



INSTALLATION GUIDELINES: PARAGON MISSION AND HIGH BARREL TILE

General Information: The information provided is a guideline and does not imply responsibility for the final installation. All applications should be done in accordance with local building codes in your area.

Product Description

Mission Tile and High Barrel Tile: Length: 17.125 inches; Width: 13.125 inches; exposure 14 inches
Eave Starter: Length: 12 inches
Ridge Closure: Length: 12 inches
Hip and Ridge Trim: Length: 16.25 inches; Width: 10.75 inches to 9.25 inches
End cap: Height 2 inches; Width: 11 inches
Bull Nose: Length: 17.5 inches; Width: 9.75 inches to 9.25 inches
Rakes: Length: 17 inches; Width: 7.5 inches to 7 inches

Storage

Mission and High Barrel Tile needs to be stored on a flat surface. The tile can become twisted or bent if stored on an uneven surface and could cause a concern; therefore, the tiles should not be installed if bent or twisted.

Color Blending

It is recommended for both solid and multi-colored Mission and High Barrel Tile that the installer load the roof out of three (3) pallets rather than a single pallet. Good blending is the responsibility of the installer.

Fastener Requirements

Paragon Mission and High Barrel tile should be installed with two corrosion resistant fasteners such as stainless steel type (304 or 316), hot dipped zinc coated, copper, aluminum or corrosion resistant roofing nails with a $\frac{3}{8}$ " diameter head and of a length sufficient to penetrate through the decking $\frac{1}{2}$ " minimum. Use caution to insure against over/under penetration. All tile will be fastened with two fasteners in the pre-marked indicators. Mission and High Barrel tile can be gun nailed by lining up nail gun to guide.

Roof Slope

The minimum roof slope recommended is 4:12.

Decking

Solid deck: minimum of 15/32" CDX plywood deck or equal.

Underlayment

Ice and Water Shield: Single layer of 36 mil rubberized asphalt on 4 mil polyethylene carrier sheet; 36" wide sheet in all valleys recommended. Install one row 36" wide along all eaves (extended 3' inside plate line), around dormers, skylights and roof projections. Lap end joints 6" and side joints 3". Always refer to local building codes. Note: Ice and Water Shield should not be installed over felt.

Felt: Minimum requirement on a solid deck is one layer Type II, #30 felt which meets ASTM D226. Overlap Ice and Water Shield no less than 2" or install beginning at the eave and overlapping fascia board or metal roof edging, if installed. Lay parallel to eave. Cover the roof deck with felt maintaining 2" head laps and 6" end laps. Hips and ridges should be lapped 6".

Metals

Valleys- minimum recommendations, 16 oz copper, 24 - 26 ga. Corrosion resistant metal such as stainless steel, color clad steel or color clad aluminum. Standard eave drip starter strips and gable edge strips can be used.

Venting

Venting is important and needs to be thought out thoroughly. Generally, for every 300 feet of attic floor space, one square foot opening in the roof is needed. Fifty percent (50%) needs to be at the eave line. If screening is involved, double the opening areas.

Snow Guards

Due to the textured surface of the tile, snow guards should be considered if applicable.

Cold Weather Installation

It is recommended that Paragon Mission and High Barrel Tile not be installed in temperatures below 20° F. (-7° C)

Roof Preparation-surface area should be uniform, smooth, sound, clean and free of irregularities.

- Metal Flashings and other specialty flashings must be in place prior to installation of Mission and High Barrel tile.
- Work by other trades, which penetrate the roof plane, must be completed prior to tile installation.
- Underlayment. Install Ice and Water if applicable at eaves, in valleys, and around all roof protrusions. Install minimum Type II, #30 felt over rest of roof. Install parallel to eave line.

Layout

The starter course will be applied using the starter pieces at the eaves. Eave starters measure 12" long. The starter piece should be placed flush with the edge of the fascia and fastened with two roofing nails. The tiles are laid from right to left. After the first starter piece has been installed and the tile fastened, the next starter will need to be placed under a tile and the tile should be dry fit to the first piece of tile. It is important that the tiles fit properly within the designated rain channels. After the tiles have been dry fitted, mark the location of the second starter and secure. Follow these same procedures for the remaining starters. This will allow for a small space between the starters and a more uniform fit of the field tiles. **DO NOT SECURE THE ENTIRE LENGTH OF STARTERS ALONG THE EAVE EDGE.** By placing the starters tight against each other, the tiles may be forced to ride above each other. Eave starters should extend past gable fascia and be cut at an angle to support the bottom rake.

Field tile must be placed over the starter with the starter between the two bottom reinforced ribs of the field tile. Horizontal and vertical lines shall be chalked on the felt to guide application of the tiles to obtain an aesthetic installation that is true and plumb. Snap a chalk line at the top of the roof 1 ½" down from the center of the ridge. With a tape marked every 14", lay the tape vertically from the top of the first course to the line near the ridge at either end of the roof. If a mark on the tape does not fall exactly upon the top line, move (swing) the tape right or left until the mark intersects the line; mark the deck at every mark on the tape. Repeat these steps at the other end of the roof. Snap lines between the marks on the deck. This will assure that all courses will be of equal exposure and the minimum recommended headlap is maintained. Vertical alignment must be planned to assure a symmetrical installation. For best results, it is recommended that the first three tiles be laid at the eave course. Measure the distance of the leading edge of the third tile back to the rake edge. Mark this measurement at the ridge and chalk a vertical line. Repeat this procedure every third tile across the roof to maintain proper vertical alignment. Install first vertical run up the gable edge. Rake edge trim can be installed as the tiles are laid along the gable edge or after the tiles are in place.

Rake Installation

The rake trim is universal and will fit either right or left rakes. The rake edge trim should be placed so the edge of the rake trim butts against the nose of the next course of field tile. After installing the first course rake edge, trim the excess flush to the eave edge of the first course of tiles. Check to make sure the rake fascia is covered with underlayment or sealant. Be sure to use adhesive on the underside and the top edge of the rake tile. Secure the rake edge trim with two (2) non-corrosive ring shank nails or screws. Fasteners should be 1 ¼" from each end and 1" up from the bottom of the rake trim. After the first rake edge piece has been installed and trimmed, use full length rake edges to finish to top ridge. At the top ridge, the rake trim from each edge should be mitered to be symmetrical and plumb.

Valleys

Either an open or closed valley design can be used. Generally formed in 10' sections, valley flashings should be lapped 8" in the direction of the flow. The top of each section should be fastened with nails compatible with the flashing.

A. With an **open valley** design, leave a minimum 4" opening at the top of the valley, graduating ½" per 8 linear feet down slope. For roof slopes of 4:12 or greater, valley flashing should be center crimped, painted, galvanized steel, aluminum, copper or stainless steel and extend a minimum of 11" on each side of the valley centerline. For roof slopes less than 4:12, valley flashing should extend no less than 14" each side. Cut tiles flush to the 2" diverter.

B. With a **closed valley** design, a single W crimp valley flashing may be used with a 28" stock with a minimum 2" center rib. Be sure to cut the tiles flush to the 2" diverter.

Flashings

- 1) Flashings should be used around all roof projections, such as walls, chimneys, dormers, parapets, vent pipes, skylights etc. Proven durable flashing materials are copper, tin, lead, galvanized iron and stainless steel. A lead stack vent for plumbing pipes is recommended.

NOTE: When dissimilar metals are placed in contact with one another, galvanic action will result which can cause electropositive metals to deteriorate. One way this can be avoided is by placing strips of sheet lead between the two metals.

- 2) **Base flashings** are flashings that are used over or under the roof coverings and are turned up on the vertical surface.

Base flashings should extend under the uppermost row of Mission and High Barrel tile the full depth of the tile or at least 4" over the tile immediately below the metal. The vertical leg of the metal should be turned up a minimum of 4" and extend 4" on the tile with a ¾" hem.

- 3) **Cap flashing** (Counter flashing) is metal built into the vertical surface of a roof and bent down over the base flashing.

Where base flashing is not covered by vertical siding, a cap flashing should be built into masonry joints a minimum of 2", extending down over the base flashing 4" with the edge bent back and up ½".

- 4) If chimney is more than 30" in width, a saddle flashing is recommended to help divert rain and snow.

Hip & Ridge Detail

The hip and ridge nailer should be of sufficient height to maintain an even plane of the hip and ridge tiles. The height of the nailer will vary depending on the slope of the roof and should be 1 ⅝" in nominal thickness. The use of a Ridge Bracket is recommended. 1) Trim the tiles to fit against the nailer as close as possible. 2) Apply sealant where the tile intersects with the nailer. 3) The nailer should then be wrapped with a self-adhered membrane and sealed to the tile surface.

The hip nailer should be held back 4" from the outside corner of the eave. The Hip Starter or Bull Nose should be nailed to the hip nailer with a corrosion resistant nail of a minimum of ½" to penetrate the nailer. A bead of sealant is recommended in the lap joint of each hip tile. The hip tiles are installed maintaining a 4" headlap. At the apex of the hip, a lead soaker flashing is recommended under the mitered apex tile. The mitered joints in the apex should be sealed and painted to match.

The Top Closures are installed to close the tile at the top ridge and any vertical surface, i.e. chimneys, headwalls, parapet walls, dormers, curbs, etc. A minimum of a 3" corrosion resistant fastener is required to secure the Top Closure to the final course of tile. It is important to note that the location of the fastener should be applied over the high side of the barrel. The fastener should be located 1 ¼" back from the front edge of the Top Closure. The Top Ridge tiles are installed maintaining a 3 ½" headlap. The Top Ridge should be secured to the nailer with one (1) corrosion resistant fastener long enough to penetrate the nailer a minimum of 1". A bead of sealant is recommended in the lap joint of each Top Ridge.

Warranty

Paragon Roof Systems warrants its products for a 50-year period and applies to the product only and not the workmanship of the installed product. The roofing contractors should provide a separate warranty of their own.