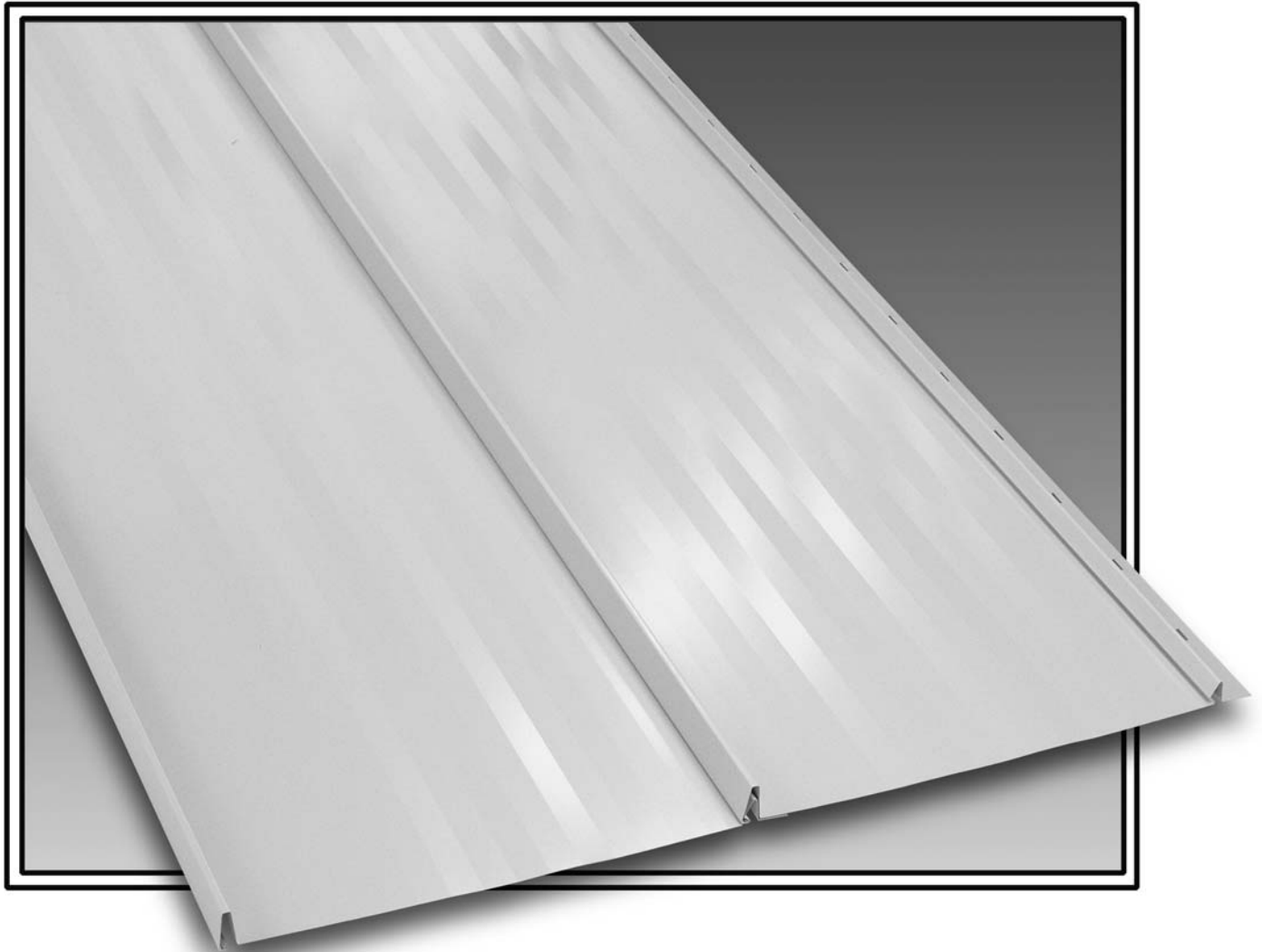


ADVANTAGE-LOK[®] STANDING SEAM PANEL

INSTALLATION MANUAL



UNION
CORRUGATING COMPANY

P.O. Box 229 • Fayetteville, NC 28302 • (910) 483-2195 • Fax: (910) 483-1091

TABLE OF CONTENTS

Introduction3

Design3

Safety4

Delivery & Packaging Options4

Storage & Handling5-7

Foot Traffic7

Field Cutting8

Touch-up paint8

Design Considerations & Calculations8-10

Advantage-Lok Accessories & Trim11

General Installation Information14

Panel Installation15-17

Trim Installation & Details18-31

Installation & Details14-34

INTRODUCTION

The Advantage-Lok Standing Seam panel gives you the leak resistance and beauty of a traditional standing seam roof without the expense and installation difficulty of clips. The 5/8" long fastening slots allow the panel to easily expand and contract with temperature changes. The full 1-3/8" high rib provides for additional leak protection and wind uplift resistance, and a sharp, well-defined look. The Advantage-Lok Standing Seam panel is designed to be installed over a solid deck on roof pitches of 3 on 12 and greater. With proper handling and installation, your Advantage-Lok panels will provide years of leak-free performance and beauty. Please review this manual carefully and completely before beginning your installation.

Applications:

The Advantage-Lok is an architectural (non-structural) panel that is ideal for light commercial and residential applications. It can be used for roofing, mansards, or fascias. The panels must be applied over a solid substrate.

Available Specifications:

Colors and Finishes:

The Advantage-Lok panel is available in 29 Ga. and 26 Ga. prepainted steel. Advantage-Lok is also available in 26 Ga. acrylic coated Galvalume. On high visibility applications, bare Galvalume is not recommended. Our siliconized polyester paint system carries a 25-year limited warranty for your protection. Please see our color chart for details on our paint system. Warranty copies available on request.

Widths:

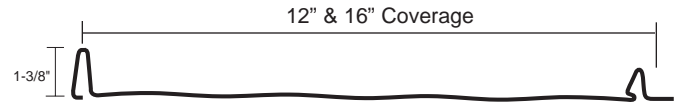
The Advantage-Lok panel is available in a 12" and a 16" in 29 ga. coverage width and 16" in 26 ga. coverage width. The 1/16" striations provide strength and reduce the incidence of oil canning in the panel.

Lengths:

The Advantage-Lok Panel is available in standard lengths from 5' to 40'. Longer lengths require additional handling, packaging, and shipping considerations. An extra handling charge may apply to panels over 40'. Please consult your local Union Corrugating office for recommendations. Advantage-Lok panels cannot be end lapped. You must order full length panels to avoid end laps.

Rib Height:

The full 1-3/8" high rib provides for improved leak resistance over other typical panels that have only a 7/8" to 1" high rib. The higher rib also increases wind uplift resistance.



WITH MINOR STRIATIONS

DESIGN

This manual contains suggestions and guidelines on how to install Advantage-Lok panels. The installation details shown are proven methods of construction, but are not intended to cover all instances, building requirements, designs, or codes. It is the responsibility of the designer/installer to ensure that the details meet particular building requirements. The designer/installer must be aware of, and allow for, expansion/contraction of roof panels. The details may require changes or revisions due to each project's conditions.

There are certain minimum, live, snow, dead, collateral, and wind loads that a roof must generally be designed to support. Consult local building officials to determine the appropriate building design load requirements. A professional engineer should be consulted for all roof system designs. It is the buyer's responsibility to verify all applicable code requirements, check all measurements, and determine suitability of product for job. Any job estimates or take-offs provided by Union Corrugating are for reference only. The buyer is responsible for verifying actual length and quantities needed. Implied warranties of merchantability and fitness for a particular purpose are disclaimed. All Advantage-Lok instructions assume that a qualified firm or individual has been contacted regarding application of this product. Failure to comply with stated recommendations relieves the manufacturer of responsibility for any damage or deterioration of the product incurred and voids any applicable warranty.

TOOLS & EQUIPMENT

Cordless Screw Gun
Snips
Tape Measure
Electric Metal Shear*
Caulk Gun
Cordless Drill
Pop Rivet Tool
Chalk Line
“Duckbill” Locking Pliers
Hemming Tool
Electrical Extension Cord #14

* We do not recommend the use of a power circular saw.
Use of a power saw could:

1. Increase the instance of edge rust.
 2. Metal particles on panel surface could damage panel finish.
- Installer must have prior experience and knowledge of the listed tools and their uses in working with metal roofing.

SAFETY

If you must walk on a metal roof, take great care. Metal panels can become slippery, so always wear shoes with non-slip soles. Avoid working on metal roofs during wet conditions when the panels can become extremely slippery. Walking or standing on a metal roof which does not have a plywood or other deck beneath it is not recommended. However, if you must do so, always walk on the purlins, never between.

OHSA safety regulations should be complied with at all times.

⚠ CAUTION

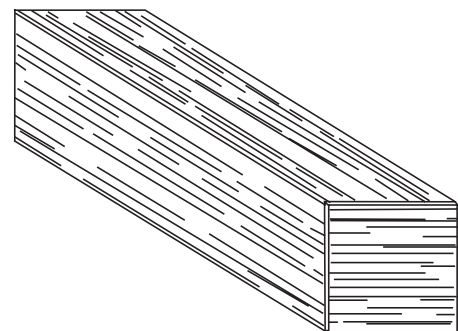
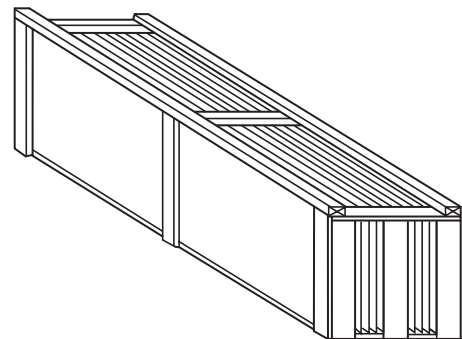
Always wear heavy gloves when working with steel panels to avoid cuts from sharp edges. When power cutting or drilling steel panels, always wear safety glasses to prevent eye injury from flying metal fragments.

DELIVERY & PACKAGING OPTIONS**Lead Time:**

Please allow 14 days for delivery for standard colors. Any special requests or non-standard colors may require longer lead times. Consult your local Union Corrugating Sales Representative for special requests.

A packaging charge will be added to all orders. Standard packaging is crating utilizing the block and banding method. Boards are placed around the bundle of panels to provide a uniform and secure crate.

For LTL and overseas shipments, panels are packaged in a completely enclosed crate to provide optimum protection. Additional charges will apply for non-standard packaging and special requests.

Standard Packaging**Optional Packaging**

Full Crate – This method is utilized for all LTL and overseas shipments or at customer's request.

STORAGE & HANDLING

Storage:

Bare Galvalume and painted panels can be expected to give many years of rust-free service when precautions are taken during storage.

If metal is not to be used immediately, store inside a well ventilated, dry location. Any outdoor storage is at the customer's own risk. At time of delivery, inspect panels for moisture. If moisture has formed, the panels should be unbundled, wiped dry, and allowed to dry completely. Failure to remove the entrapped moisture between the stacked sheets immediately will affect the service life of the metal. 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.

If panel bundles are stored outside, the following list of requirements should be adhered to:

1. The storage area should be reasonably level, and should be located so as to minimize handling of bundles during the construction process.
2. When stored on bare ground, place a plastic ground cover under the bundles to minimize condensation on the panels from moisture in the soil.
3. Store bundles at least 12 inches above ground level to allow air circulation beneath the bundle, and to prevent rising water from entering the bundle.
4. Elevate one end of the bundle slightly to permit runoff of moisture from the top of the bundle or from between nested panels. Water-resistant paper will not provide long-term resistance to moisture penetration from puddled water on top of the bundle. A waterproof cover should be placed over the bundles, with allowance for air circulation under the cover (see Figure 1).

5. Inspect stored bundles daily and repair any tears or punctures in the water-resistant wrapping with a compatible waterproof tape.
6. Re-cover opened bundles at the end of each day to prevent entry of moisture.

Never cover the metal with plastic as this will cause condensation to form.

The panels may have a protective polyfilm layer applied to the topside of the panel to prevent possible damage to the painted surface. If panel has a protective polyfilm coating, remove the polyfilm before exposing to direct sunlight and high temperatures. Under no circumstances should the polyfilm remain on the panels after installation. Union Corrugating bears no responsibility for damage to metal caused by improper storage and failure to remove polyfilm.

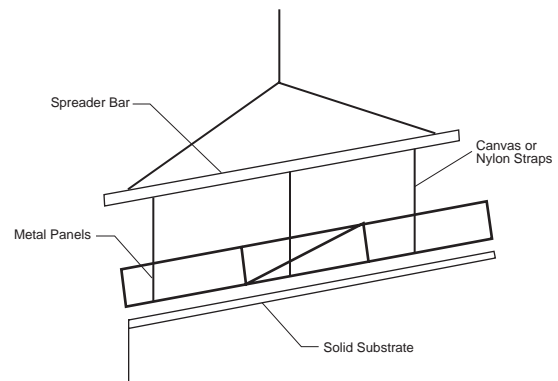
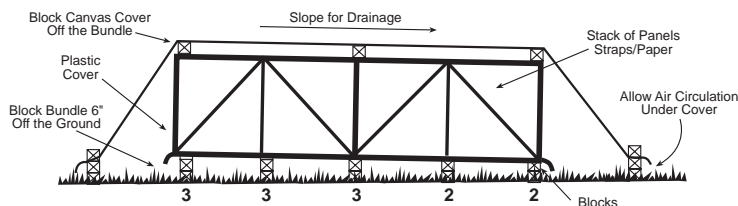
Storage on Roof:

To facilitate the handling of Advantage-Lok panels, panel bundles can be lifted and placed on the roof. Bundles need to be placed parallel to the framing members and the slope of the roof. Load capabilities of the structure must be checked prior to placing bundles on the roof.

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. When lifting, no more than 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.

Fig. 1



STORAGE & HANDLING

Receiving Materials:

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 truck.

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 shipping copy at time of delivery. If material is delivered by common, carrier a claim must be made with the carrier as soon as possible. If replacement material is required, you must contact Union Corrugating to place the order. If material is delivered on company trucks, note the damages and shortages on the shipping copy. Any damages and shortages must be reported to Union Corrugating within 48 hours from time of shipment.

! CAUTION

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

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.

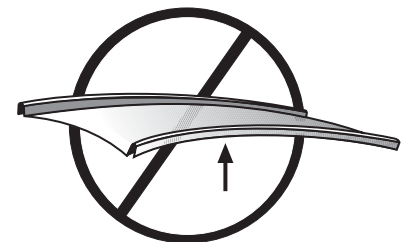
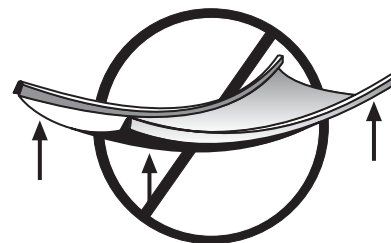
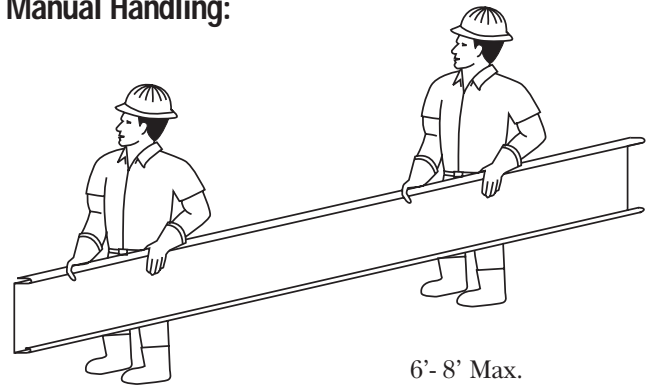
Handling:

Proper care is required in unloading and handling panel bundles in order to prevent panel damage.

1. Bundles should remain banded during any handling, and until the individual panels in each bundle are ready to be installed. Bundles should never be lifted by the banding.
2. Lift each bundle as close as possible to its center of gravity.
3. If the panel bundles are to be lifted with a crane, use a spreader bar of appropriate length, and nylon band slings. (Do not use wire rope slings as they will damage the panels.)
4. Depending on panel length, some bundles may be lifted by a forklift. When using a forklift, the forks should be spread apart to their maximum spacing, and the load must be centered on the forks.

5. After panel bundles are opened, individual panels must also be handled carefully to prevent panel buckling or damage to the panel coating. When removing a panel from a bundle, it should never be allowed to slide over another panel. The individual panels should be “rolled” off the top of the bundle to prevent scratching the next panel. A panel should never be picked up by its ends. Instead, lift the panel along its longitudinal edge and carry in a vertical (not flat) position. For panels over 10 feet long, two or more people should lift the panel along the same edge.
6. Soft gloves must be worn when handling panels.

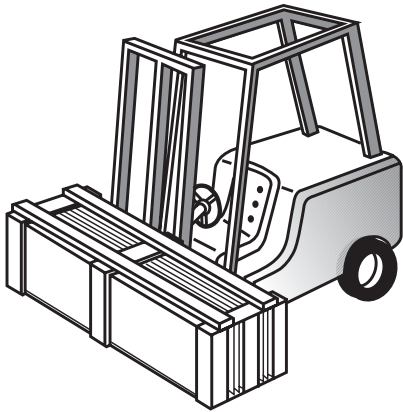
Manual Handling:



Mechanical Handling:

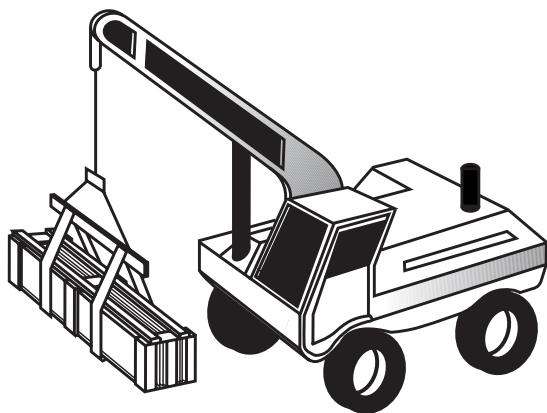
Forklift

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 1/3 of the length of the panel should be left unsupported. Canvas or nylon slings should be used to pick-up panels. DO NOT use cable or chains because this will damage the panels.



FOOT TRAFFIC

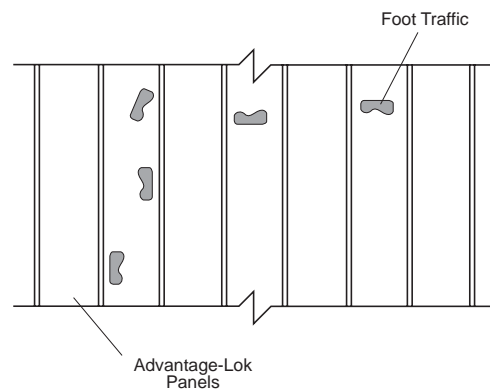
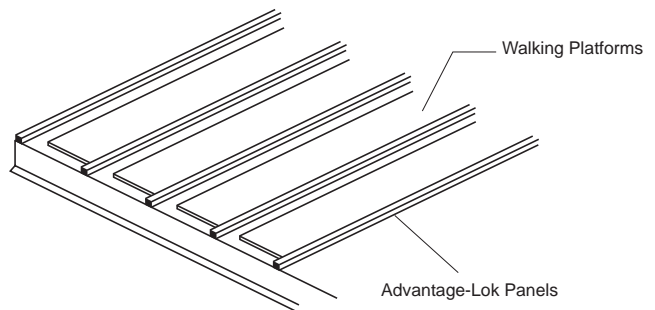
Care of metal panels and flashings must be exercised throughout erection. Foot traffic can cause distortion of panel and damage to finish. Traffic over the installed system must be kept to an absolute minimum. If continuous foot traffic is necessary for maintenance over certain areas of the roof, then 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 as shown below. Walking on the ribs can cause damage to the panels.

CAUTION

All applicable safety regulations, including OSHA regulations, must be complied with during the panel installation process.



FIELD CUTTING

Tin snips or a “nibbler” type electric tool are recommended for field cutting Advantage-Lok panels. If a skill saw is used, the blade will generate slivers of metal chips. These slivers and metal chips must be immediately removed from the Advantage-Lok 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.

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.



CAUTION

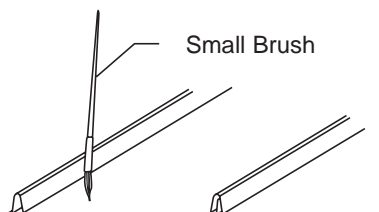
When cutting metal panels, goggles must be worn for eye protection.

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. Periodic touch-up may be required to maintain color match. There is no warranty on touch-up paint in regards to colormatch because the paint processes are different.



Touch-Up Paint



Small Brush

DESIGN CONSIDERATIONS & CALCULATIONS

INSULATION & 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.

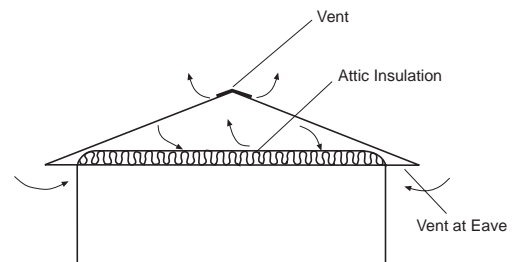
Condensation occurs when moisture-laden air comes in contact with a surface temperature equal to or below the dew point of the air. This phenomenon creates problems that are not unique with metal buildings; these problems are common to all types of construction.

In addition to providing resistance to heat transfer, insulation can also protect against condensation forming on cold surfaces, either inside the building or within the wall/roof system cavity. The arrangement of the building’s insulation system and vapor retarder is the responsibility of the building designer. These are some basic guidelines to help control condensation in a metal building:

1. The insulation should have a vapor retarder face on the “warm” side of the insulation. For most buildings, this means that the vapor retarder is on the inside surface (toward the building’s interior).
2. The thickness of the insulation must be designed to maintain the temperature of the vapor retarder above the interior dew point, using the worst-case expected outside temperature.
3. All perimeter conditions, seams, and penetrations of the vapor retarder must be adequately sealed in order to provide a continuous membrane to resist the passage of water vapor.
4. Building ventilation, whether by gravity ridge vent, power-operated fans, or other means, contributes significantly to reduced condensation. The movement of air to the outside of the building reduces the interior level of vapor pressure.

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.

Contact your local building code officials or an engineer on proper ventilation practices for your area.



DESIGN/INSTALLATION CONSIDERATIONS

Substrates

NOTE: In warm weather and tropical climates red rosin paper should be applied over the felt paper to prevent the felt paper from sticking to the panels and tearing the vapor barrier. The red rosin paper will allow for better thermal expansion. In cold

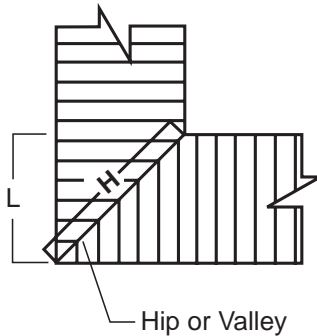
weather climates, it is recommended that you use an Ice and Weather Shield at the valley and eave. This needs to be applied over the substrate before the felt paper is installed.

⚠ CAUTION

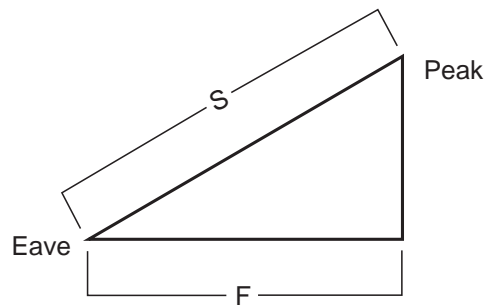
Extreme caution should be used when applying this product because it is very slippery.

ROOF SLOPE FACTOR CHART

This chart should be used when specifying and ordering Advantage-Lok Panels and Trims.



$(L) \times (\text{Hip Valley Multiplier}) = H$



$(F) \times (\text{Slope Factor}) = S$

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

CALCULATIONS FOR DETERMINING PANEL LENGTH

Peak, Ridge, Endwall, Hip

1. Panels should be started 1" down from edge or peak (length of run minus 1")
2. If ridge or peak is ventilated start sheet down 2" from edge or peak. This could vary depending on the type of ventilation being used. Consult the ventilation manufacturer for recommendations (length of run minus 2").

Eave

1. A minimum of 1" beyond eave header is recommended (Run plus 1")
2. Extended Eave Application 1"
 - a. Hemmed Panel add 2"
 - b. Exposed Fastener add 1"
3. Eave Trim Flush
 - a. Hemmed Panel add 1" (Must use offset cleat)
 - b. Exposed Fastener add 1" Minimum
 - c. 5" K Style Gutter can be used with this trim
4. Box Gutter with back leg eave extension of 3-1/8"
 - a. Hemmed Panel add 1" (Must use offset cleat)
 - b. Exposed Fastener add 1"
 - c. No Eave Trim is necessary

2. Exposed Fastener 4" back from center line of valley. Must use double bead mastic under panel and tube sealant to close end of panel.
3. Recommend to use Ice and Water shield under valley trim.

Examples (Length of run is 20')

1. Non-ventilated condition (length of run -1")
 - a. Extended Eave 1"
 - (1) Hemmed: 2" - 1" = 1" Panel Length: 20'-1" Min
 - (2) Exposed Fastener : 2"-1"=1" Panel Length: 20'-1" Min
 - b. Flush Eave and Eave with Box Gutter
 - (1) Hemmed: 1" - 1" = 0 Panel Length: 20'-0 Min
 - (2) Exposed Fastener : 1" - 1"= 0 Panel Length: 20'-0 Min
2. Ventilated Condition (Length of Run -2")
 - a. Extended Eave 1"
 - (1) Hemmed: 2" - 2"=0" Panel Length: 20'-0" Min
 - (2) Exposed Fastener: 1"-2"= -1" Panel Length: 19'-11" Min
 - b. Flush Eave and Eave with Box Gutter :
 - (1) Hemmed: 1" - 2"= -1" Panel Length : 19'-11" Min
 - (2) Exposed Fastener: 1" - 2"= -1" Panel Length: 19'-11" Min

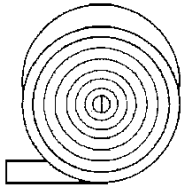
Valley Condition

1. Hemmed Panel 4" back from center line of valley. Add 1" for Panel Hem. Must use offset cleat.

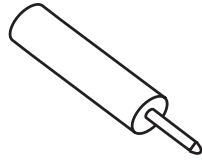
TRIM ANGLE SPECIFICATION CHART

PROFILE	FLASHING	ROOF SLOPE									
		3:12	4:12	5:12	6:12	7:12	8:12	9:12	10:12	11:12	12:12
	RIDGE/HIP	152°	143°	135°	127°	120°	113°	106°	100°	95°	90°
	VALLEY	160°	154°	148°	138°	133°	113°	129°	126°	123°	120°
	ENDWALL TRANSITION	104°	108°	112°	116°	120°	123°	126°	128°	132°	135°
	HIGH SIDE PEAK	76°	71°	67°	63°	60°	56°	53°	50°	47°	45°
	EAVE	104°	108°	112°	116°	120°	123°	126°	128°	132°	135°
	EXT. EAVE	104°	108°	112°	116°	120°	123°	126°	128°	132°	135°
	BOX GUTTER	104°	108°	112°	116°	120°	123°	126°	128°	132°	135°

ADVANTAGE-LOK ACCESSORIES



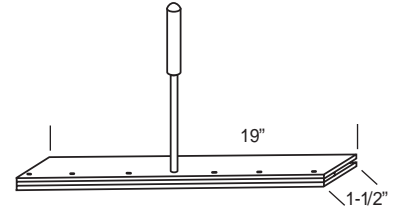
DBBTLSLT
Double Bead Butyl Tape
(7/8" x 3/16" x 40')



TUBESEALANT
Urethane
Tube Sealant (10.3 oz.)



cccPAINTTUP.6OZ
Touch Up Paint (.6 oz.)
With Brush



HEMMINGTOOL19
Hemming Tool
1/8" Opening



cccSSPR.125
Pop Rivet
Stainless
1/8" x 3/16"



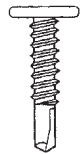
GLTEK
14 x 7/8"
Hex Head
Lap Tek Screw
Metal-to-Metal
Connection



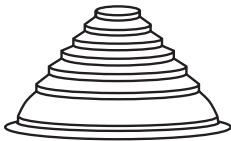
cccWS150
9 x 1-1/2"
Hex Head
Woodmate Screw
Metal-to-Wood
Connection



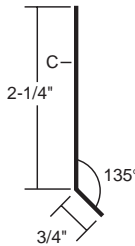
GPHWS100250
#10 x 1" Pancake Head
Woodscrew
Phillips Screw



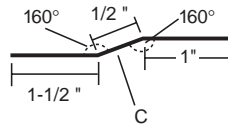
GPHDS100250
1" Pancake Head
Tek Screw



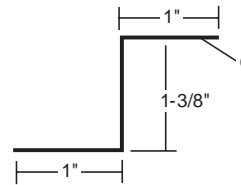
MF3
Pipe Boot
Various Sizes, Heat
Treated & Retro Fit
Also Available



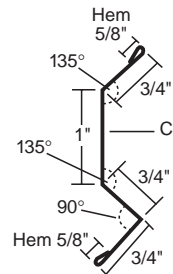
cccALCLEFT
Cleat*



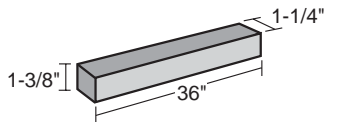
cccALOSCLEFT
Offset Cleat*



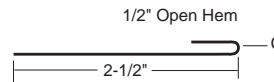
cccALZC
Z-Trim*



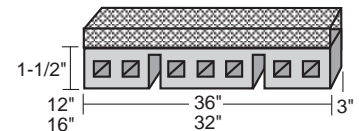
cccALCF
Counter Flashing*



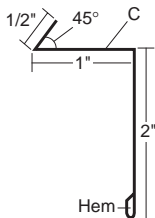
RCALUNIVERSAL
Neoprene
Universal Closure



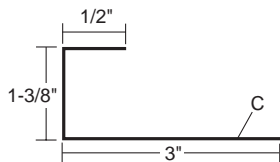
cccALSTARTER
Starter*



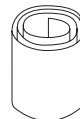
VRCAL12
VRCAL16
Vented Formed Closure
12" & 16"



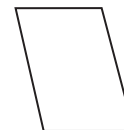
cccALRF
Reglet*



GALPC
Panel Cap Trim*



cccPV2029
cccGPV2026
Roll Valley
20" x 50'



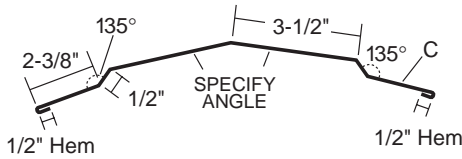
cccGPFS26
415120
Flat Sheet

29 GA 41-1/4 x 10'-GFS29
26 GA 41-9/16 x 10'-415120

* Available in 10' and 20' lengths

STEP RIDGE/HIP

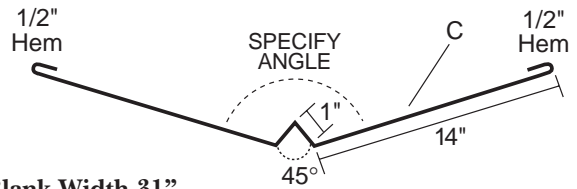
ITEM # *cccALHRC*



Blank Width 13-3/4"

PRE-FORMED VALLEY TRIM

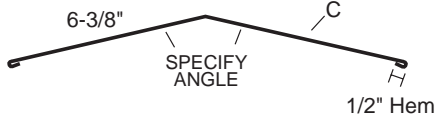
ITEM # *cccALPV*



Blank Width 31"

FLAT RIDGE HIP

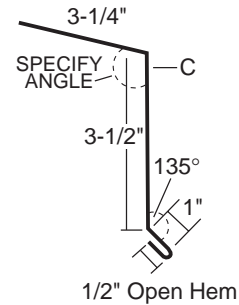
ITEM # *cccALRC*



Blank Width 13-3/4"

FLUSH EAVE TRIM

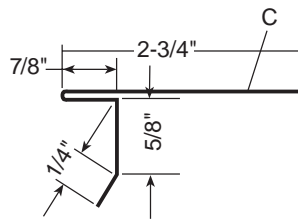
ITEM # *cccALSE*



Blank Width 8-1/4"

EXTENDED EAVE TRIM

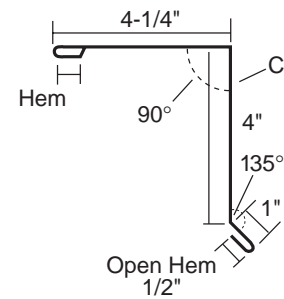
ITEM # *cccALTS*



Blank Width 4-1/2"

RAKE TRIM

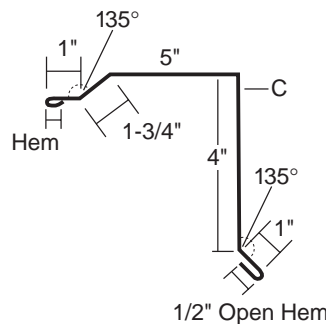
ITEM # *cccALRAKE*



Blank Width 10-1/4"

STEP RAKE TRIM

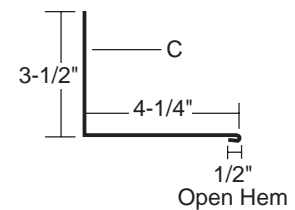
ITEM # *cccALSR*



Blank Width 13-3/4"

SIDE WALL

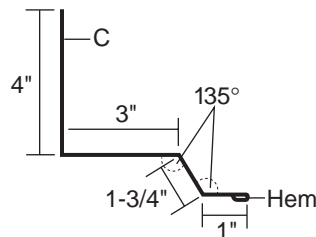
ITEM # *cccALSW*



Blank Width 8-1/4"

STEP SIDE WALL

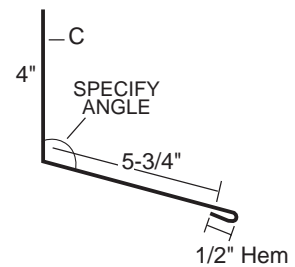
ITEM # *cccALSS*



Blank Width 10-1/4"

ENDWALL FLASHING

ITEM # *cccALEWF*

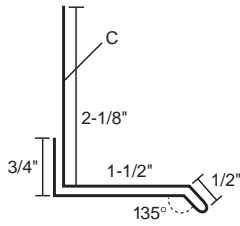


Blank Width 10-1/4"

All Trim Available in Lengths: 10' and 20'

1.5" SILL/HEAD

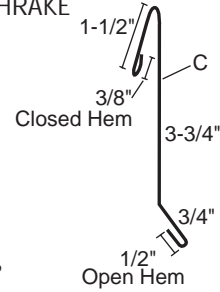
ITEM # *cccALSILLHEAD*



Blank Width 6-7/8"

FLUSH RAKE TRIM

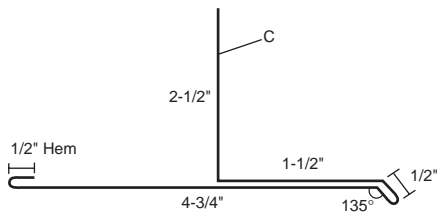
ITEM # *cccALFLUSHRAKE*



Blank Width 6-7/8"

SILL TO SOFFIT

ITEM # *cccALBG*

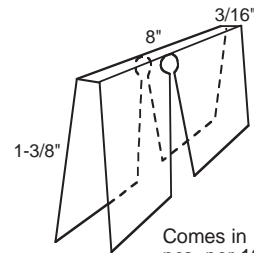


Blank Width 10-1/4"

KNEE CAP

ITEM # *GAALKC*

Must notch
Knee Cap
in field.

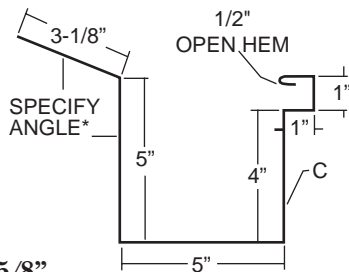


Blank Width 8"

Comes in 10' sections; yields 15 pcs per 10'. (Need to field cut into 8" lengths)

BOX GUTTER

ITEM # *cccALBG*

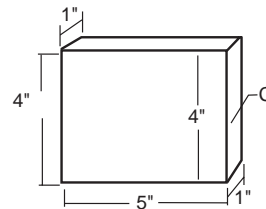


Blank Width 20-5/8"

10' Only

BOX GUTTER END

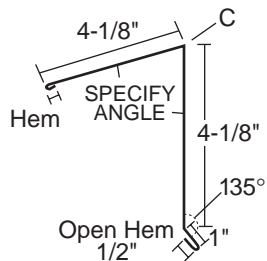
ITEM # *cccALBGE*



Blank Width 7" x 6"

HIGH SIDE PEAK TRIM

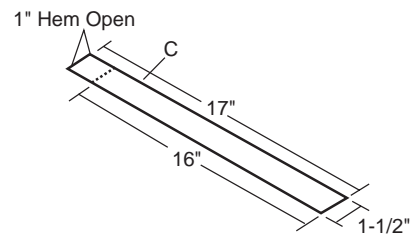
ITEM # *cccALHSE*



Blank Width 10-1/4"

UNIVERSAL GUTTER DOWNSPOUT STRAP

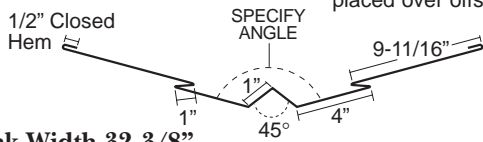
ITEM # *cccALUGS*



1 PIECE VALLEY TRIM

ITEM # *cccALVAL*

NOTE: After hemmed panel is placed over offset close hem.

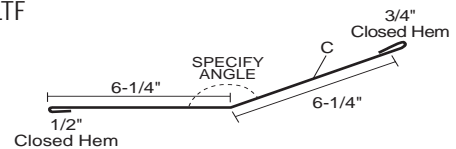


Blank Width 32-3/8"

10' Only

TRANSITION FLASHING

ITEM # *cccALTf*



Blank Width 13-3/4"

All Trim Available in Lengths: 10' and 20'

UNION CORRUGATING COMPANY

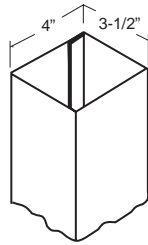
P.O. Box 229 ■ Fayetteville, NC 28302 ■ 910-483-2195 ■ FAX: 910-483-1091

DOWNSPOUT

ITEM # cccALDOWNSPOUT

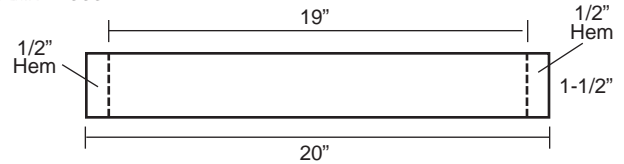
Available in Lengths:
10' and 20'

Blank Width 16"



DOWNSPOUT BRACKET

ITEM # cccALDB

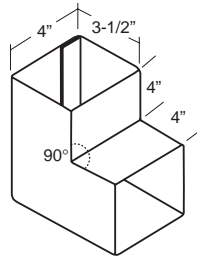


ELBOW

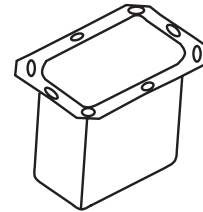
ITEM # cccALELBOW

Available in 45° and 90° only

Blank Width 16"



2 x 3 OUTLET TUBE



Manufactured by Others

GENERAL INSTALLATION INFORMATION

The installer should be familiar with all installation instructions before starting work. Before beginning installation of panels, the installer should examine the substrate or framing to ensure that all supporting members are straight, level, and plumb to avoid any panel distortion. All substructures should be designed to meet all necessary code requirements.

The panels should be installed plumb, straight, and square to the eave. Some field cutting and fitting of panels and trims is to be expected by the installer and minor field corrections are a part of normal installation work.

Installation procedures and penetrations by fasteners in the panel system shall be in accordance with the panel manufacturer's printed instructions. Trim shall be installed true, and in proper alignment with the panels.

Closures shall not be attached unless the proper sealant is placed under or around these closures. Sealants must be field applied on dry, clean surfaces.

All trims, closures, and accessories shown on the installation drawings are available from Union Corrugating unless noted otherwise.

Oil canning in the flat area of the panels is common to the industry and does not affect the integrity of the panel. Therefore, oil canning is not a reason for rejection.

It is the responsibility of the installer to insure a suitable substrate prior to the application of Advantage-Lok. Distortion in the panel caused by an uneven substrate, ripples, or laps in the vapor barrier; debris, etc., are not defects in the materials, and are not the responsibility of Union Corrugating.

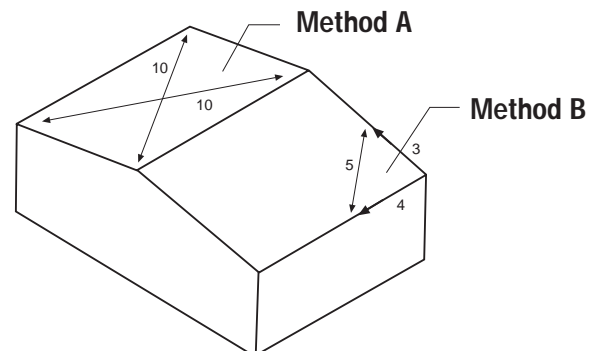
Condition of Substructure

Panel distortion may occur if not applied over properly aligned and uniform substructure.

The installer should check the roof deck for squareness before installing Advantage-Lok 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.



GENERAL INSTALLATION INFORMATION

Panel Installation

Advantage-Lok is an architectural concealed fastener panel. It is recommended that you use the concealed fastener method. There are fewer penetrations, better aesthetics, and more flexibility for thermal expansion. On continuous runs over 25' the concealed fastener method is required.

1. Align the female edge of the first panel with the chalk line from 0" to 1-3/4" snapped at the rake edge. Remember this line can be from the rake edge. Panel should over hang eave a minimum of 1". See figure 1.
2. Once panel is hemmed and aligned, square to the eave fasten panel with a 1" Pancake Head Screw a maximum of 24" on center. **NOTE:** Maximum fastener spacing below.
3. To allow for movement of the panel towards the eave or ridge, place the fastener in the middle of the 5/8" slot. If you want the sheet to expand towards the eave, place the fastener at the bottom of the slot and pin the sheets at the ridge. If you want the sheet to expand towards the ridge place fastener at the top of the slot and pin sheets at eave. **NOTE:** To avoid panel distortion and to allow for maximum expansion and contraction of the panel do not overdrive the pancake head screws when fastening panels into the substrate.

4. Align the second panel female edge with the male edge of the starter panel. See Figure 2. Panels must be flush at eave edge. Remember, panels should be extended over eave by 1".
5. Lightly compress with palm of hand and snap panels together at seam. Snap panels from eave to ridge.
6. After panel seam is locked and flush at eave with 1st panel, fasten the panel with a 1" Pancake Head Screw along the male leg.
7. Continue to apply panels as in steps 2 thru 5.

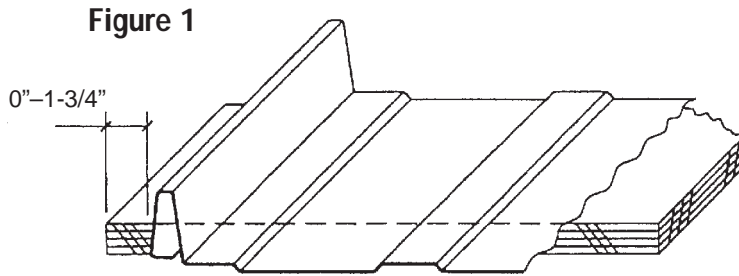


Figure 1

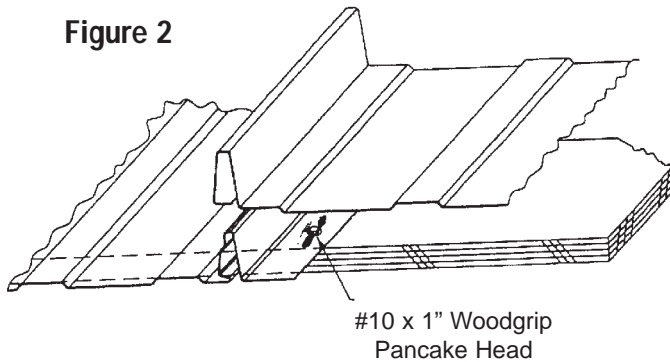


Figure 2

Advantage-Lok Fastener Requirements

Spacing	12" Wide Panel	16" Wide Panel
12"	110	90
16"	85	70
20"	70	55
24"	55	45

Maximum Fastener Spacing

Deck Thickness	Spacing
1/2"	16" on center
5/8"	20" on center
3/4"	24" on center

Fasten Panel starting approx. 6" up from eave not to exceed 1' 0"

Note: Maximum fastener spacing for 110 mph into 5/8 plywood deck and thicker is 16" on center.

Conversion Factors For

Advantage-Lok Sqs. to Lineal Ft.

12" Wide Panel	.0100
16" Wide Panel	.0133

EXAMPLE:

12' wide Panel

\$80 Squares x .010 = 80¢ LF

80¢ LF ÷ .010 = \$80.00 Sq

16" Wide Panel

\$95 Squares x .0133 = 1.263¢ LF

1.263 LF ÷ .0133 = \$90.00 Sq

FIELD HEMMING & BENDING OF PANEL

EXPOSED

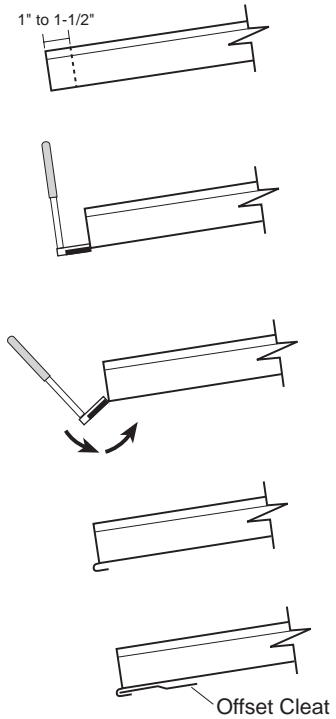
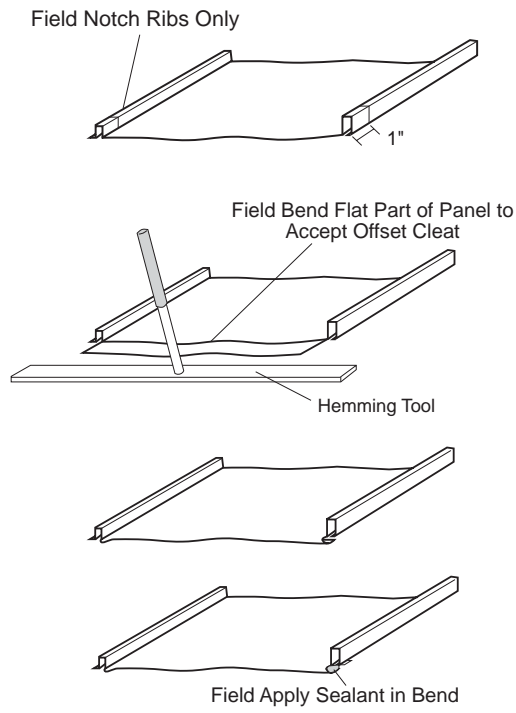
Panels can be fastened along eave with a 1-1/2" double washered neoprene woodscrew. Fasten along a line parallel to the eave and 3" up from the eave edge. Place 2 fasteners into the flat pan of the panel evenly spaced.

CONCEALED

When the concealed fastener method of installation is desired, panels must be field notched and hemmed to accommodate placement onto the Offset Cleat or Extended Eave Trim. This

method involves additional labor, but is recommended when aesthetics is a principle concern. When hemming the flat of the sheet, you must cut off both ribs 1" back from the edge of the sheet if you are making a 1" hem.

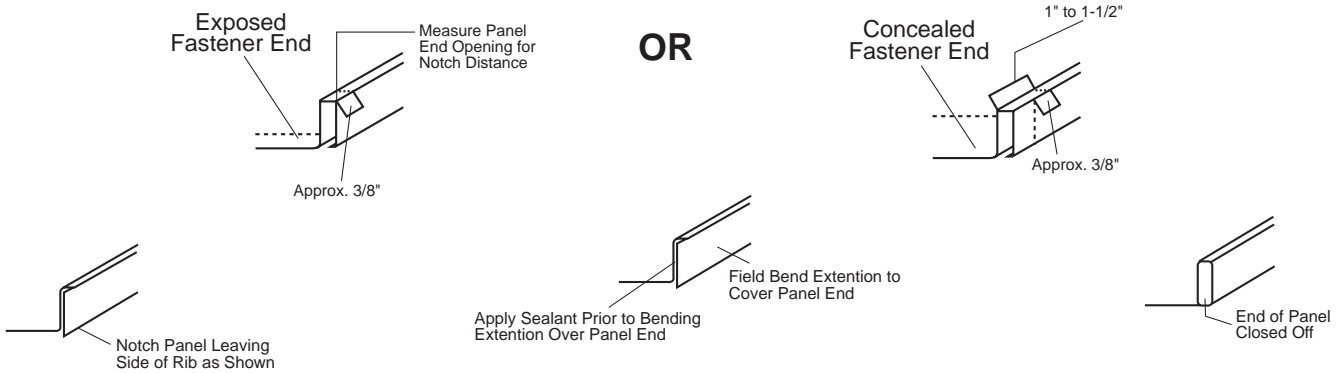
Note: If you are closing off the rib end of the panel, cut approximately 1/2" off the ribs to allow enough metal to close the ends.



Note: When hemming panels, it works best to cut the ribs and hem the panel by turning the sheet upside down. For safety reasons, it is recommended that panels be hemmed on the ground.

If a color match is required when closing off the panel end, panels can be field notched and folded across the

panel end. This method involves additional labor but is recommended when aesthetics is a principle concern.



PANEL END INSTALLATION

Metal panels at the eave and valley ends can be installed using an exposed fastener (figure 1), or an offset cleat (figures 2 and 3) for concealed fastening. When direct fastening the panel, a double washered woodscrew or tek is recommended for exposed conditions. These fasteners will always have a neoprene washer

to stop leakage around the head of the fastener. When using the offset cleat, you must order the panel a minimum of 1" longer to allow for field hemming of the panel for engagement to the offset cleat.

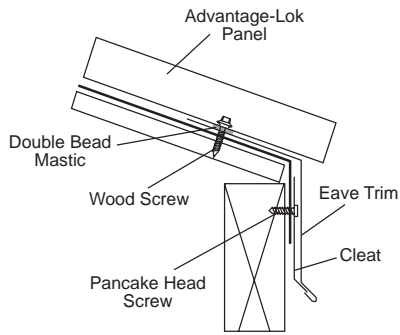


FIGURE 1
Exposed Fastener Eave

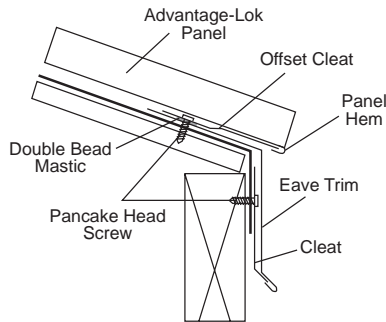


FIGURE 2
Concealed Fastener Eave

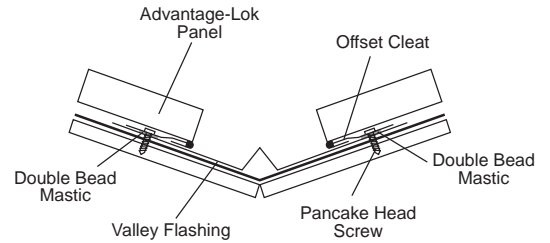
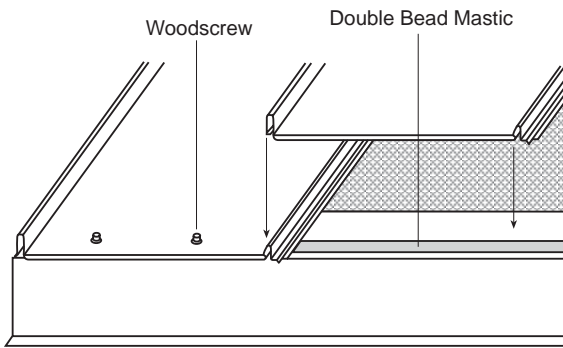
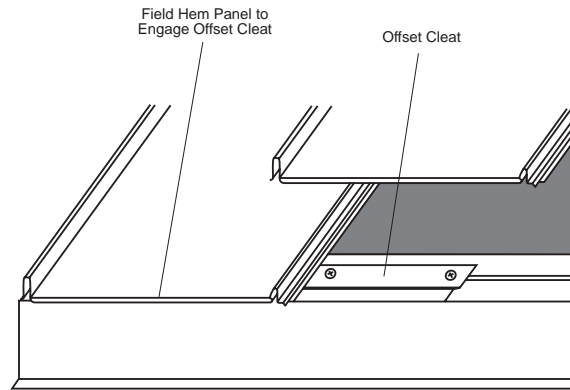


FIGURE 3
Concealed Fastener Valley

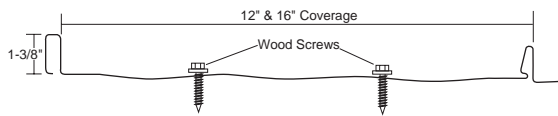


Exposed Fastener

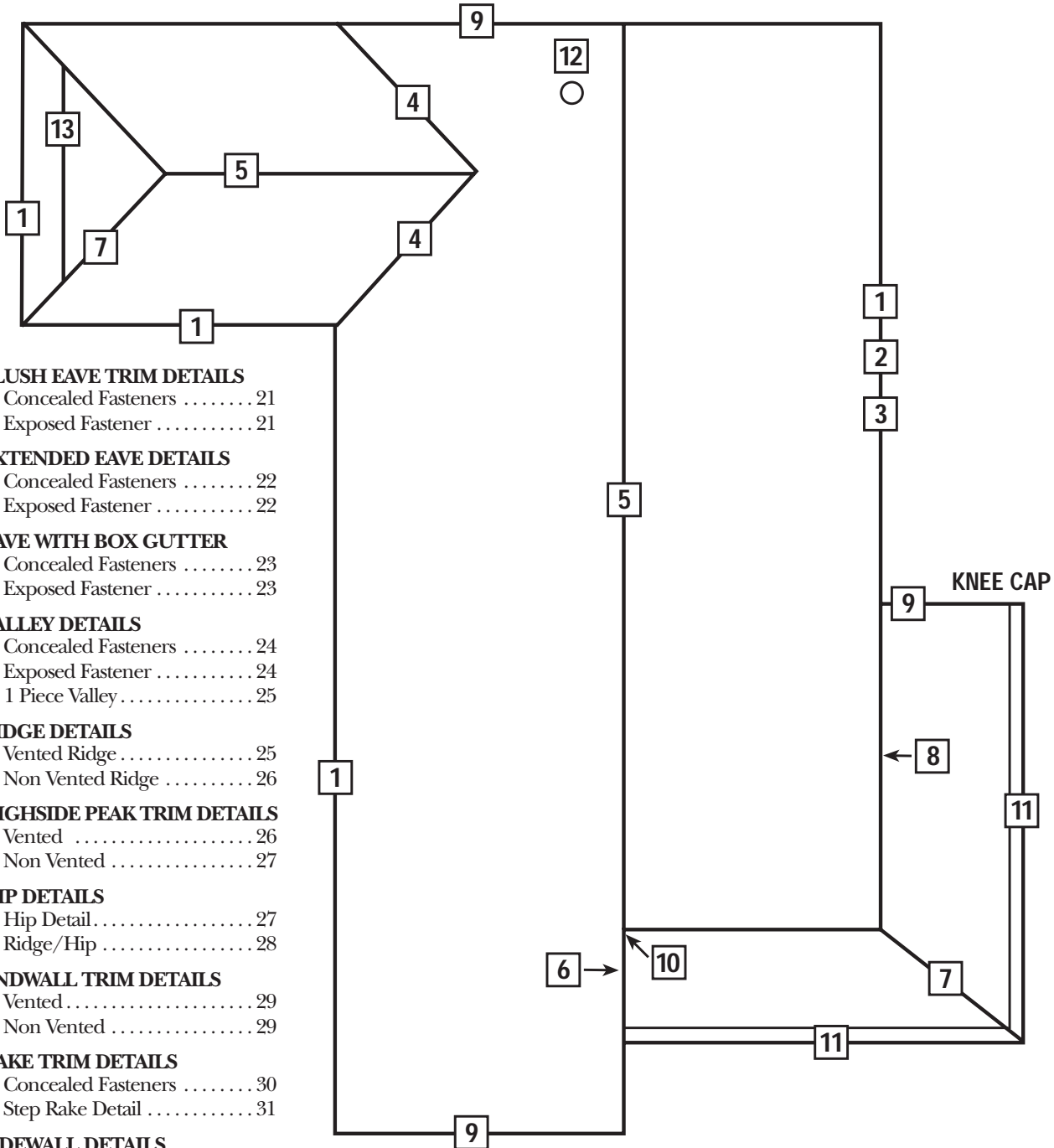


Concealed Fastener with Offset Cleat

OR



TYPICAL CONDITIONS



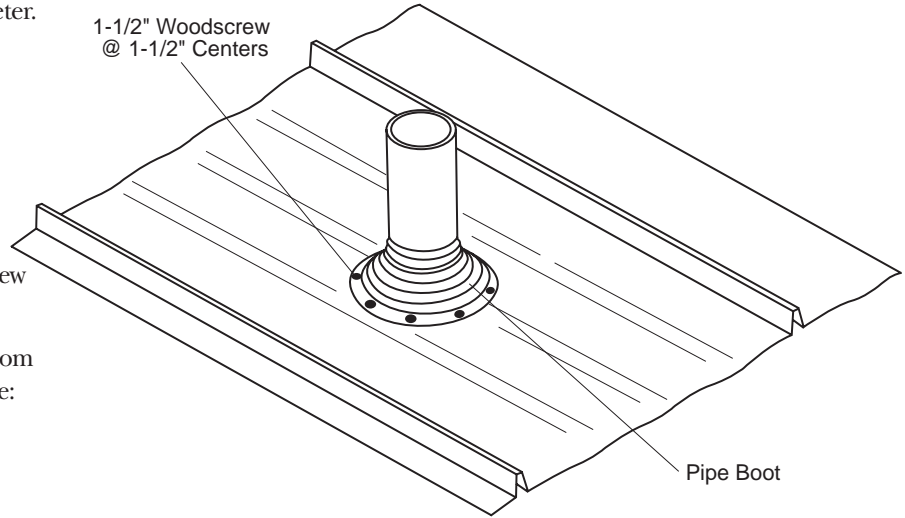
- 1. FLUSH EAVE TRIM DETAILS**
 - A. Concealed Fasteners 21
 - B. Exposed Fastener 21
- 2. EXTENDED EAVE DETAILS**
 - A. Concealed Fasteners 22
 - B. Exposed Fastener 22
- 3. EAVE WITH BOX GUTTER**
 - A. Concealed Fasteners 23
 - B. Exposed Fastener 23
- 4. VALLEY DETAILS**
 - A. Concealed Fasteners 24
 - B. Exposed Fastener 24
 - C. 1 Piece Valley 25
- 5. RIDGE DETAILS**
 - A. Vented Ridge 25
 - B. Non Vented Ridge 26
- 6. HIGHSIDE PEAK TRIM DETAILS**
 - A. Vented 26
 - B. Non Vented 27
- 7. HIP DETAILS**
 - A. Hip Detail 27
 - B. Ridge/Hip 28
- 8. ENDWALL TRIM DETAILS**
 - A. Vented 29
 - B. Non Vented 29
- 9. RAKE TRIM DETAILS**
 - A. Concealed Fasteners 30
 - B. Step Rake Detail 31
- 10. SIDEWALL DETAILS**
 - A. Concealed Fasteners 31
 - B. Step Side Wall Detail 32
- 11. SILL DETAILS**
 - A. Sill Detail 32
- 12. Pipe Flashing** 19
- 13. Transition Flashing** 33

VENT TRIM DETAIL

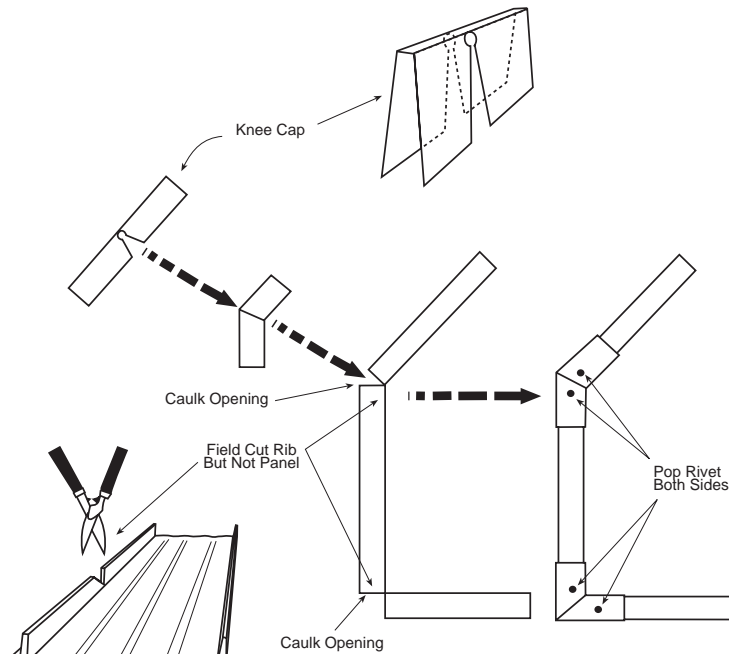
1. Cut Pipe Boot at appropriate pipe diameter.
2. Slide the Pipe Boot down over pipe using water to lubricate it if necessary.
3. Form base to fit profile of the roof panel.
4. Seal between base and roof with tube sealant.
5. Fasten the Pipe Boot with 1-1/2" woodscrew at 1-1/2" centers to complete the seal.

Available in nine different sizes to fit pipes from 1/4" to 19" in diameter. Three styles available:

1. EDPM Black or Grey
2. Silicone (Heat Tempered 100° to 450°)
3. Retrofit (Boot fits around pipe)

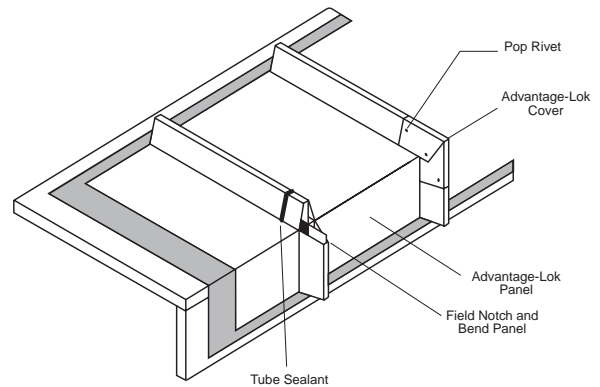


KNEE CAP DETAIL

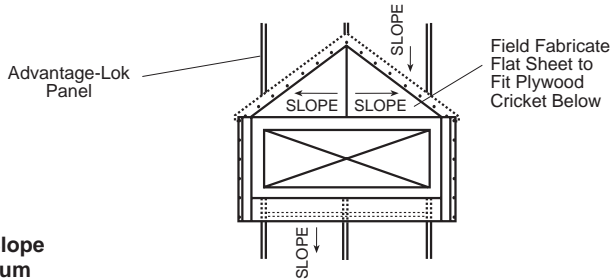
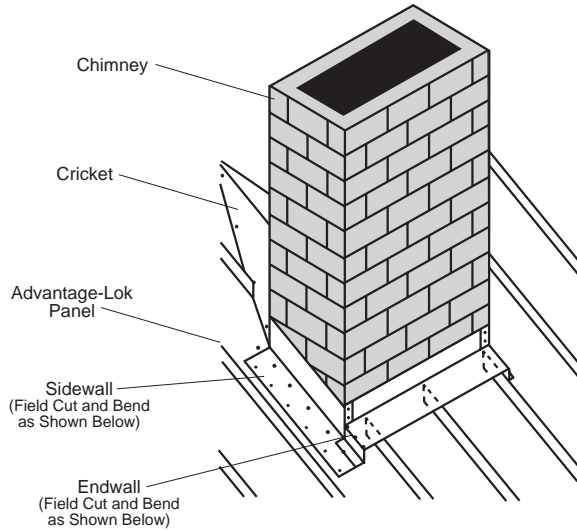


Application details are for illustration purposes only and may not be appropriate for all environmental conditions, building designs, or panel profiles. Projects should be engineered to conform to applicable building codes, regulations, and accepted industry practices. Moisture barrier underlayment or insulation is not shown in these drawings for clarity.

1. Notch Panel to make transition.
2. Caulk Panel Rib 3" back and down from transition.
3. Place Knee Cap over panel at transition.
4. Pop Rivet Knee Cap to Panel Rib.



CHIMNEY DETAIL



**3:12 Slope
Minimum**

Cricket

1. Field fabricate flat sheet to fit plywood cricket.
2. Attach Cricket Flashing with 1" pancake head screws.
3. Apply Double Bead Mastic to Cricket Flashing.
4. Attach panel to substrate.
5. Caulk at sealed ends of panel rib.

Sidewall

1. Apply Double Bead Mastic to panel.
2. Fasten Z Closure through mastic.
3. Apply Double Bead Mastic to Top Leg of Z closure.
4. Notch Sidewall Flashing to tie into cricket and endwall flashings.
5. Attach Sidewall flashing to chimney and Z closure.

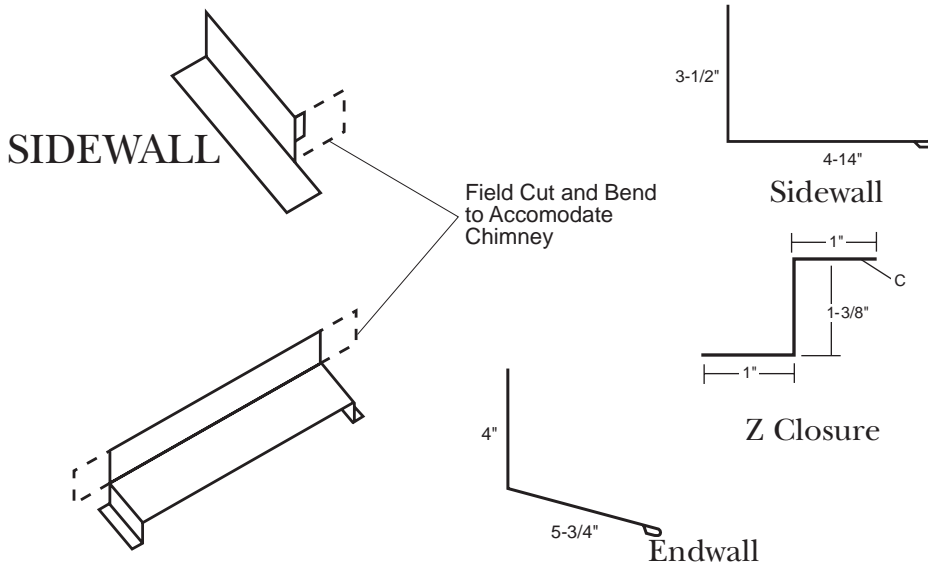
Endwall

1. Apply Double Bead Mastic to pan of sheet.
2. Field Notch Z closure to fit panel.
3. Apply Double Bead Mastic to top leg of Z closure and panel rib.
4. Use tube sealant to seal all seams and panel ribs.
5. Field notch Endwall flashing to fit chimney and sidewall.
6. Attach Endwall flashing to chimney and Z Closure.

NOTE: Use Tube Sealant to seal all seams and openings

FLASHING PROFILES

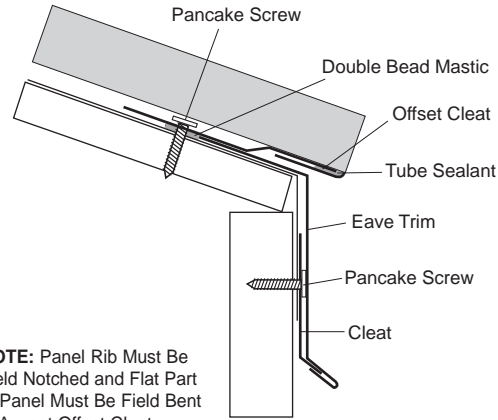
ACCESSORIES



- Tube Sealant
- Double Bead Mastic
- Pancake Head Screws
- Pop Rivets

FLUSH EAVE TRIM DETAIL – CONCEALED FASTENER

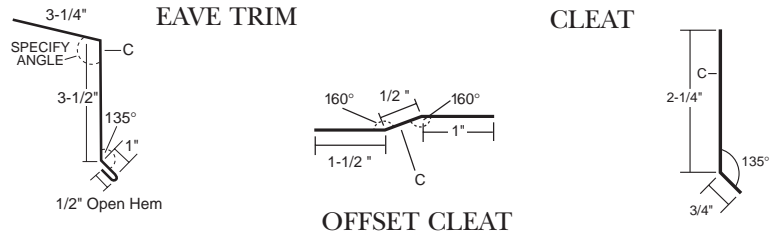
1. Before installing panels, attach cleat to fascia with Pancake Head Screws, 2' on center. Make sure the cleat will set in the open hem of the trim.
2. Slide the Eave Trim over the cleat.
3. Apply double bead mastic to the underside of the 1-1/2" leg of the offset cleat. Attach the Cleat and the Eave Trim to the deck with Pancake Head Screws. Allow the cleat to extend 1" over the eave.
4. Hem the panel over the cleat. (Refer to page 16 for detail.)
5. If 5K Gutter is to be installed, follow manufacturer's instructions.



ACCESSORIES

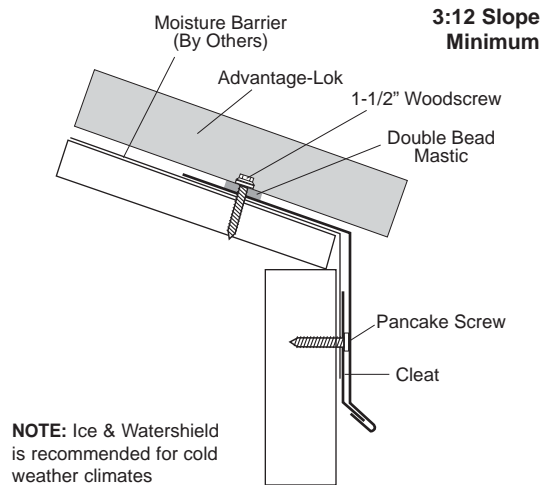
- Tube Sealant
- Double Bead Mastic
- Pancake Screws

FLASHING PROFILES



FLUSH EAVE TRIM DETAIL – EXPOSED FASTENER

1. Before installing panels, attach cleat to fascia with Pancake Head Screws, 2' on center.
2. Slide the Eave Trim over the cleat.
3. Extend the panel a minimum of 1" past the eave. Attach panel to deck using 1-1/2" wood screws evenly spaced, 2 per pan.
4. If 5K Gutter is to be installed, follow manufacturer's instructions.



ACCESSORIES

- Woodscrew 1-1/2" (2 Per Panel)
- Pancake Screws
- Double Bead Mastic

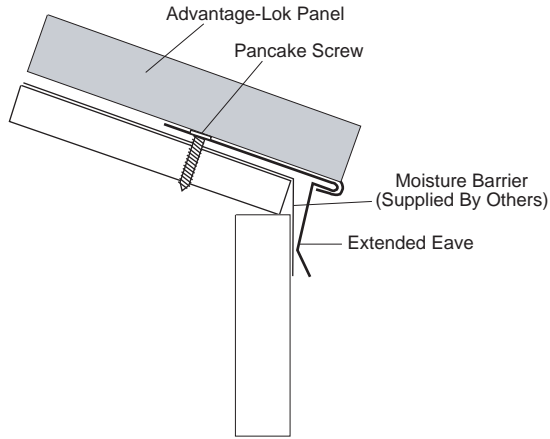
FLASHING PROFILES



EXTENDED EAVE TRIM DETAIL – CONCEALED FASTENER

1. Attach eave trim to substrate with pancake screws, 2' on center.
2. Hem panel and attach panel to Extended Eave Trim. (Refer to page 16 for detail.)
3. If 5k gutter is to be installed, follow manufacturer's instructions.

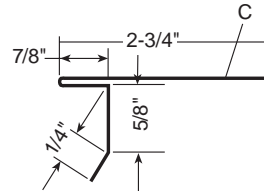
Note: Ice and Watershield is recommended for cold weather climates.



ACCESSORIES

Pancake Head
Woodscrew
(2'-0" On Center Typical)

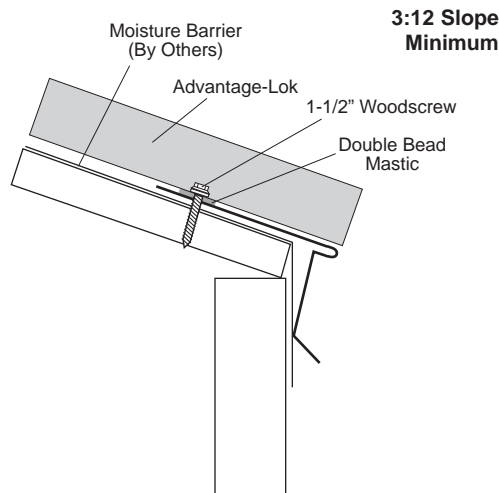
FLASHING PROFILES



EXTENDED
EAVE TRIM

EXTENDED EAVE TRIM DETAIL – EXPOSED FASTENER

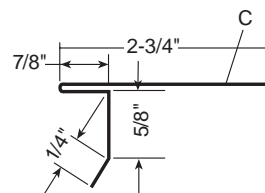
1. Attach eave trim to substrate with pancake screws, 2' on center.
2. Apply double bead mastic to top side of trim.
3. Over hang panel a minimum of 1/4" past Extended Eave Trim.
4. Attach panel by placing two 1-1/2" woodscrews through the pan of the panel, evenly spaced, into the mastic and substrate.
5. If 5k gutter is to be installed, follow manufacturer's instructions.



ACCESSORIES

Double Bead Mastic
Woodscrew 1-1/2"
(2 Per Panel)
Pancake Head
Screws

FLASHING PROFILES

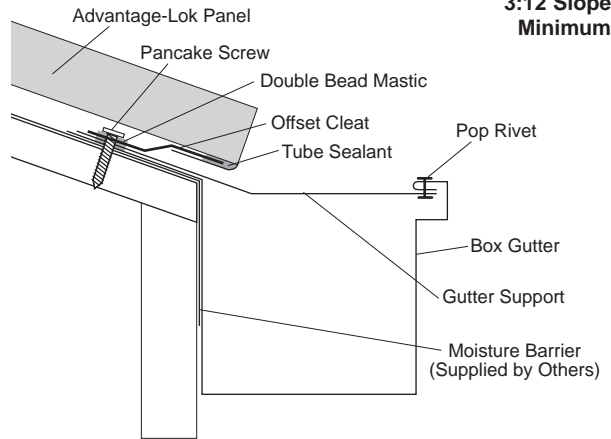


EXTENDED
EAVE TRIM

EAVE WITH GUTTER DETAIL-CONCEALED FASTENER

Exposed Fastener Application

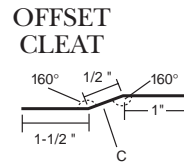
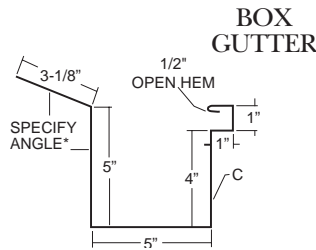
1. Attach Box Gutter, apply double bead mastic on top side of gutter, then place gutter strap and offset cleat on top of mastic and attach to substrate with 1" Pancake Head Screw.
2. Allow panel to extend 1" beyond eave.
3. Hem Panel slide hemmed edge over offset cleat.
4. Pop rivet gutter strap to gutter.



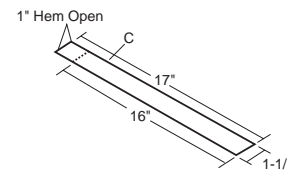
ACCESSORIES

- Double Bead Mastic
- Pop Rivets (1 per Gutter Support)
- Pancake Head Woodscrew (2'-0" On Center Typical)

FLASHING PROFILES



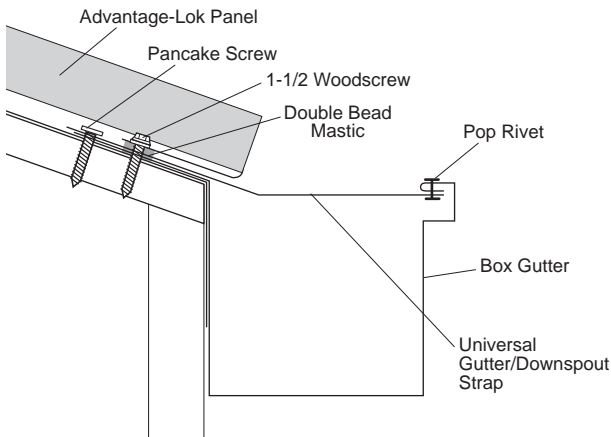
UNIVERSAL GUTTER/DOWNSPOUT STRAP



EAVE WITH GUTTER DETAIL-EXPOSED FASTENER

Hemmed Panel Application

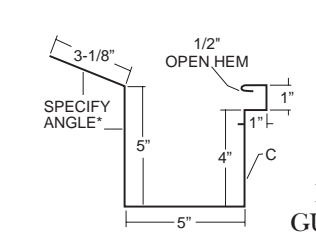
1. Attach gutter to substrate with pancake head screws 2' on center.
2. Apply double bead mastic on top leg of gutter.
3. Attach Panel to substrate with pancake head screw 2' on center. Allow panel to extend 1" beyond fascia maximum.
4. Attach gutter. Strap with 1-1/2" woodscrews to panel and substrate.
5. Pop rivet gutter strap to gutter.



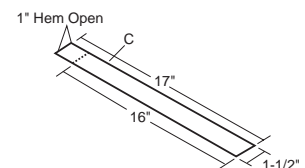
ACCESSORIES

- Pancake Head Screw (2'-0" On Center Typical)
- 1-1/2" Woodscrew (2 Per Panel)
- Double Bead Mastic
- Pop Rivets

FLASHING PROFILES



UNIVERSAL GUTTER/DOWNSPOUT STRAP

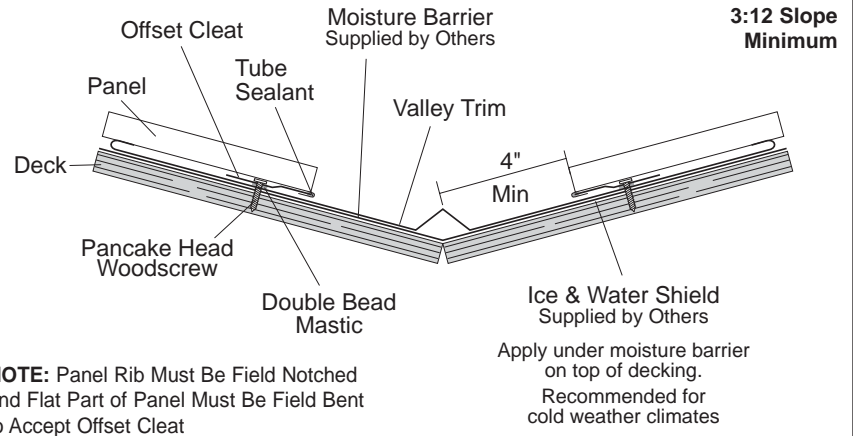


VALLEY DETAIL – CONCEALED FASTENER

Valley Condition

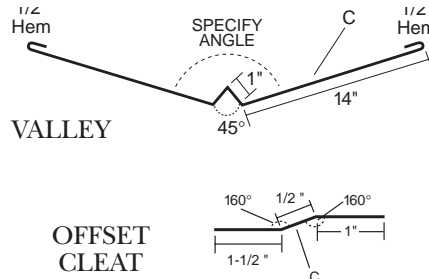
1. Attach Valley Trim with 1” pancake head screws 2’ on center.
2. Leave panels back 4” from center line of valley.
3. Place double bead mastic on valley flashing.
4. Attach offset cleat on top of mastic. Use 1” pancake screws to attach off-set cleat to substrate.
5. Slide hemmed panel over offset cleat (refer to page 17 for details).
6. Use tube sealant to close off the open ends of the panels.

Note: Endlap Valley Trim a minimum of 6”.



3:12 Slope Minimum

FLASHING PROFILES



ACCESSORIES

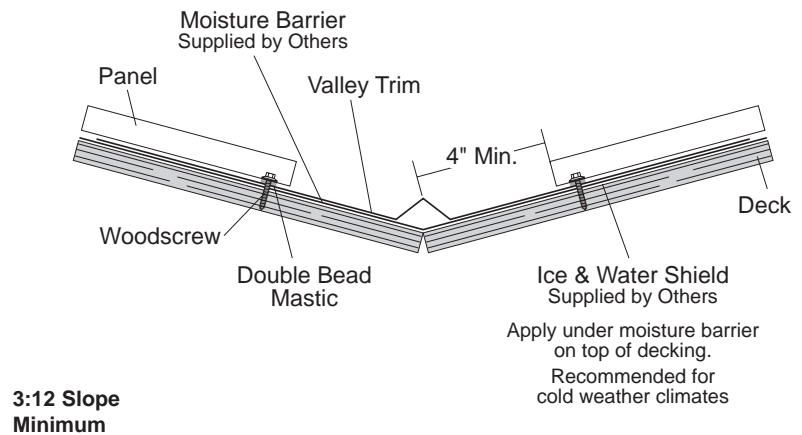
- Double Bead Mastic
- Pancake Head Screw (2’-0” On Center Typical)
- Tube Sealant

VALLEY DETAIL – EXPOSED FASTENER

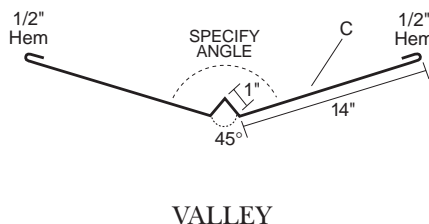
Valley Condition

1. Attach Valley Trim with 1” Pancake Head Screws 2’ on center.
2. Leave panels back 4” from center line of valley.
3. Place Double Bead Mastic on valley flashing.
4. Set panel and evenly space two 1-1/2” woodscrews into the flat area of panel.
5. Use Tube Sealant to close off the open ends of the panels.

Note: Endlap Valley Trim a minimum of 6”.



FLASHING PROFILES



ACCESSORIES

- Double Bead Mastic
- 1-1/2” Woodscrew (2 Per Panel)
- Tube Sealant

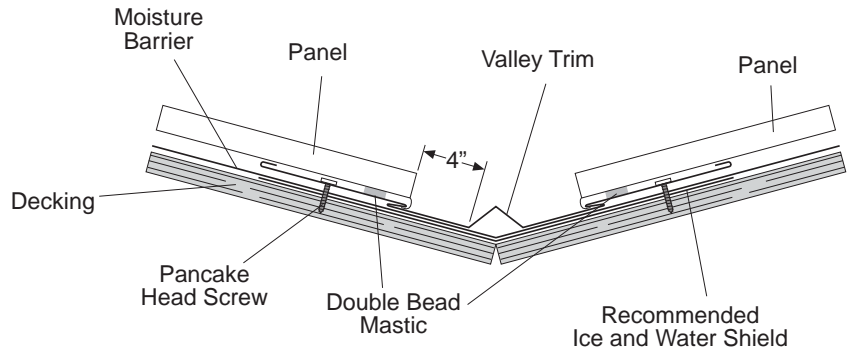
1 PIECE VALLEY DETAIL

Valley Condition

1. Attach Valley Trim to decking with pancake head screw 2' on center.
2. Apply double bead mastic to trim.
3. Hem panel.
4. Slide panel over offset.
5. Use tube sealant to close end of rib.

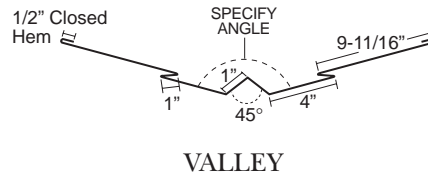
Note: Endlap Panel Valley a minimum of 6".

**3:12 Slope
Minimum**



FLASHING PROFILES

ACCESSORIES



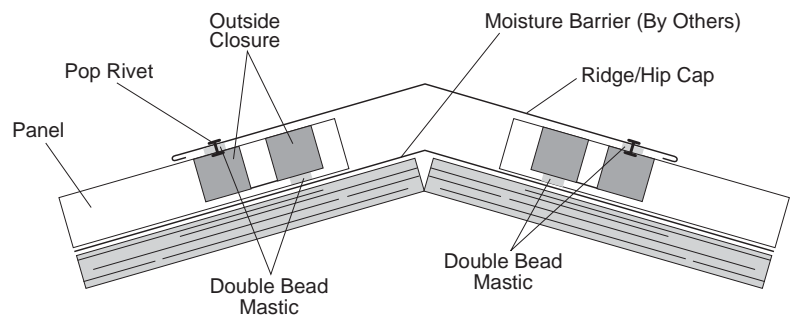
- Double Bead Mastic
- Pancake Head Screw

VENTED RIDGE DETAIL

Vented Ridge

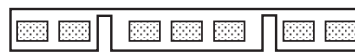
1. Place double bead mastic on bottom of back piece of formed vented closure (closure closest to ridge).
2. Place closure on top of panel 1" from edge of Plain Ridge/Hip Cover.
3. Place double bead mastic on top of front closure closest to eave.
4. Pop rivet Plain Ridge/Hip Cover to top of Advantage-Lok ribs.

**3:12 Slope
Minimum**



FLASHING PROFILES

ACCESSORIES

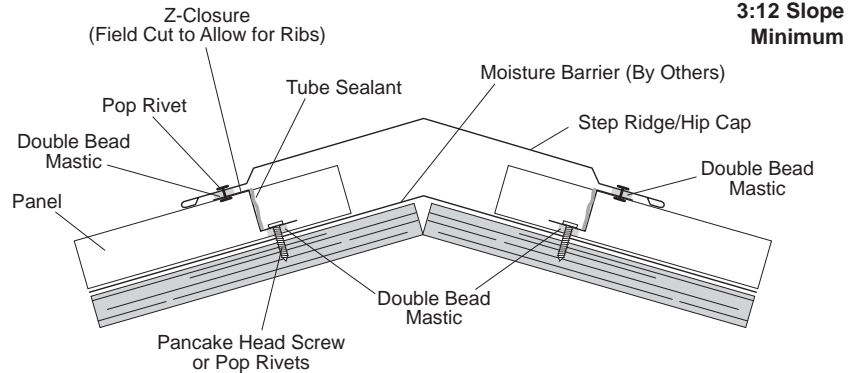


- Double Bead Mastic
- Vented Outside Closure Formed
- Pop Rivet (1'-0" On Center Typical)

NON-VENTED RIDGE DETAIL

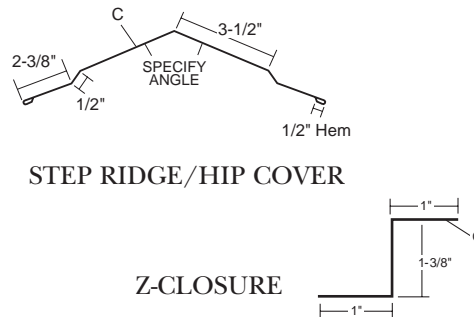
Non-Vented Ridge

1. Field cut Z Trim to fit pan of roof sheet.
2. Apply double bead mastic to the bottom of the Z Trim. Make sure colored side is facing out.
3. Place Z Trim in the pan of the panel and attach with pop rivets or pancake screws.
4. Apply butyl tube sealant to both sides of the Z Trim where the trim meets the panel rib.
5. Apply double bead mastic to the top of the Z Trim and across panel ribs.
6. Attach the Step Ridge/Hip Cover to the Z Trim with pop rivets, 1' on center.



FLASHING PROFILES

ACCESSORIES

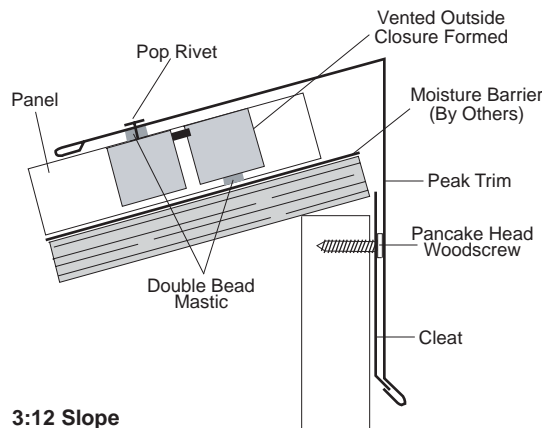


- Tube Sealant
- Double Bead Mastic
- Pancake Head Screw (3 Per Panel Rib)
- Pop Rivet (1'-0" On Center Typical)

VENTED HIGH SIDE PEAK DETAIL

Vented High Side Peak

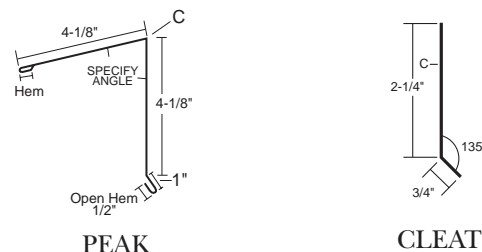
1. Attach cleat with 1" pancake head screws.
2. Place double bead mastic on bottom of closure closest to ridge and place mastic on top of closure closest to eave.
3. Place closure on top of panel 1" from edge of Peak Trim.
4. Snap High Side Peak Trim over cleat and pop rivet to top of Advantage-Lok ribs.



ACCESSORIES

- Vented Outside Closure Formed
- Double Bead Mastic
- Pop Rivet (1 Per panel Rib)
- Pancake Head Screw (2'-0" On Center Typical)

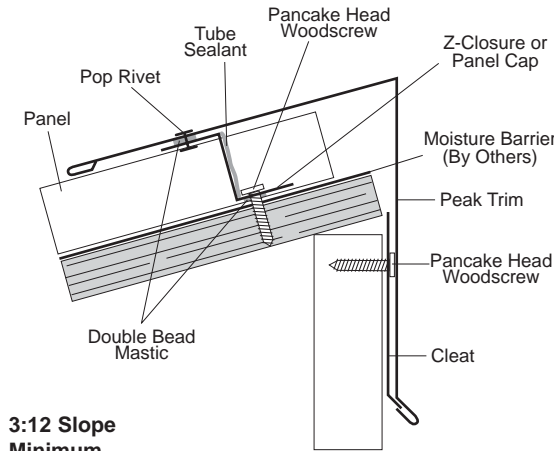
FLASHING PROFILES



NON-VENTED HIGH SIDE PEAK DETAIL

Non-Vented High Side Peak

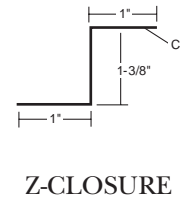
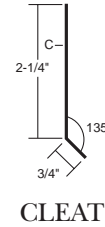
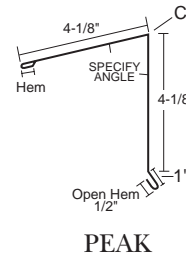
1. Attach cleat with 1" pancake head screws.
2. Field cut Z Trim to fit pan of roof sheet.
3. Apply double bead mastic to the bottom of the Z Trim. Make sure colored side is facing out.
4. Place Z Trim in the pan of the panel and attach with pop rivets or pancake screws.
5. Apply butyl tube sealant to both sides of the Z Trim where the trim meets the panel rib.
6. Apply double bead mastic to the top of the Z Trim and across panel ribs.
7. Snap High Side Peak Trim over cleat and pop rivet to the Z Trim, 1' on center.



ACCESSORIES

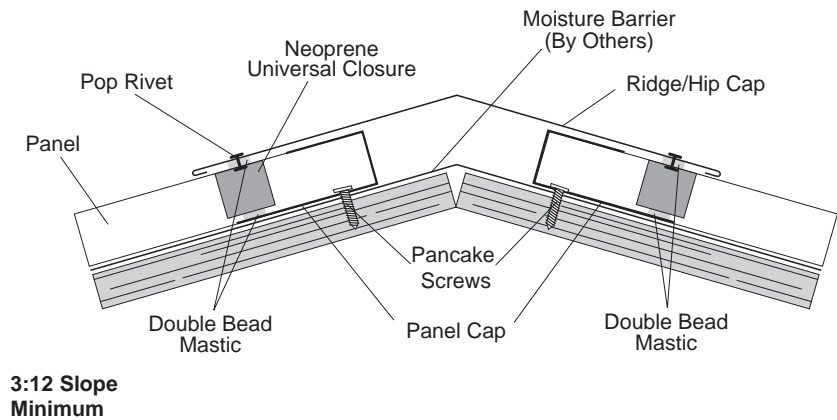
- Tube Sealant
- Double Bead Mastic
- Pancake Head Screw (3 Per Panel Rib)
- Pop Rivet (1'-0" On Center Typical)

FLASHING PROFILES

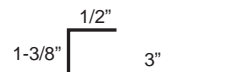


HIP COVER DETAIL

1. Slide Panel Cap over end of panel and attach to substrate with pancake screws.
2. Caulk with butyl tube sealant inside of Panel Cap along full panel contour.
3. For additional weather tightness, install universal closure. Field cut universal closure to accommodate panel ribs. Wrap entire universal closure with double bead mastic. Install closure 1" from edge of Ridge/Hip Cover.
4. Attach Hip Cover with rivet to top of Advantage-Lok ribs.



FLASHING PROFILES

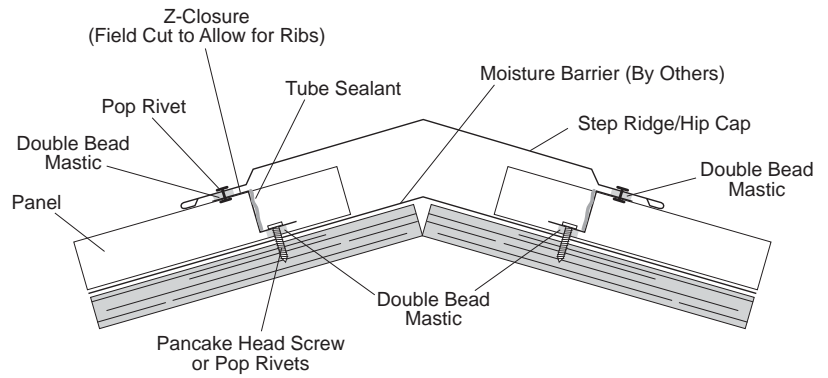


ACCESSORIES

- Tube Sealant
- Double Bead Mastic
- Pop Rivet (1 Per panel Rib)

RIDGE/HIP COVER DETAIL

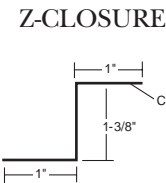
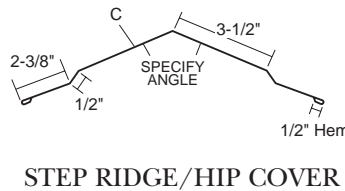
1. Field cut Z Trim to fit pan of roof sheet.
2. Apply double bead mastic to the bottom of the Z Trim. Make sure colored side is facing out.
3. Place Z Trim in the pan of the panel and attach with pop rivets or pancake screws.
4. Apply butyl tube sealant to both sides of the Z Trim where the trim meets the panel rib.
5. Attach the Step Ridge/Hip Cover to the Z Trim with pop rivets, 1' off center.



**3:12 Slope
Minimum**

FLASHING PROFILES

ACCESSORIES

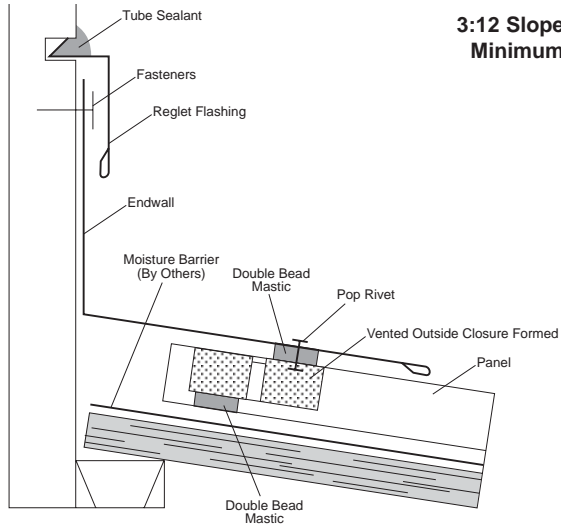


- Tube Sealant
- Double Bead Mastic
- Pop Rivet
(1 Per panel Rib)

VENTED ENDWALL DETAIL

Vented Endwall

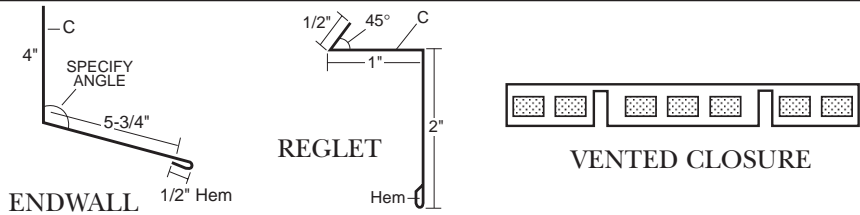
1. Place double bead mastic on bottom of back piece of formed vented closure. Place mastic on top of closure closest to eave.
2. Place closure on top of panel 1" from edge of Endwall Trim.
3. Pop rivet Endwall to top of Advantage-Lok ribs.
4. Install a counter flashing or reglet to the wall above the Endwall Trim.



ACCESSORIES

- Vented Outside Closure Formed
- Double Bead Mastic
- Pop Rivet (1'-0" On Center Typical)
- Fastener (1'-0" On Center Typical)

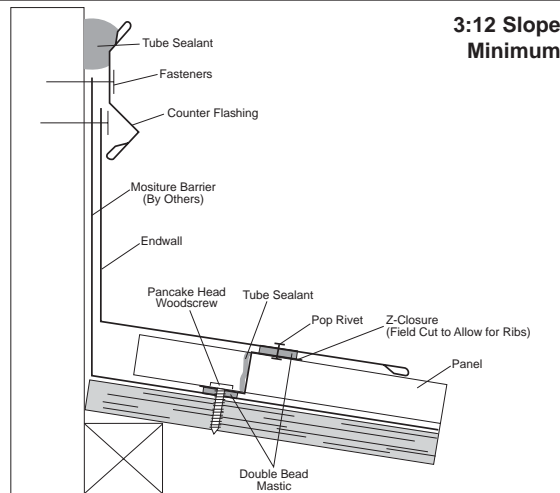
FLASHING PROFILES



NON-VENTED ENDWALL DETAIL

Non-Vented Endwall

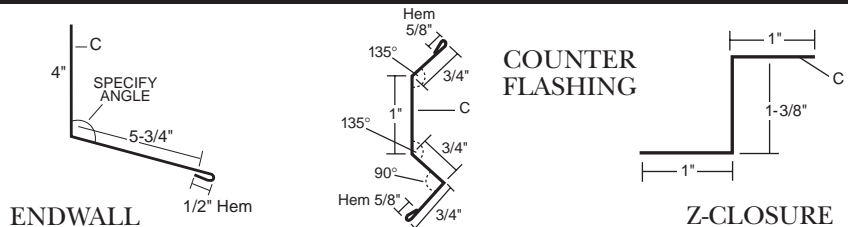
1. Field cut Z Trim to fit pan of roof sheet.
2. Apply double bead mastic to the bottom of the Z Trim. Make sure colored side is facing out.
3. Place Z Trim in the pan of the panel and attach with pop rivets or pancake screws.
4. Apply butyl tube sealant to both sides of the Z Trim where the trim meets the panel rib.
5. Apply double bead mastic to the top of the Z Trim and across panel ribs.
6. Pop rivet the Endwall Trim to the Z Trim, 1' O.C.
7. Install a Counter flashing or reglet to the wall above the Endwall Trim.



ACCESSORIES

- Tube Caulk
- Double Bead Mastic
- Pancake Head Screw (3 Per Panel Rib)
- Pop Rivet (1'-0" On Center Typical)

FLASHING PROFILES



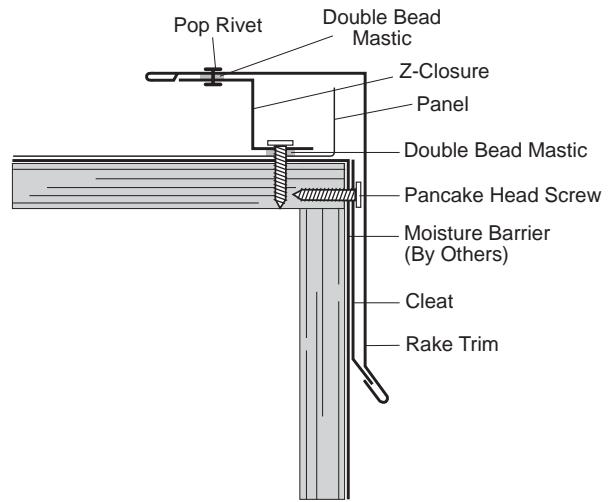
CONCEALED FASTENER RAKE DETAIL

To allow the panel to freely expand and contract, you must pop rivet the Z Trim to the panel, versus screwing it down. This is the recommended application and is required for panels longer than 25' to avoid panel distortion.

1. Measure where the Z Trim needs to be attached to panel to attach the rake trim.
2. Apply mastic to the panel where the Z Trim will be attached. Pop rivet the Z Trim to the panel, 1' on center. The colored side of the Z should face out.
3. If a panel rib will not be beneath the rake trim, you must turn up the sheet 1-3/8"
4. Fasten the panel to the substrate.
5. Fasten the cleat with a pancake screw 2' on center.
6. Apply mastic to the top leg of the Z Trim.
7. Snap the Rake Trim over the cleat and pop rivet the Rake Trim to the Z Trim.

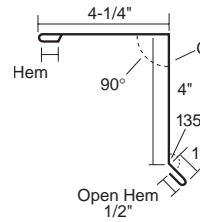
For panels less than 25', you can screw the Z Trim directly to the panel through the substrate. To do this:

1. Apply roll mastic to the bottom of the Z Trim.
2. Attach the Z Trim to the panel 2' on center with pancake screws.
3. Follow steps 3, 5, 6, & 7 to complete installation.

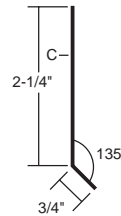


FLASHING PROFILES

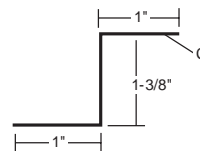
ACCESSORIES



RAKE



CLEAT



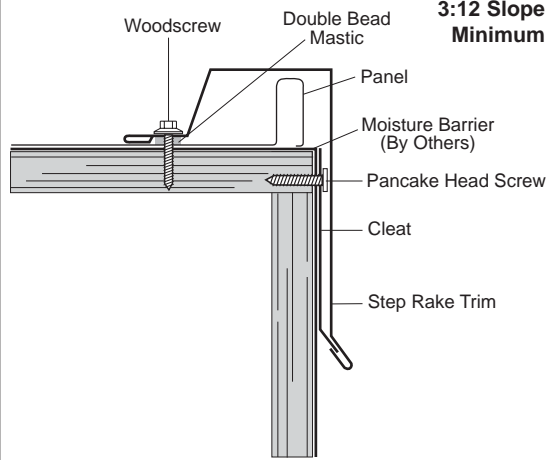
Z-CLOSURE

- Double Bead Mastic
- Pancake Head Screw (2'-0" On Center Typical)
- Pop Rivet (1'-0" O.C. Typical)

STEP RAKE DETAIL – EXPOSED FASTENER

1. Fasten cleat with pancake screw 2' on center prior to applying rake trim.
2. If a panel rib will not be beneath the rake trim, you must turn up the sheet 1-3/8".
3. Apply mastic to the underside of the step down leg of the rake trim.
4. Fasten rake trim to panel with 1-1/2" woodscrew 1' on center.

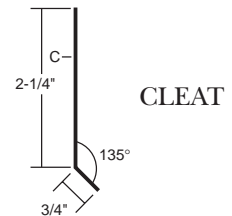
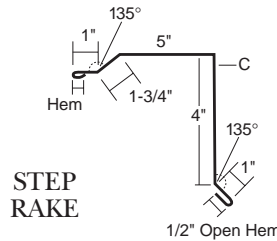
NOTE: If you do not use cleat, attach Rake Trim to wall with 1-1/2" woodscrew 2' on center.



ACCESSORIES

- Double Bead Mastic
- Pancake Head Woodscrew
- 1-1/2" Woodscrew (1'-0" On Center Typical)

FLASHING PROFILES



OPTIONAL SIDEWALL DETAIL

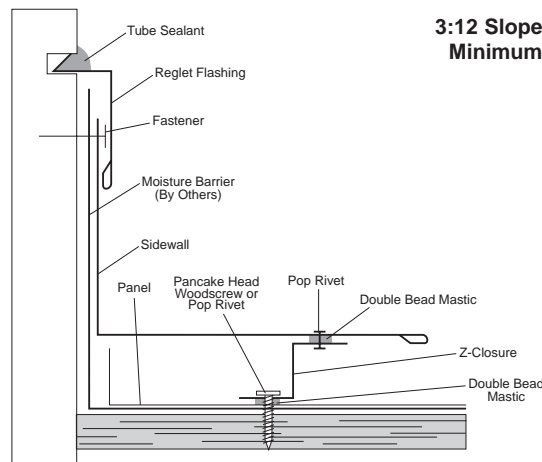
To allow the panel to freely expand and contract, you must pop rivet the Z Trim to the panel, versus screwing it down. This is the recommended application and is required for panels longer than 25' to avoid panel distortion.

1. Measure where the Z Trim needs to be attached to panel to attach the sidewall trim.
2. Apply mastic to the panel where the Z Trim will be attached. Pop rivet the Z Trim to the panel, 1' on center. The colored side of the Z should face the exposed side.
3. If a panel rib will not be beneath the sidewall trim, you must turn up the sheet 1-3/8".
4. Fasten the panel to the substrate.
5. Apply mastic to the top leg of the Z Trim.
6. Pop rivet the Sidewall Trim to the Z Trim.
7. Attach a counter flashing or reglet to the wall above the sidewall flashing.

For panels less than 25', you can screw the Z Trim directly into the panel and substrate.

To do this:

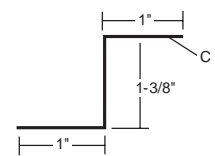
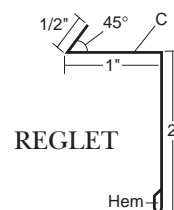
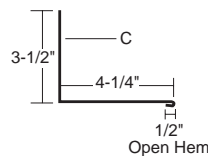
1. Apply roll mastic to the bottom of the Z Trim.
2. Attach the Zee Trim to the panel 2' on center with pancake screws.
3. Follow steps 3, 5, 6, & 7 to complete installation.



ACCESSORIES

- Double Bead Mastic
- Tube Caulk
- Pop Rivet (1'-0" On Center Typical)
- Pancake Head Screw (2'-0" On Center Typical)

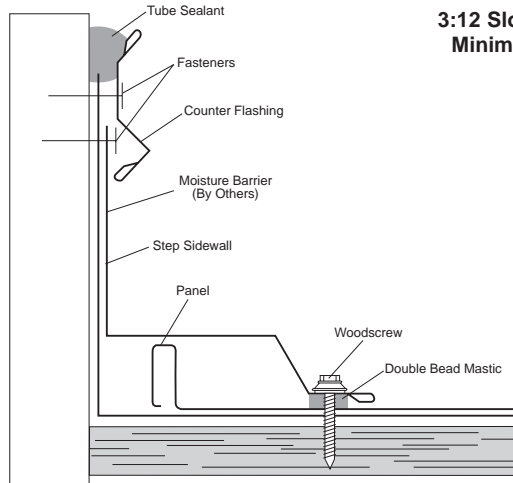
FLASHING PROFILES



STEP SIDEWALL DETAIL

Exposed Fastener

1. If a panel rib will not be beneath the rake trim, you must turn up the sheet 1-3/8".
2. Apply mastic to the underside of the step down leg of the rake trim.
3. Fasten rake trim to panel with 1-1/2" woodscrew 1' on center.
4. Attach a counter flashing or reglet to the wall above the sidewall flashing.

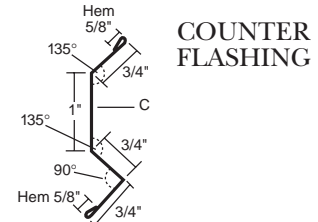
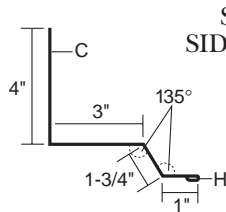


**3:12 Slope
Minimum**

ACCESSORIES

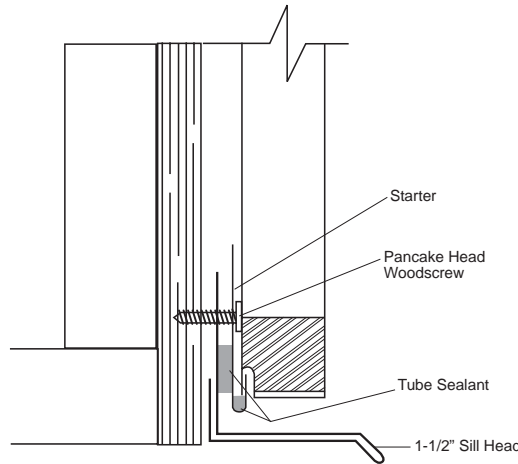
- Tube Sealant
- Double Bead Mastic
- Pancake Head Screw
- 1-1/2" Woodscrew
(1'-0" On Center Typical)

FLASHING PROFILES



SILL DETAIL

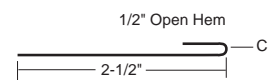
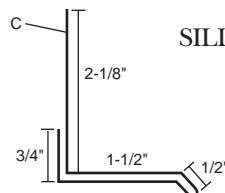
1. Attach Sill Trim to substrate with pancake screw.
2. Apply Tube Sealant to back leg of Sill Trim and bottom of starter.
3. Attach Starter Trim to substrate with pancake head screw.
4. Slide panel into Starter Trim.



ACCESSORIES

- Pancake Head Woodscrew
(2'-0" On Center Typical)
- Tube Sealant

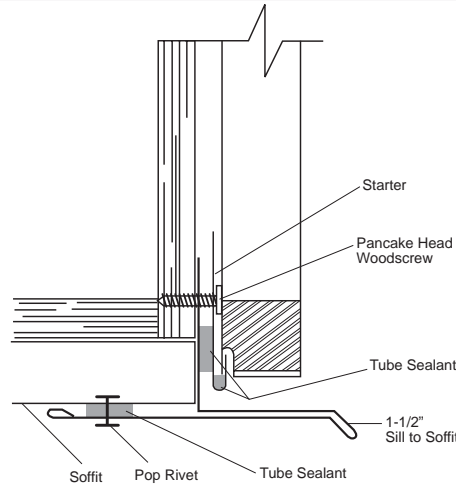
FLASHING PROFILES



STARTER

SILL TO SOFFIT DETAIL

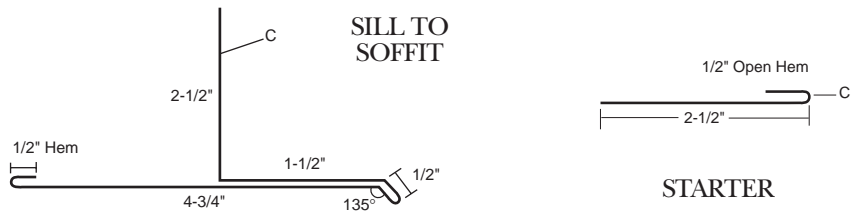
1. Apply sealant to back leg of Sill to Soffit trim. Refer to illustration.
2. Attach Sill to Soffit Trim and Starter to substrate with 1" pancake head screw.
3. Slide end of panel into starter to secure panel.
4. Pop Rivet return leg of Sill to Soffit Trim to soffit panel.



ACCESSORIES

- Tube Sealant
- Pop Rivets
(1'-0" On Center Typical)
- Pancake Head Woodscrew
(1'-0" On Center Typical)

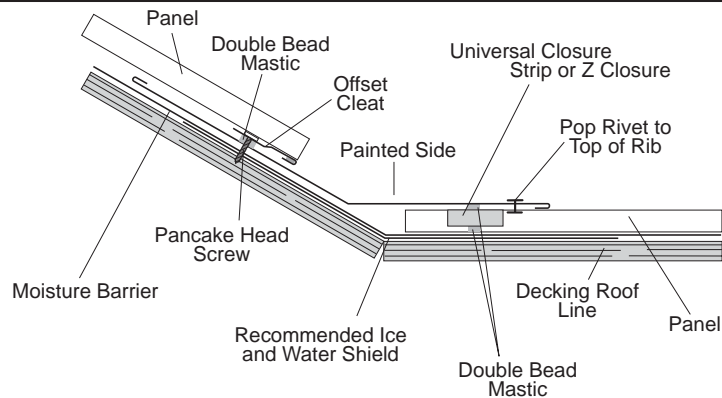
FLASHING PROFILES



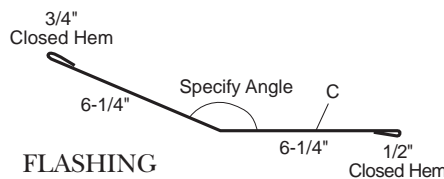
TRANSITION FLASHING DETAIL

Transition Flashing

1. Attach Transition Flashing and apply mastic and offset cleat to decking with pancake screws.
2. Place hemmed panel over offset cleat.
3. Fasten panels with 1-1/2" woodscrews for exposed fastener application. For concealed fastener applications use offset cleat and slide panel over offset cleat.
4. Cut Universal Closure to fit the pan of the panel or use Z Closure.
5. Apply double bead mastic to top, sides & bottom of closure.
6. Attach trim to top of panel with pop rivets.



FLASHING PROFILES

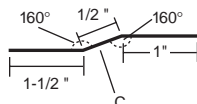


ACCESSORIES

- Pancake Head Screw
(1'-0" On Center Typical)
- Pop Rivet
(1'-0" On Center Typical)
- Universal or Z Closure
- Double Bead Mastic
- Exposed Fastener
- 1-1/2" Woodscrew (2 per Panel)
- For Concealed Fastener System Use Offset Cleat

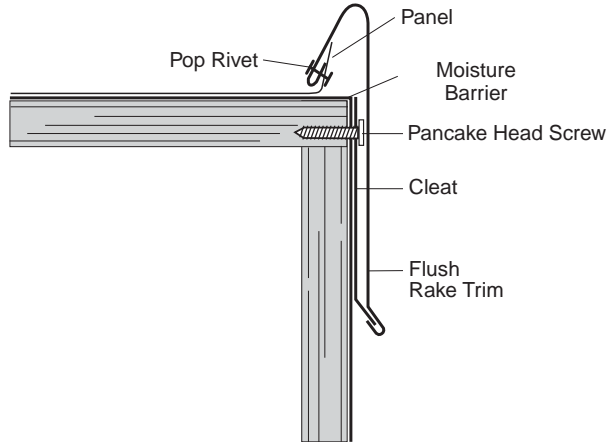
FLASHING

OFFSET CLEAT



FLUSH RAKE DETAIL

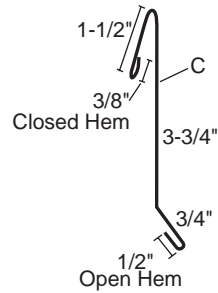
1. Cutoff rib of panel closest to rake edge.
2. Extend panel 1" past Flush Rake Trim.
3. Use hemming tool to bend flat of panel up 1".
4. Attach Cleat to Flush Rake Trim.
5. Slide Flush Rake Trim over 1" leg of the panel and snap over Cleat.
6. Pop Rivet Flush Rake Trim to 1" returning leg of the panel.



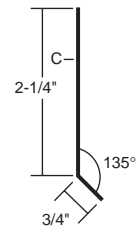
ACCESSORIES

- Pop Rivets
- Pancake Head Woodscrew
- Hemming Tool

FLASHING PROFILES

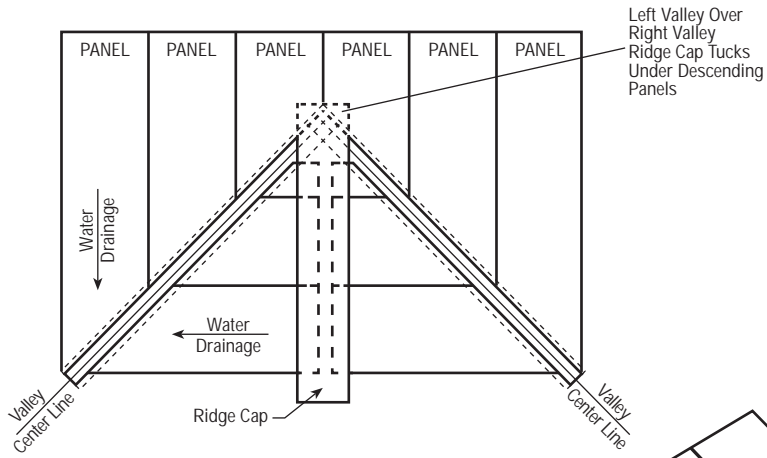


FLUSH RAKE

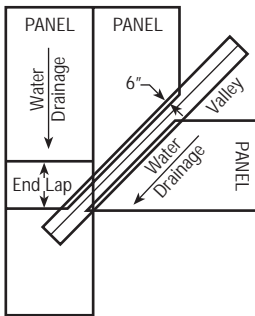
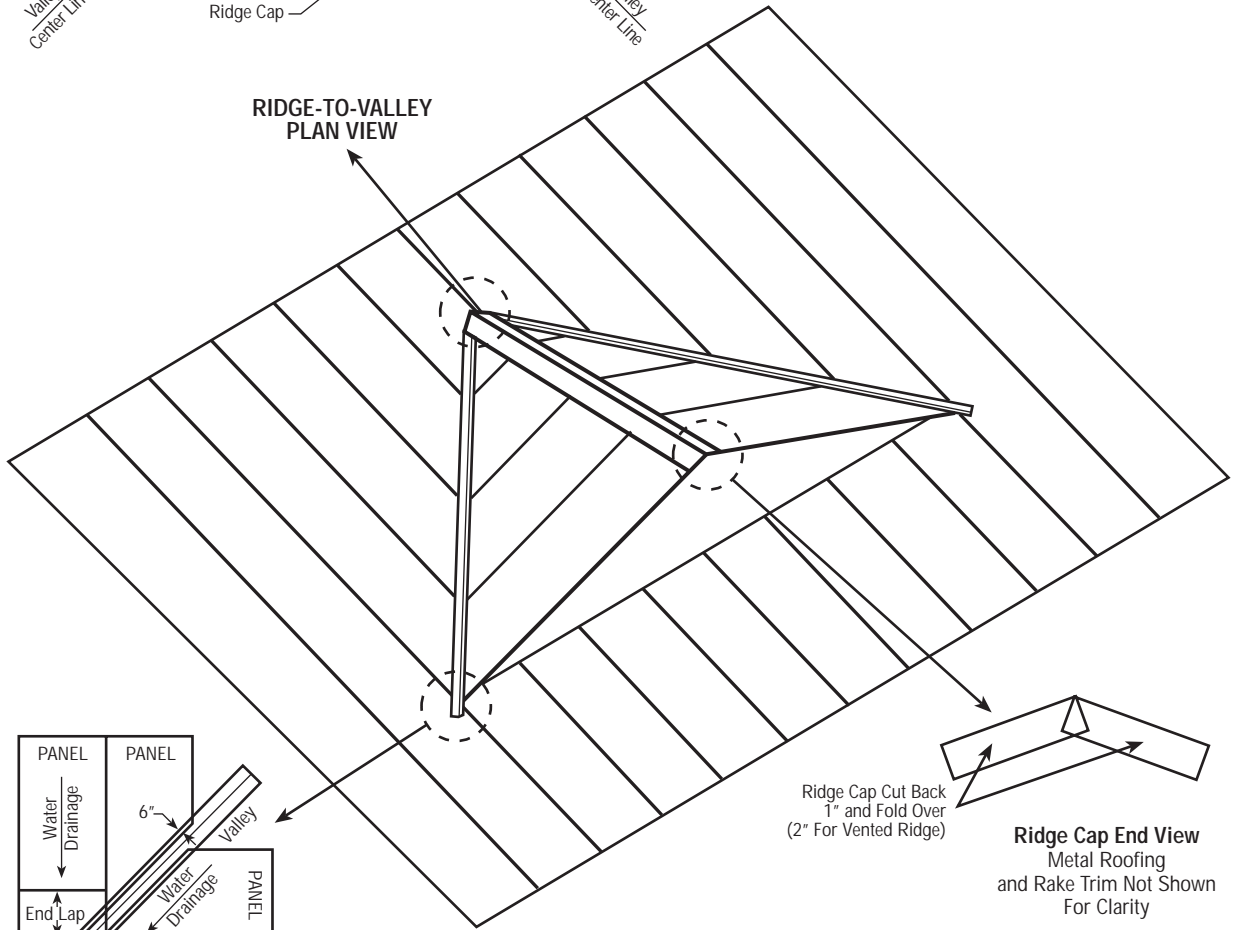


STARTER

DORMER DETAIL



RIDGE-TO-VALLEY PLAN VIEW



Union Corrugating Company is proud to be recognized as an industry leader in the manufacture and distribution of roll formed metal roofing and siding products and accessories. Since our establishment in 1946, the customer has always come first. Our commitment to service is expressed by quality products designed to meet your specific requirements. Our seven regional locations are situated to provide you with local service. With Union you get a quick response to your inquires and the fast and reliable delivery you need.



UNION

CORRUGATING COMPANY



P.O. Box 229 • Fayetteville, NC 28302 • (910) 483-2195 • Fax: (910) 483-1091
www.unioncorrugating.com

SPENCER STEEL SUPPLY
SPENCER, NC

ANDERSON STEEL SUPPLY
ANDERSON, SC

TIFTON STEEL PRODUCTS
TIFTON, GA

ORANGE STEEL ROOFING PRODUCTS
ORANGE, VA

UNICO METAL PRODUCTS
OCALA, FL

VICKSBURG METAL PRODUCTS
VICKSBURG, MS