



**MODERN**  
METAL ROOFING

**METAL SHAKE SERIES INSTALLATION MANUAL**



## **General Roofing Instructions**

Failure to follow these instructions may void the product warranty. Please follow all local building codes, which may require additional application techniques beyond these instructions. In such cases, please submit addendums to the installation manual in writing and mailed by certified carrier.

Do not use conflicting metals or unapproved accessories with this product.

## **Roof Slope**

Modern Metal Roofings' Shake panel profile must be installed on a slope 4:12 or greater. If homeowner/contractor chooses to install product, as an aesthetic appeal, to slopes lower than 4:12, the product must be installed over 2 layers of an approved, hot temp metal self-adhering underlayment and submitted for approval or warranty may be voided.

## **Fasteners**

Screws: Use 4 corrosion resistant fasteners in the butt end for standard installation method, not smaller than a #9 hex head (refer to fastening pattern for coastal installations). Make sure they are long enough to penetrate the deck by a minimum of 1/2". Recommended length is at least 1 1/2" long. (2" in FL). This is for all full panel installations.

**NOTE:** The recommended drill type should be a drywall drill with a clutch. This will prevent over tightening the fasteners and avoiding paint loss on the fastener head.

## **Underlayment**

MMR requires all certified contractors to use an approved synthetic underlayment or an approved hi temp metal approved self-adhering underlayment for every installation. Any deviation of this installation must be submitted by certified carrier or electronic means for approval.

## **Re-Roofing**

Panels may be installed over existing asphalt shingles or applied over existing spaced sheathing provided the space between the boards is filled (as necessary) to provide a base for fastening. Please check local building codes to determine how many layers this metal roofing product can be installed over, as it can vary from state to state.

When installing over existing asphalt shingles, cut-back the existing roofing flush with the eave and rake edge. If local code requires edges to be cut further, cut what is necessary and install a self-adhering membrane. In situations where code allows installing over multiple layers of asphalt roofing, follow the local code.

## **New Construction**

MMR panels are to be installed over solid decking. Please check with local building codes to determine which substrates are acceptable in your region.

## **Installing in Coastal Areas**

The Metal Shake Series is approved for use in Florida, in either a standard or coastal application fastening method. Per engineering testing for Florida approval, our standard Metal Shake installation fastening method was certified at 79 P.S.F. for uplift, while our coastal application rated at 146 P.S.F.. It is the installation contractor's sole responsibility to use the correct installation method, relative to local building codes and best practices. Refer to the enclosed diagrams.

No warranty is provided for smooth or powder coat panels on any steel substrate that is subjected to sea spray or installed on property located 1,500 or fewer feet from any salt-water environment. Materials in the vicinity of any coastal environment must be subjected to two documented wash cycles per year, using clean (sweet) water. MMR has a .032 aluminum installation available for areas closer than 1,500 feet to saltwater.

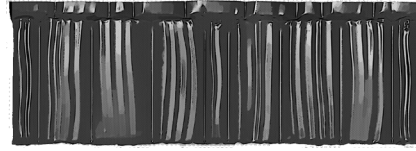
In coastal areas, the panels around the perimeter must be photographed, documented, and submitted upon installation to be covered by warranty. Please send pictures by certified carrier or electronic means within 30 days of installation or the warranty may be voided.

## **MODERN METAL ROOFING SHAKE SERIES ACCESSORIES**

METAL SHAKE SERIES PANEL

25.09 PIECES PER SQUARE

SMOOTH\POWDER COATED FINISH



RIDGE/RAKE COPING

14.5" EXPOSURE

SMOOTH\POWDER COATED FINISH



3.5" EAVE TRIM

10' LENGTHS

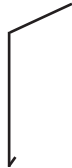
SMOOTH\POWDER COATED FINISH



5" EAVE TRIM

10' LENGTHS

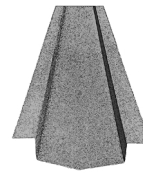
SMOOTH\POWDER COATED FINISH



VALLEY PAN

10' LENGTHS

SMOOTH\POWDER COATED FINISH



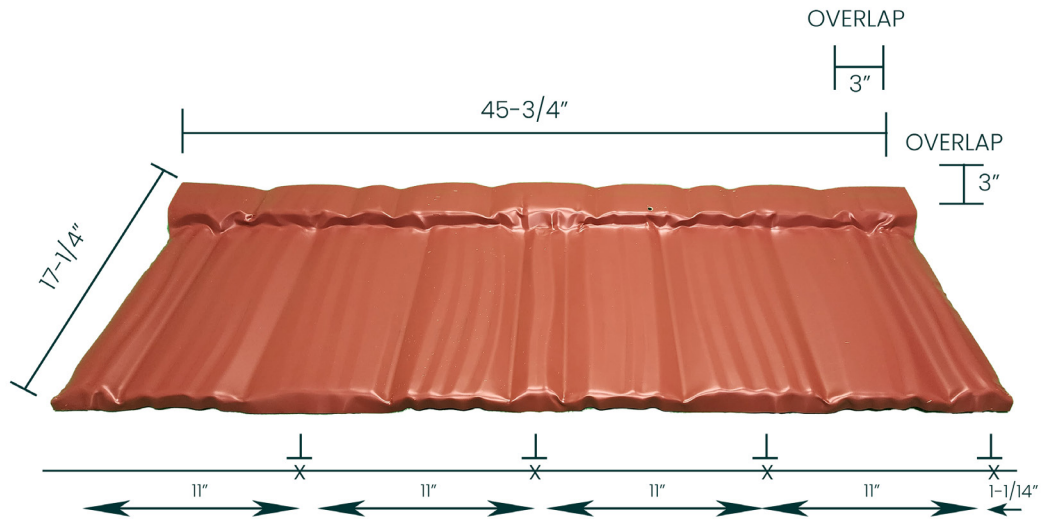
## Florida Approval #41831.2 Standard Installation

Refer to the below diagram for basic panel dimensions and fastening pattern approved by the state of Florida for application in non-coastal zones. For coastal areas, refer to the diagram on the next page for the approved fastening pattern.

### METAL SHAKE SERIES FL 41831.2 STANDARD INSTALLATION

PANEL SCREW PATTERN TO BATTEN  
 FOR DESIGN UPLIFT PRESSURE - 79 PSF

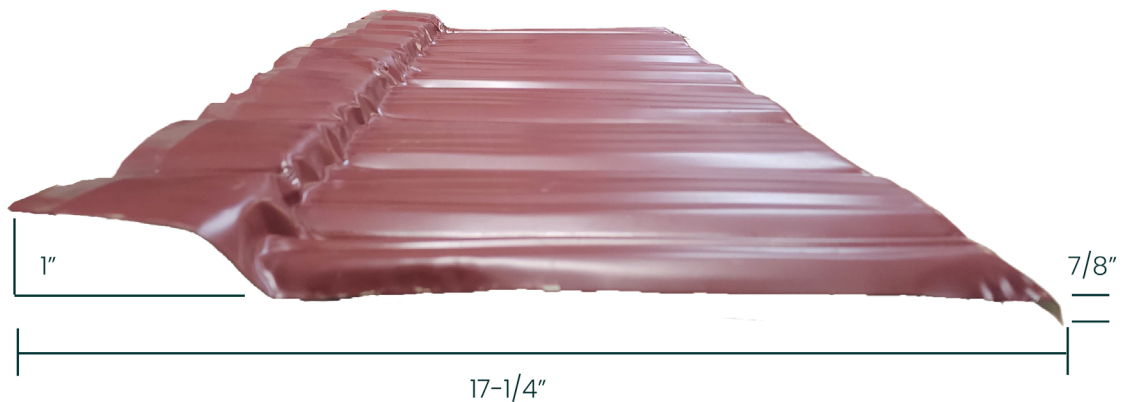
(HALFWAY BETWEEN THE JOIST, SPACED 24" ON CENTER, WITH A SCREW IN EACH JOIST)



PLAN VIEW

ALL FASTENERS #9 X 2" LG. S.D. FASTENERS WITH METAL

### TYPICAL SIDE ELEVATION VIEW



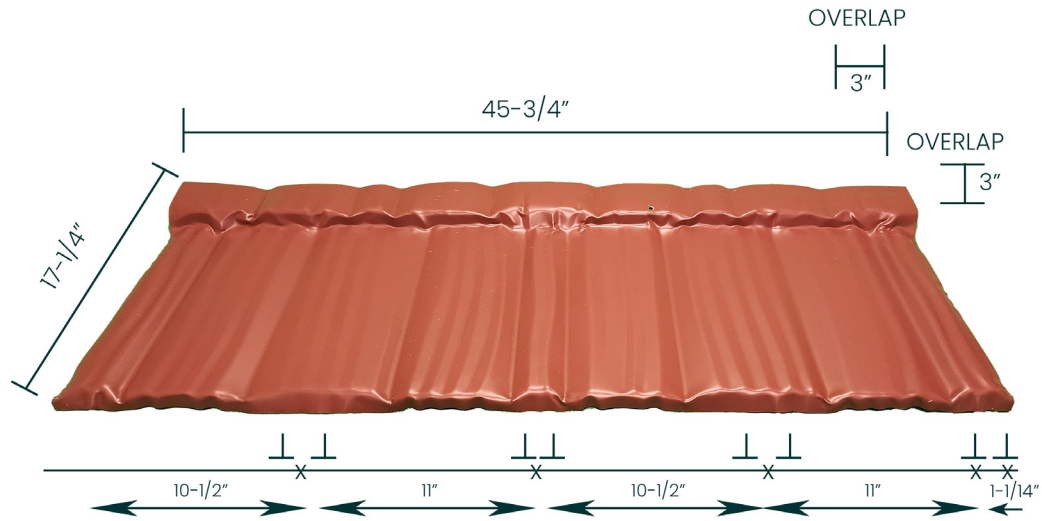
## Florida Approval #41831.1 Coastal Installation

Refer to the below diagram for basic panel dimensions and fastening pattern approved by the state of Florida for application in coastal zones. For non-coastal areas, refer to the diagram on the previous page for the approved fastening pattern.

### METAL SHAKE SERIES FL 41831.1 COASTAL INSTALLATION

PANEL SCREW PATTERN TO BATTEN  
 FOR DESIGN UPLIFT PRESSURE - 146 PSF

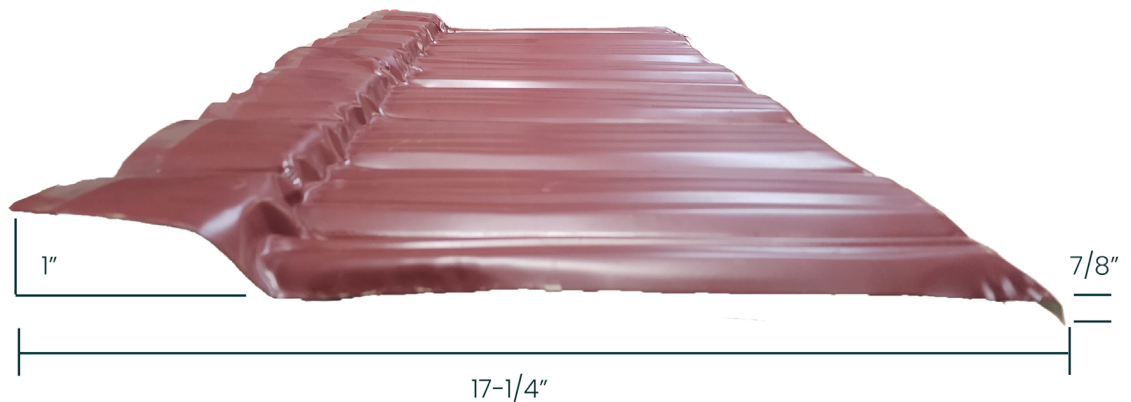
(HALFWAY BETWEEN THE JOIST, SPACED 24" ON CENTER, WITH A SCREW IN EACH JOIST)



PLAN VIEW

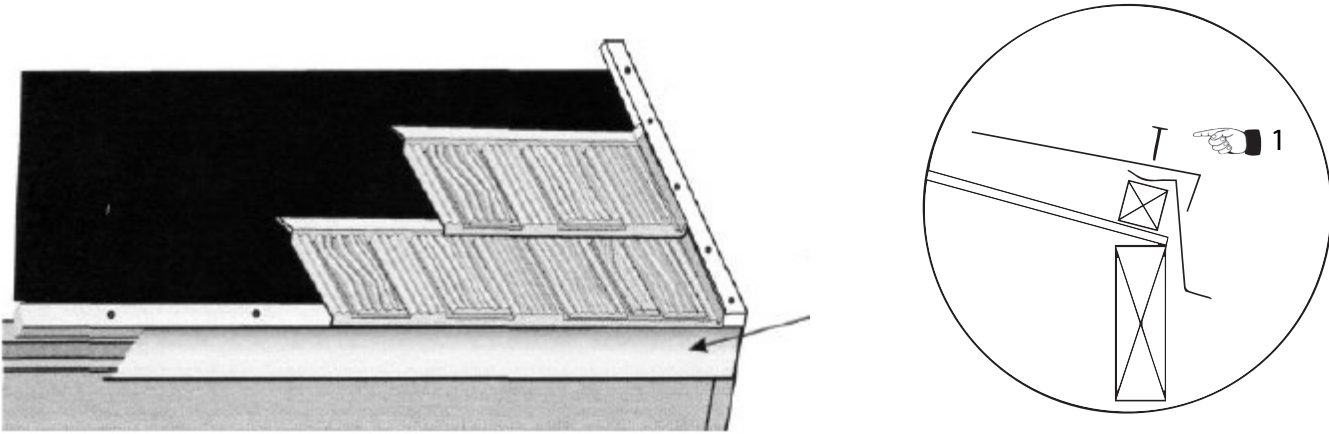
ALL FASTENERS #9 X 2" LG. S.D. FASTENERS WITH METAL

### TYPICAL SIDE ELEVATION VIEW



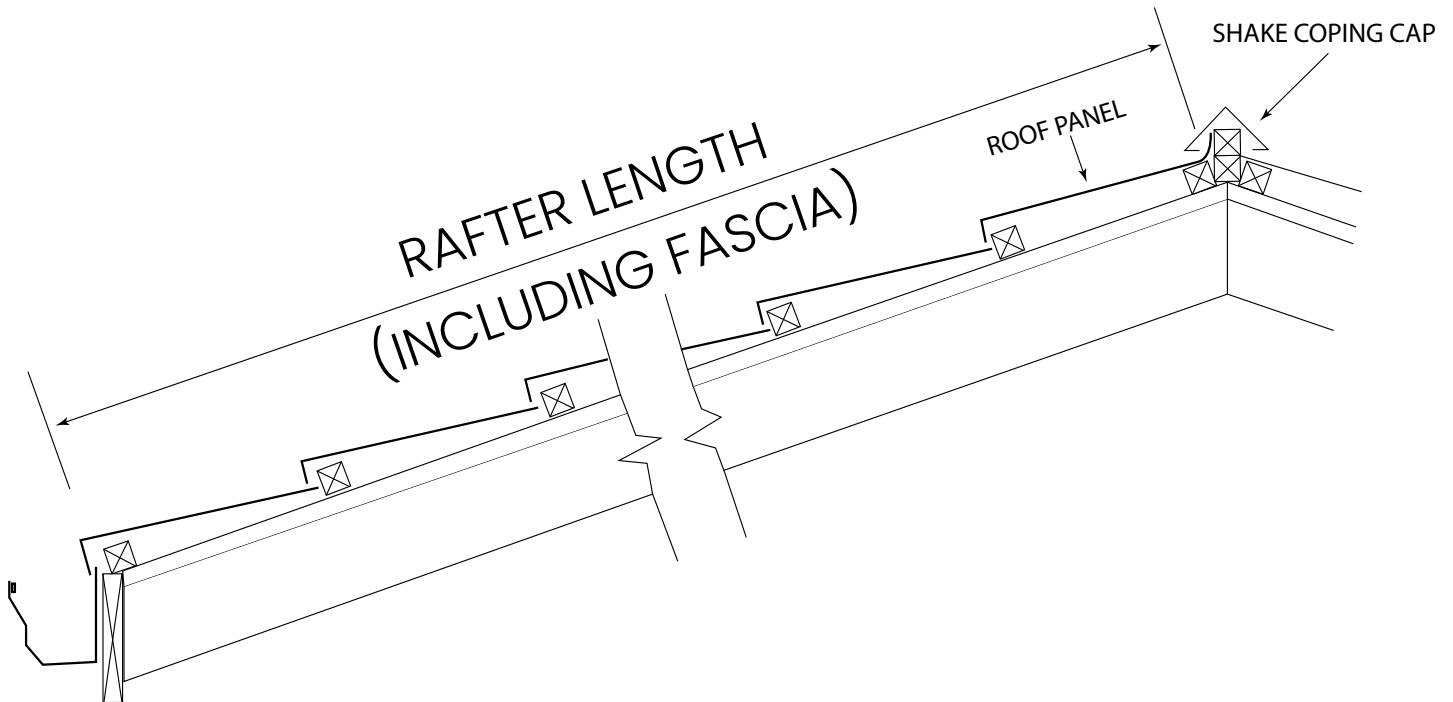
## Eave Starter With Battens

Face screw the eave trim over the horizontal 2" x 2" batten system anywhere water would run in to a gutter. Install the eave trim over the first batten or extended fascia board. Fasten down through the top flange, at a minimum 24" on center. In high wind areas, place additional fasteners in the face as required, being careful not to over tighten and buckle the metal.



## High Wind Detail for Eave Fascia

First determine the pitch of the roof, then hold a straight edge so the outer edge of the first batten is on the same line as the fascia board. This will allow the installer to fasten the panel from the front, keeping the fastener out of water channel and increasing wind uplift resistance.



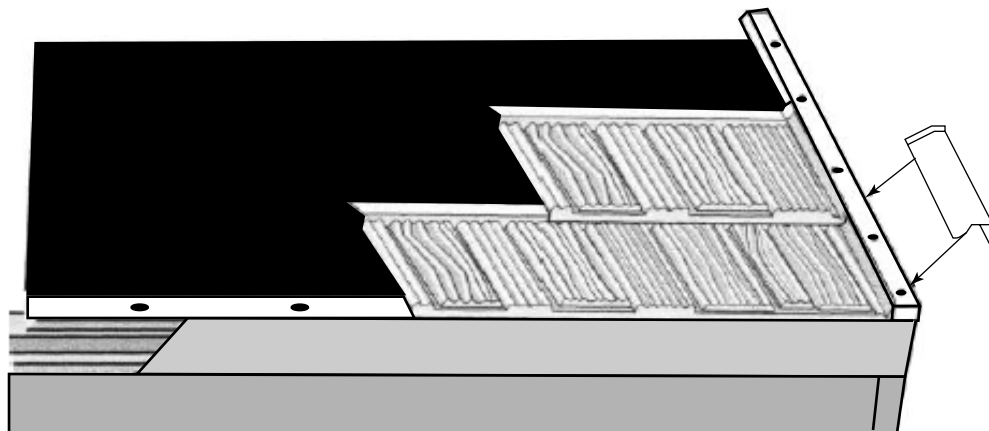
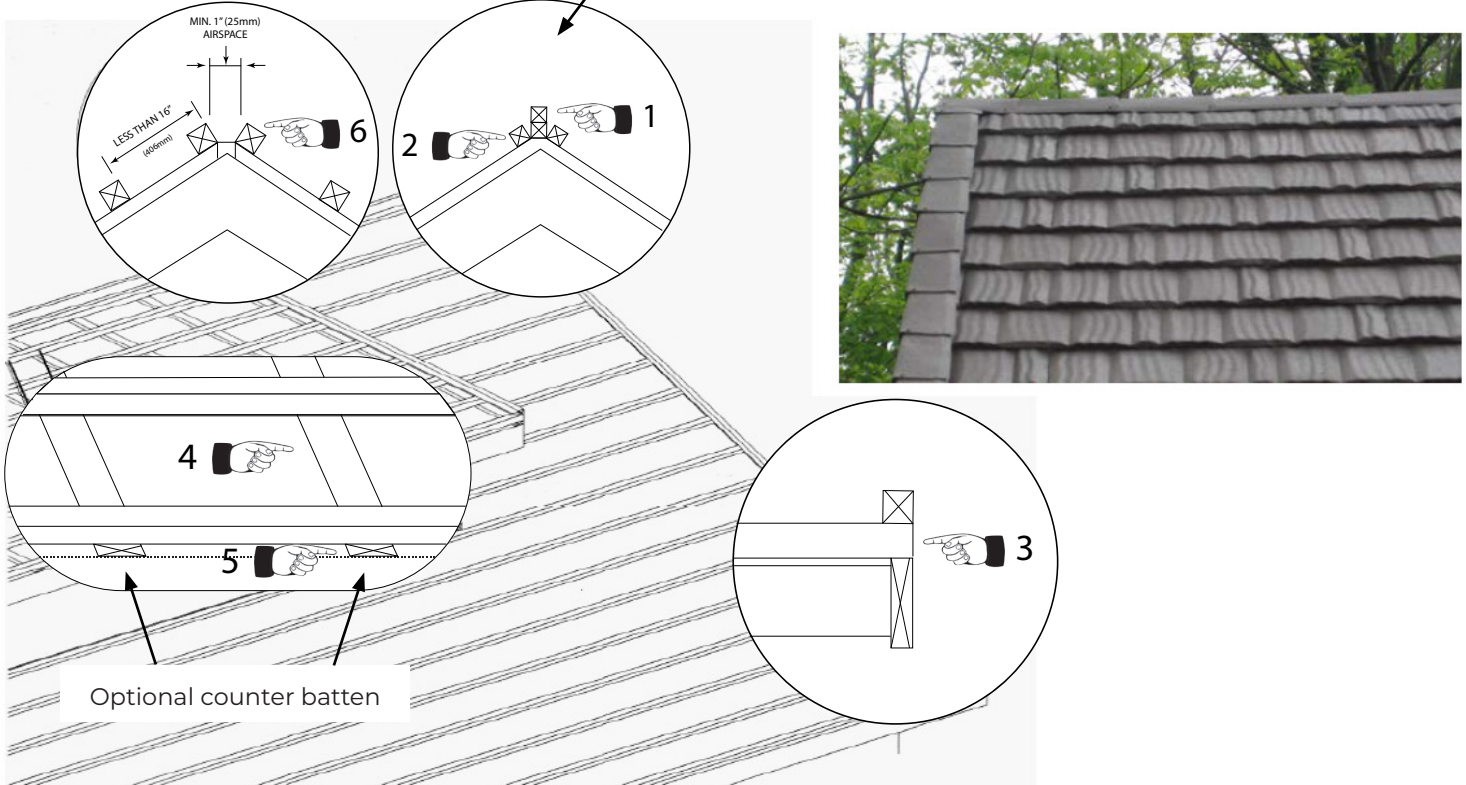
**NOTE:** It is critical that the first row is straight, regardless if the fascia board is or not.

## Ridge and Rake Coping

Upon installation of the 2" x 2" battens horizontally, a 2" x 2" should be ran vertically up all rakes, creating an area for the rake coping to be fastened. Shake panels should be bent up parallel with the rake batten, then an MMR approved fastener should be installed on both sides of the rake coping in the designated areas.

At the rakes, top courses will need to be bent up and possibly cut to allow proper fitting. If ridge ventilation is required, please see option 1 for spacing of the battens. If ridge ventilation is not installed, double up the 2" x 2" battens along the ridge and fasten the ridge coping with a MMR approved fastener.

Use (2) 2" x 2" battens on the ridge, unless the slope exceeds 10:12, which requires a 3rd 2" x 2" batten.



## Roof Penetrations

Roof penetrations should be finished by installing an approved pipe jack with a MMR approved sealant. Sealants can be ordered in specific colors to match boots/roofing color.

### 1. Select Size and Trim to Fit

Choose an MMR approved master pipe flashing with an opening at least 20% smaller than the pipe diameter. If necessary, trim the opening to fit the pipe.

### 2. Installation

Slide MMR approved master pipe flashing down over the pipe snugly.

### 3. Forming

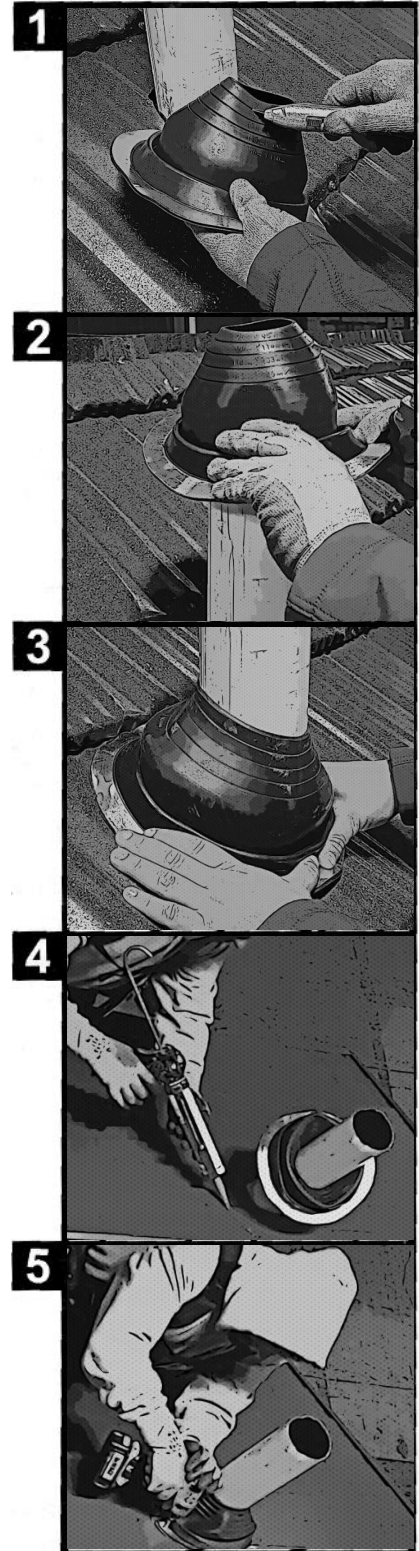
Press master pipe flashing down, bending it to conform to the roof profile or any roof irregularities.

### 4. Apply Sealant

Apply MMR approved sealant between the roof panels and the master pipe flashing boot.

### 5. Fasten

Use MMR approved fasteners to complete the sealing. When installing the fasteners in the base, spacing may not exceed 1.5".

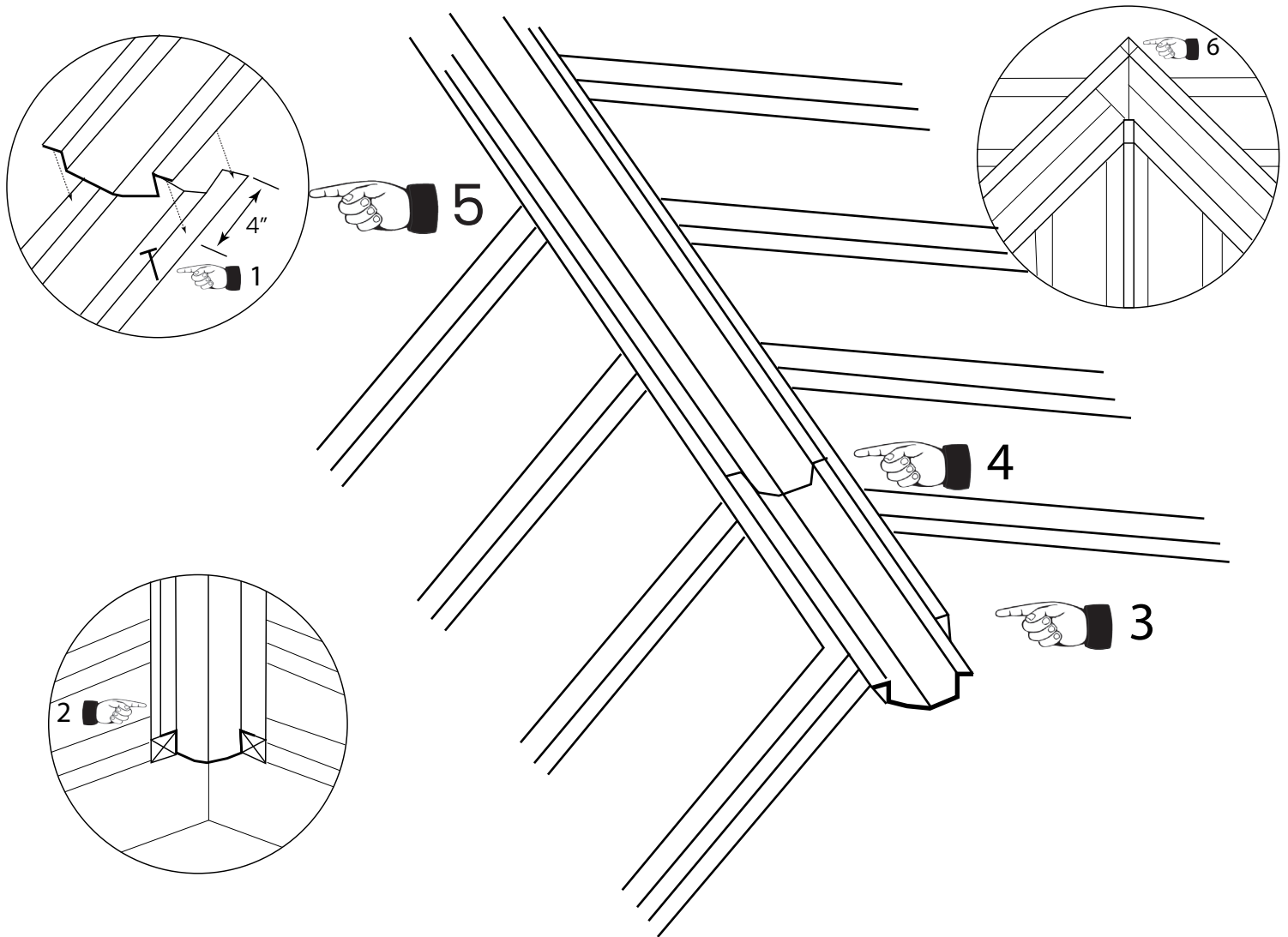




## Valley Installation

The MMR valley flashing is laid in between the two valley battens and fastened with approved fasteners, down through the top flange (note 1). Where the valley terminates at the fascia, the valley flashing should extend past the fascia a minimum of 3" then scribed to the fascia (note 2).

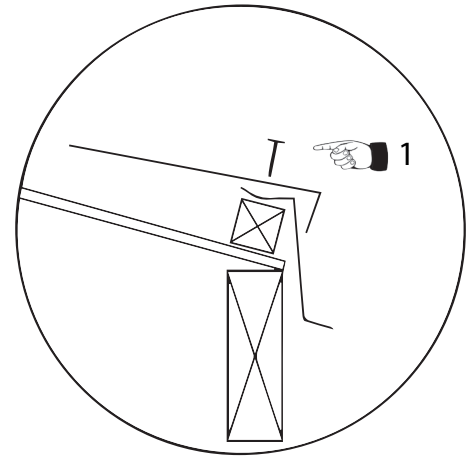
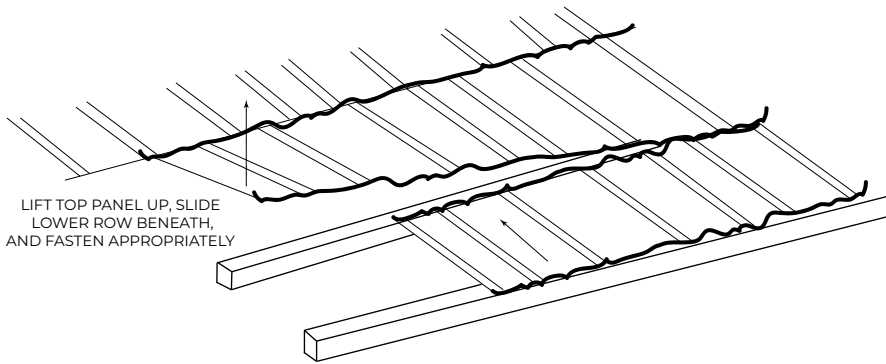
Where the valley terminates onto a lower roof, the lower roof panel should be laid through (note 3), with the valley flashing transitioning out on top of the lower panel, preferably in a lower part. It is generally wise to start with a shorter piece of valley to allow for this transition (note 4). The valley flashing should be lapped a minimum of 4" (100mm) and set in a bead of approved sealant (note 5). Junctions in the valleys should be formed by the standard sheet metal practice of notching and folding each piece in opposite directions, again setting in a bead of sealant (note 6).



## Field Panels

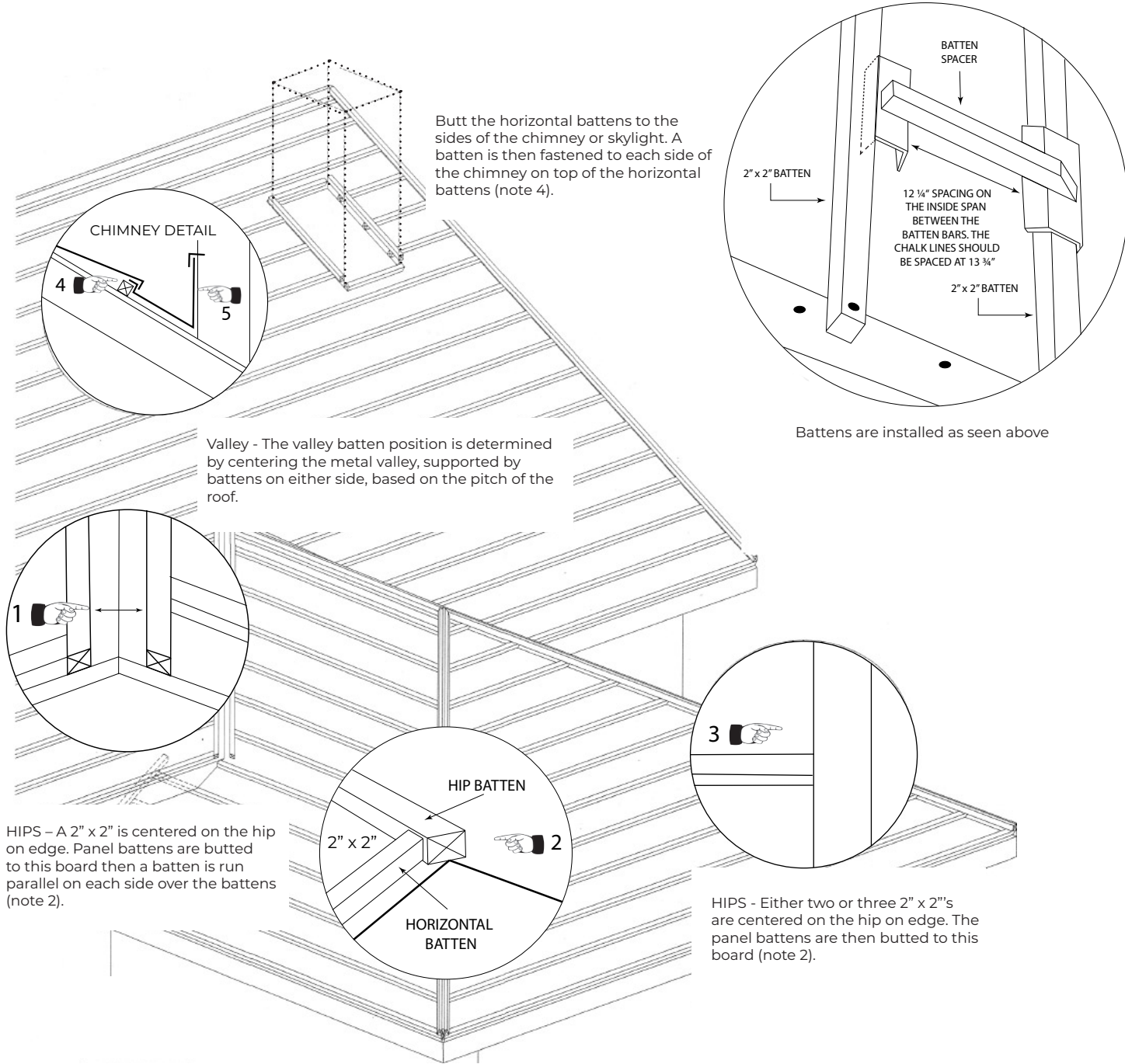
Start your first Shake panel from left gable (note 3), this will place your bends in the valley of the profile. On a gable-to-gable roof, adjust this so that each gable is identical. The above will ensure that you are handling practical size pieces, which will help eliminate waste. This measurement is to be a minimum of 4 1/2" (114 mm) for hips and valleys from the closest point.

The MMR panels only lap left over right, but panels may be laid right to left by lifting and tucking under (this is slightly more time consuming). The panels are fastened up through the front lip in the proper location. The size, type, and quantity of fasteners are a requirement of the installation method (standard or coastal).



## Batten Installation

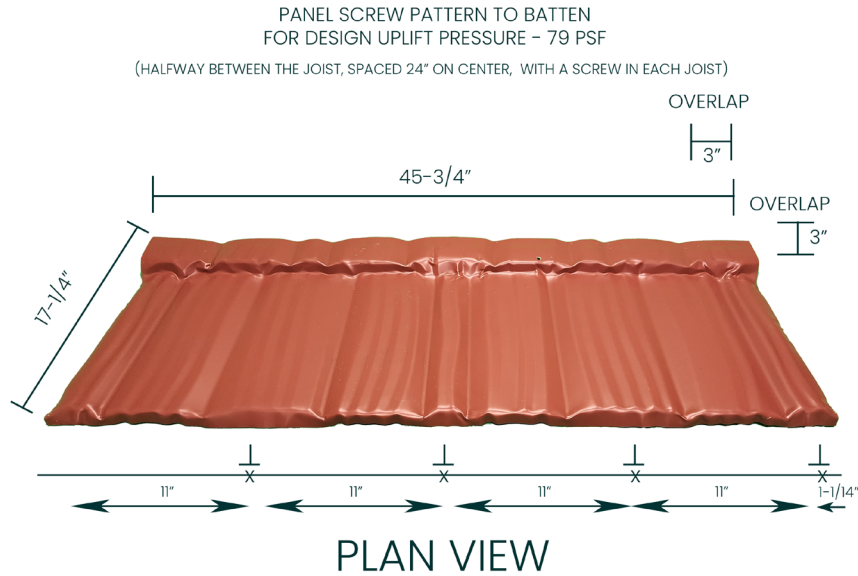
Preparation work with the MMR approved underlayment and battens should be done before any panels are installed on the roof. A batten spacer can be used to efficiently layout the 2"x 2" battens for the field panels, valleys, hips, and ridges.



## Fastener Placement

Each panel is installed with the fastening pattern shown below, using MMR approved screws that are offered in specific colors to match the paint/powder coating of the Shake panels.

The Shake panel is designed to be installed from the top of the roof, working down. This method minimizes foot traffic, as well as making the installation process safer on steeper pitches. If an installation site is designed for coastal areas, refer to the coastal installation method, shown on page 4.

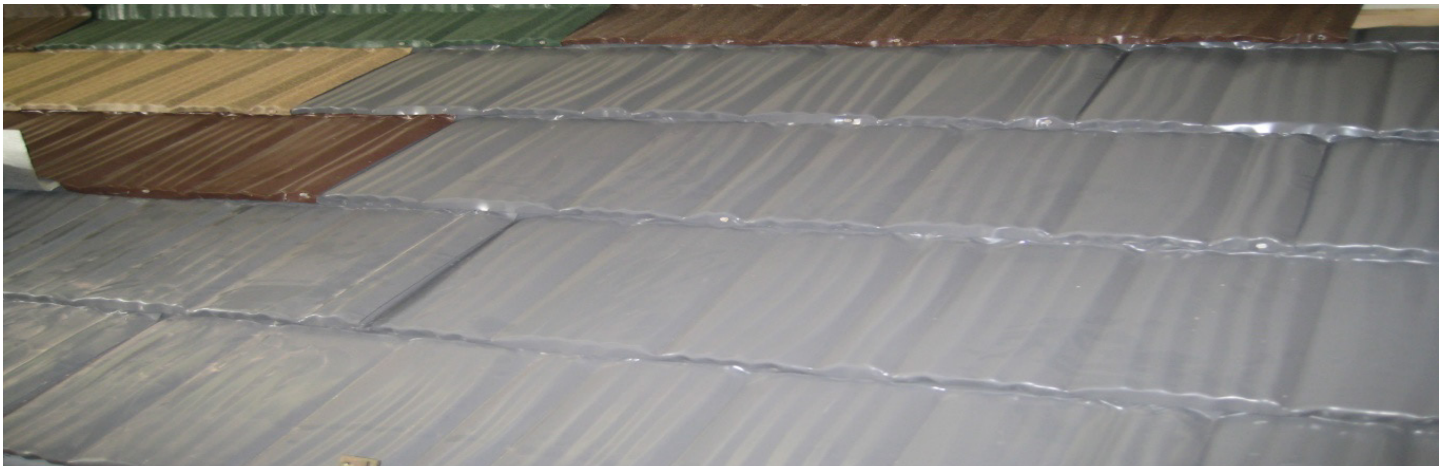


ALL FASTENERS #9 X 2" LG. S.D. FASTENERS WITH METAL

FIRMLY HOLD PANEL DOWN WHEN FASTENING ON THE ROOF. SCREWS WILL BE INSTALLED AT HIGH POINTS ON THE BUTT OF EACH PANEL, AS IT OVERLAPS THE PANEL IMMEDIATELY BELOW. BE CAUTIOUS NOT TO OVERTIGHTEN THE FASTENERS.

## Panel Stagger

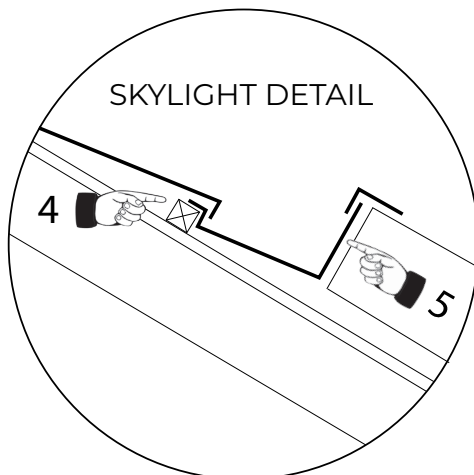
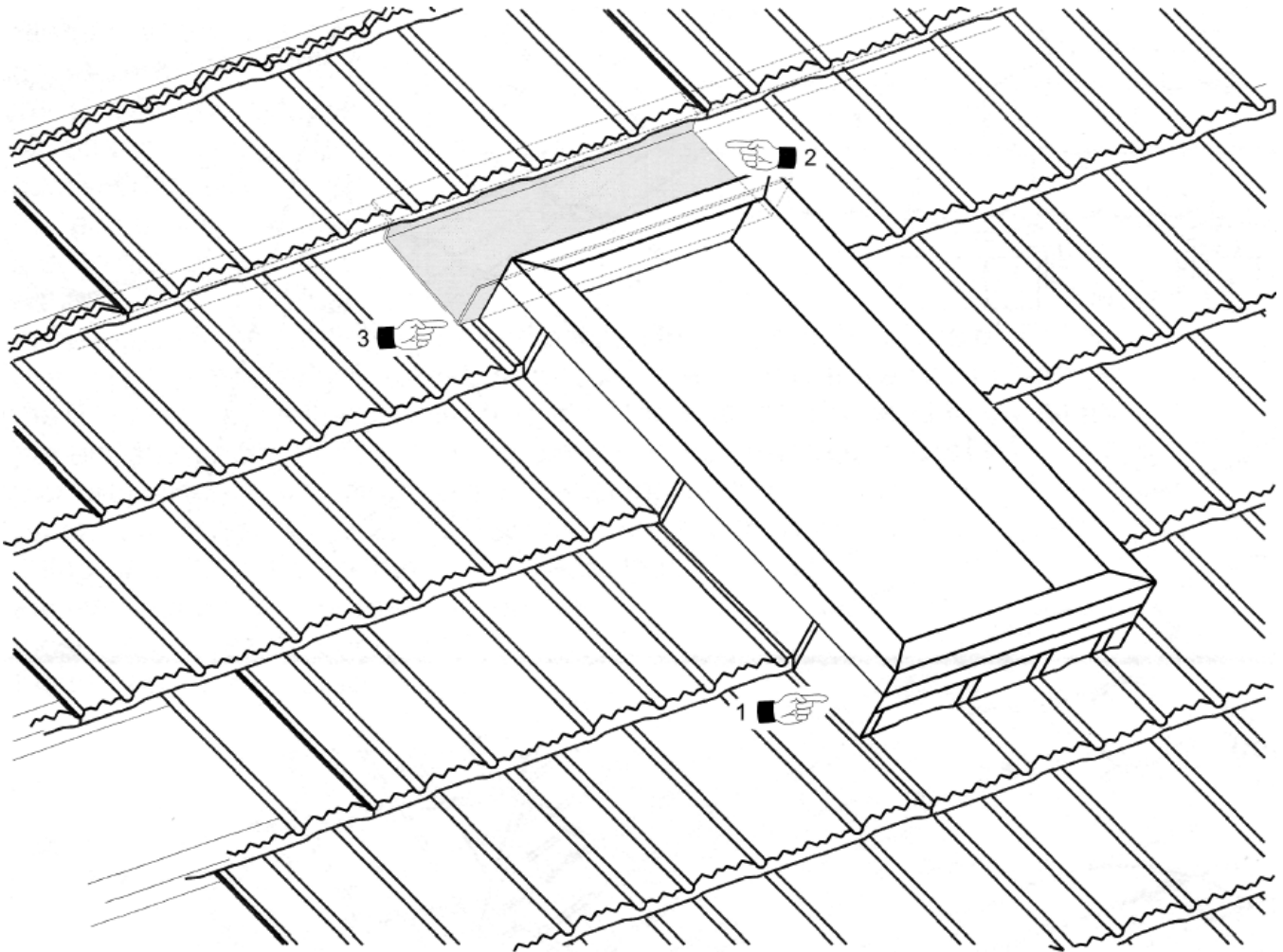
Panels should be installed with a 3-stage stagger process, which will minimize the patterning effect.



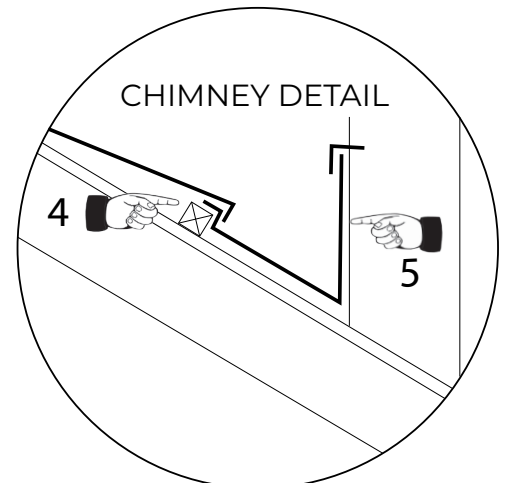
## Skylight/Chimney Installation & Flashing

The Shake panels are bent up against the sides and bottom of the skylight, to a sidewall and head wall condition (note 1). They are flashed over with either the skylight flashing or a counter flashing, made to fit from all-purpose flashing.

The partial panel directly above the skylight is omitted and pan flashing is formed from all-purpose flashing. This pan flashing is made with a back shelf, similar to a Shake panel, and returning up the full height of the skylight (note 2 & 5).



Fabricate the pan flashing past each side of the skylight (a minimum of 4") and bed the joint with the Shake panels in approved sealant (note 3). Cut and fold the protruding corners of the pan flashing around the sides, using standard sheet metal practices and seal. Use an approved closure strip to seal the top shelf, where the panels overlap the top of the pan flashing (note 4).



## **Tools of the Trade**

These are the recommended tools that every MMR certified installer will work with on a daily basis when installing the Metal Shake Series. However, more tools may be necessary for installation conditions on your project.





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