

THESE ARE THE MANUFACTURER'S APPLICATION INSTRUCTIONS FOR THE ROOFING CONDITIONS DESCRIBED. TAMKO ROOFING PRODUCTS, INC. ASSUMES NO RESPONSIBILITY FOR LEAKS OR OTHER ROOFING DEFECTS RESULTING FROM FAILURE TO FOLLOW THE MANUFACTURER'S INSTRUCTIONS. THIS PRODUCT IS COVERED BY A 50 YEAR LIMITED WARRANTY. TO OBTAIN A COPY OF THE WARRANTY CALL 800-641-4691 OR VISIT OUR WEBSITE AT www.metalworksroof.com or www.tamko.com. WE RECOMMEND YOU CONSULT A PROFESSIONAL ROOFING CONTRACTOR FOR INSTALLATION OF YOUR TAMKO METALWORKS ROOF.

PREPARATION & BASIC REQUIREMENTS FOR THE METAL SHINGLE ROOFING SYSTEM

- The minimum required slope for standard application is 4/12 (15 degree slope).
- For roof slopes of 3" per foot to 4" per foot, TAMKO's self adhering TW Metal and Tile Underlayment must be applied over the entire deck. Contact TAMKO's Technical Services Department for more information.
- Fasteners are to be 11 or 12 gauge galvanized steel with 3/8" (1cm) heads. Stainless Steel nails and other stainless steel fasteners should not be used with this product. The minimum length of fastener is 1 1/2" (3.8cm). For reroofing, the fastener must penetrate the deck by at least 1/2" (1.3cm). Check Local Building Codes for maximum allowable roof layers.
- All field formed flashing shall be formed from METALWORKS Trim Coil.
- All flashings must have a minimum 3 1/2" (7.6cm) end overlap and sealant must be applied at overlaps. Sealant shall be one part urethane contractor grade sealant.

Care for the Material

- Boxes should be kept in a dry place and under opaque tarps while on the site.
- Be careful when stacking boxes (a maximum of 6 boxes high), and avoid any damage to the boxes.
- Stack boxes on side. **Do not lay flat.**
- Avoid having loose shingles or other materials on the roof.

Sheathing

NEW ROOF DECK CONSTRUCTION: Roof deck must be smooth, dry and free from warped surfaces. Before reroofing it is recommended that old metal drip edges be removed at eaves and rakes.

PLYWOOD: All plywood shall be exterior grade as defined by the American Plywood Association. Plywood shall be a minimum of 3/8" thickness and applied in accordance with the recommendations of the American Plywood Association.

Underlayment and Rain/Ice Protection Underlayment

- The entire roof must be covered (prior to shingle application) with No. 30 Felt or equivalent (double layer at eaves and valleys).
- Apply the felt parallel to the eaves, starting with the lowest course, lapping each course 2" (5.1cm). Where ends join, lap 4" (10.2cm).
- When covering hips and valleys, always overlap felt by extending 36" beyond the center line of the hip or valley.
- Products which are acceptable for use as underlayment are:

TAMKO No. 30 Asphalt Saturated Organic Felt
A non-perforated asphalt saturated organic felt which meets ASTM: D226, Type II

- **Ice and Rain Protection:** For new construction where there is a possibility of ice forming along eaves or in valleys causing a backup of water, TAMKO TW Metal and Tile Underlayment shall be used in lieu of the bottom layer of underlayment. It shall extend from the eave's edge to a point at least 24" (61cm) beyond the exterior wall line of the building and along the entire length of the valley, 19" (48 cm) on each side of the centerline.
- When installing shingles on new construction, ice and rain protection underlayment should always be used.

Traffic

- Walk only on the top portion of the shingles and avoid walking on the locks and water channels.
- Wear soft-soled shoes.

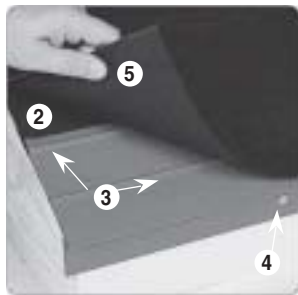


APPROPRIATE FALL PROTECTION METHODS SHOULD BE USED WHENEVER WORKING ON ROOFS. Use caution, product may be slippery.

Important: All detail work demands careful consideration. It is important to consider water flow and overlap materials in proper sequence!

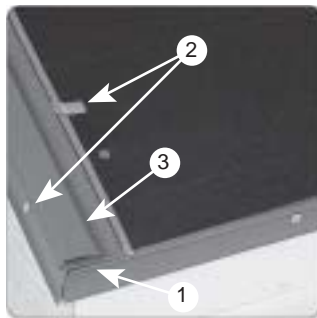
APPLICATION INSTRUCTIONS Starter/Eave Flashing

- Cut back existing shingles flush with fascia at eave and gables ①. (for reroofing only).
 - Apply first full width course of underlayment at eave and install METALWORKS Starter Flashing ②. (Apply TW Metal and Tile Underlayment on new construction).
 - Fasten Starter with 2 rows of nails/screws 18" o.c. in a staggered pattern between the two rows ③. Fasten through vertical face of Starter into fascia 18" o.c. ④.
 - Overlap Starter Flashing min. 2" at joints.
 - Apply underlayment to entire roof deck and lap over Starter Flashing, providing second layer of underlayment at the eave ⑤.
- (See section on Underlayment and Ice/Rain Protection Underlayment)



Gable/Rake Detail

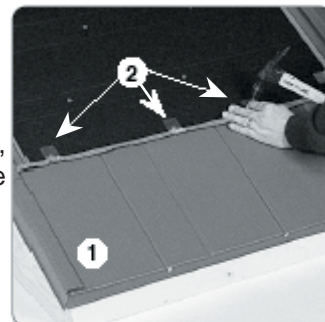
- Install METALWORKS Gable Flashing over underlayment at rake and over Starter at eave ①.
- Install Gable Flashing with clips 18" o.c. and face-fasten through rake side of Gable Flashing 18" o.c. ②.
- Alternatively, nail inside trough and caulk nail heads ③.
- To join Gable Flashings, trim lower flashing and slide under upper flashing.



Installing Shingles

- Start shingle installation at bottom left corner of roof field with a full shingle ①.
- Lock first course to Starter Flashing and fasten with Clips (min. 3 per shingle / min. 4 per shingle in high wind areas) ②.
- Lock second shingle and each subsequent shingle locking the left side first, then pushing the panel up to engage the bottom lock. (Note: ensure bottom lock fully engaged).

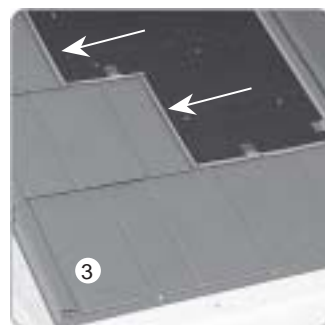
- At the end of a row, as you approach a valley, sidewall or gable flashing, cut the right side of the shingle off to fit in the remaining space, sliding the shingle inside the corresponding flashing.
- Cut a 2" notch in the return of the bottom locking lip (butt edge of shingle) in line with gables, sidewalls, and Valleys to allow water to drain freely (first course only) ③.



- The numbers 2, 3 and 4 are embossed on the top lock. To start second course cut the shingle at number 2, for third course cut at number 3, then fourth course cut at number 4. To begin the fifth course of shingles start with a full shingle and continue up the rake using the same formula.



- When coming out of a valley, vary shingles to ensure staggered appearance.
- In all valley shingles except the first course, cut a 3/4" notch in the return of the bottom locking lip (butt edge of shingle) approx. 6" from the center of the valley.
- At ridges and hips, line the cut edge of shingles up against one another and fasten through shingles 18" o.c. Or allow shingles to overlap by 1" – 2" on either side, tap down with hammer and fasten through both shingles in overlap area 18" o.c.

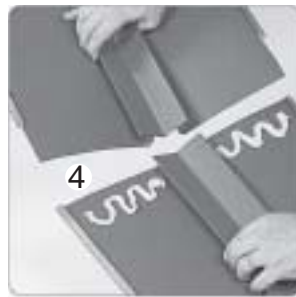
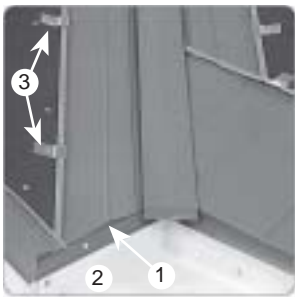


Valley Detail

- When METALWORKS Valley Flashing finishes at eave, miter the Valley Flashing ① to conform to the eave line.
- Make sure the Valley Flashing finishes on top of the Starter Flashing ② or, in the case of a dormer, over the last course of shingles below the dormer.
- Install Valley Flashing with clips 18" o.c. ③. Do not fasten through the Valley Flashing.

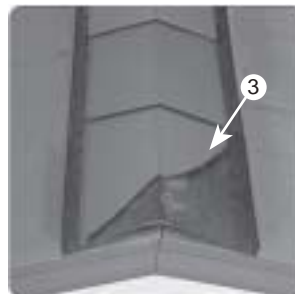
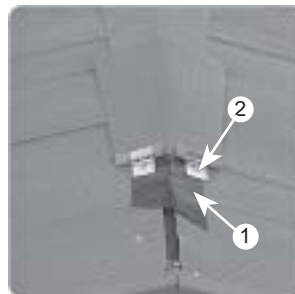
Valley Detail (continued)

- To join two Valley Flashings ④, slide the upper flashing over the lower flashing. Apply sealant at all joints.
- When two Valley Flashings meet at a ridge, miter the flashings to be flush at the ridge, apply sealant between the two flashings and overlay with Hip and Ridge Seal.
- When installing the 12" Ridge Cap, continue the installation of the 12" Ridge Cap over the junction of the two Valley Flashings to hide the sealed joint (See Hip & Ridge Cap Section).



Hip & Ridge Caps

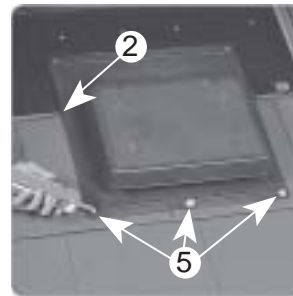
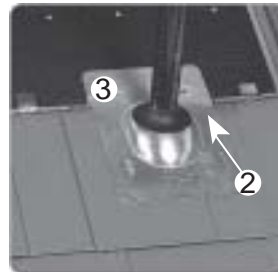
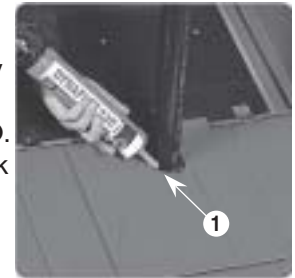
- Apply double sided Hip & Ridge Seal ① centered over the point where the shingles come together.
- Install Hip & Ridge Cap over Hip & Ridge Seal, fasten with Clips ②. Please note: METALWORKS 12" Ridge Caps with a built-in nailing hem do not require clips.
- Alternate method for extreme wind areas: Caps may be face-fastened. Fasten through the cap on all four corners using nails or screws. Apply sealant over exposed fasteners.
- Face-fasten the first and last cap of each section. Fasten through the cap on all four corners using nails or screws. Apply sealant over exposed fasteners.
- In ridge vent application, install the ridge vent over the shingles apply double sided Hip & Ridge Seal to the ridge vent then install Hip & Ridge Caps over the vent ③. Depending on the type of vent used, Hip & Ridge seal may not be applicable.



*Note: Ensure that fasteners penetrate the roof deck min. 1/2".

Pipe/Vent Detail

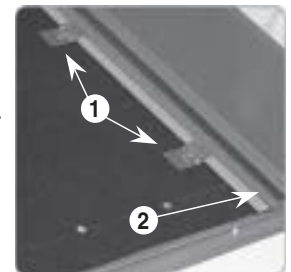
- Cut the shingle(s) to fit tightly around the pipe/vent, install sealant around penetration ①.
- Cut and fold back the top lock of the shingle directly above the pipe/vent ②.



- Apply sealant to the underside of the flashing ③. Install so that the next full shingle will lap over the flashing. Apply sealant at the bottom of the shingle where it meets the top of the pipe/vent ④. Caulk exposed fasteners ⑤.

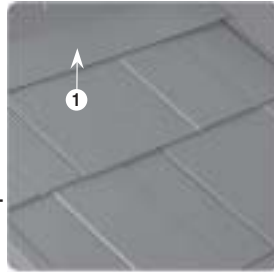
Sidewall Detail

- Install METALWORKS Sidewall Flashing under wall covering (siding, stucco) or existing flashing wherever possible.
- When necessary cut a slot in the wall in order to properly counter-flash Sidewall Flashing.
- Install Sidewall Flashing with clips 18" o.c. ① and/or fasten inside trough and caulk nail heads.
- Ensure Sidewall Flashing overlaps on top of the course of shingles immediately below the dormer or on top of the starter strip at the eave ②.
- To join Sidewall Flashing, trim lower flashing and slide together.
- Apply sealant at all joints.



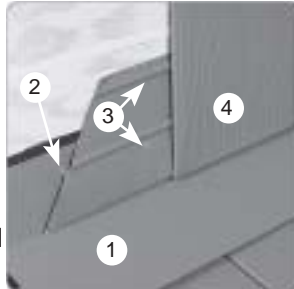
Headwall Detail

- Headwall flashing shall be formed from METALWORKS Trim Coil.
- The flashing strip should be bent to extend a minimum 3 ½" up the vertical wall and overlap last course of shingles by a minimum of 3 ½" ❶.
- Apply a bead of sealant or a strip of TAMKO's TW Metal and Tile Underlayment on top of the last course of shingles under the Headwall flashing.
- Install Headwall flashing under wall covering (siding, stucco) or existing flashings.
- Headwall flashing should be fastened against the headwall using nails or screws every 18" o.c.



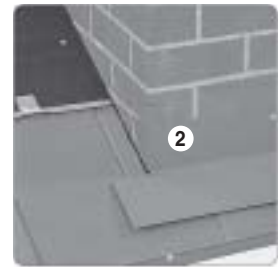
Pitch Transition Detail

- Pitch transitions must be addressed with METALWORKS speciality materials such as Trim Coil & Starter.
- **Do not simply bend the shingles.**
- Install TAMKO's TW Metal and Tile Underlayment on top of the last course of shingles under the transition flashing
- Complete lower roof and install transition flashing using METALWORKS Trim Coil over last course of shingles ❶. Bend Trim Coil as if forming headwall flashing, and attach above the transition area using nails or screws 18" o.c. ❷. Flashing should overlap last course of shingles minimum 3 ½". Also lap underlayment over the top portion of the transition flashing. (not shown)
- Install METALWORKS Starter Flashing over transition flashing ❸. Bend the Starter Flashing's edge to lay flat and create lock for next course of shingles. Fasten Starter Flashing 18" o.c. two rows in staggered pattern.
- The first course of shingles above the transition locks to the new starter installed over the transition flashing ❹.
- For a gambrel transition install METALWORKS Starter Flashing at the transition point. Refer to Starter/Eave Section.

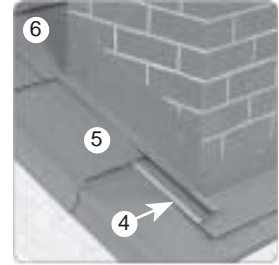
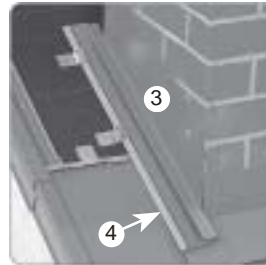


Chimney/Skylight Detail

- Cut the last course of shingles below the chimney or skylight as close as possible to the chimney/skylight ❶.
- Install headwall flashing to the bottom of the chimney/skylight using METALWORKS Trim Coil ❷. (refer to Headwall Detail Section)
- Install Sidewall Flashing to the sides and extend over the last course of shingles below chimney/skylight ❸ and over headwall flashing ❹. (refer to Sidewall Detail Section)
- Finish shingles around chimney/skylight ❺.

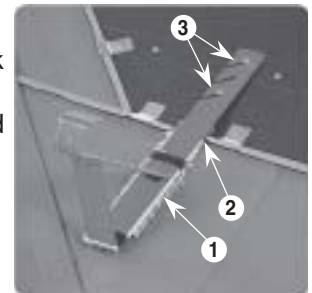


- Cut and fold back top lock of shingle(s) directly above the chimney/skylight and install a pan flashing ❻ using METALWORKS Trim Coil so that the next course of shingles will lap over the flashing.
- Counter-flash and apply sealant as necessary.
- Large chimneys on steep roofs may require a cricket or saddle.



Roof Jacks

- **Place protective padding (i.e. carpet, foam insulation) under roof jack to prevent damage to the shingle on which it rests ❶.**
- Cut and fold back the top lock of shingle to allow for roof jack insertion ❷.
- Place roof jack on shingle and nail through slot in roof jack above shingle ❸.
- Notch and open bottom lock on shingle directly above roof jack and install the shingle over the jack.
- After roof jack has been removed, fold opened section of bottom lock back into place and apply sealant.



Important: All detail work demands careful consideration. It is important to consider water flow and overlap materials in proper sequence!

Snow Guards

- Cut and fold back top lock of shingle directly above location of snow guard. (As with roof jack installation)
- Apply adhesive to underside of snow guard and fasten above shingle. Apply sealant where lock was folded back.
- To retrofit a snow guard on an existing roof, apply adhesive to underside of snow guard, slide top of snow guard under top lock of shingle, fasten through shingle, apply sealant to fasteners, and slide sleeve over fastener heads and under edge of shingle above.
- The use of snow guards should be considered in areas where snow & ice accumulate. Check with snow guard manufacturer for placement layout.

Touch Up Paint

- Apply METALWORKS Touch Up Paint to any and all scratches or scrapes. Shake bottle well before use.
- **Use only paint supplied by TAMKO METALWORKS.**
- No spray paint of any kind should be sprayed or over sprayed on TAMKO METALWORKS products.



Removal & Replacement of Existing Shingle

- When removing a damaged shingle in the field area, it is advisable to cover the surrounding shingles to prevent possible damage to the finish.
- Slide siding zipper tool under the locks and work open.
- Remove clips from the shingle and remove damaged shingle.
- Install new shingle, slide into locks and use screws to attach through new clips.
- Reset remaining shingles and close locks.

UL Class "A" Fire Rated Roof

- For roof applications requiring Underwriters Laboratories, Class "A" fire rated roof, the entire roof area must be covered with 1/4" (6cm) Georgia-Pacific® DensDeck®, 1/2" gypsum board, or VersaShield® (one or two layers, depending on local building codes). One of the products listed above must be applied directly over the sheathing or existing roof and underneath the underlayment the with the joints staggered a minimum of 6" (15.2cm), both horizontally and vertically, from the sheathing and must be fastened in accordance with the manufacturer's specifications. One layer of No. 30 Felt underlayment shall be applied over the selected product.
- Reroofing – suitable for installation over existing Class A asphalt fiberglass shingles with a minimum 15/32" (1.2cm) thick plywood decking.

UL Class "C" Fire Rated Roof

- Minimum 15/32" sheathing and one layer of No. 30 Felt underlayment shall be used in roof applications requiring Underwriters Laboratories, Inc. Class "C" fire rated roof.

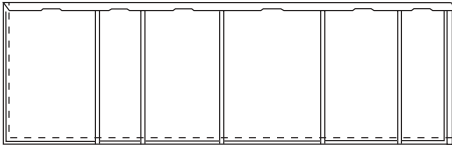
Reroofing

- Can be installed over up to two layers of asphalt shingles.
- Check your Local Building Code. Building Code restrictions may apply.

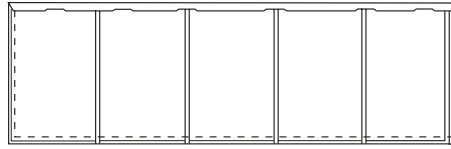
Disclaimer: It is the responsibility of the installer to ensure installation is completed according to directions, and that all construction by-laws and codes are met. TAMKO is not responsible for damage of any kind resulting from faulty or improper installation.



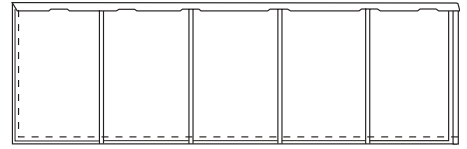
Shingles



AstonWood™ Shingles
 30 pc/ctn. - 98.5 sf/ctn.
 18 ctn./single pallet
 36 ctn./double stacked pallet



StoneCrest™ Slate Shingles
 15 pc/ctn. - 49.25 sf/ctn.
 24 ctn./single pallet
 48 ctn./double stacked pallet

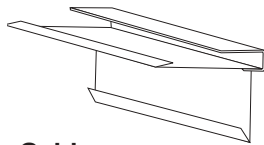


StoneCrest™ Tile Shingles
 15 pc/ctn. - 49.25 sf/ctn.
 24 ctn./single pallet
 48 ctn./double stacked pallet

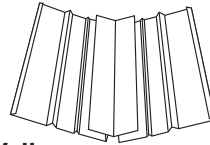
Accessories



Starter
 10 pc/ctn. - 100 lf/ctn.
 50 ctn./pallet



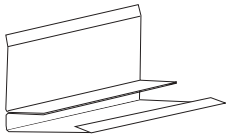
Gable
 10 pc/ctn. - 100 lf/ctn.
 25 ctn./pallet



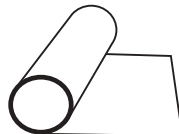
Valley
 5 pc/ctn. - 50 lf/ctn.
 24 ctn./pallet



J-Channel
 10 pc/ctn. - 100 lf/ctn.



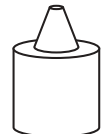
Sidewall
 5 pc/ctn. - 50 lf/ctn.
 25 ctn./pallet



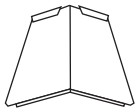
Trim Coil
 22-1/4" x 50'
 1 pc/ctn.
 30 ctn./pallet



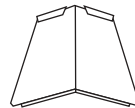
Hip & Ridge Seal
 4" x 50'
 1 pc/ctn.



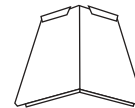
Touch Up Paint
 2 oz/btl.
 12 btl/ctn.



**Hip Caps Tapered
 AstonWood™**
 50 pc/ctn. - 50 lf/ctn.
 36 ctn./pallet



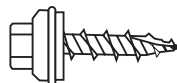
**Hip Caps Tapered
 StoneCrest™**
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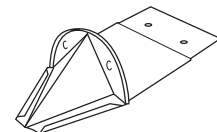
12" Ridge Caps
 25 pc/ctn. - 25 lf/ctn.
 45 ctn./pallet



Clips
 400 pc/ctn. - 100+/- pc/sq.
 80 ctn./pallet



Colored Screws
 50 pc/bag
 18" oc - 75 lf/bag



Snow Guard
 100 pc/ctn.

