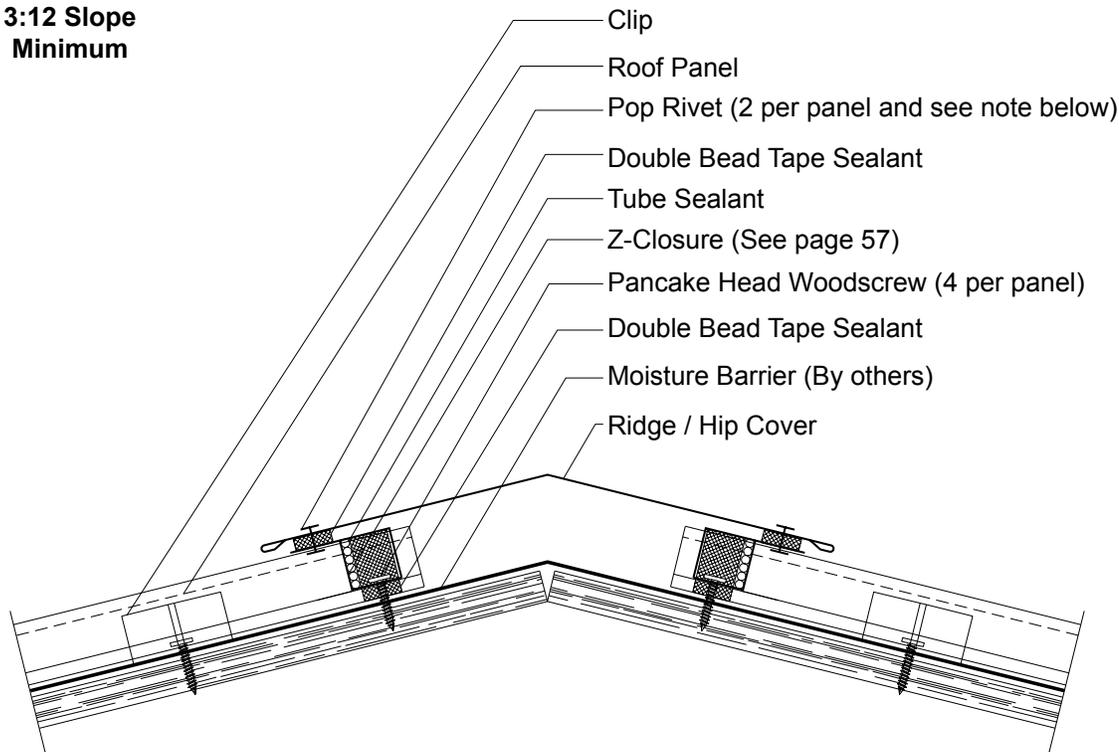


INSTALLATION NOTES

1. If panel ends off module bend flat part of the panel up a minimum of 1", otherwise skip to the next note.
2. Apply a row of Double Bead of Tape Sealant to the flat part of the panel next to the panel rib or vertical, field-bent leg.
3. Position Z-Closure over tape sealant and fasten to wood substrate with #10-12 x 1" Pancake Head Woodscrew, 12" o.c. Fastener must penetrate through the Z-Closure, Tape Sealant and panel.
4. Install Rakewall to the Floating Z-Closure with 1/8" x 3/16" Pop Rivets at 12" o.c.
5. Install Reglet in field-cut groove in the parapet wall. Seal Reglet to parapet wall with Tube Sealant.
6. If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets 2.5" o.c.

ARCHITECTURAL RIDGE / HIP DETAIL

**3:12 Slope
Minimum**



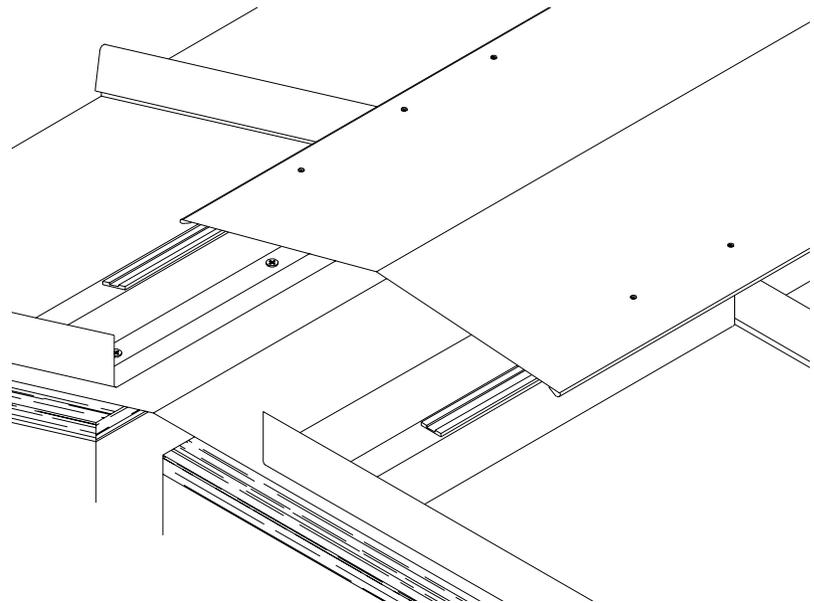
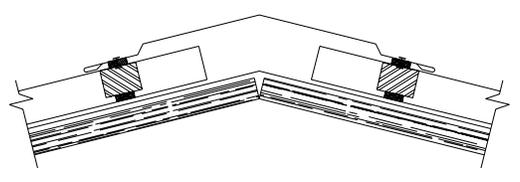
CAUTION

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

NOTE

For Mini/Maxi Batten Panels, Pop Rivet must attach Ridge/Hip Cover to each Batten Cap

(Optional)

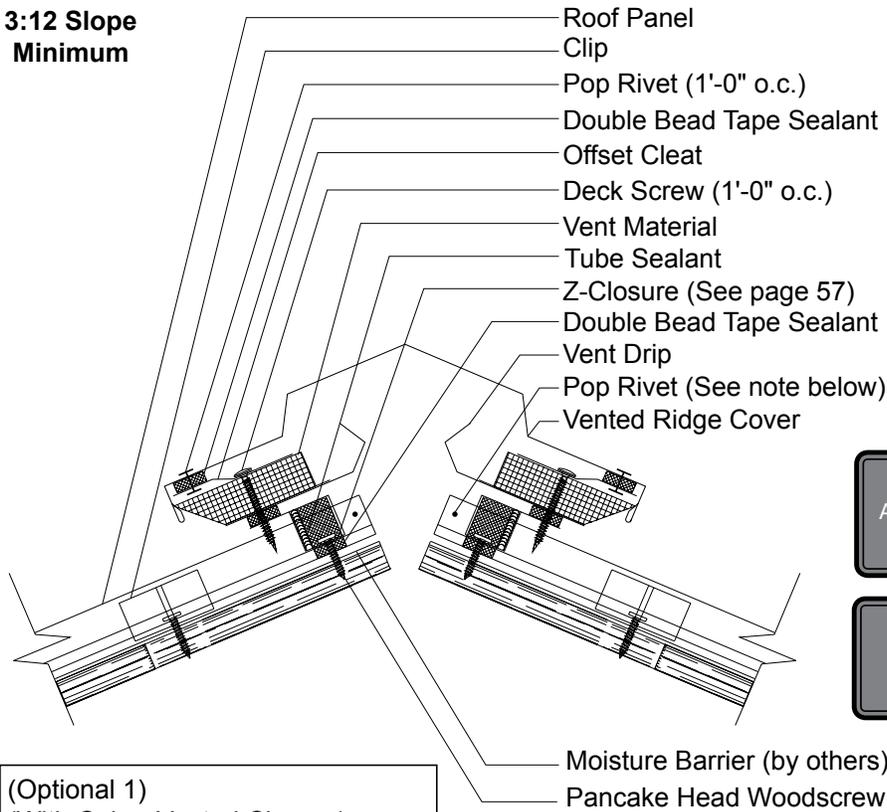


INSTALLATION NOTES

1. Once panels have been installed, field cut the Architectural Z-Closure (See page 57) 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 placement will accommodate 11" Ridge/Hip cover.
3. Install field-cut Z-Closure as shown on page 57.
4. Fasten Z-Closure through panel with #10-12 x 1" Pancake Head Woodscrews (4 per panel).
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 11" Ridge/Hip Cover flashing to Z-Closure with $\frac{1}{8}$ " x $\frac{3}{16}$ " 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 Pop Rivets 2.5" o.c.

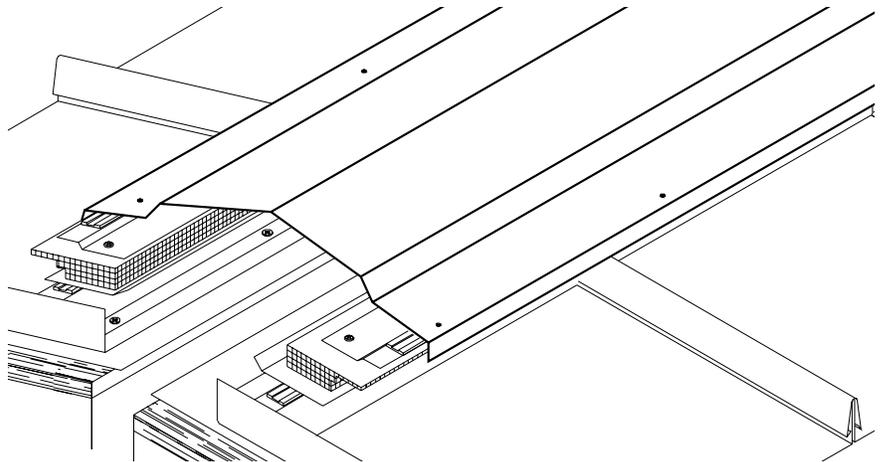
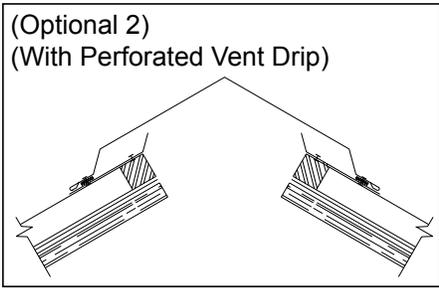
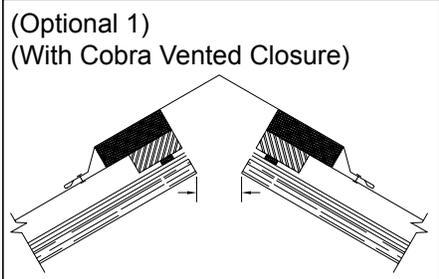
ARCHITECTURAL VENTED RIDGE DETAIL

**3:12 Slope
Minimum**



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

NOTE
For Mini/Maxi Batten Panels, Pop Rivet must attach each Batten Cap to Panel

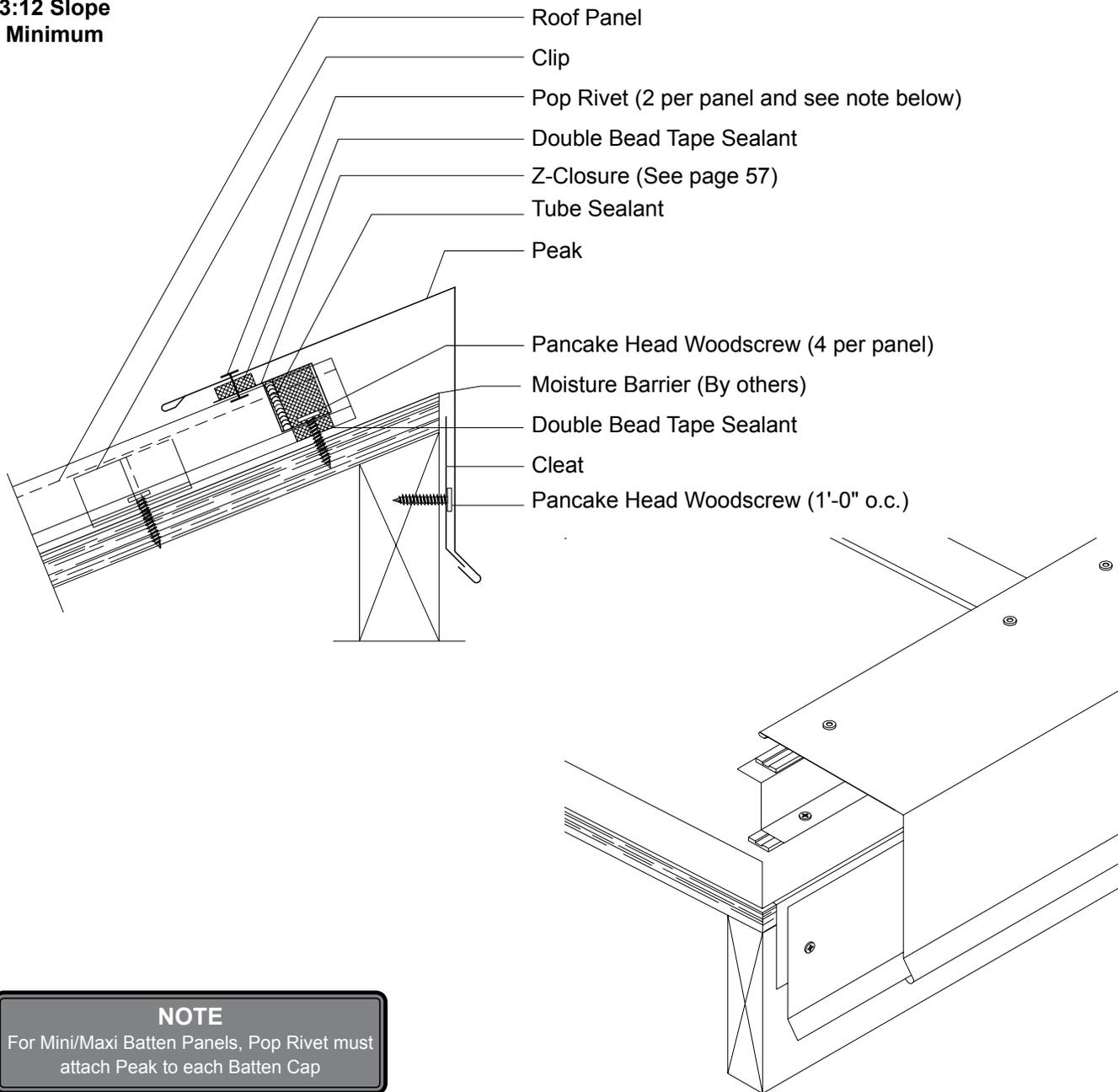


INSTALLATION NOTES

1. Once panels have been installed, field cut the Architectural Z-Closure (See page 57) 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 placement will accommodate Vented Ridge cover.
3. Install field-cut Z-Closure as shown on page 57.
4. Fasten Z-Closure through panel with #10-12 x 1" Pancake Head Woodscrews (4 per panel).
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, Vent Material, and Offset Cleat, as shown above with #14-13 x 2" deck screws, 12" o.c. and apply a row of Double Bead Tape Sealant to the top leg of the Offset Cleat.
7. Install Vented Ridge Cover to Offset Cleat with 1/8" x 3/16" Pop Rivets at 12" o.c.
8. If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets 2.5" o.c.

ARCHITECTURAL PEAK DETAIL

**3:12 Slope
Minimum**



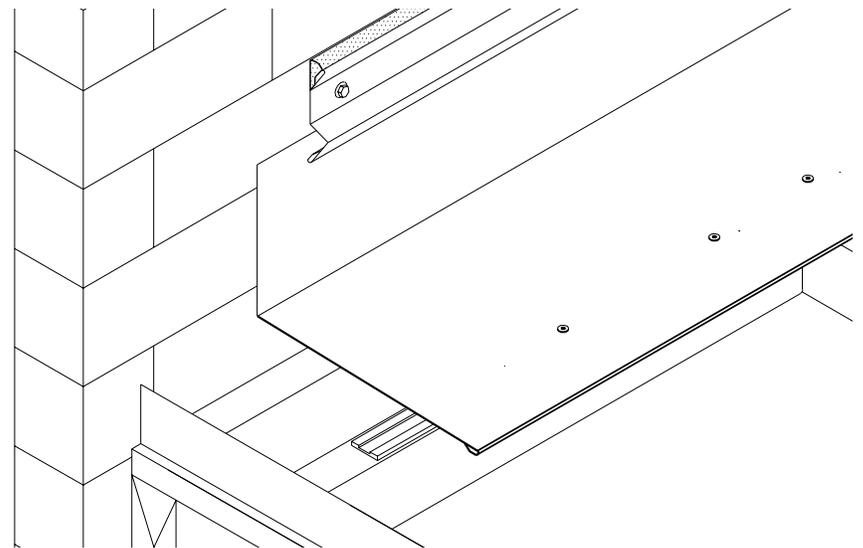
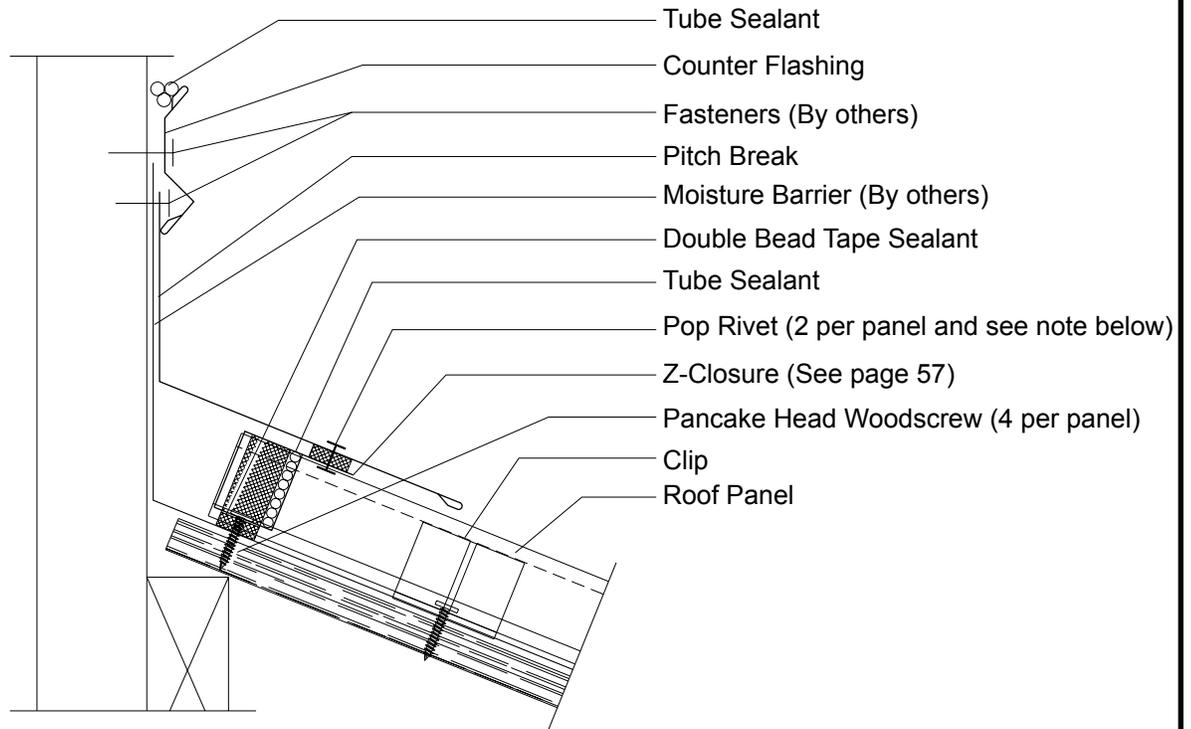
NOTE

For Mini/Maxi Batten Panels, Pop Rivet must attach Peak to each Batten Cap

INSTALLATION NOTES

1. Once panels have been installed, field cut the Architectural Z-Closure (See page 57) 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 placement will accommodate Peak cover.
3. Install field-cut Z-Closure as shown on page 57.
4. Fasten Z-Closure through panel with #10-12 x 1" Pancake Head Woodscrews (4 per panel).
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 Cleat to the wall with the appropriate fastener, 12" o.c. Make sure cleat allows for proper Peak attachment.
7. Install Peak flashing by sliding the open hem onto the Cleat and then attaching to the Z-Closure with $\frac{1}{8}$ " x $\frac{3}{16}$ " Pop Rivets, at the spacing shown above.
8. If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets 2.5" o.c.

**3:12 Slope
Minimum**



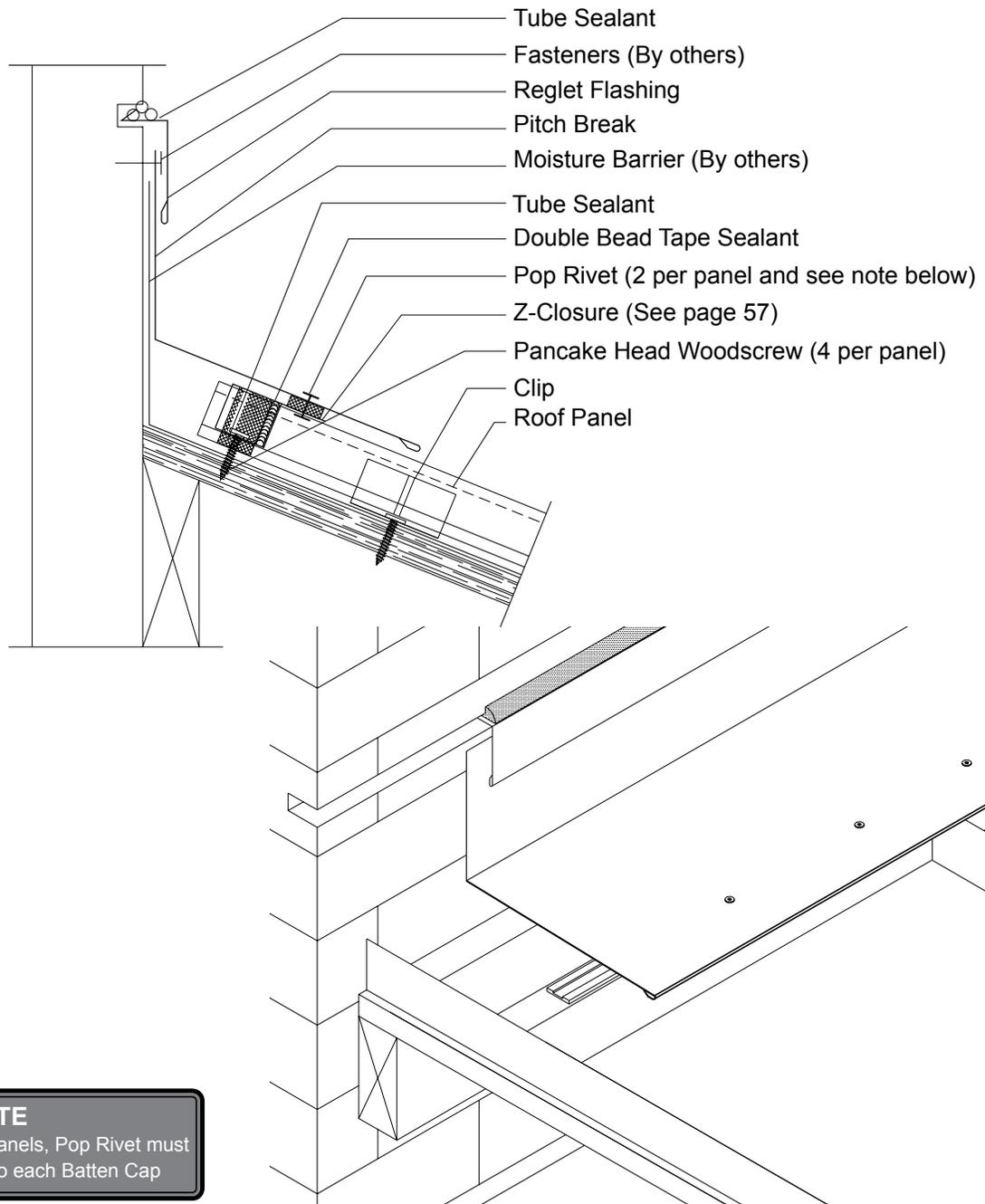
NOTE

For Mini/Maxi Batten Panels, Pop Rivet must attach Pitch Break to each Batten Cap

INSTALLATION NOTES

1. Once panels have been installed, field cut the Architectural Z-Closure (See page 57) 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 placement will accommodate Pitch Break flashing.
3. Install field-cut Z-Closure as shown on page 57.
4. Fasten Z-Closure through panel with #10-12 x 1" Pancake Head Woodscrews (4 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 $\frac{1}{8}$ " x $\frac{3}{16}$ " Pop Rivets (as shown).
6. Fasten vertical leg of Pitch Break to the parapet wall with the appropriate fastener (1'-0" o.c.).
7. Install Counter Flashing, and fasten to parapet wall with appropriate fastener 12" o.c. Seal Counter Flashing to parapet wall with Tube Sealant.
8. If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets 2.5" o.c.

**3:12 Slope
Minimum**



NOTE

For Mini/Maxi Batten Panels, Pop Rivet must attach Pitch Break to each Batten Cap

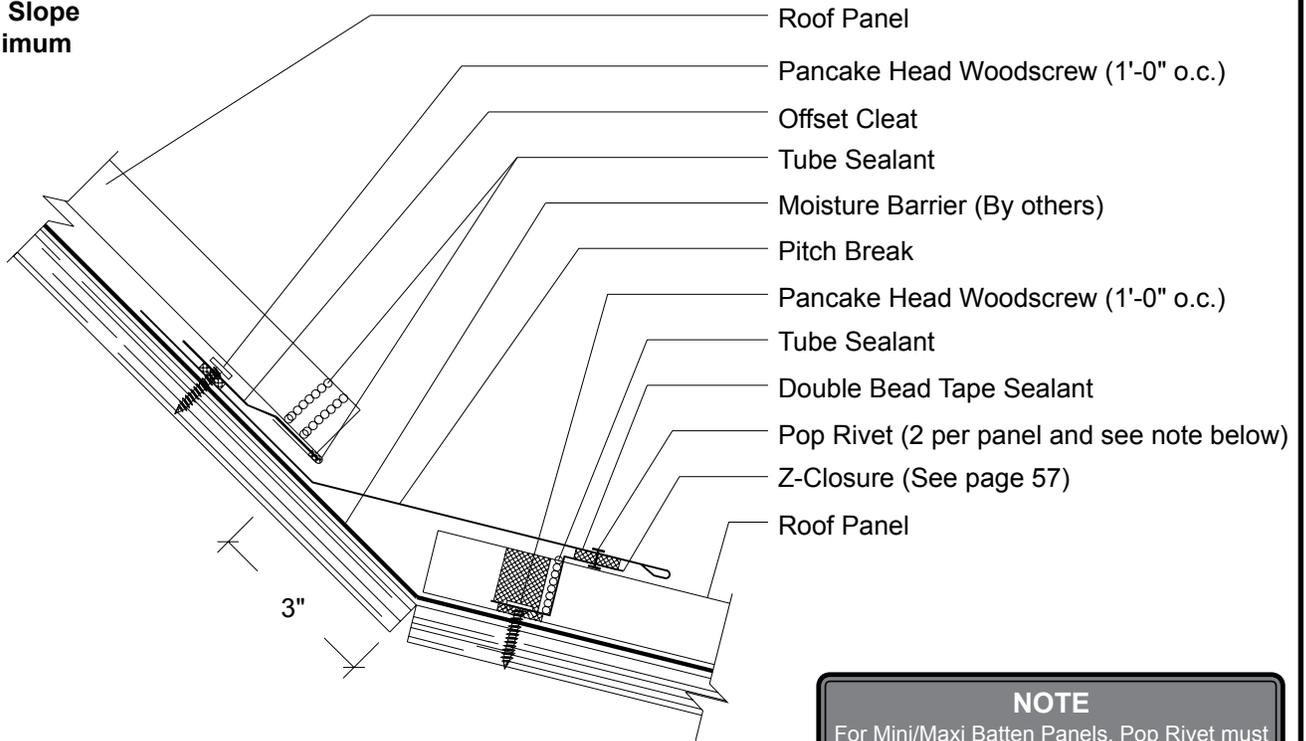
INSTALLATION NOTES

1. Once panels have been installed, field cut the Architectural Z-Closure (See page 57) 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 placement will accommodate Pitch Break flashing.
3. Install field-cut Z-Closure as shown on page 57.
4. Fasten Z-Closure through panel with #10-12 x 1" Pancake Head Woodscrews (4 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" x 3/16" Pop Rivets (as shown).
6. Fasten vertical leg of Pitch Break to the parapet wall with the appropriate fastener (1'-0" o.c.).
7. Install Reglet in field-cut groove in the parapet wall. Seal Reglet to parapet wall with Tube Sealant.
8. If two or more flashings are required, lap the flashing over the previously installed flashing by a minimum of 2" placing a bead of Tube Sealant between the flashings and securing with Pop Rivets 2.5" o.c.

ARCHITECTURAL SLOPE CHANGE DETAILS

SLOPE CHANGE - TRADITIONAL

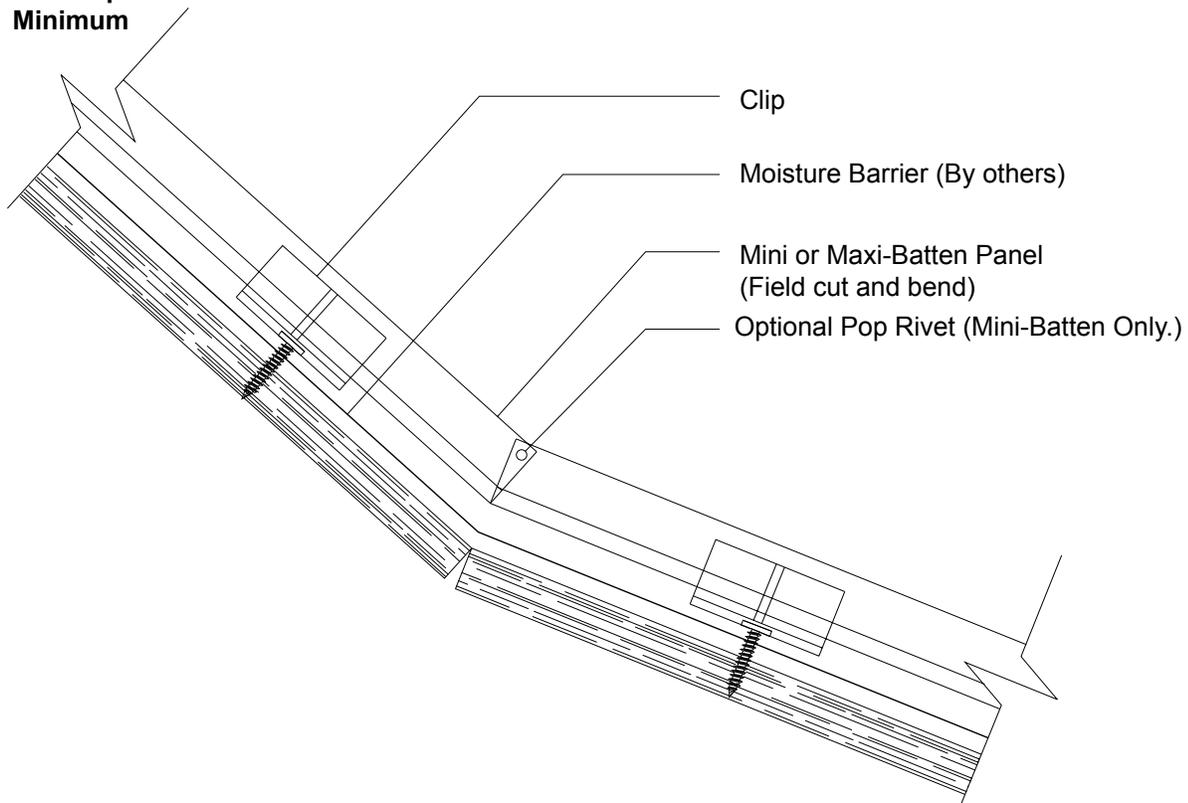
3:12 Slope
Minimum



NOTE
For Mini/Maxi Batten Panels, Pop Rivet must attach Pitch Break to each Batten Cap

SLOPE CHANGE - CONTINUOUS PANEL

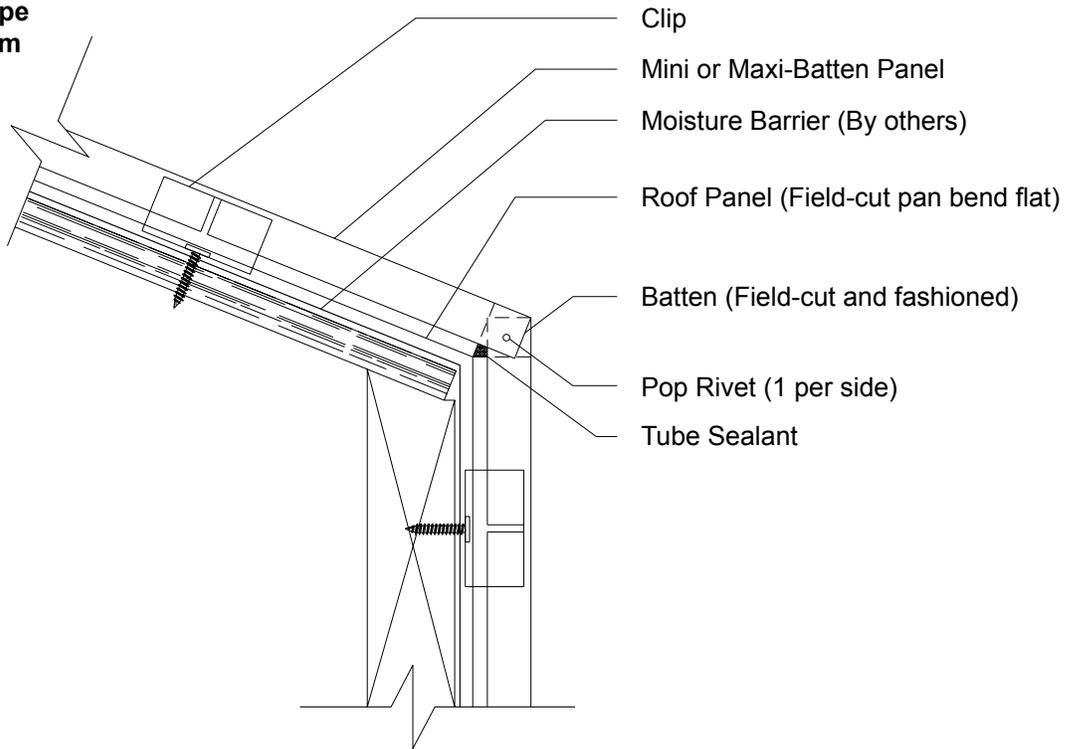
3:12 Slope
Minimum



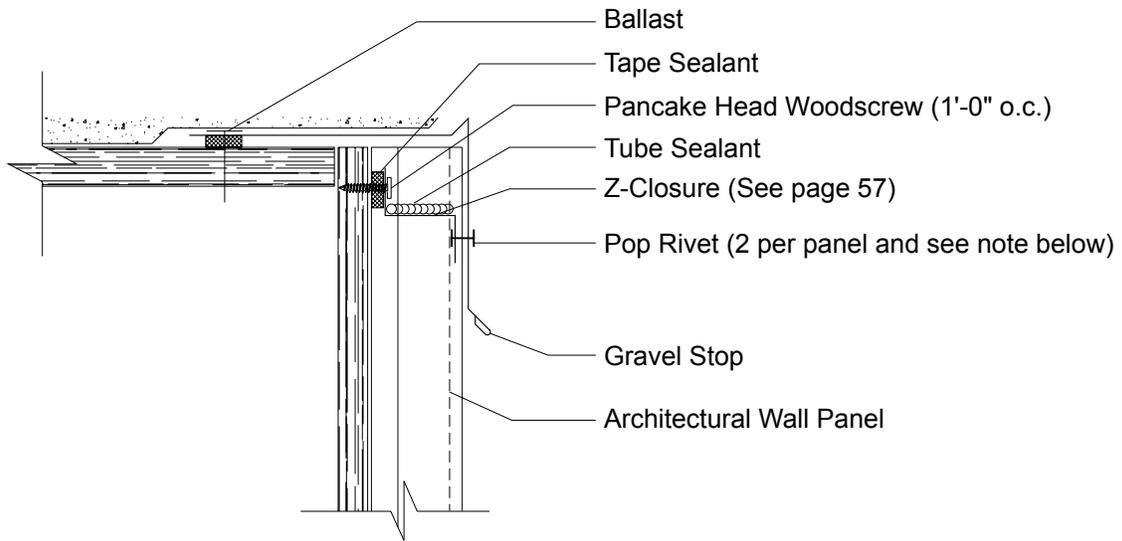
ARCHITECTURAL TRANSITION DETAILS

MINI / MAXI-BATTEN GAMBREL TRANSITION - CONTINUOUS PANEL

3:12 Slope
Minimum



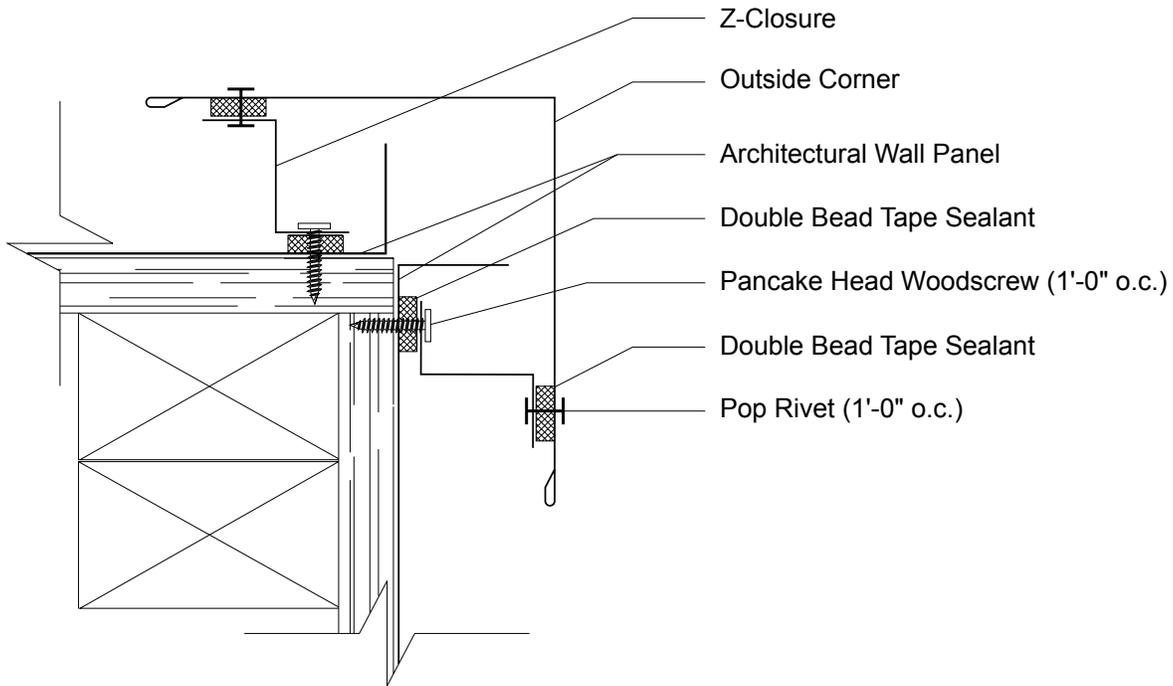
ARCHITECTURAL PANEL GRAVEL STOP



NOTE

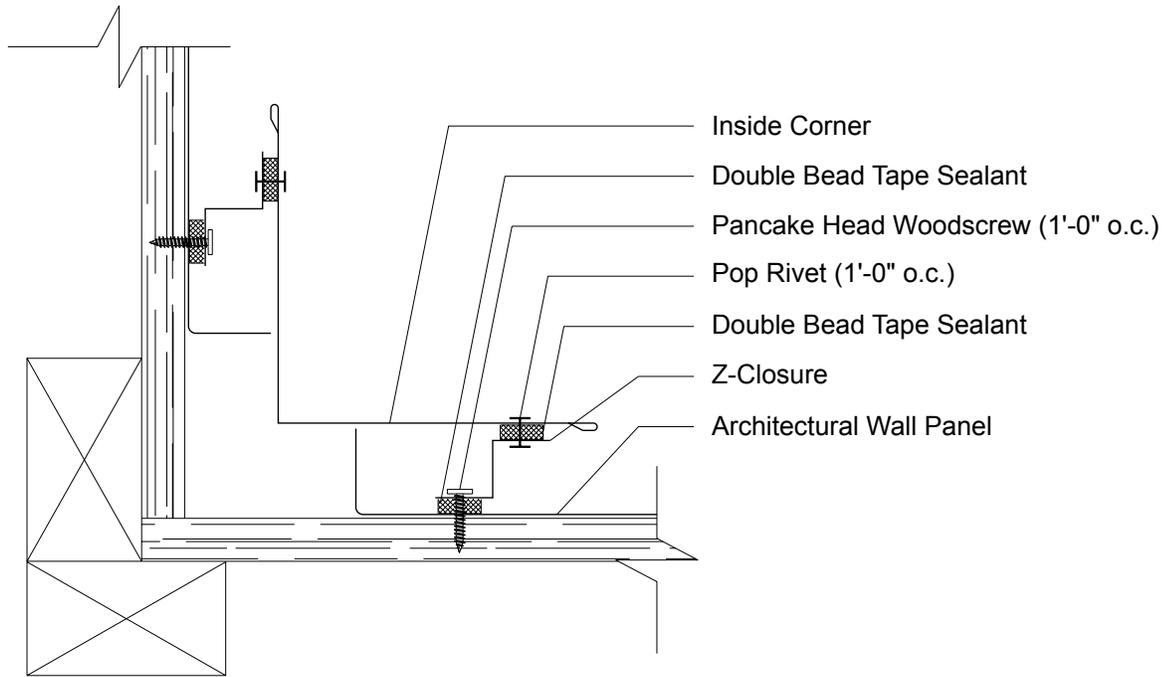
For Mini/Maxi Batten Panels, Pop Rivet must attach Gravel Stop to each Batten Cap

ARCHITECTURAL PANEL OUTSIDE CORNER

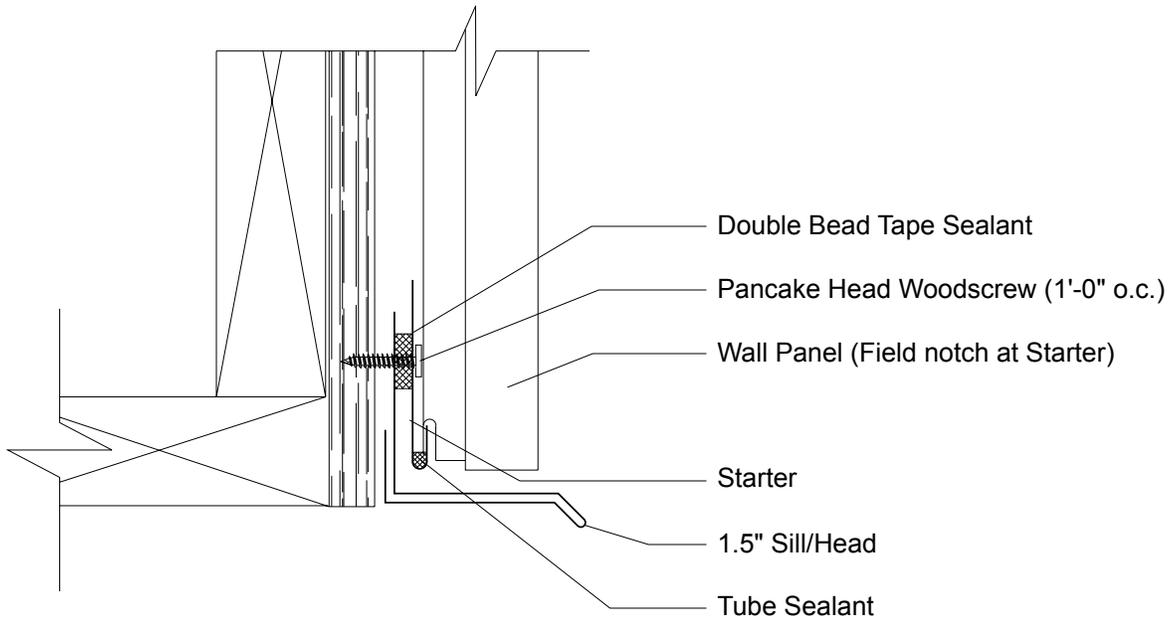


ARCHITECTURAL INSIDE CORNER DETAILS

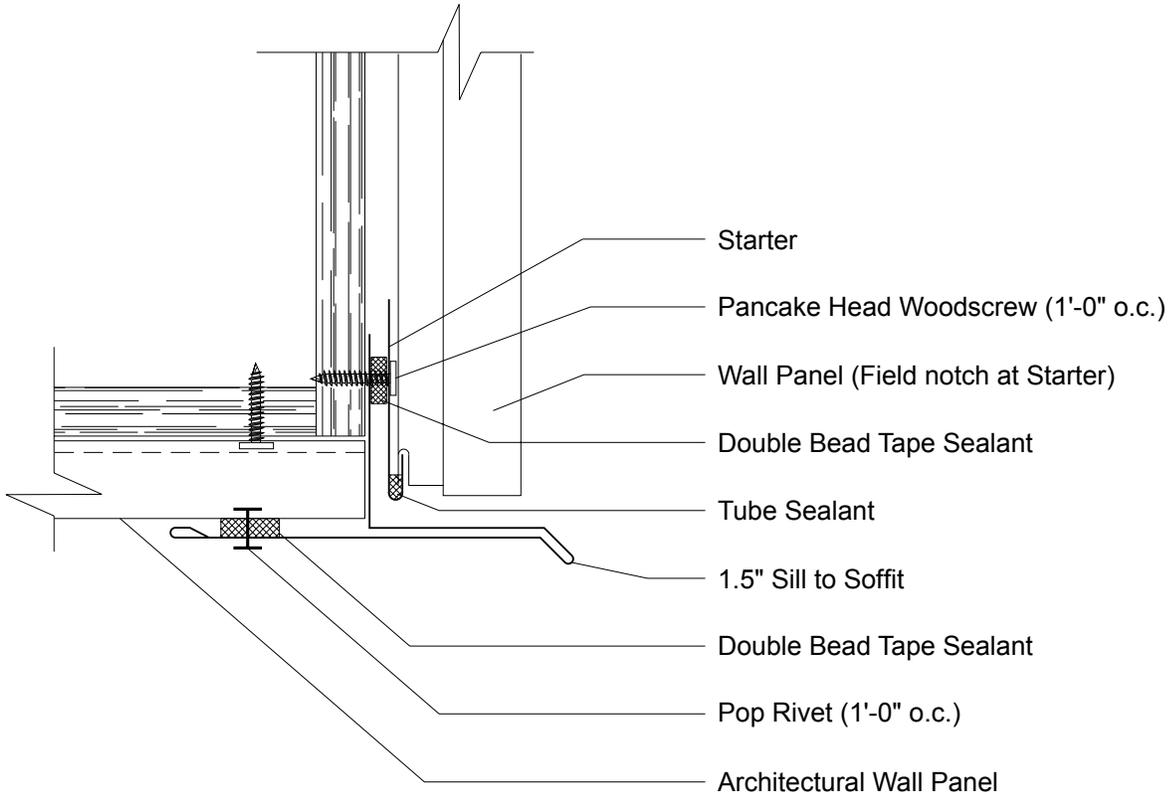
ARCHITECTURAL PANEL INSIDE CORNER



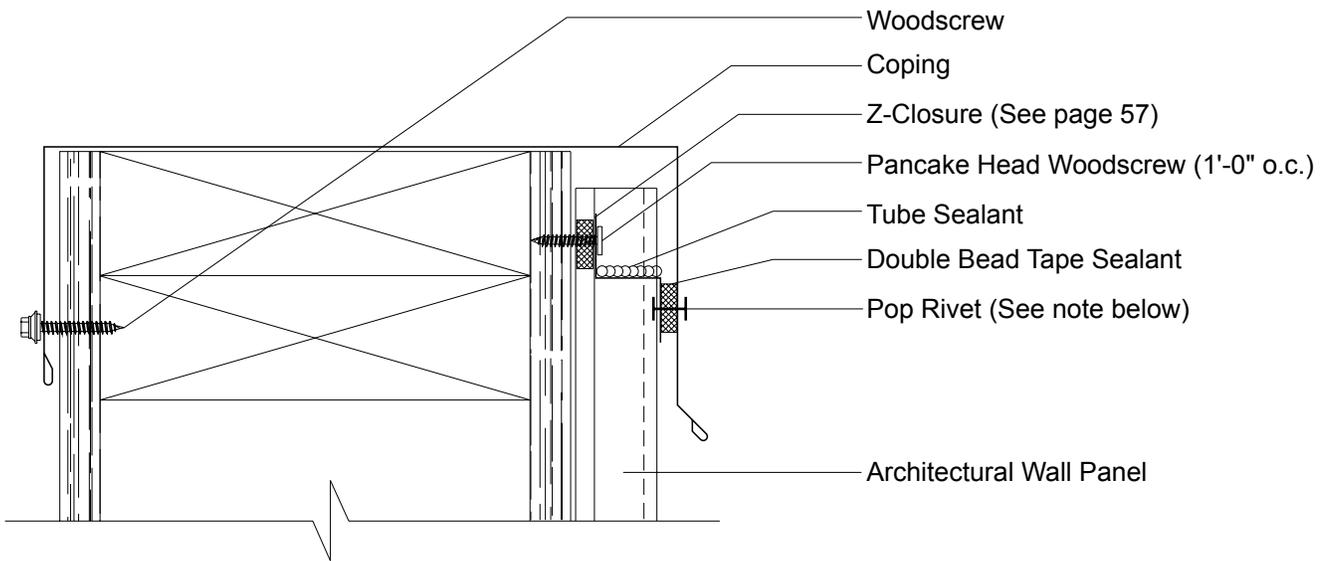
ARCHITECTURAL PANEL SILL/HEAD



ARCHITECTURAL PANEL SILL TO SOFFIT



ARCHITECTURAL PANEL COPING



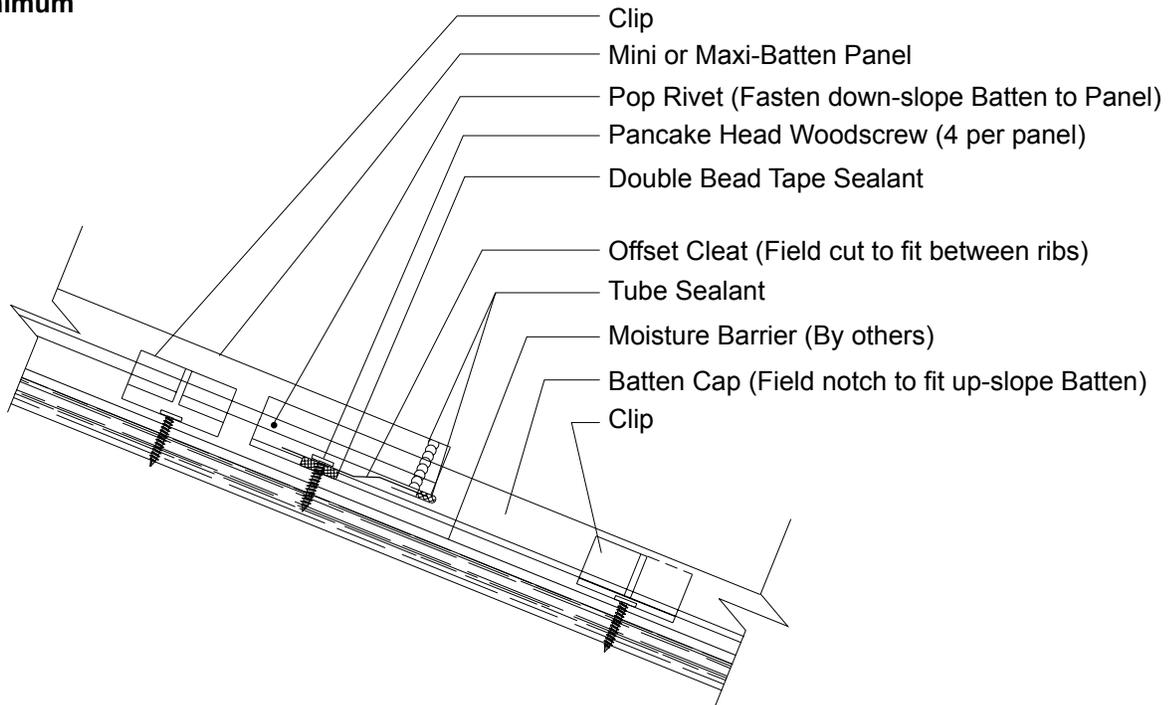
NOTE

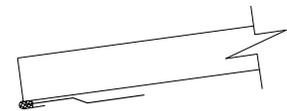
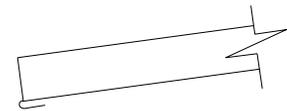
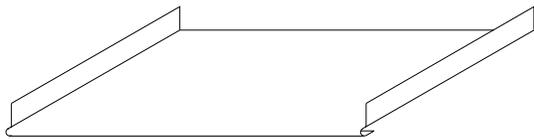
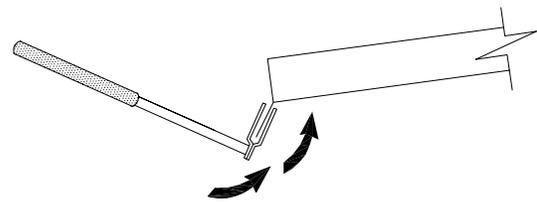
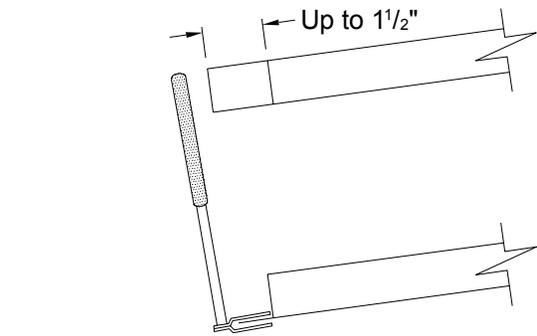
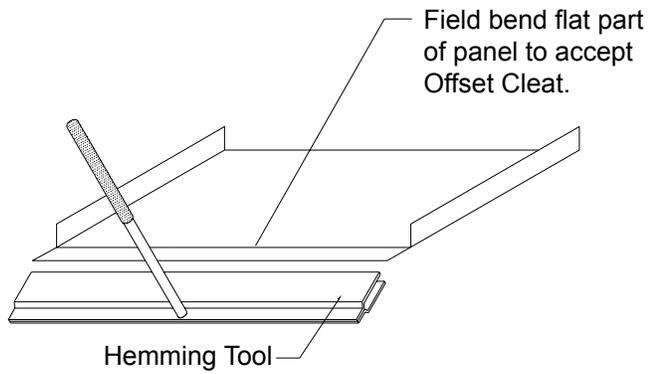
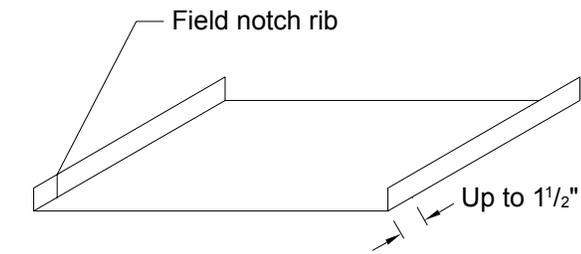
For Mini/Maxi Batten Panels, Pop Rivet must attach Coping to each Batten Cap

ARCHITECTURAL SPLICE DETAILS

MINI / MAXI-BATTEN PANEL SPLICE

3:12 Slope
Minimum

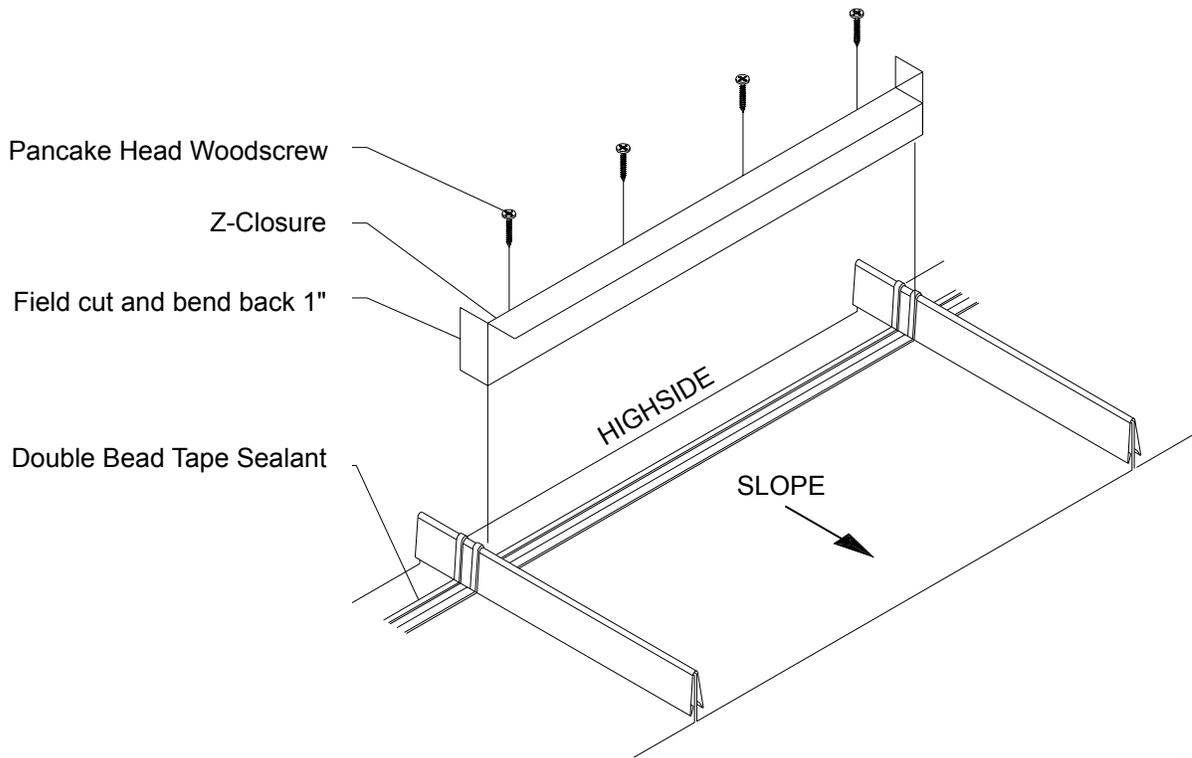




Field-apply sealant in bend and insert Offset Cleat.

ARCHITECTURAL Z-CLOSURE INSTALLATION

3:12 Slope
Minimum



Pancake Head Woodscrew

Z-Closure

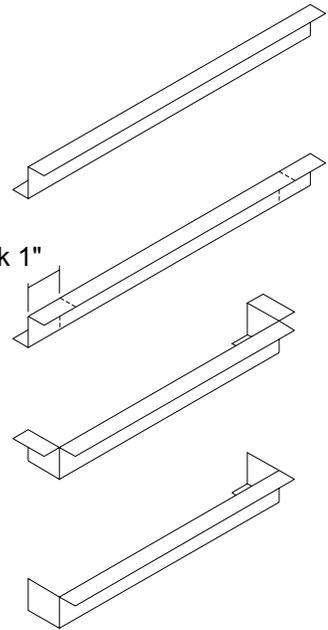
Field cut and bend back 1"

Double Bead Tape Sealant

HIGHSIDE

SLOPE

Field cut and bend back 1"



INSTALLATION NOTES

1. Place a row of Double Bead Tape Sealant across panel and over each rib approximately 4" from panel end. Before proceeding, make sure Z-Closure placement will accommodate flashing.
2. Field cut the Z-Closure 2" longer than the panel width. Snip the top and bottom leg of the Z-Closure and bend both sides back (as shown above).
3. Fasten through the Z-Closure, Tape Sealant, panel and substrate with appropriate fasteners.
4. Apply a row of Double Bead Tape Sealant across the top of the Z-Closure filling any gaps or openings around the panel ribs. This will be fastened through when the flashing is installed.

ARCHITECTURAL CARE AND MAINTENANCE

Though factory applied prepainted 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 atmospheres 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 ($\frac{1}{3}$ 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. However, mildew can grow on dirt and spore deposits in some cases. To remove mildew along with the dirt, the following solution is recommended.

$\frac{1}{3}$ cup detergent (Tide® or equivalent)

$\frac{2}{3}$ cup trisodium phosphate (Solex® or equivalent)

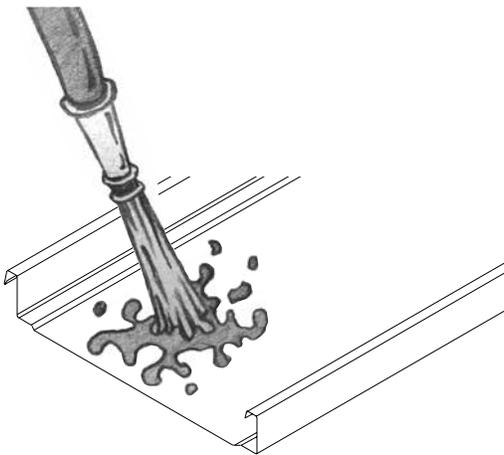
1 quart of 5% sodium hypochlorite solution (Clorox® or equivalent)

3 quarts of water

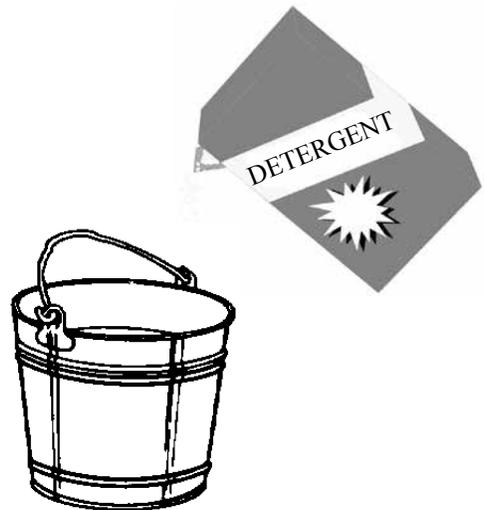
Strong solvents and abrasive type cleaners should be avoided. Most organic solvents are flammable and toxic, and must be handled accordingly. When using a solvent, consult maintenance professionals and label instructions for proper handling and disposal of washings. If required, a mild solvent such as 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.



**DO NOT USE A
WIRE BRUSH**



**HOSE OR PRESSURE SPRAY
FOR ADEQUATE CLEANING**



**USE MILD DETERGENT AND WATER
FOR HEAVY DIRT DEPOSITS**



Metal Roofing, Nationwide

800-728-4010
bestbuymetals.com