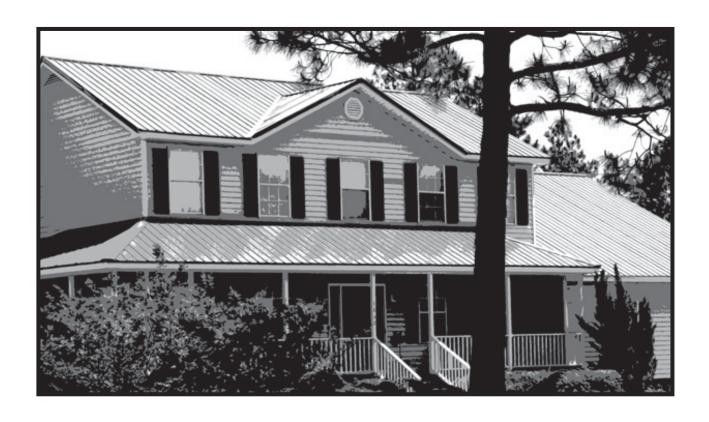
# **MasterRib**<sup>®</sup> Installation Manual



July 2010







# **IMPORTANT NOTICE**

This manual contains suggestions and guidelines on how to install the subject Union Corrugating panels and trim details. The contents of this manual include the guidelines that were in effect at the time this publication was originally printed. In an effort to keep pace with the ever-changing code environment, Union Corrugating retains the right to change specifications and / or designs at any time without incurring any obligations. To insure you have the latest information available, please inquire or visit our web site. Application and design details are for illustrative purposes only and may not be appropriate for all environmental conditions and/or building designs. Projects should be engineered and installed to conform to applicable building codes, regulations, and accepted industry practices.



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#### Introduction

The MasterRib® panel is an industry leader in strength and durability. This popular and versatile panel features classic looks and is used in a wide range of applications including residential, commercial, and post-frame buildings. MasterRib® was designed with extra-wide ribs to increase strength and ease handling and installation. In addition, the oversized anti-siphoning channel on the under-lap provides extra leak resistance in the presence of extreme wind and rain loads.

MasterRib® is available in 19 different paint colors and in both 26 and 29 gauge steel. It is also available in unpainted Galvalume® or unpainted galvanized. Our paint system and Galvalume® substrate are individually covered by a limited warranty. Please see our color chart for details on our paint system.

The MasterRib® panel is available in 36" coverage. The panel has five major support ribs at ¾" high that add rigidity and strength to the panel.



MasterRib® is Metal Construction Association certified. Below is a list of all of the MasterRib® panels approvals and certifications.

- Dade County NOA #07-0713.03 & ASCE 7-98 Compliant
- Florida Building Code Approval #FL4586.3, #FL9555.2, #FL9555.3, #FL9555.4, #FL9555.5, #FL9557.1, #FL9557.2, #FL9610.4, #FL10528.1
- Texas Department of Insurance Approval #116
- UL 790 Fire Resistance Class A
- UL 2218 Impact Resistance Class 4
- UL 580 Uplift UL Class 90 CONSTRUCTION #584

#### **Allowable Uniform Loads Per Square Foot**

	LIVE LOAD (PSF)						WIND LOAD (PSF)					
SPAN (INCHES)	18"	24"	30"	36"	48"	54"	18"	24"	30"	36"	48"	54"
29 Gauge	199	112	71	49	28	22	211	118	76	52	29	23
26 Gauge	268	150	96	67	37	29	276	155	99	69	38	30

#### **NOTES:**

- 1. Theoretical allowable loads are based on section properties and allowables calculated in accordance with 2001 AISI Specifications.
- 2. Theoretical allowable loads are based on three or more uniform spans.
- 3. For roof panels, deduct self weight for actual 'live load' capacity of the panel.
- 4. These loads are for panel strength. Frames, purlins, decks and fasteners must be designed to resist all loads imposed on the panel.
- 5. Check local building codes if panel testing is required.



## **Panel Installation Guide**

#### **Storage**

If metal is not to be used immediately, <u>store inside in a well ventilated, dry location</u>. Condensation or other moisture can form between the sheets during storage causing water stains or white rust which detract from the appearance of the product and may affect the product's useful life. <u>Trapped moisture between sheets of painted metal can cause white rust to form underneath the paint.</u> This can cause the paint to flake off the panel immediately or several years later. To prevent white rust and staining, break the shipping bands on the material. Store the material on end or on an incline of at least 8" with a supporting board underneath to prevent sagging. Fan the sheets slightly at the bottom to allow for air circulation. Keep the sheets off of the ground with an insulator such as wood. <u>Any outdoor storage is at the customer's own risk</u>. If outdoor storage cannot be avoided, protect the metal using a canvas cover or waterproof paper. <u>Never cover the metal with plastic as this will cause condensation to form</u>.

#### **Some Safety Precautions**

Always wear heavy gloves when working with steel panels to avoid cuts from sharp edges. When cutting or drilling steel panels, always wear safety glasses and sweep off any metal shavings immediately to prevent eye injury from flying metal fragments. 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. Do not for any reason walk on a roof made of material thinner than 29 gauge.

#### **General Installation Information**

Insure that the structure is square and true before beginning panel installation. If the structure is not square, the panels will not properly seal at the sidelaps. Start the first panel square to eave by using 3,4,5 Triangle Method. Green or damp lumber is not recommended. Moisture released from the damp lumber may damage the metal panels. Nails installed in green or damp lumber may back out. Remove any loose metal shavings left on the roof surface immediately to prevent corrosion. After installing roof, remove any debris such as leaves or dirt to prevent moisture from getting trapped on panels. Do not install in direct contact with chemically treated lumber.

#### **Fastening**

If you wish to predrill fastener holes, use a cover sheet to prevent hot shavings from sticking to panels.

Screws - For best results, use a 1-1/2" double washered wood screw in the flat of the panel as shown in the illustration below. Fasteners should be applied at every purlin. Drive the fastener so that the washer is compressed securely against the metal. Do not over drive the fastener as this will form a dimple that can collect water and cause leakage. Do not leave any loose fasteners that have missed the purlin. Use a #14 stitch screw or caulk to fill the hole.

Figure #1 - Fastening Patterns for MasterRib®

#### RECOMMENDED FASTENING PATTERN FOR 11/2" SCREWS

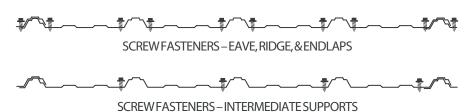


Figure #3

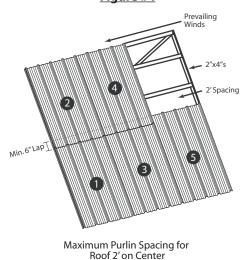




#### Roofing

Slopes of less than 3" on 12" are not recommended. For slopes of 3" on 12" or greater, end lap panels 6". Side laps should face away from the prevailing wind. Lay the first sheet along the eave at the down-wind side of the roof, farthest away from the direction of the prevailing winds (See Figure #4). Install sheets in the sequence shown in Figure #4.

Figure #4

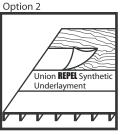


Option 1

Install Metal Directly to Wood Frame

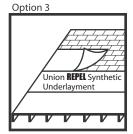
- Use Maximum 2' Purlin Spacing
- Install Metal
- \*DO NOT USE THIS OPTION FOR HEATED SPACES UNLESS INSULATION AND MOISTURE BARRIER PROTE-TION IS USED

Figure #5 - Installation Options



Install Metal on Solid Deck

- Lay Plywood Deck
- Apply Union REPEL Synthetic Underlayment or other Moisture Barrier Protection
- · Install Metal



Install Metal Over Existing Shingles

- Apply Union REPEL Synthetic Underlayment or other Moisture Barrier Protection
- Install Metal

Allow an overhang a minimum of 1" at the eave to provide for a drip edge. Use inside closure at eave to prevent water infiltration, insect or bird infestation at openings. To protect against uplifting winds and to provide a finished appearance, apply rake trim or other standard gable trim. For slopes less than 3:12, apply 3/8" tape sealant as shown in Figure #6 along the top of all lap ribs. Do not block the siphon channel with the tape. For best results, apply a 7/8" lap tek screw into the crown of the rib to secure the side lap.

Figure #6 - Proper Application of Side Lap Tape



#### **Allowable Uniform Loads Per Square Foot**

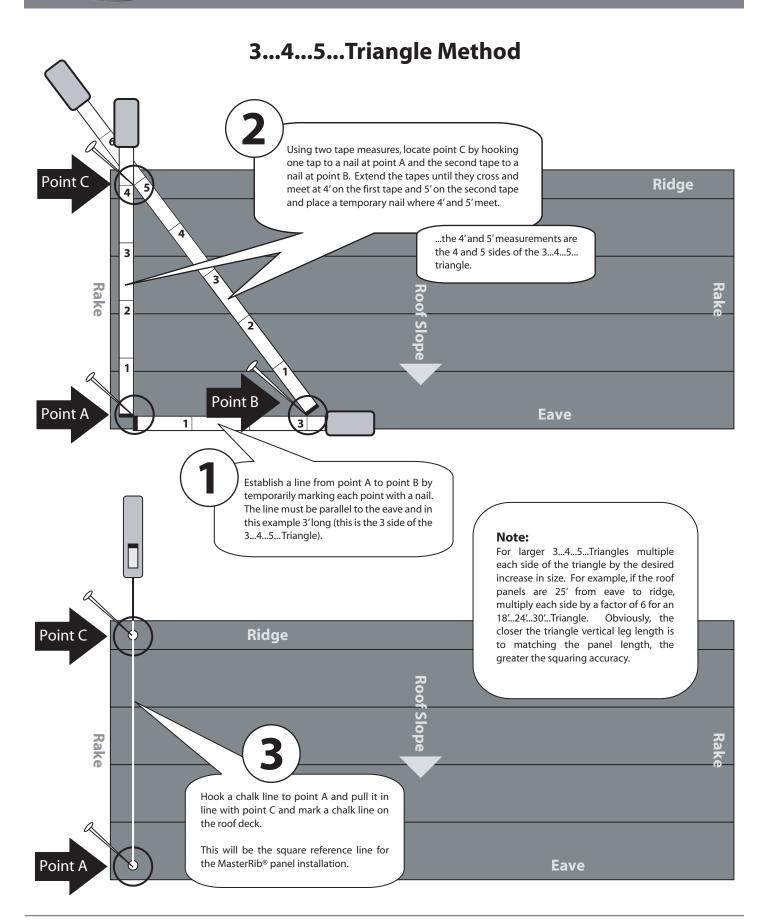
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#### **NOTES:**

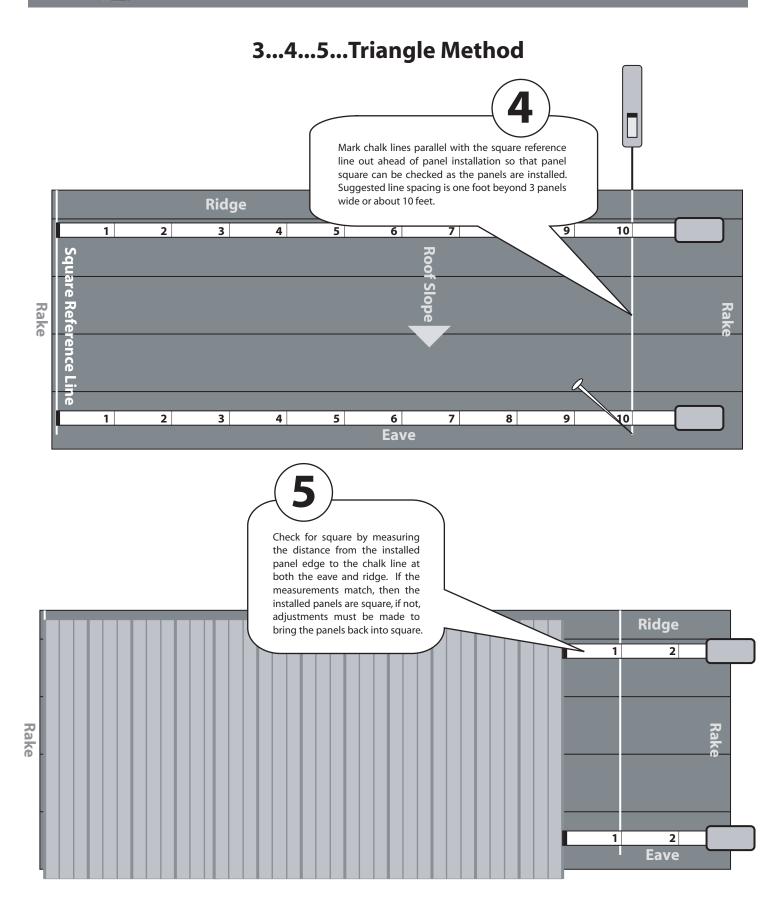
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- 4. These loads are for panel strength. Frames, purlins, decks and fasteners must be designed to resist all loads imposed on the panel.
- 5. Check local building codes if panel testing is required.

<sup>\*</sup> Proper ventilation and vapor barrier protection recommended for heated spaces





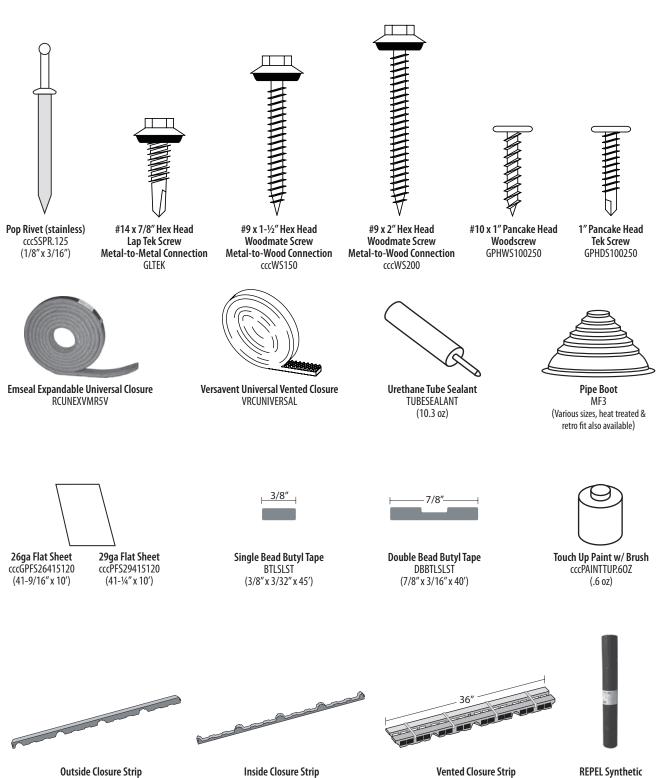






**RCMRO** 

## **Accessories**



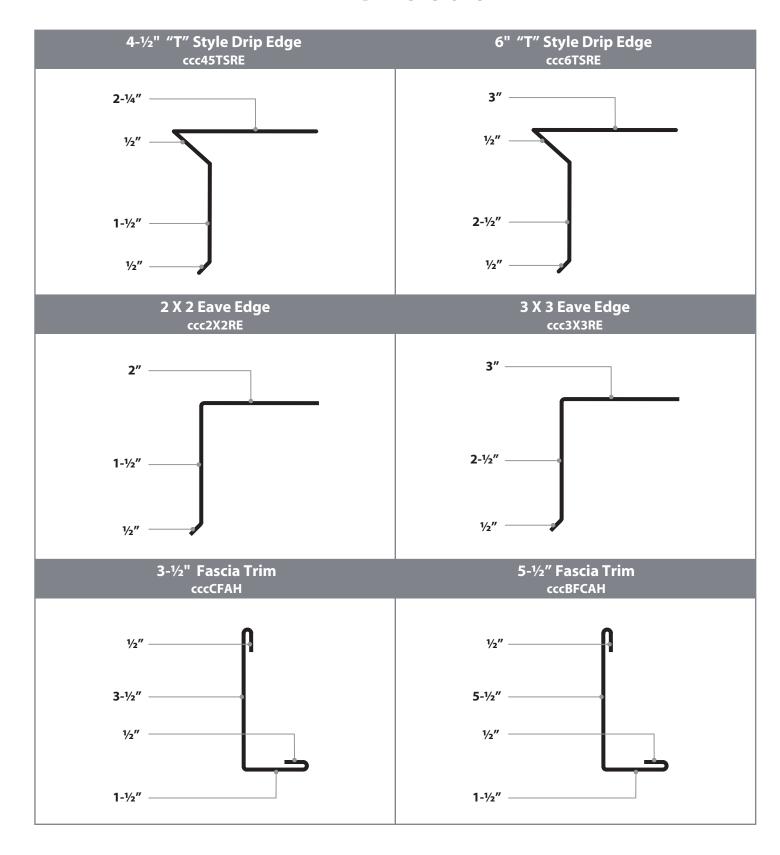
**VRCMRO** 

Roof Underlayment REPEL48X250SRU

RCMRI

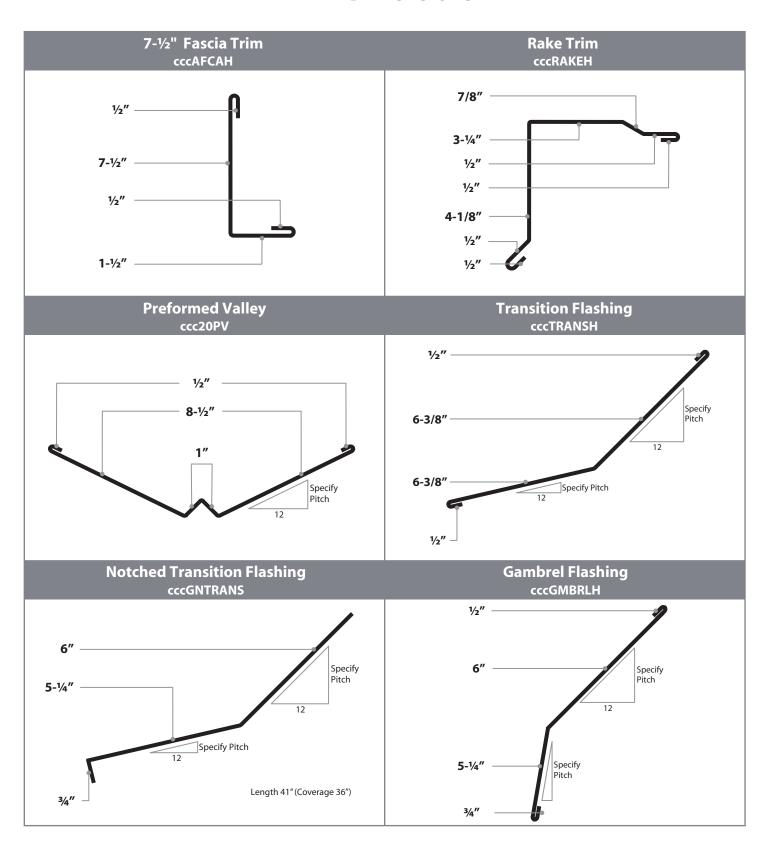


## **Trim Dimensions**



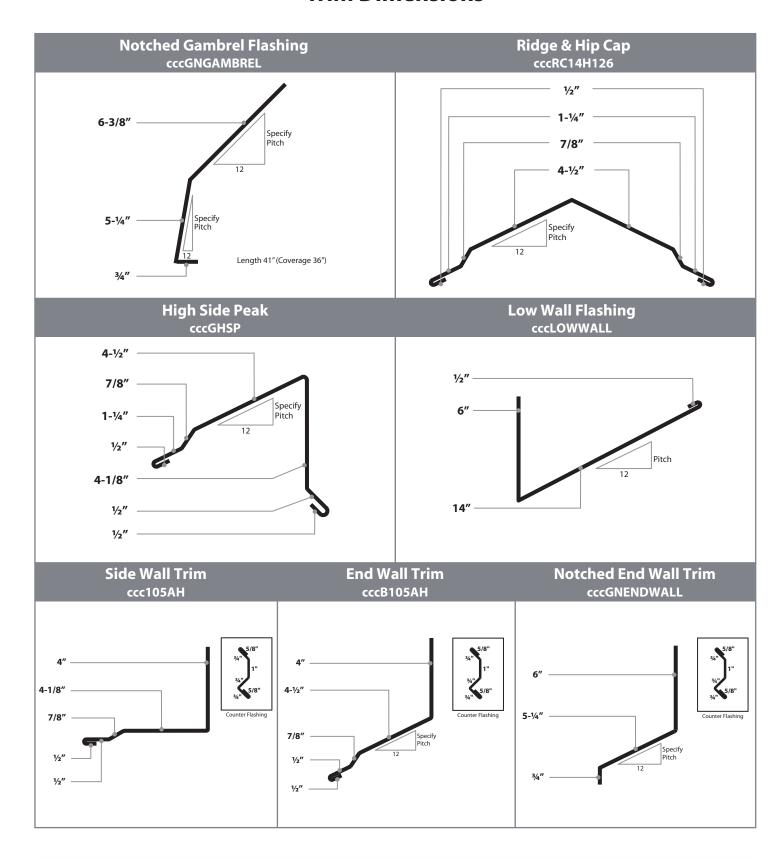


### **Trim Dimensions**





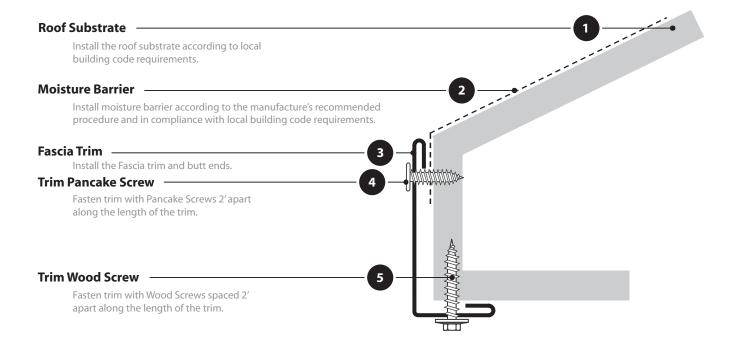
## **Trim Dimensions**





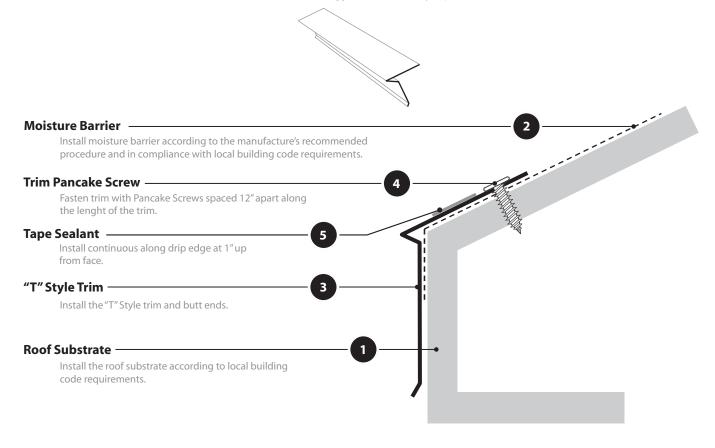
## **Fascia**

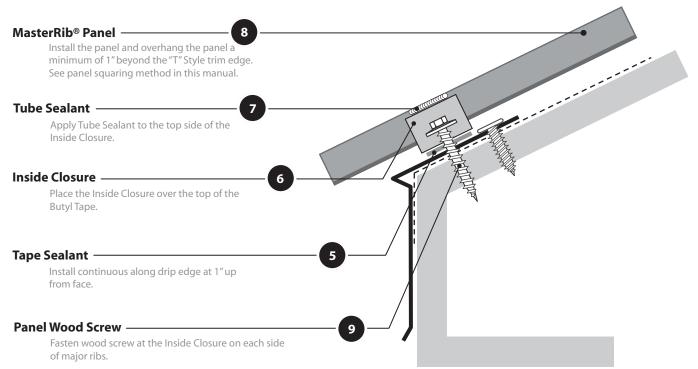






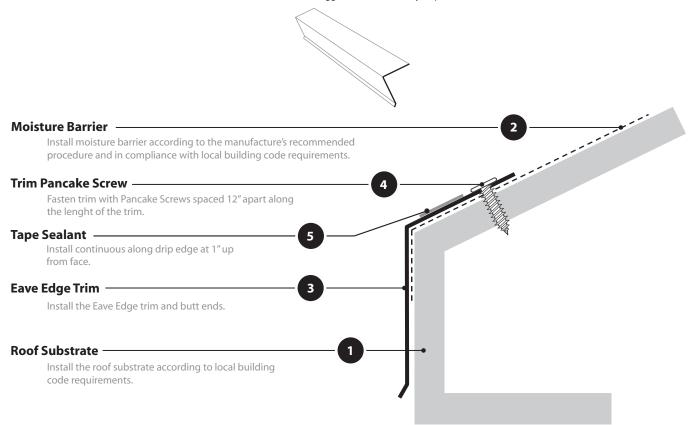
# "T" Style Eave

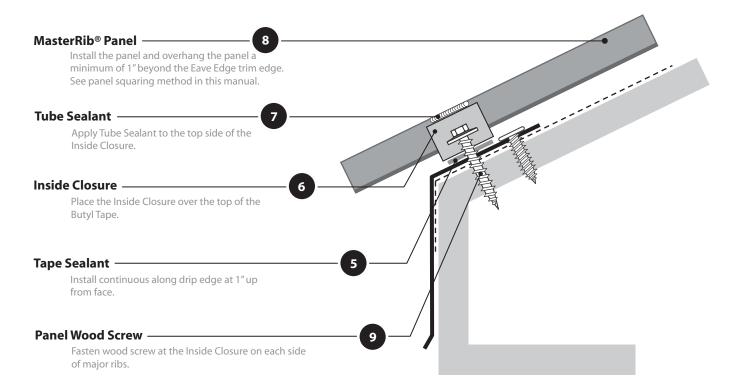






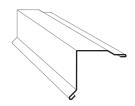
# **Eave Edge**

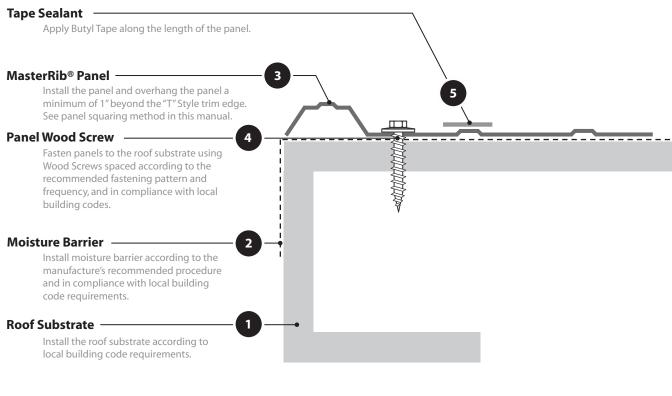


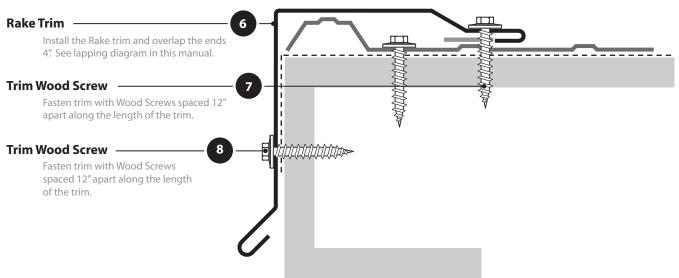




#### Rake



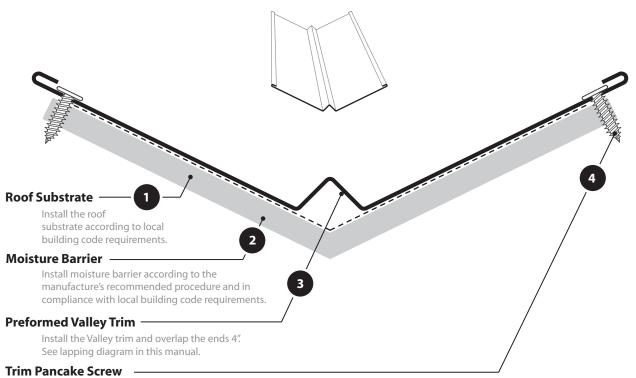




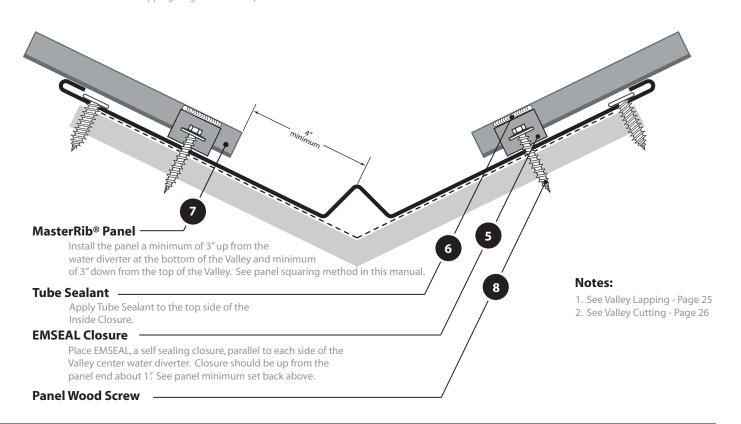


# **Preformed Valley**

Numbers indicate suggested trim assembly sequence.



Fasten trim with Pancake Screws spaced 12" apart along the length of the trim. See lapping diagram fastener pattern in this manual.

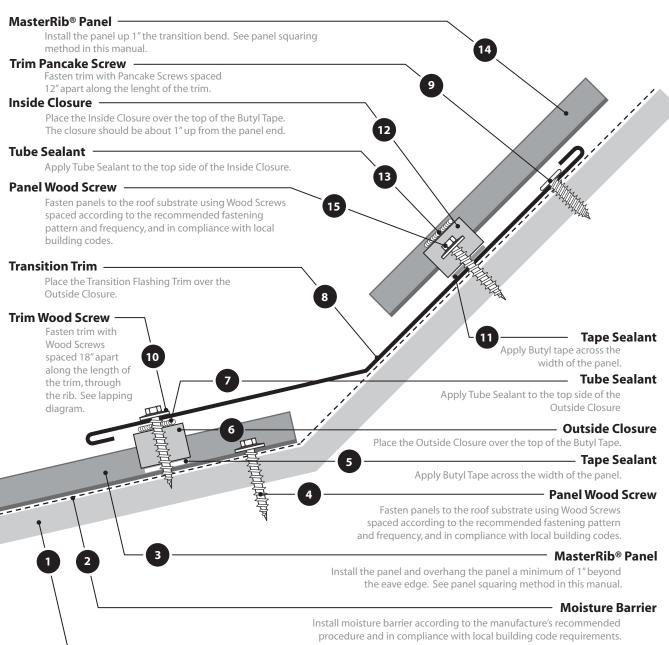




## **Transition**

Numbers indicate suggested trim assembly sequence.



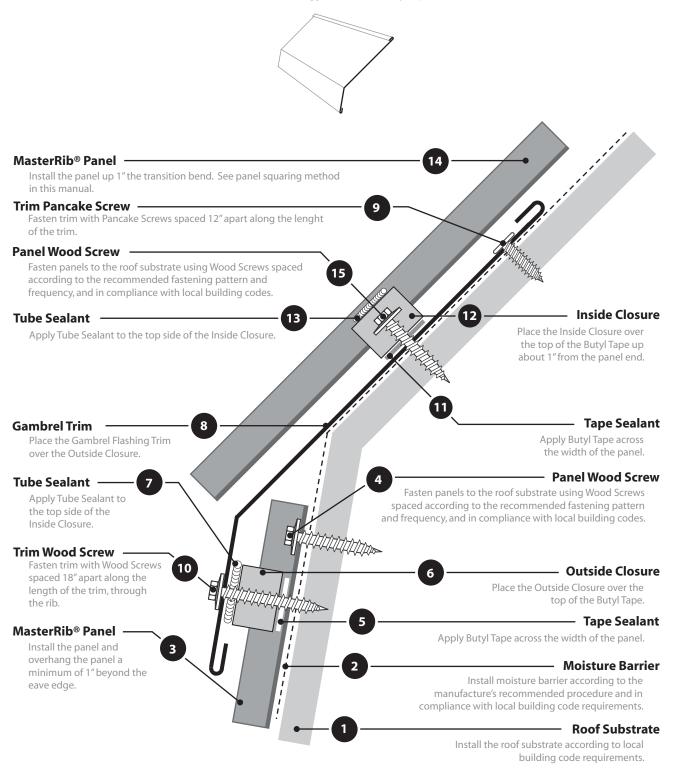


Install the roof substrate according to local building code requirements.

Roof Substrate



#### **Gambrel**

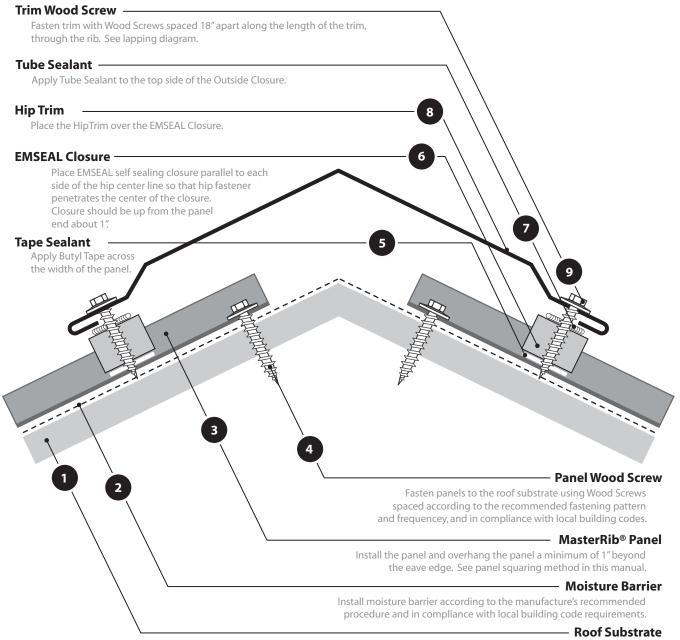




## Hip

Numbers indicate suggested trim assembly sequence.





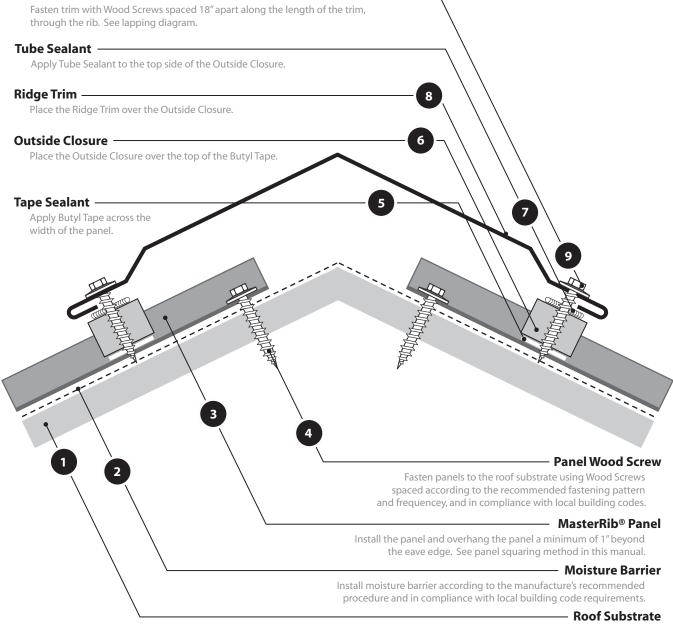


Trim Wood Screw

# Ridge

Numbers indicate suggested trim assembly sequence.

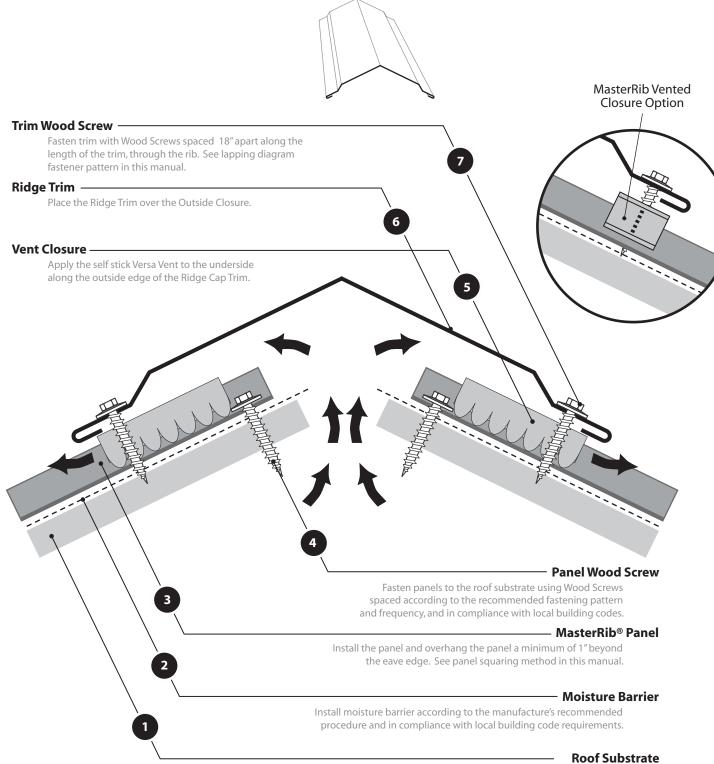






## **Vented Ridge**

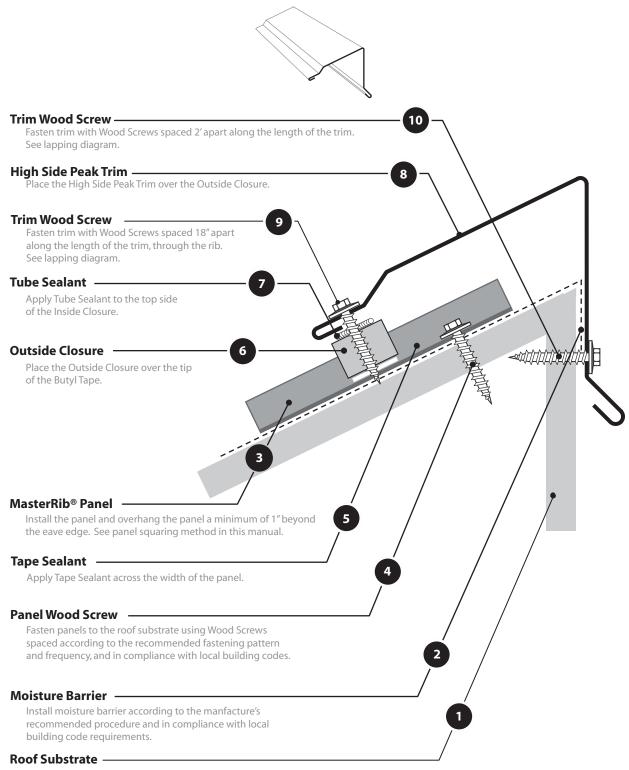
Numbers indicate suggested trim assembly sequence.





## **High Side Peak**

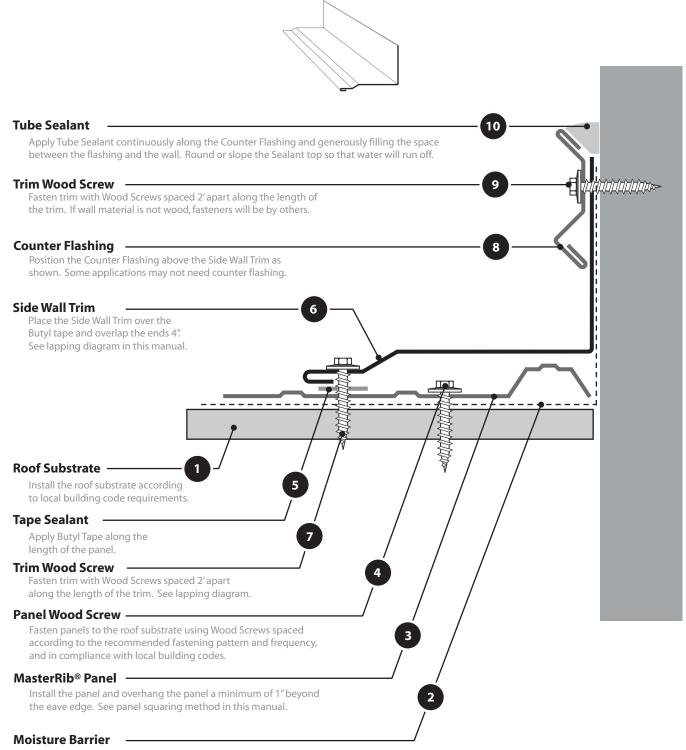
Numbers indicate suggested trim assembly sequence.





#### **Side Wall**

Numbers indicate suggested trim assembly sequence.

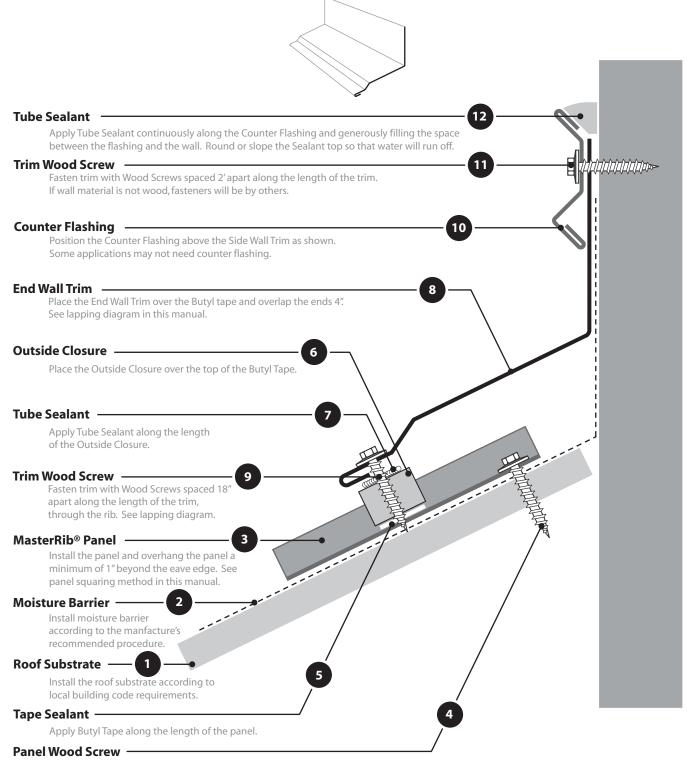


Install moisture barrier according to the manfacture's recommended procedure and in compliance with local building code requirements.



#### **End Wall**

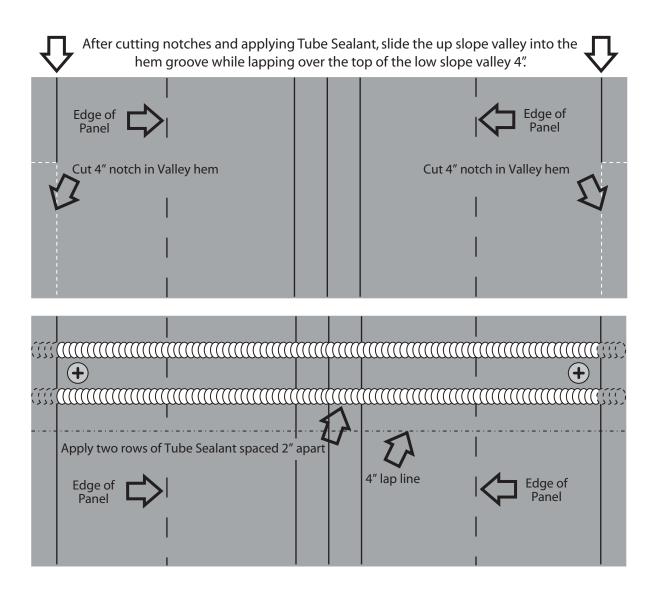
Numbers indicate suggested trim assembly sequence.

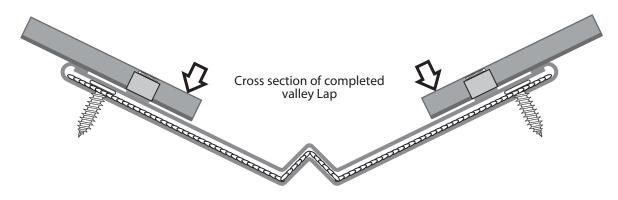


Fasten panels to the roof substrate using Wood Screws spaced according to the recommended fastening pattern and frequency, and in compliance with local building codes.



## **Valley Lapping**

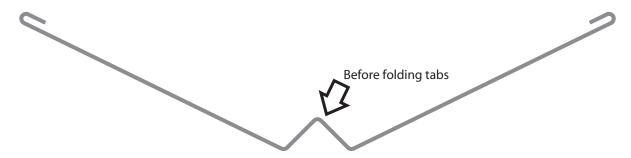


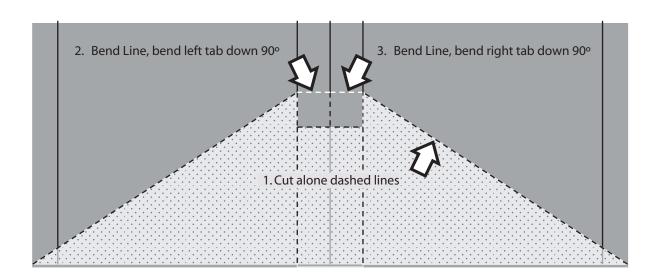


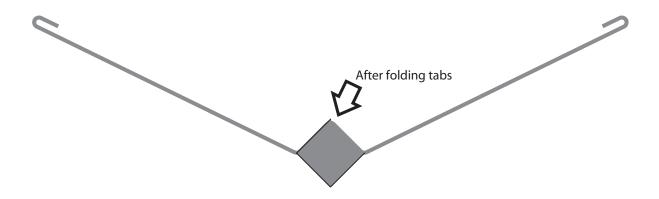


# **Valley Cutting at Eave**

Valley starter cutting diagram with water diverter tabs.

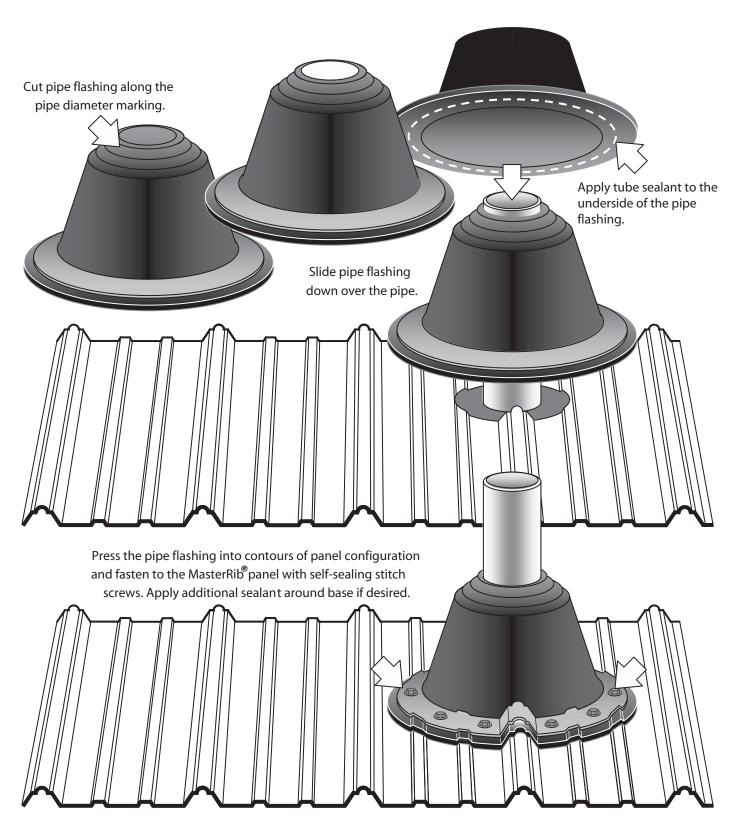








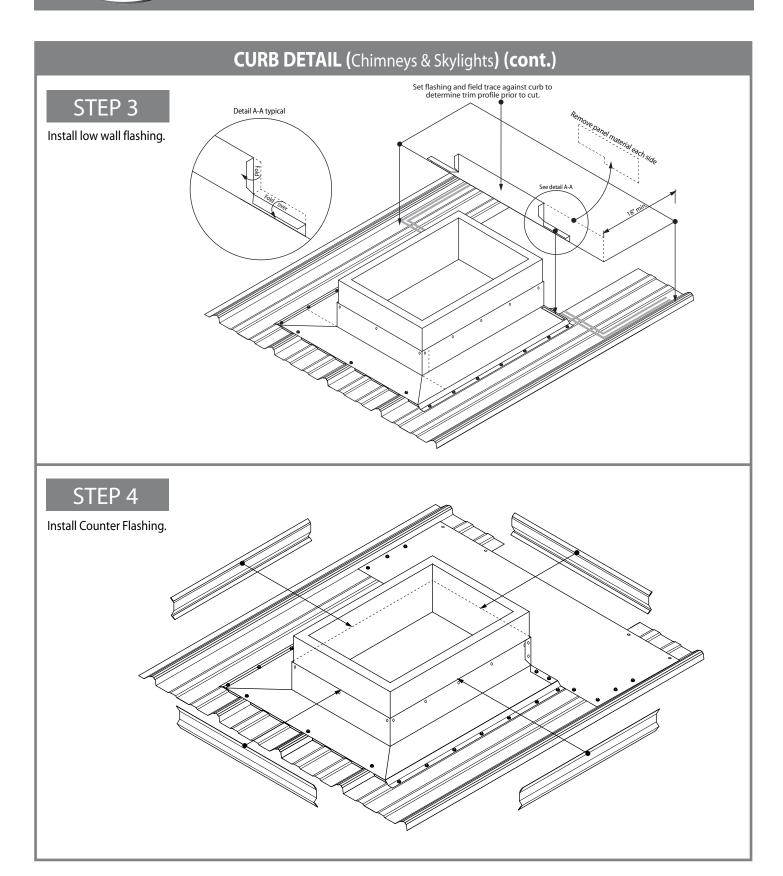
# **Pipe Flashing**





# **CURB DETAIL (Chimneys & Skylights)** STEP 1 Install panels around curb. Remove panel naterial to outside Curb framing and underlayment not shown for clarity. Curb must be properly wrapped with approved membrane underlayment prior to installation of panels/flashings. Note: STEP 2 Apply Headwall and Sidewall flashings. Alternate pre-notched highwall flashing



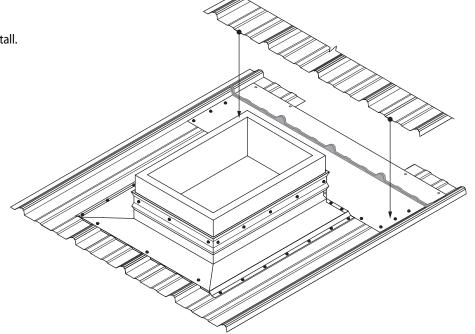




# **CURB DETAIL (Chimneys & Skylights) (cont.)**

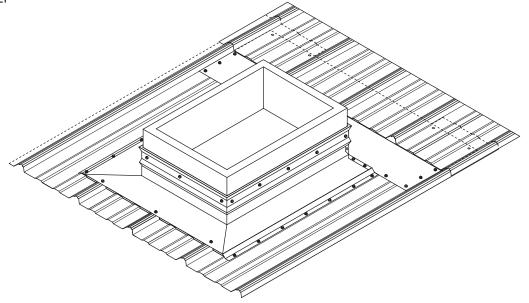
## STEP 5

Install foam closure and prepare for upper panel install.



# STEP 6

Fasten upper panel over Low Wall flashing.





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