TEK INDUSTRIES

# HIGH COUNTRY



METAL SHAKE PRO



# INSTALLATION MANUAL


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# HIGH COUNTRY® METAL SHAKE

The **High Country® Metal Shake** panels are designed to provide the decorative properties of traditional wooden shake shingles and asphalt shingles while incorporating the benefits and durability of metal roofing.

Each panel is made with a 28 gauge Zinc-aluminum coated steel core that offers high heat reflectivity and high corrosion resistance in many types of environments. The Al-Zn coated steel core then has an acrylic resin protective coating applied that creates a strong bond between the steel core and the stone coating. Finally the panel is coated with a protective clear acrylic overglaze which increases brightness, bonding strength and assures a long lasting finish.

The side, top and bottom overlaps between each panel prevents water leakage. The ridges on the side underlap of each panel stop water from overflowing through the overlap and thus redirecting the water on to the center of the panel towards the eaves.

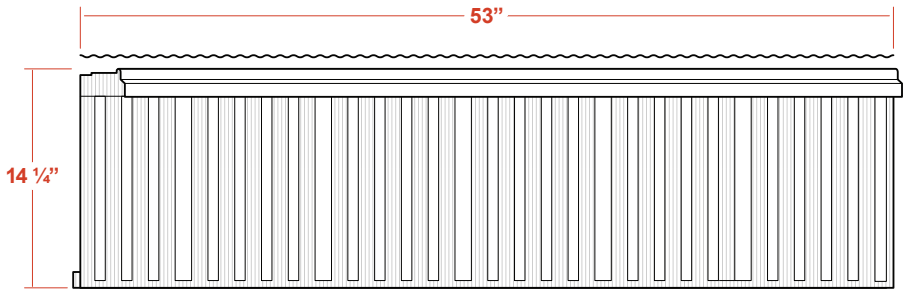


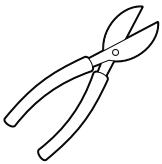

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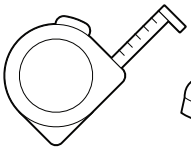
# TOOLS REQUIRED





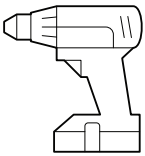
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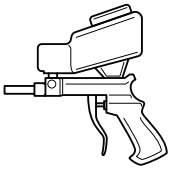
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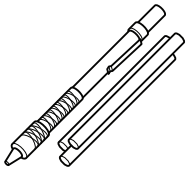
SAFETY SHOES



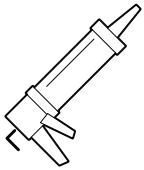
SCREW GUN



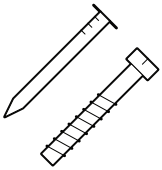
SAND BLASTER GUN



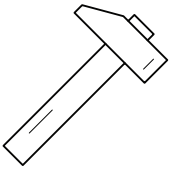
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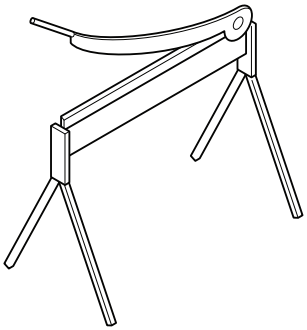
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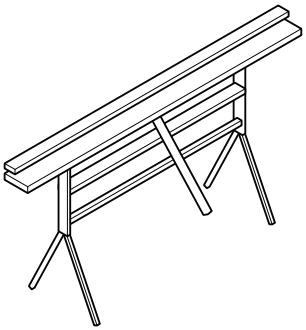
NAILS, SCREWS



HAMMER



CUTTER

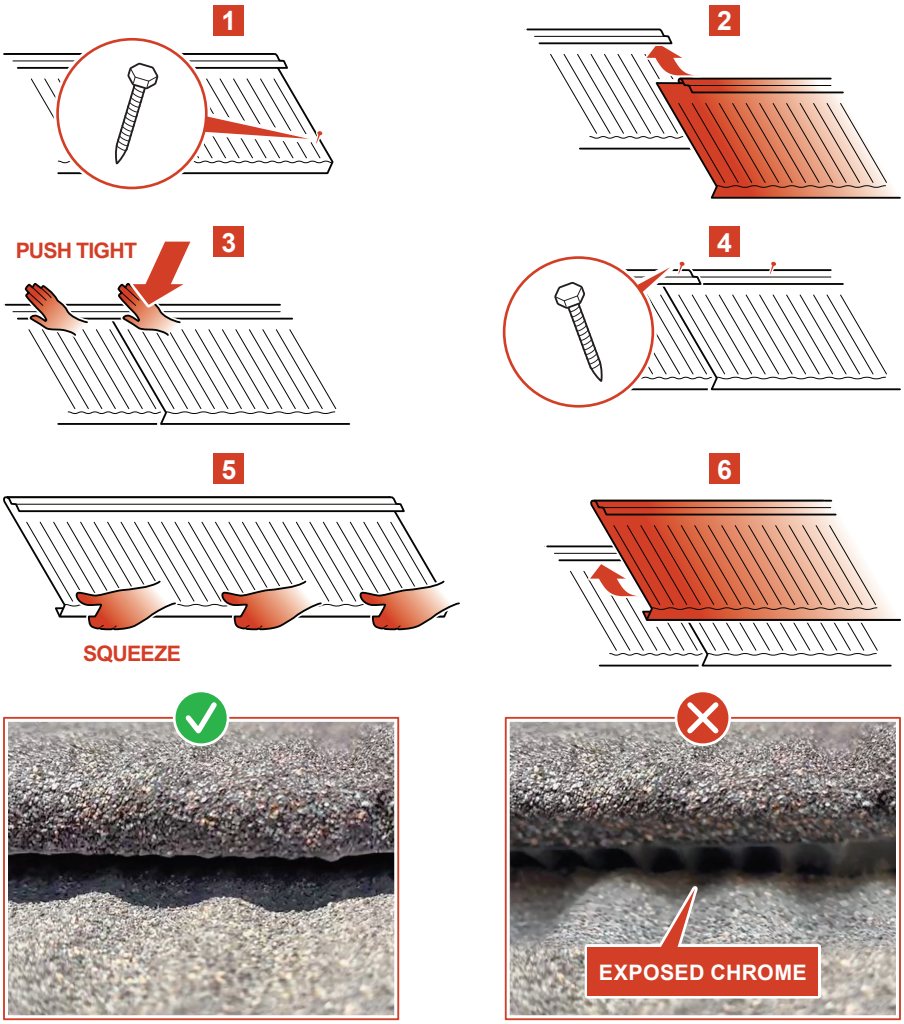


BENDER



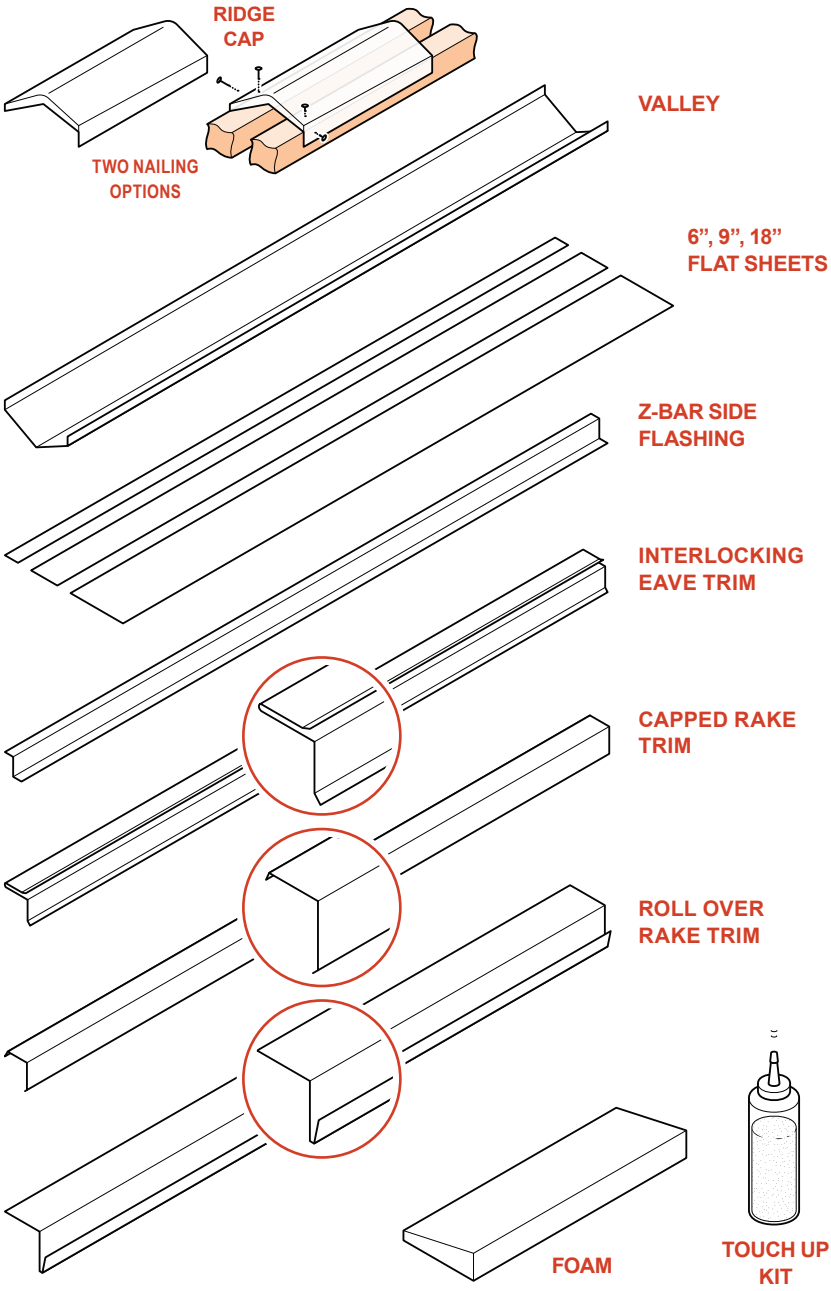
DO NOT USE ELECTRIC CUTTER!

**INSTALLERS ARE REMINDED TO WEAR THE PROPER GEAR WHEN HANDLING OBJECTS WITH SHARP EDGES**




You can find this and other tutorials on our website.

www.tekroofingsystems.com/video-tutorials/


RIDGE CAP
TWO NAILING OPTIONS
VALLEY
6", 9", 18" FLAT SHEETS
Z-BAR SIDE FLASHING
INTERLOCKING EAVE TRIM
CAPPED RAKE TRIM
ROLL OVER RAKE TRIM
FOAM
TOUCH UP KIT

***Not following the care and recommendations will void the warranty.***

Products should be installed in accordance with the following guidelines established by TEK® Industries:

- DO NOT use accessories that contain copper or lead with the steel roof system, as they are incompatible metals and will void the warranty. This includes direct contact products such as accessories and situations where copper/lead drains onto the panels.
- Physical contact with industrial or agricultural corrosive materials should be treated as corrosive to the steel core of the panel.
- A slope of 3/12 or more is required to install this product.
- When handling the product, be careful not to deform panels.
- Always wear gloves when working with metallic products.
- When installing TEK® roofing panels, care should be taken to avoid excessive friction between panels. This could damage the durability of the stone coating.



- Store the product in a dry and ventilated area.
- Avoid stocking the product in direct contact with the ground or floor over large periods of time. Panels and accessories should always be kept off the ground on wooden pallets.
- If stored outside: Store product on a firm surface and protect from potential damage. Allow for water to drain off of the panels and protect it from being blown by wind. Extra care must be taken to protect from moisture damage.
- A canvas tarp is best to cover materials to ensure proper airflow. DO NOT use airtight covers or plastic tarps as they create and retain condensation.
- Do not store detergents, solvents, acidic materials, or alkali such as concrete or plaster with TEK® products to avoid unwanted chemical reactions and corrosion.
- It is recommended to store products near the place where they will be installed to avoid damage from handling.

- TEK® is designed to withstand most environments, but the product life can be extended with proper maintenance.
- Immediately after and/or during installation, remove any steel particles that may remain on the panels due to drilling and cutting. These particles will rust and might damage or stain the panels
- It is recommended that those working on the roof use rubber soled shoes to avoid damaging the product. Foam inserts are used to increase walkability
- It is recommended to clean the roof surface every six months when installed in a highly corrosive environment
- Always carry out any work on the roof deck using all safety measures and wooden planks for weight distribution.

It is important to carefully read each of the recommendations in this installation manual before starting the installation process.

For the most current and up-to-date installation instructions go to
**www.TEKRoofingSystems.com**

***TEK Industries assumes no liability for either incorrect installation of its products, misinterpretation of this manual, or personal injury that may occur as a result of installing such products.***

The installation methods demonstrated are not the only way to install TEK products, but have been developed as a reference guide using acceptable, tested and proven methods. Installers should use their professional judgement at all times and tailor such methods where appropriate to suite each installation of any applicable local building codes or ordinances. Due to the fact that TEK has no control over the actual installation method used, no warranty is expressed or implied relating to installation of TEK products. TEK's liability with respect to TEK products is limited exclusively to its standard written limited lifetime warranty.

**It is the responsibility of the installer to adhere to local building codes.**

**Structure:** Installation over existing roof is limited to a maximum of one existing layer of composition shingles, built-up roofing, or roll roofing applied over an existing solid deck. Inspection of existing roof deck must be made prior to the installation of the roof panels.

**Decking:** The condition of the existing roof deck must be acceptable to receive the roof panels before the roof panel installation proceeds.

**Underlayment:** A layer of underlayment over the existing roof covering is not required. A minimum underlayment of #30 (ASTM D226) felt or synthetic underlayment is required on all new construction and tear-offs. Always check local building codes prior to installation.

**Slope:** Should not be installed on roofs with roof slope less than 3/12

**Sealants:** A elastomeric, polyurethane type sealant is recommended.

**New roof:** TEK® panels can be installed over battens or directly to the deck.

Prepare the wooden deck to be level and secure. Cut out decking in areas where you plan to install ridge vents and install #30 felt or equivalent synthetic underlayment on the decking. Always check local building codes for additional requirements.

**Re-roofing:** TEK® panels may be installed over an existing asphalt shingle roof (maximum of 1 layer). Follow the steps below before installing TEK® panels and accessories over shingles:

**Step 1:** Cut any existing overhang flush with the existing fascia. If necessary, build up the first run at the eave using 1"x4"s, 2"x2"s or foam inserts until the first row is flush with the rest of the roof.

**Step 2: (optional)** Install a new layer of underlayment over the entire roof area. #30 felt or equivalent synthetic underlayment is recommended. Always check local building codes, additional materials such as ice and water shield might be required for your area.

**Step 3:** Install TEK® panels following the installation procedure described in this manual. Be sure to use screws or nails that are long enough to correctly fasten the panels and accessories to the deck or battens.

***Recommended fasteners for layover: No.10 12x2-1/2" hex head or a hot dip 8D ring shank nail.***

**Tear-offs:** If a complete tear-off is required, make sure to completely remove all pre-existing roofing materials in order to work on a leveled surface. Clean the deck thoroughly and install a layer of underlayment before installing the new product.

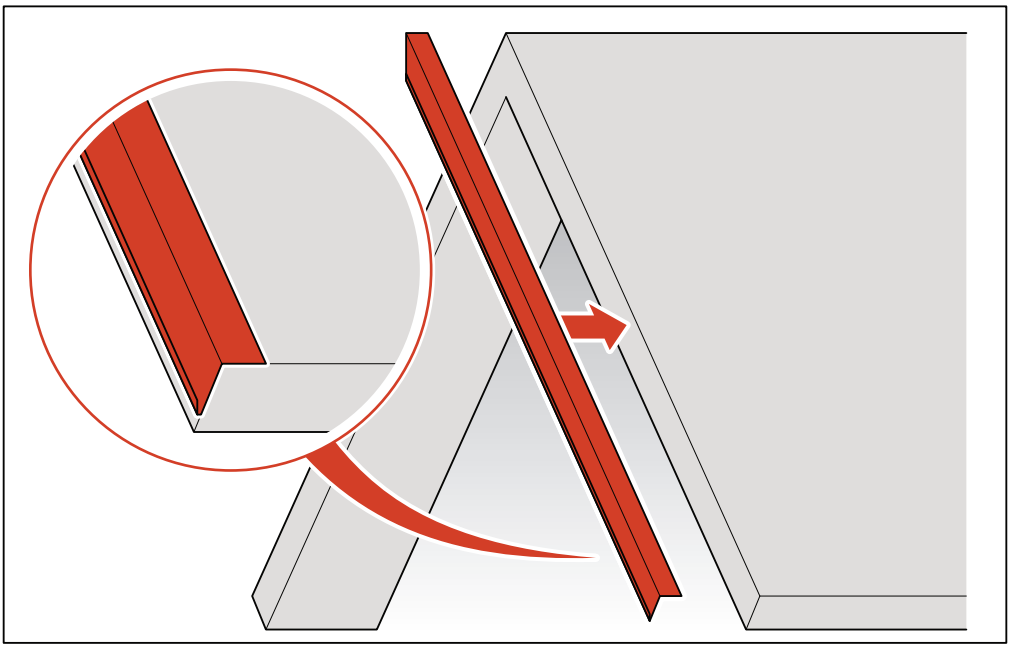


The panels should be installed left to right and should be fastened to the roof deck with a minimum of 6 #10 X 2-1/2" or similar hex head screws or 8D ring shank nails across the back flange. The fasteners are to be placed approximately 2" from each end and then 10" apart in the pre-drilled holes shown in figure 1.

The installed panel on the right side will overlap the installed panel on the left side. The second and subsequent rows should be installed in a random non repetitive pattern. The nose of the panel in the second and subsequent rows should lock into the back flange of the previous row shown in figure 2 and 3. The side of each panel should overlap by 2-1/2" and the back flange of the two panels should be flush with each other at the notches without a gap.

## ROLLOVER RAKE TRIM PLACEMENT

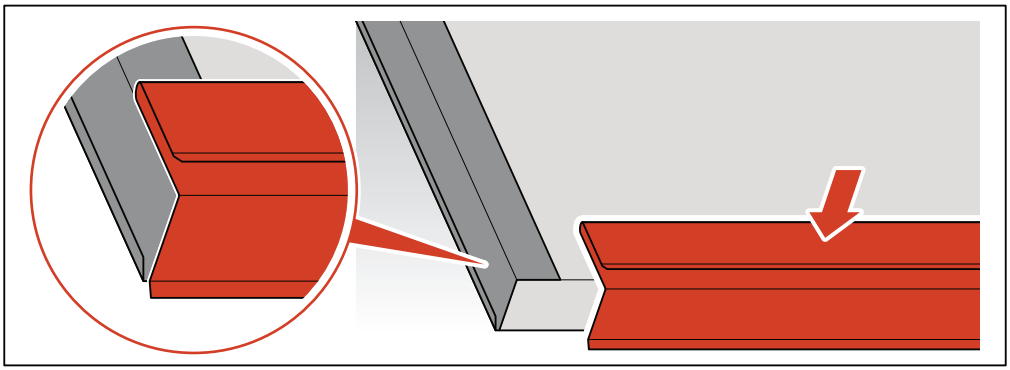






## INTERLOCKING EAVE TRIM PLACEMENT

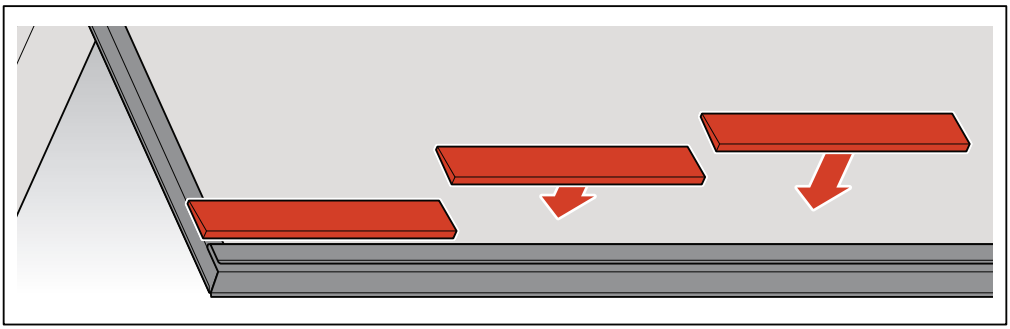






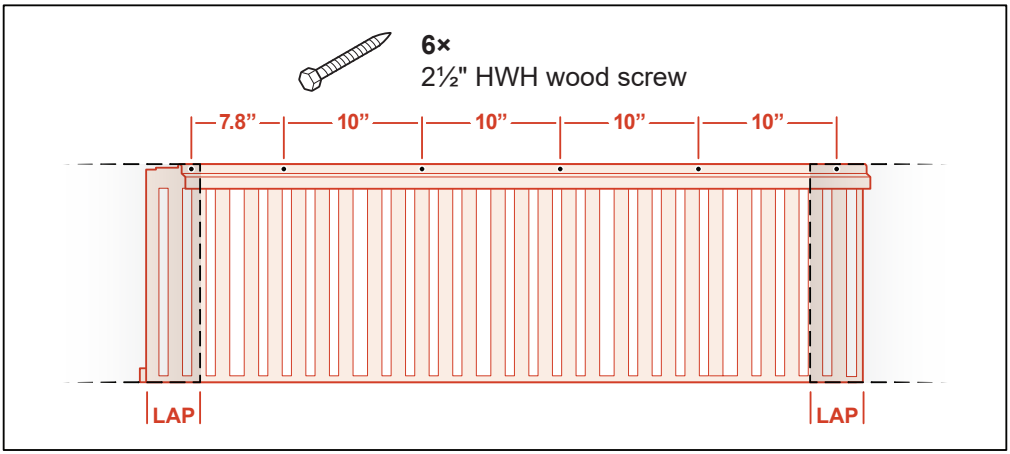
## FOAM PLACEMENT





## TILE FASTENING POINTS

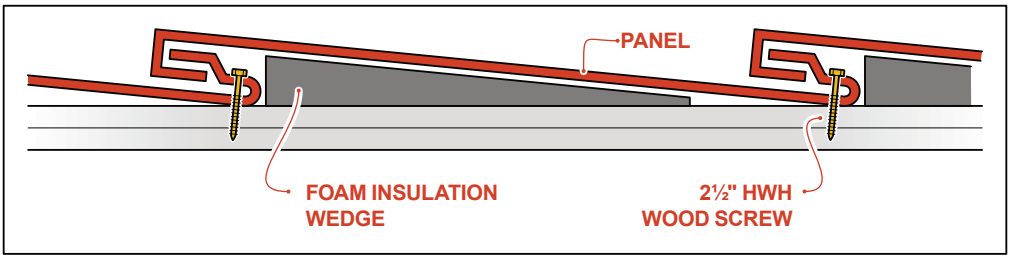







## ATTACHMENT METHOD - METAL SHAKE PRO

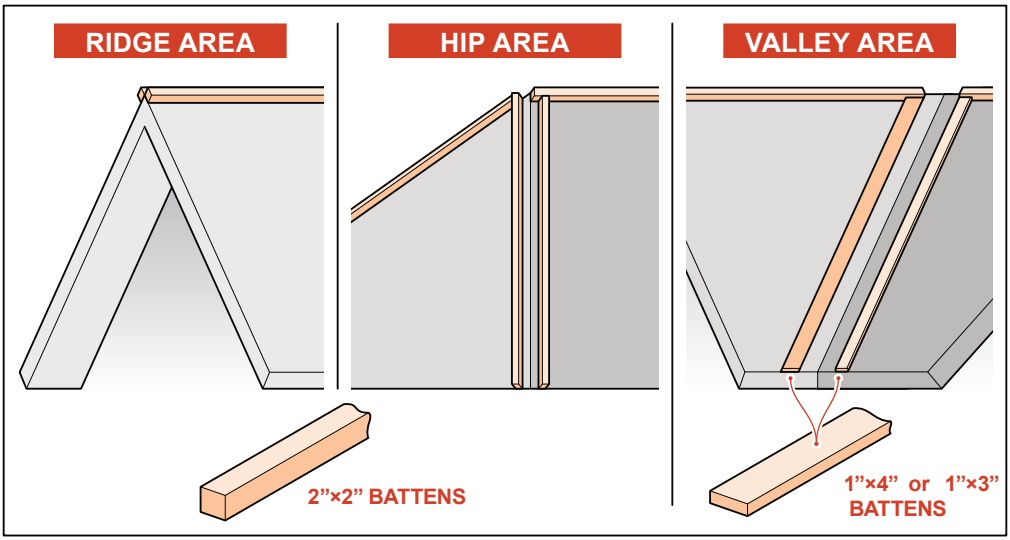







## BATTEN INSTALLATION

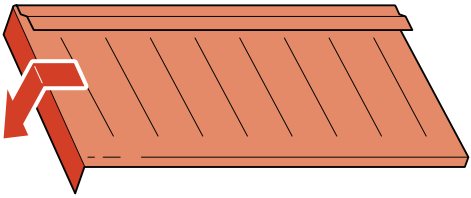


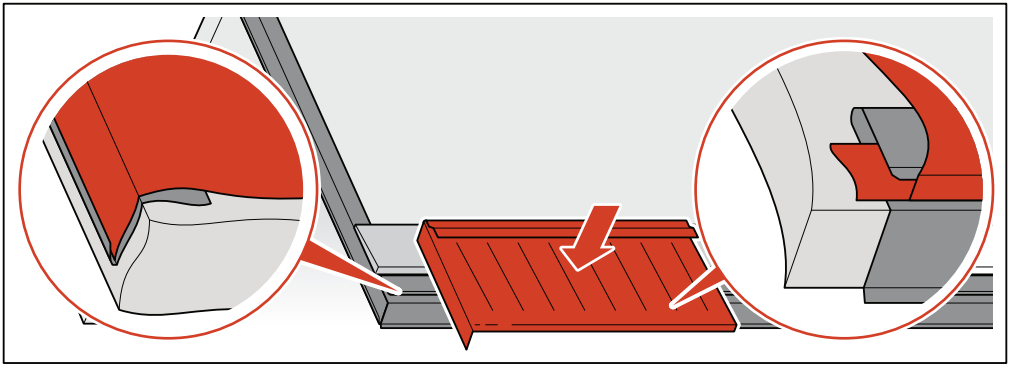


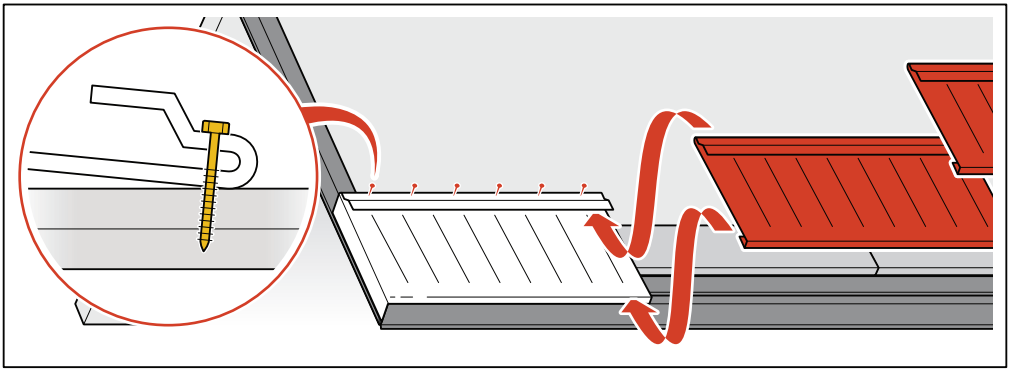
***Refer to to the table below for approximate fastening options based on your wind uplift requirements.***

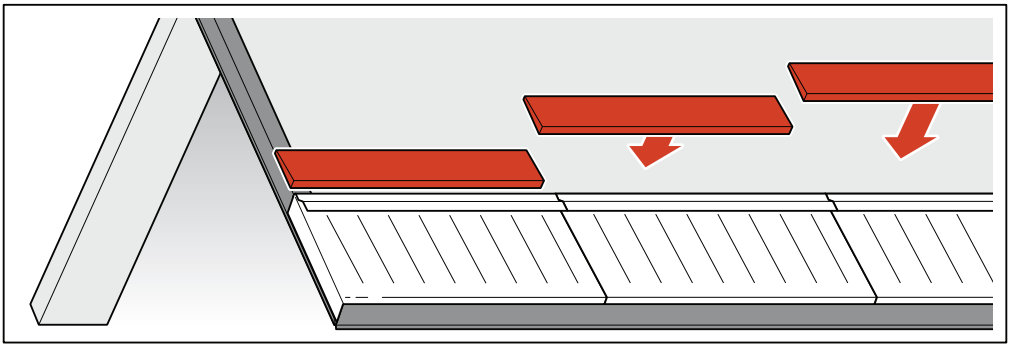
| METHOD | SYSTEM CONFIGURATION | ALLOWABLE WIND RESISTANCE (PSF) |
|---|---|---|
| Minimum | Panels attached to min. 15/32-in. plywood with six, min. #10-12 x 2-1/2 in. HWH wood screws, located in the nailing flange, 2 in. from ends and 10 in. oc. The panels interlock with the panels in the next course. | 90 |
| Method 1 | Panels attached to min. 15/32-in, plywood with eight, min. #10 x 2-1/2-in HWH wood screws, located in the nailing flange, 2 in. from ends and 6-3/4- oc for the field of the roof **AND** ten, min. #10 x 2-1/2-in. HWH wood screws, located in the nailing flange, 2 in. from ends and 5-1/4-in. oc, in the corners. | 101 |

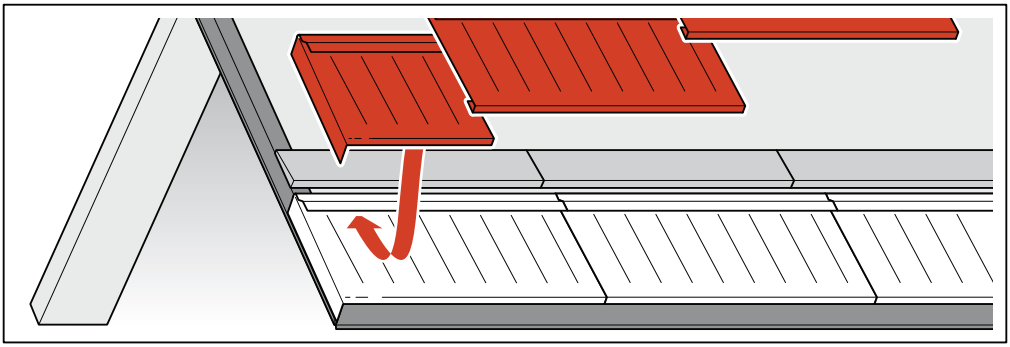
BEND THE FIRST TILE OF EACH ROW DOWNWARDS



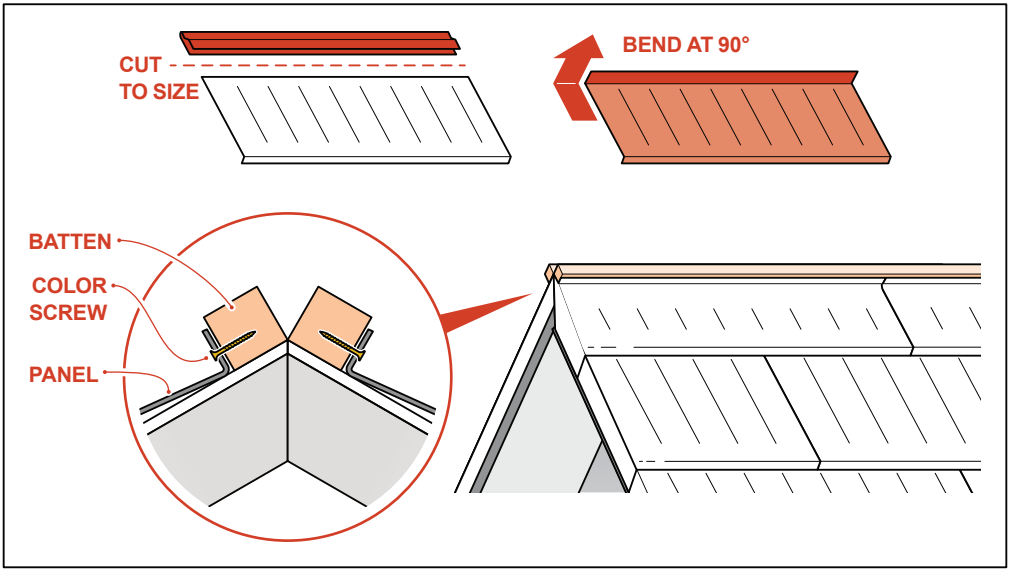




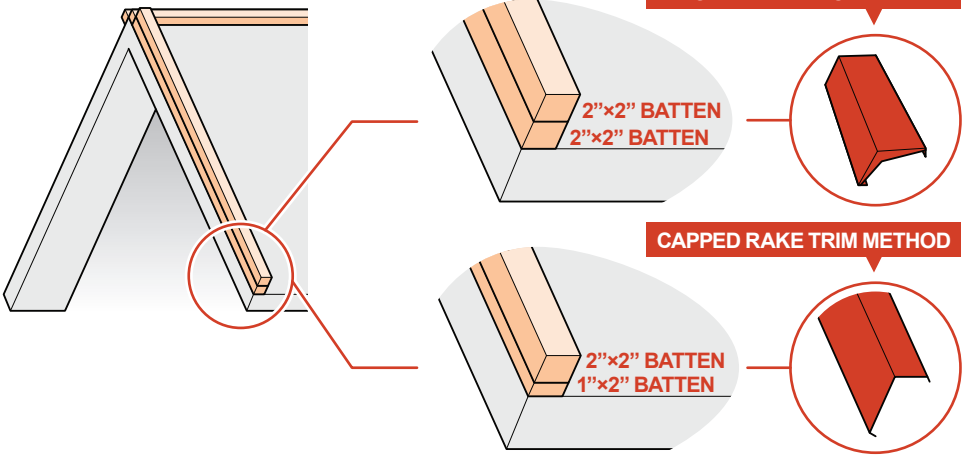




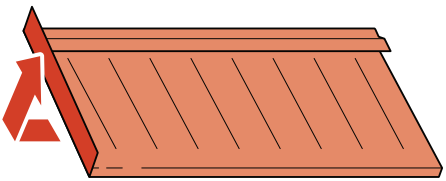


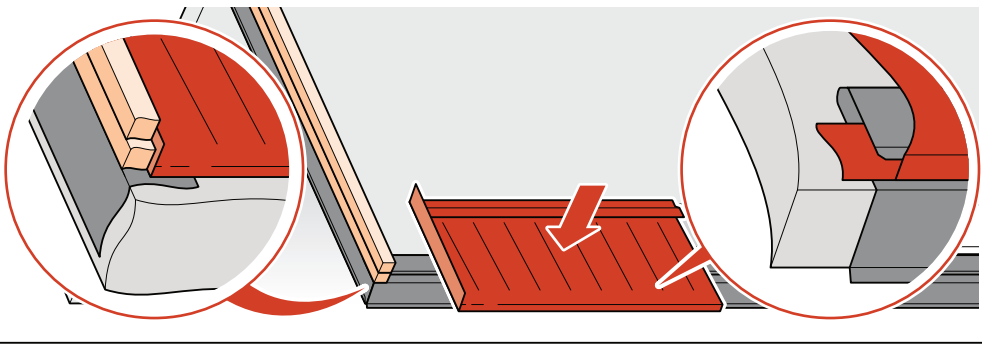

CUT
TO SIZE
BEND AT 90°
BATTEN
COLOR
SCREW
PANEL

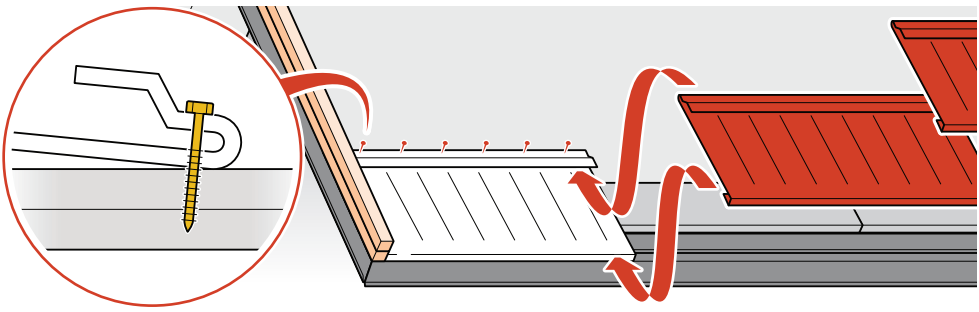
## HIP AREA BATTENS

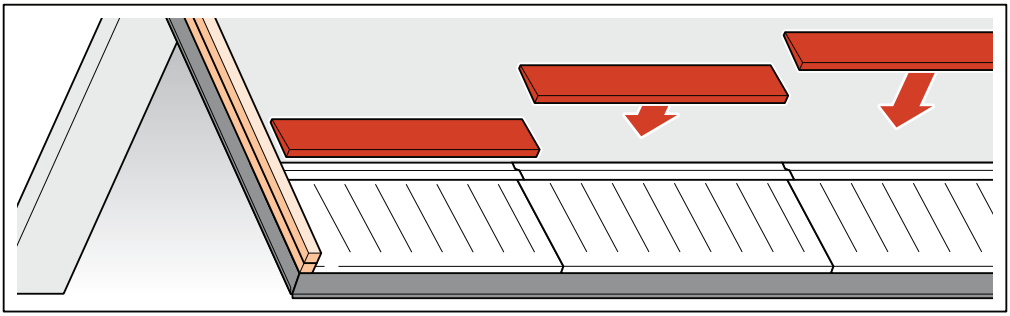


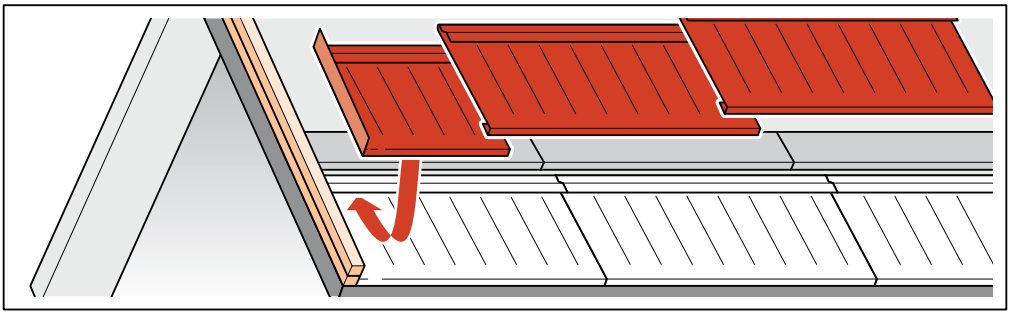

BEND THE FIRST TILE OF EACH ROW UPWORDS ON THE RIDGE





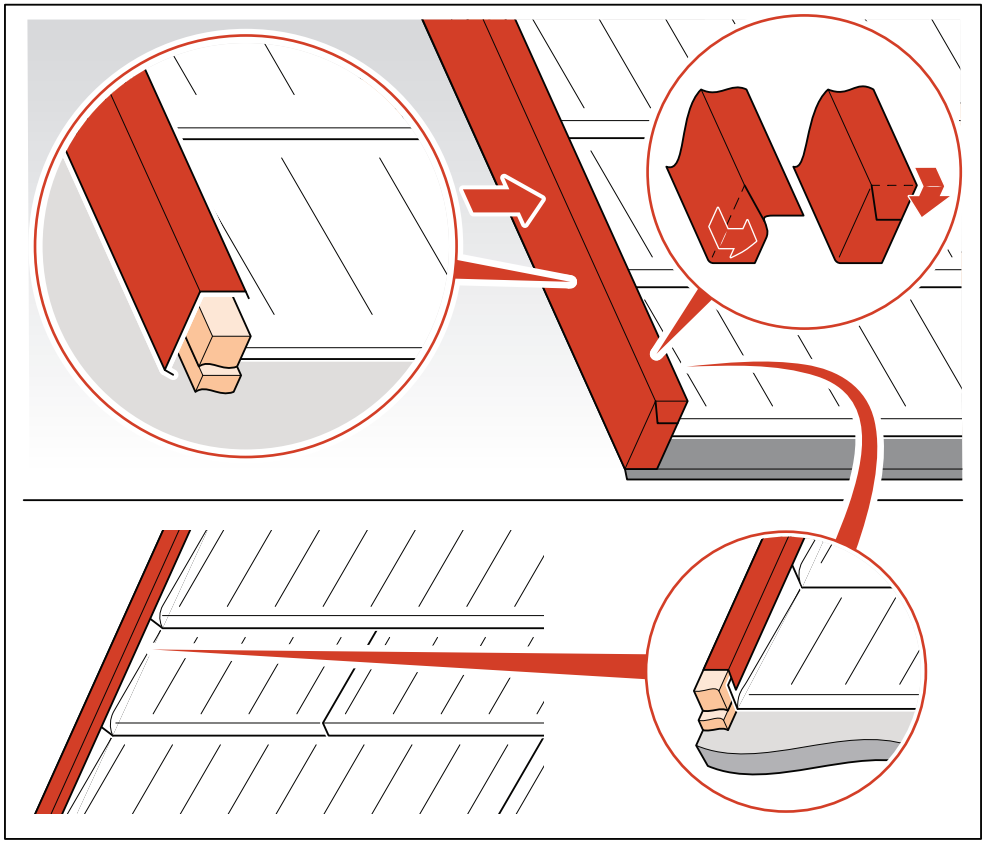






## CAPPED RAKE TRIM PLACEMENT

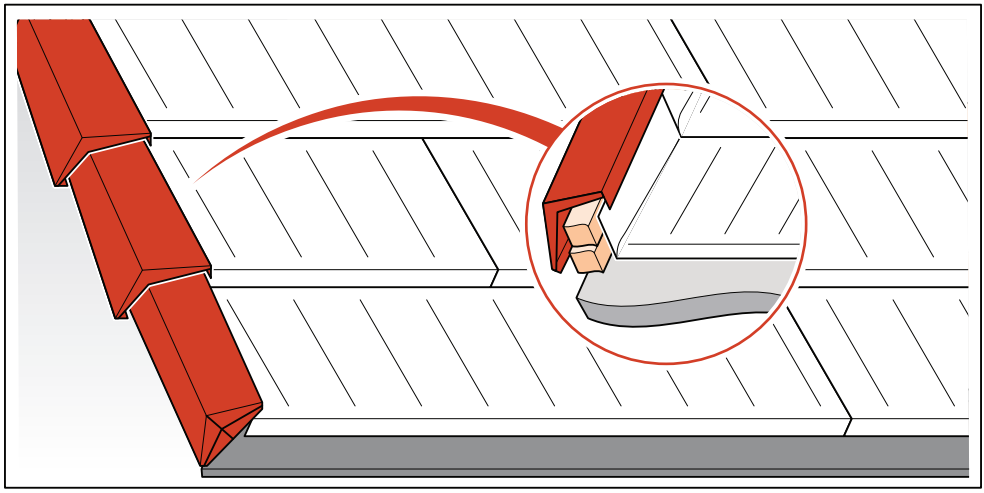


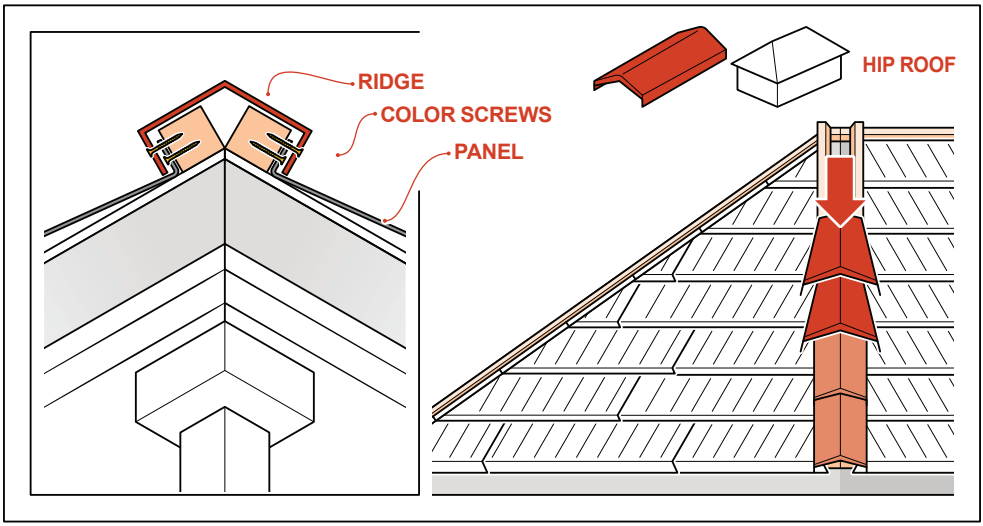




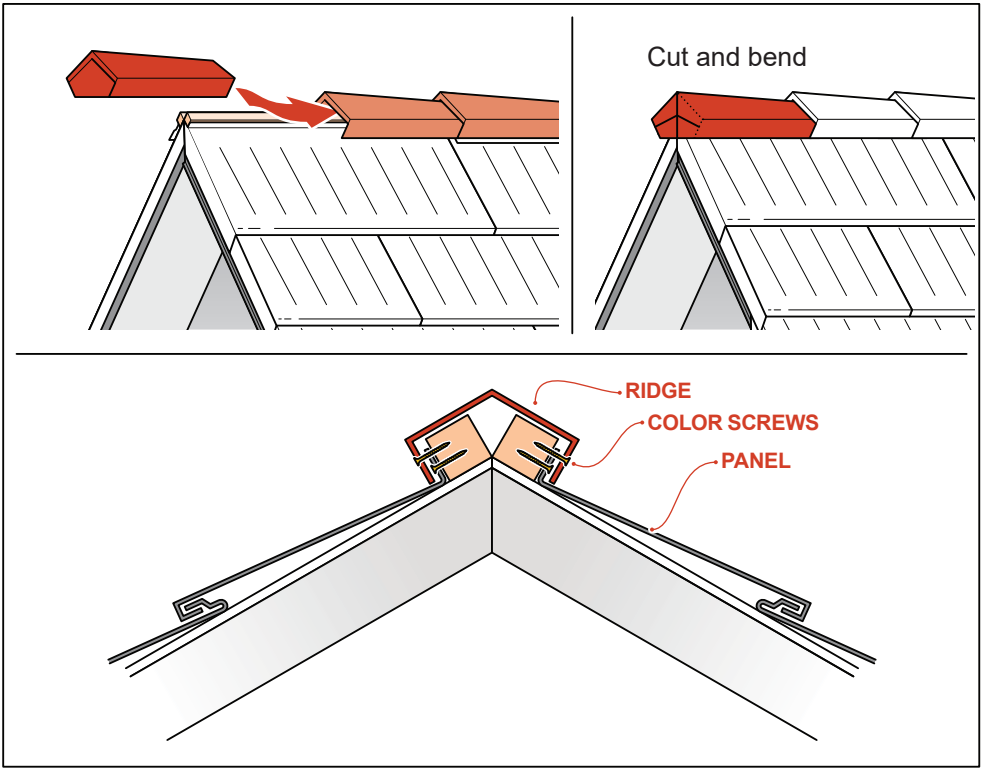
## RIDGE CAP INSTALLATION






RIDGE
COLOR SCREWS
PANEL
HIP ROOF

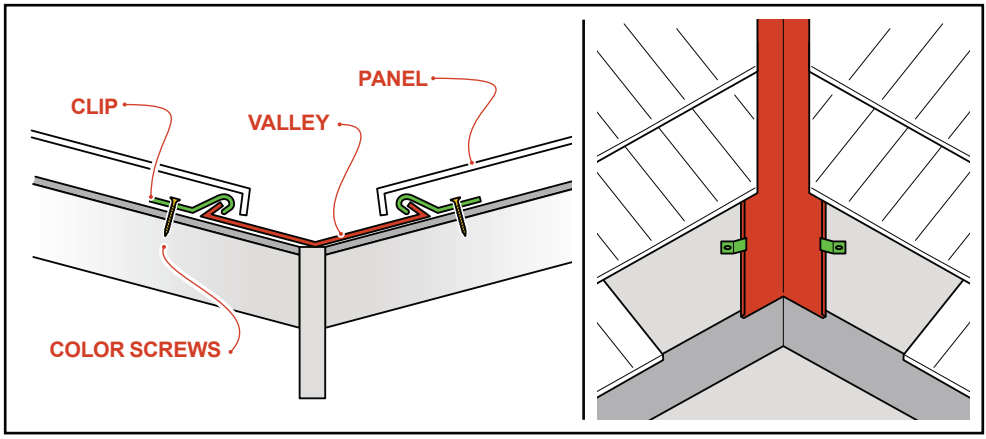



Cut and bend
RIDGE
COLOR SCREWS
PANEL

***Valley Type 1 and Type 3 assemblies are customized according to regional specifications; however, TEK Industries does not supply these assemblies.***

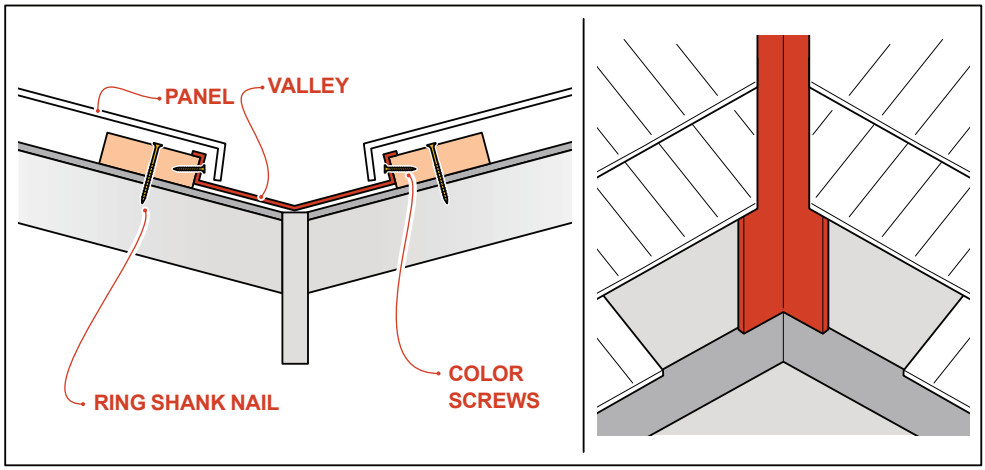
## VALLEY TYPE 1 - OPEN VALLEY WITH CLIPS





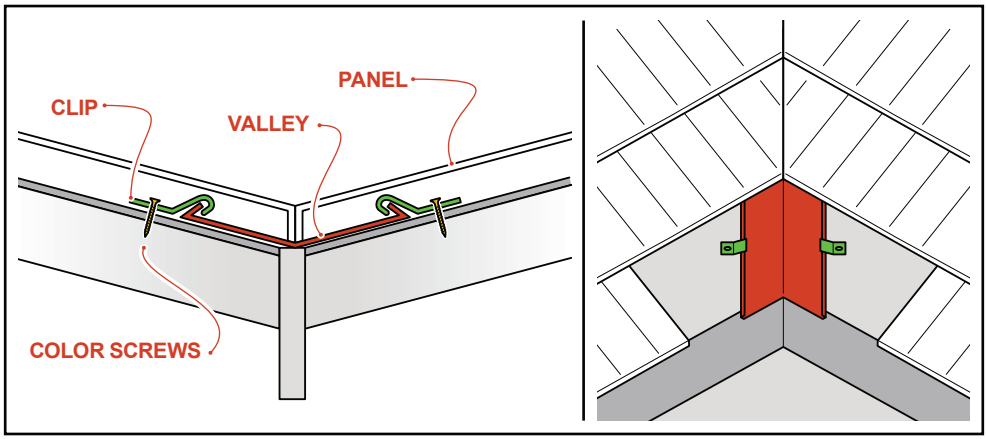

## VALLEY TYPE 2 - OPEN VALLEY WITH BATTENS





# VALLEY TYPE 3 - CLOSED VALLEY WITH CLIPS

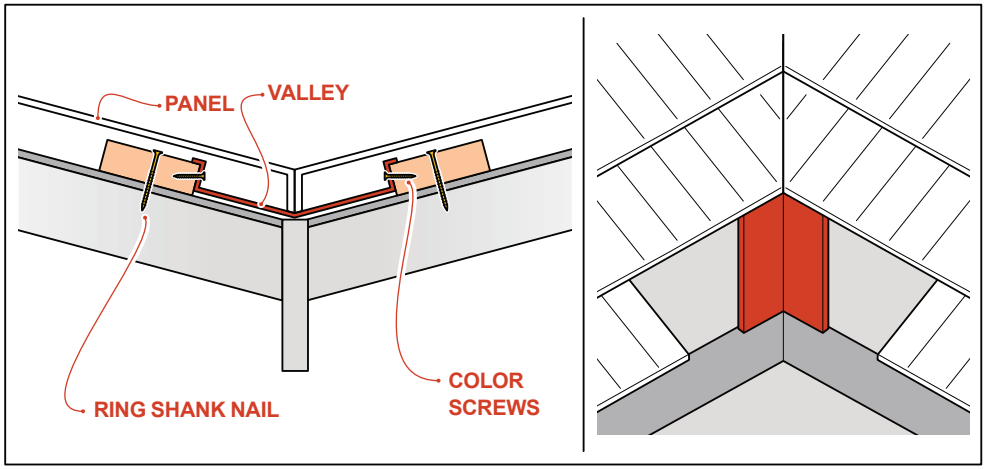







# VALLEY TYPE 4 - CLOSED VALLEY WITH BATTENS

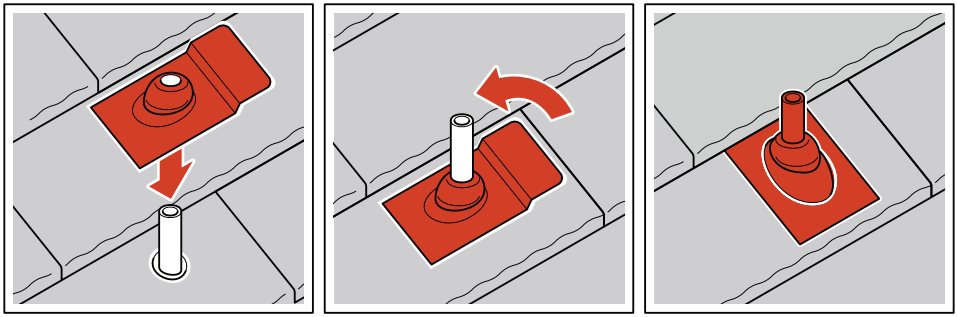




## PIPE JACK

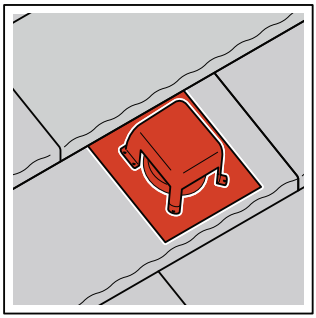
Lead pipe jacks can react with Galvalume metal, leading to galvanic corrosion

**CAUTION:** High temp underlayment is a requirement*

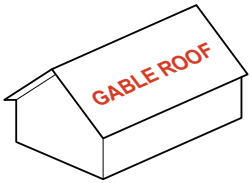


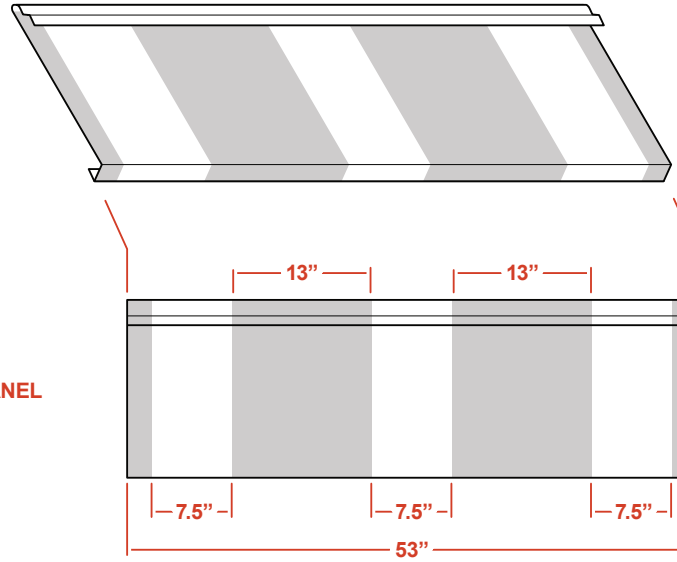
## VENTILATION

Install ventilation products for optimal shingle life. See General Instructions and the "Through Ventilation" section. Follow the application instructions for the selected ventilation products.

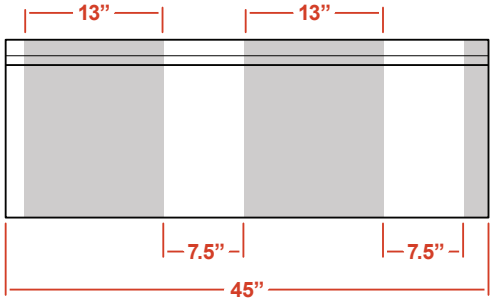


Variegated tiles to be full panels on top row, followed by a second row with first tile cut back 16”, followed by a third row with first tile cut back 8”. Final tile in each row is cut as required to line up with trailing edge of row. Pattern repeats starting with fourth row.

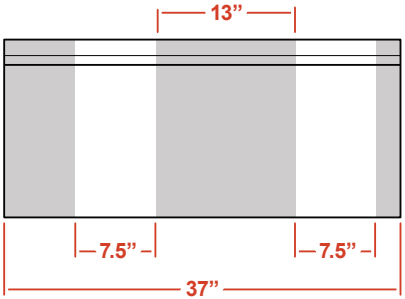


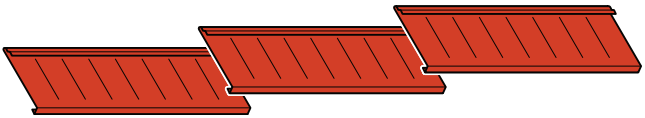

1 FULL PANEL

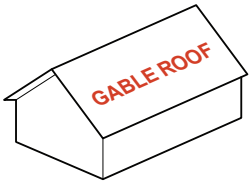



2 PANEL CUT BACK 8 INCHES

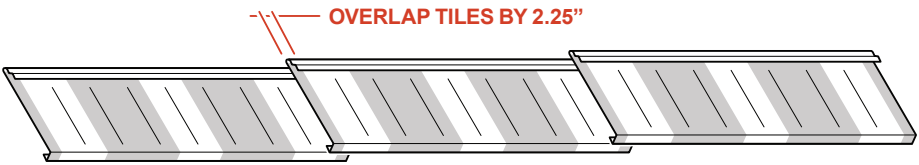



3 PANEL CUT BACK 16 INCHES

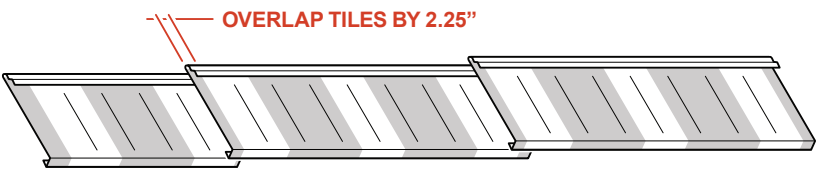



GABLE ROOF

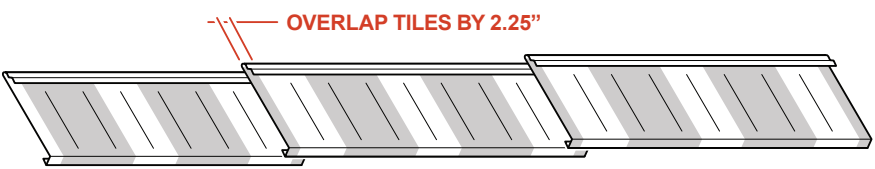
1

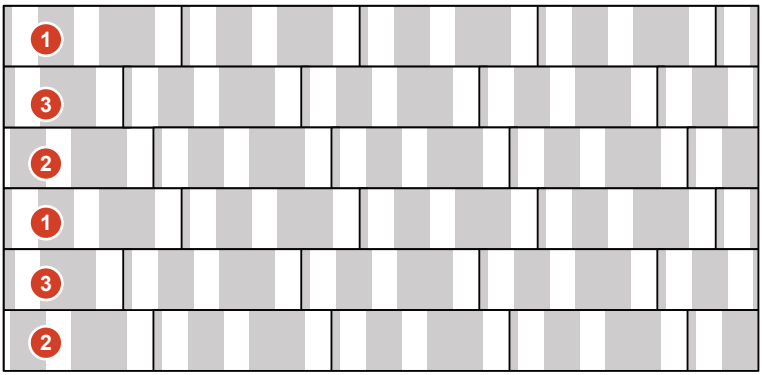

OVERLAP TILES BY 2.25”

3


OVERLAP TILES BY 2.25”

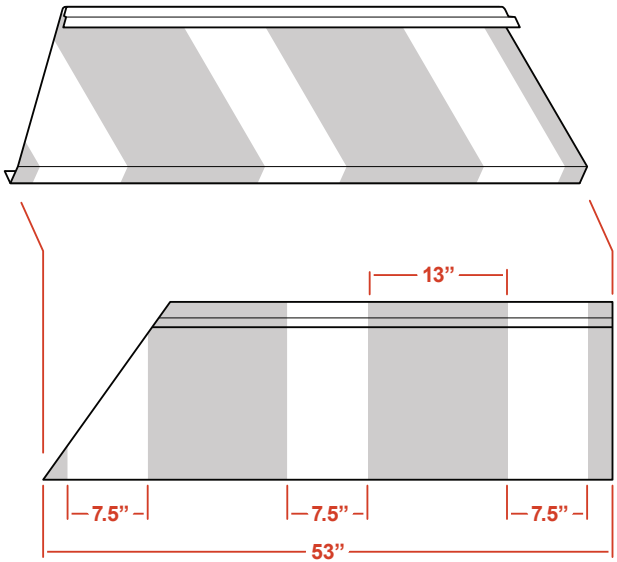
2


OVERLAP TILES BY 2.25”

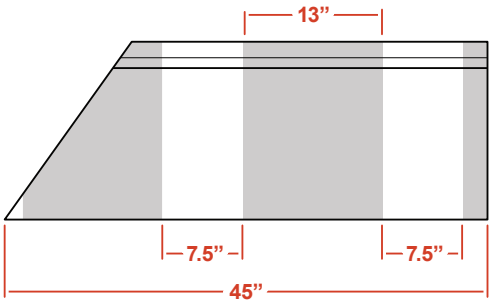

1
3
2
1
3
2

Variegated tiles to be full panels on top row, followed by a second row with first tile cut back 8”, followed by a third row with first tile cut back 16”. Final tile in each row is cut as required to line up with trailing edge of row. Pattern repeats starting with fourth row.

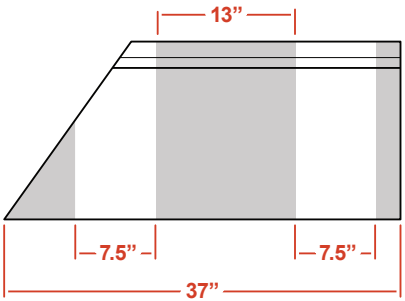


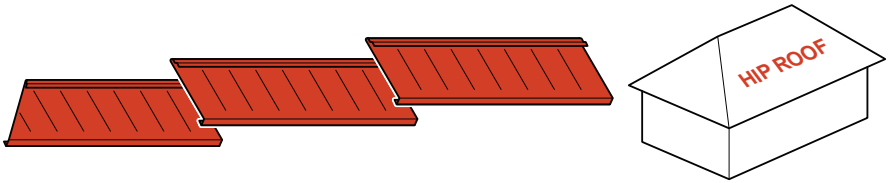

1 FULL PANEL



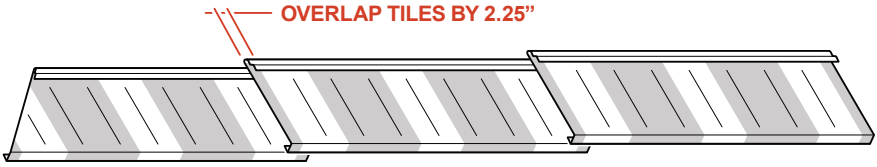

2 PANEL CUT BACK 8 INCHES



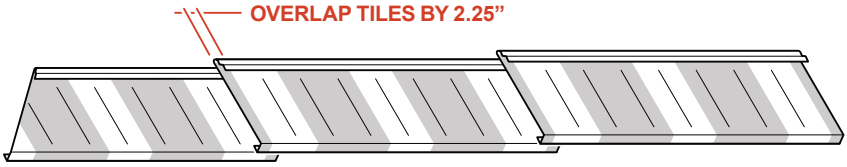

3 PANEL CUT BACK 16 INCHES


HIP ROOF

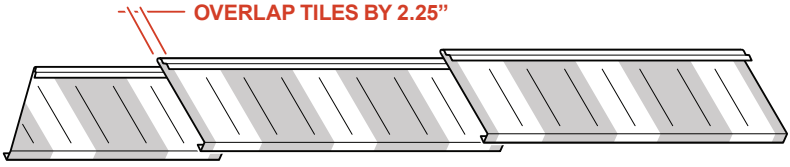
1

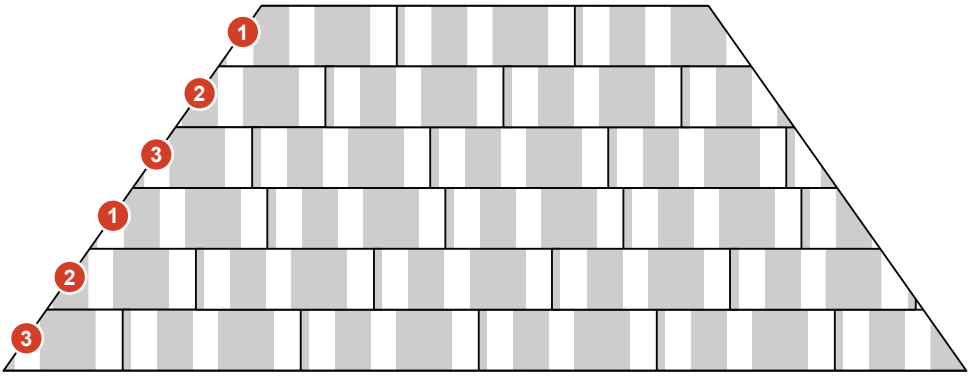

OVERLAP TILES BY 2.25”

2


OVERLAP TILES BY 2.25”

3


OVERLAP TILES BY 2.25”


1
2
3
1
2
3

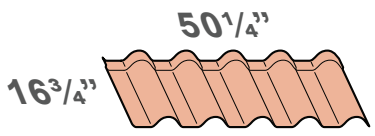
TEK INDUSTRIES

# COMPONENTS CHART

## HURRICANE® METAL TILE



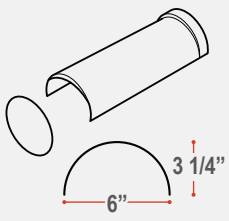
CHARCOAL | TERRACOTTA




LENGTH: 50 1/4”
WIDTH: 16 3/4”
WEIGHT: 5.6 lb

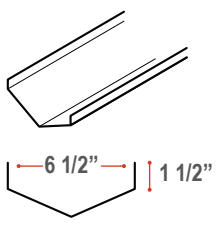
BATTENS ✓ | FOAM ✓

### HIP / RIDGE / RAKE WITH END CAP



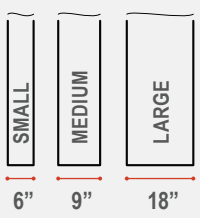

LENGTH: 16 1/4”
WIDTH: 6”
HEIGHT: 3 1/4”
WEIGHT: 0.9 lb

### VALLEY



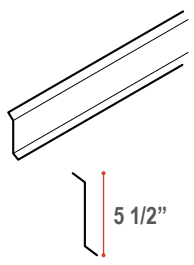

LENGTH: 6’6 3/4”
WIDTH: 6 1/2”
WEIGHT: 4.4 lb

### 6”, 9”, 18” FLAT SHEETS



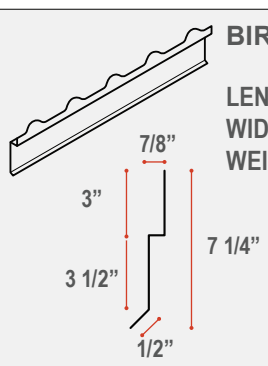

LENGTH: 78 3/4”

### Z-BAR SIDE FLASHING



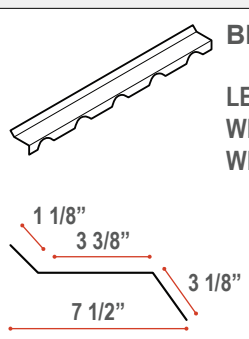

LENGTH: 6’6 3/4”
WIDTH: 5 1/2”
WEIGHT: 2.8 lb

### BIRD STOP EAVE



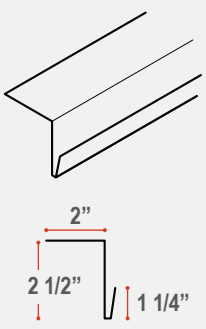

LENGTH: 78 5/8”
WIDTH: 7 1/4”
WEIGHT: 3.2 lb

### BIRD STOP RIDGE



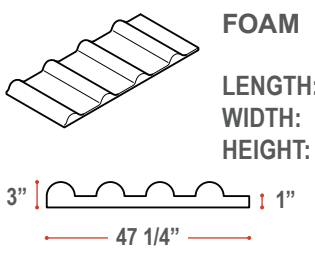

LENGTH: 77 3/4”
WIDTH: 7 1/2”
WEIGHT: 3.4 lb

### ROLL OVER RAKE TRIM




LENGTH: 6’6 3/4”
TOP BEND: 2”
BOTTOM BEND: 2 1/2”
EXPOSED GRANULES: 1 1/4”
WEIGHT: 2.8 lb

### FOAM




LENGTH: 47 1/4”
WIDTH: 10”
HEIGHT: 3”

### BATTENS 2 × 2 × 7½



BUNDLE: 12pc

### BOTTLE OF GRANULES

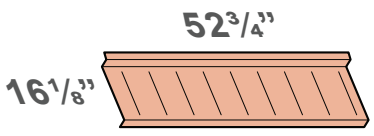


CAPACITY: 16oz

## HURRICANE® METAL SHAKE



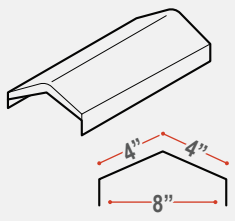
MOCHA BROWN | WEATHER WOOD +




LENGTH: 52 3/4”
WIDTH: 16 1/8”
WEIGHT: 5.7 lb

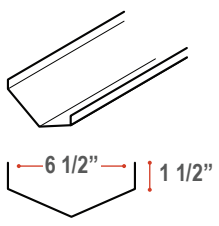
BATTENS ✓ | FOAM ✓

### HIP / RIDGE CAP



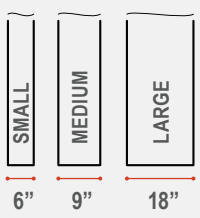

LENGTH: 17 1/2”
WIDTH: 8”
WEIGHT: 1 lb

### VALLEY



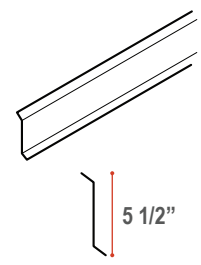

LENGTH: 6’6 3/4”
WIDTH: 6 1/2”
WEIGHT: 4.4 lb

### 6”, 9”, 18” FLAT SHEETS



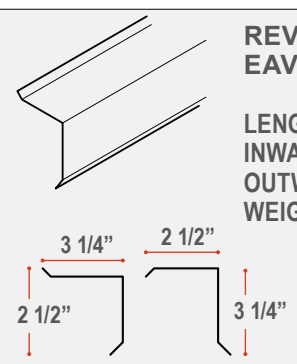

LENGTH: 78 3/4”

### Z-BAR SIDE FLASHING




LENGTH: 6’6 3/4”
WIDTH: 5 1/2”
WEIGHT: 2.8 lb

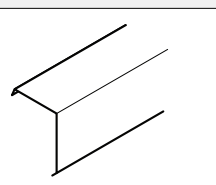
### REVERSIBLE EAVE TRIM



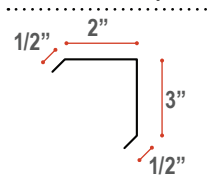

LENGTH: 6’6 3/4”
INWARD HEM: 2 1/4”
OUTWARD HEM: 3 1/4”
WEIGHT: 2.8 lb

### CAPPED RAKE TRIM

XL

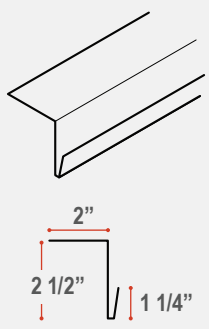



LENGTH: 6’6 3/4”
TOP BEND: 2 1/4”
BOTTOM BEND: 4 3/4”
WEIGHT: 4 lb



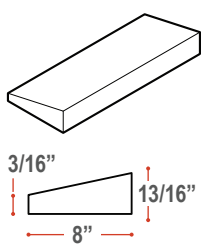

LENGTH: 6’6 3/4”
TOP BEND: 2”
BOTTOM BEND: 3”
WEIGHT: 2.8 lb

### ROLL OVER RAKE TRIM




LENGTH: 6’6 3/4”
TOP BEND: 2”
BOTTOM BEND: 2 1/2”
EXPOSED GRANULES: 1 1/4”
WEIGHT: 2.8 lb

### STANDARD FOAM



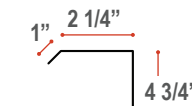

LENGTH: 49 1/2”
WIDTH: 8”
TOP THICKNESS: 3/16”
BOTTOM THICKNESS: 13/16”

### BATTENS 2 × 2 × 7½



BUNDLE: 12pc

### RAKE BATTENS 1 × 2 × 7½



BUNDLE: 12pc

### BOTTLE OF GRANULES



CAPACITY: 16oz

### RAKE TRIM GUIDE ▪ TOOL ▪



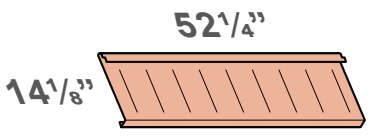
### WOOD BATTEN SPACER ▪ TOOL ▪



## HURRICANE® METAL SHAKE PRO



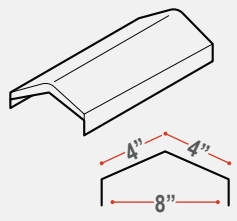
CHARCOAL | SADDLE BROWN | GRAY




LENGTH: 52 1/4”
WIDTH: 14 1/8”
WEIGHT: 5.3 lb

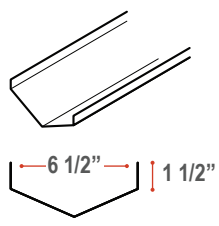
BATTENS ✗ | FOAM ✓

### HIP / RIDGE CAP



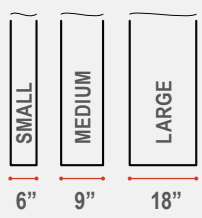

LENGTH: 17 1/2”
WIDTH: 8”
WEIGHT: 1 lb

### VALLEY



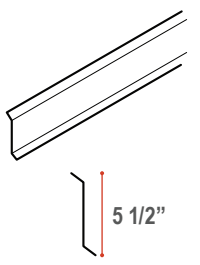

LENGTH: 6’6 3/4”
WIDTH: 6 1/2”
WEIGHT: 4.4 lb

### 6”, 9”, 18” FLAT SHEETS



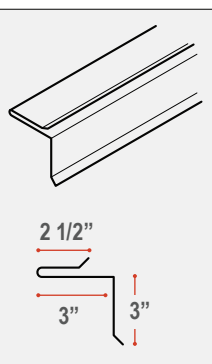

LENGTH: 78 3/4”

### Z-BAR SIDE FLASHING




LENGTH: 6’6 3/4”
WIDTH: 5 1/2”
WEIGHT: 2.8 lb

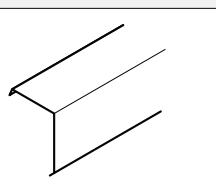
### INTERLOCKING EAVE TRIM



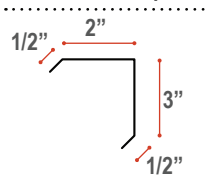

LENGTH: 6’6 3/4”
TOP BEND: 3”
BOTTOM BEND: 3”
LOCK: 2 1/2”
WEIGHT: 4 lb

### CAPPED RAKE TRIM

XL

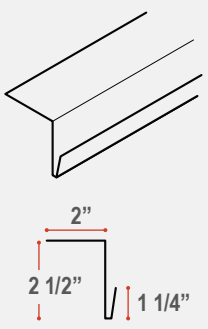



LENGTH: 6’6 3/4”
TOP BEND: 2 1/4”
BOTTOM BEND: 4 3/4”
WEIGHT: 4 lb



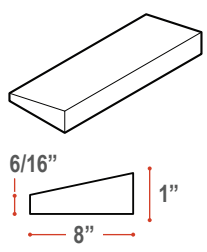

LENGTH: 6’6 3/4”
TOP BEND: 2”
BOTTOM BEND: 3”
WEIGHT: 2.8 lb

### ROLL OVER RAKE TRIM




LENGTH: 6’6 3/4”
TOP BEND: 2”
BOTTOM BEND: 2 1/2”
EXPOSED GRANULES: 1 1/4”
WEIGHT: 2.8 lb

### FOAM




LENGTH: 49 1/2”
WIDTH: 8”
TOP THICKNESS: 6/16”
BOTTOM THICKNESS: 1”

### BATTENS 2 × 2 × 7½



BUNDLE: 12pc

### RAKE BATTENS 1 × 2 × 7½



BUNDLE: 12pc

### RAKE BATTENS 1 × 2 × 7½



BUNDLE: 12pc

### BOTTLE OF GRANULES



CAPACITY: 16oz

### RAKE TRIM GUIDE ▪ TOOL ▪



## HURRICANE® TEK METAL SHINGLE



WEATHER WOOD




LENGTH: 39 3/4”
WIDTH: 13 1/8”
WEIGHT: 3 lb

BATTENS ✗ | FOAM ✗

### VALLEY




LENGTH: 78 3/4”
WIDTH: 8 3/8”
BENDS: 4 1/2”
WEIGHT: 4.3 lb

### 6”, 9”, 18” FLAT SHEETS




LENGTH: 78 3/4”

### STEP FLASHING




LENGTH: 8”
WIDTH: 4”
HEIGHT: 4”

### METAL STARTER STRIP




LENGTH: 78 3/4”
WIDTH: 7 3/4”
HEM: 1 1/4”
WEIGHT: 4.3 lb

### ROLL OVER RAKE TRIM




LENGTH: 6’6 3/4”
TOP BEND: 2”
BOTTOM BEND: 2 1/2”
EXPOSED GRANULES: 1 1/4”
WEIGHT: 2.8 lb

### TACKY TAPE ROLL



LENGTH: 45 ft
WIDTH: 1”

### PIPE JACK



LENGTH: 14 1/2”
WIDTH: 10 3/4”
WEIGHT: 0.9 lb

### SLANT BACK AIR VENT



LENGTH: 16 3/4”
WIDTH: 14”
WEIGHT: 1.9 lb

### BOTTLE OF GRANULES



CAPACITY: 16oz