

1-Piece “S” & ClayLite® Tile

LAYOUT AND ALIGNMENT GUIDE





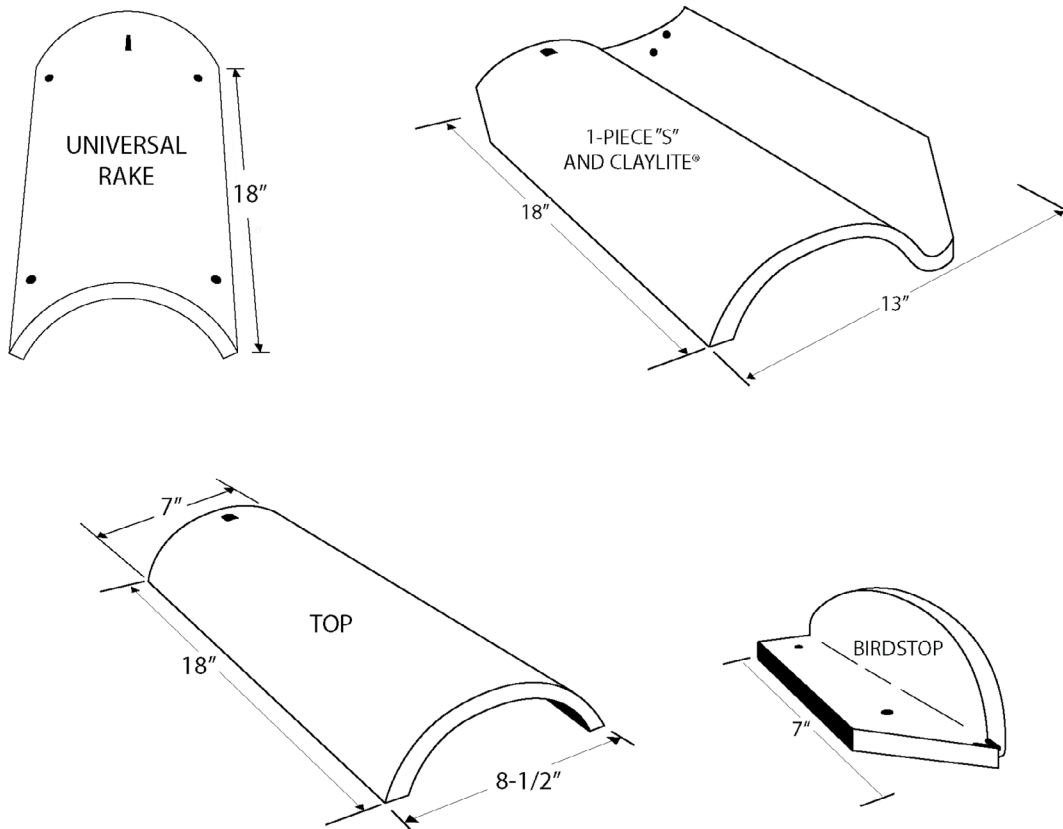
| | "S" Tile | ClayLite® |
|-----------------|----------|-----------|
| NOMINAL WIDTH* | 13" | 13" |
| NOMINAL LENGTH* | 18" | 18" |
| HEIGHT | 3" | 2 3/4" |
| MINIMUM HEADLAP | 3" | 3" |

| | "S" Tile | ClayLite® |
|---|----------|-----------|
| APPROX. TILES PER SQ. AT RECOMMENDED HEADLAP | 88 | 88 |
| APPROX. WEIGHT PER SQ. AT RECOMMENDED HEADLAP | 800 lbs. | 590 lbs. |

***Tile Size Disclaimer:** Kiln fired clay roof tiles are allowed, by ASTM C1167, a plus or minus 5% variance from the manufacturer's stated "nominal dimensions." Due to these allowable tolerances, it is the installer's responsibility to (a) verify the delivered roof tiles' dimensions prior to commencing with the roof layout, (b) verify that the delivered roof tiles are compatible with the proposed fastening system prior to installation and (c) insure that the installed tiles are installed with a minimum 3" headlap and within the maximum on-center spacing requirements.

Notice: US Tile® clay roofing tiles shall be installed in accordance with the *Concrete and Clay Roof Tile Installation Manual for Moderate Climate Regions* (ICC-ES ESR-2015P) published by the Tile Roofing Institute (TRI). THIS GUIDE IS PROVIDED TO ASSIST THE ROOFING CONTRACTOR WITH ONLY THE ALIGNMENT ASPECT OF THE ROOFING TILES THEMSELVES, ALONG WITH BASIC PICTORIAL REPRESENTATIONS OF OUR PRODUCTS FOR ARCHITECTS AND DESIGNERS. Where doubt exists about any of THE ASPECTS OF THIS GUIDE, please refer to the TRI Installation Manual for clarification BEFORE COMMENCING WITH INSTALLATION.

Disclaimer: This alignment guide is being furnished as general information to users of US Tile® products. US Tile® is only the manufacturer of clay roofing tiles. The installation of the roofing tiles is the responsibility of the roofing contractor and must be performed in accordance with prevailing building code requirements. In some instances, a licensed engineer must also approve the roofing tile installation. Accordingly, Westlake Royal Roofing LLC makes no representations or warranties of any type regarding (1) the effectiveness of any particular method installation, (2) the accuracy of the information contained herein: or (3) the suitability of its materials for any particular application.



TILE LAYOUT / ALIGNMENT

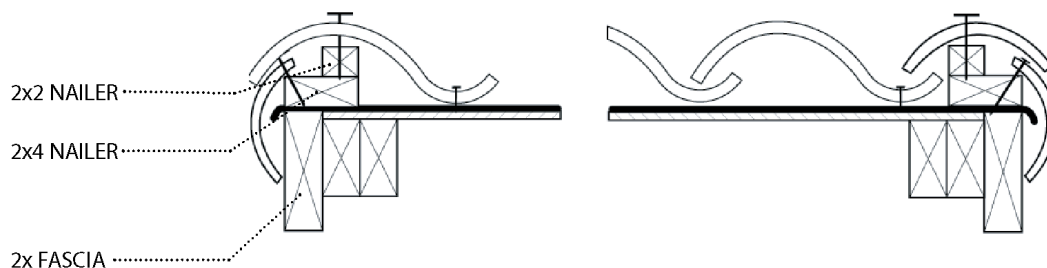
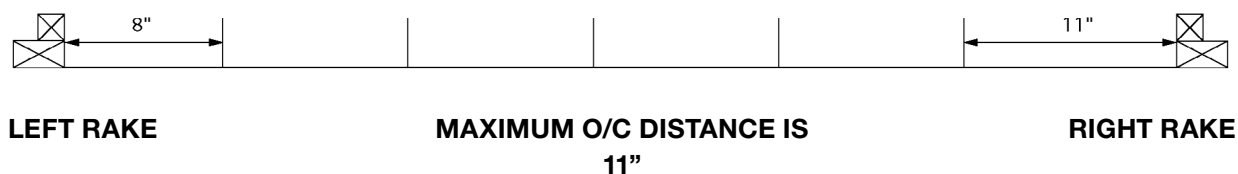
1-Piece "S" and ClayLite® tiles can be installed using a multitude of application techniques to achieve a wide variety of architectural effects. The specifier or owner should properly specify and identify all application details, such as boosting, mortar set, 2-Piece eave detail, open or closed valley detail, eave closure type, hip detail, etc., before job commences.

VERTICAL ALIGNMENT

1-PIECE "S" AND CLAYLITE® TILES

The vertical lines (or on-center spacing) for 1-Piece "S" and ClayLite® are marked perpendicular to the horizontal course lines. This can be accomplished by marking the eave and ridge course lines with the positions of the vertical lines, typically the inside of the tile. On gable roof decks, the first vertical line should be marked approximately 8" from the inside of the left rake nailer board. The first vertical line for the right gable end should be marked approximately 11" from the inside of the right rake nailer board. Measure between these two lines and divide by 11" (the maximum on-center spacing) to determine the number of vertical rows of tile needed. The on-center "spacing" (or distance) of the tile can be adjusted between 10 1/2" and 11" in an attempt to finish with a full tile at the gable ends.

If starting from a gable end to a hip or valley, the on-center distance should also be 11". After the vertical lines are marked along the eave as described above, mark the on-center spacing along the ridge perpendicular to the previous marks along the eave. Care must be taken that the vertical lines are snapped at right angles to the course lines. Vertical alignment can be checked with the use of a large carpenter's square (along the eave) and by "swinging" a vertical line to the ridge in an effort to determine a true 90 degree angle.



COURSE SPACING

HORIZONTAL OR COURSE LINES FOR 1-PIECE “S” AND CLAYLITE® TILES

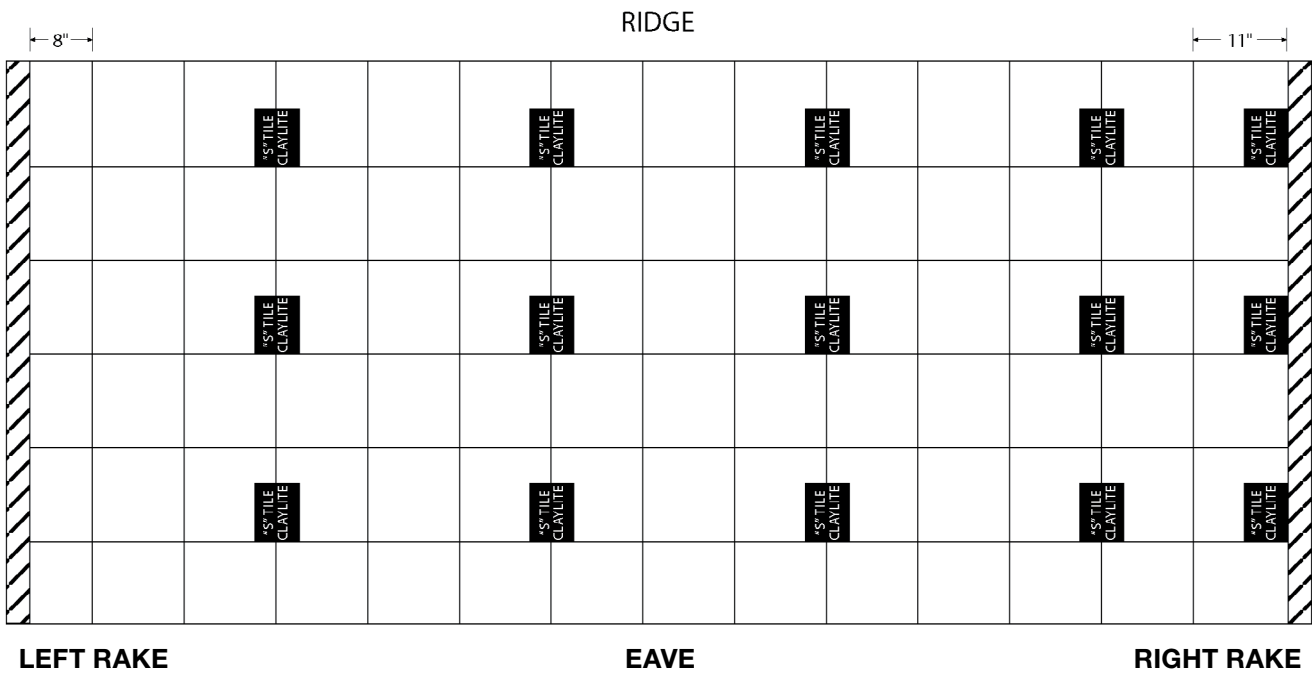
Always verify the length of the “delivered” roof tile before commencing with roof layout to ensure that the tile is installed with a minimum 3” headlap.

1-Piece “S” and ClayLite® tiles require both horizontal and vertical course lines to ensure proper alignment. The first course line is determined by subtracting the overhang from the length of a full tile at the eave. The use of rain gutters and type of eave closure should be considered before determining tile overhang. The first tile course line should then be marked and snapped with a chalk line.

Next, mark a reference point by measuring 1-1/2” down from the center of the ridge, plus the distance of one course of tile. Measure up the roof slope from the first course line at the eave to the marked reference point near ridge and then divide by 15” (the maximum exposure for an 18” tile). If needed, decrease the course lines in small increments (typically no more than 1/4”) in an attempt to finish with a full tile at ridge.

If the last course at the ridge can not be terminated with a full tile, move the mark for the last full course at the ridge up, as needed, to avoid reducing the exposure by more than 1/4” per course. Cut the last course of tile to the proper length and fasten along the ridge. Strips of shim stock may be needed under the head of shorter cut tiles to avoid excessive gaps at the butt end.

Mark roof deck for each course of tile and snap chalk lines over entire section.



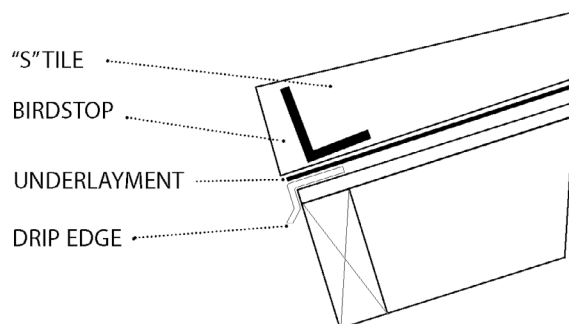
LOADING GUIDE

1-Piece “S” and ClayLite® tiles are installed by starting from left side of the roof deck. The typical loading pattern is to start stacking tile on the third course line up from the eave and on the third vertical line in from the left rake nailer board. Continue loading the roof by placing stacks of six tiles every third vertical row across the roof deck and every other course line going up the roof deck. The stacks of tile along the ridge line will be either six or nine tiles, depending on the number of remaining courses. The stacks of tile along the right rake will be either six or three tiles depending on the number of remaining vertical rows. 1-Piece “S” and ClayLite® tiles use a separate rake tile at both the left and right rakes and an additional top at every right gable end. Stack these trim tiles beside the field tiles at gable ends (rakes).

BIRDSTOP & FIRST COURSE OF FIELD TILE

1-PIECE "S" AND CLAYLITE® TILES

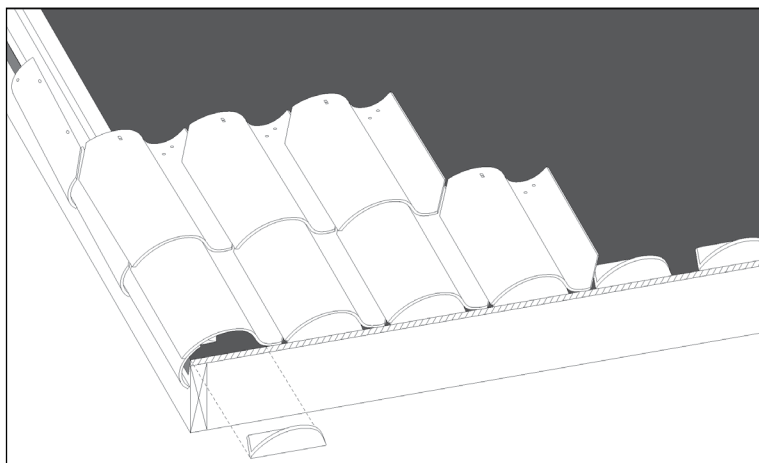
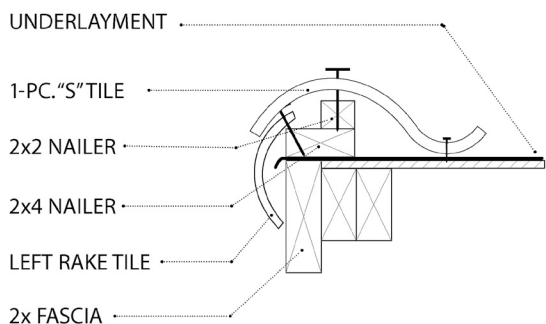
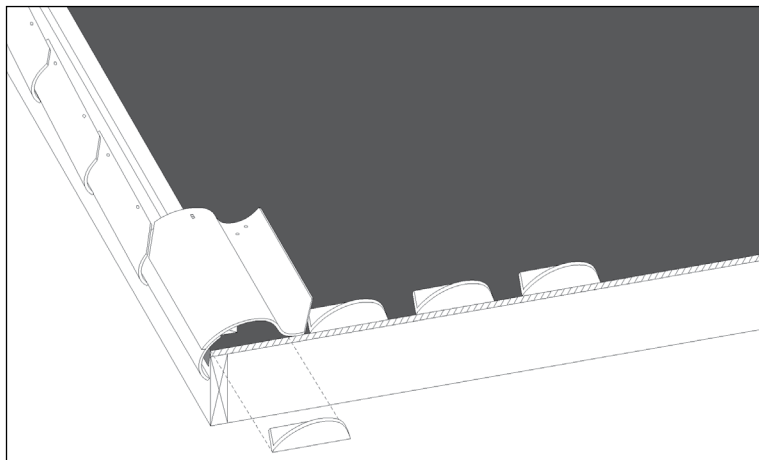
Place clay birdstops along the eave by using the same vertical lines as the field tile. Install the left rake tile (when starting from a gable end) and then place the first field tile over the rake tile. Continue installing the first course of field tile along the eave following the pre-marked vertical lines. Ensure that the birdstops are properly centered within the barrel section of the tile before continuing with the installation of the remaining field tiles.



SET EAVE COURSE TO DESIRED OVERHANG

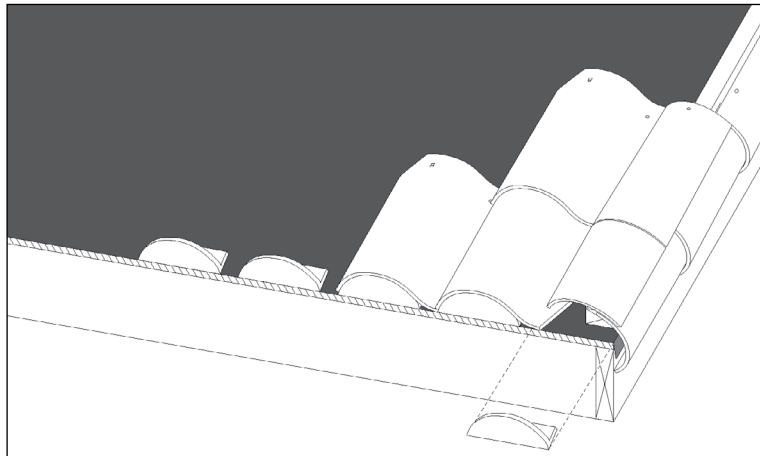
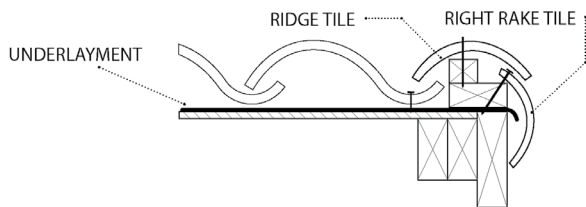
LEFT GABLE END

The left gable rake tiles are installed prior to setting the field tiles. After setting the first left rake tile, the following three rake tiles exposure will need to be increased by approximately 1" along with cutting a diagonal notch at the same angle as the "S" field tile on the second through the forth left rake tile. The diagonal cut size on the rake tiles can be reduced as you continue up the rake until a typical 3" off-set is obtained from the field tiles.

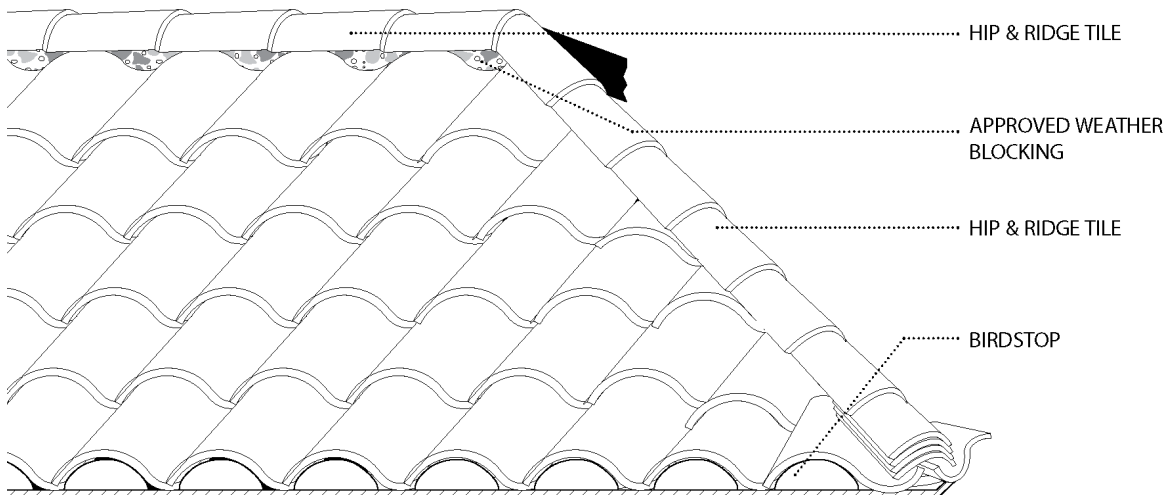
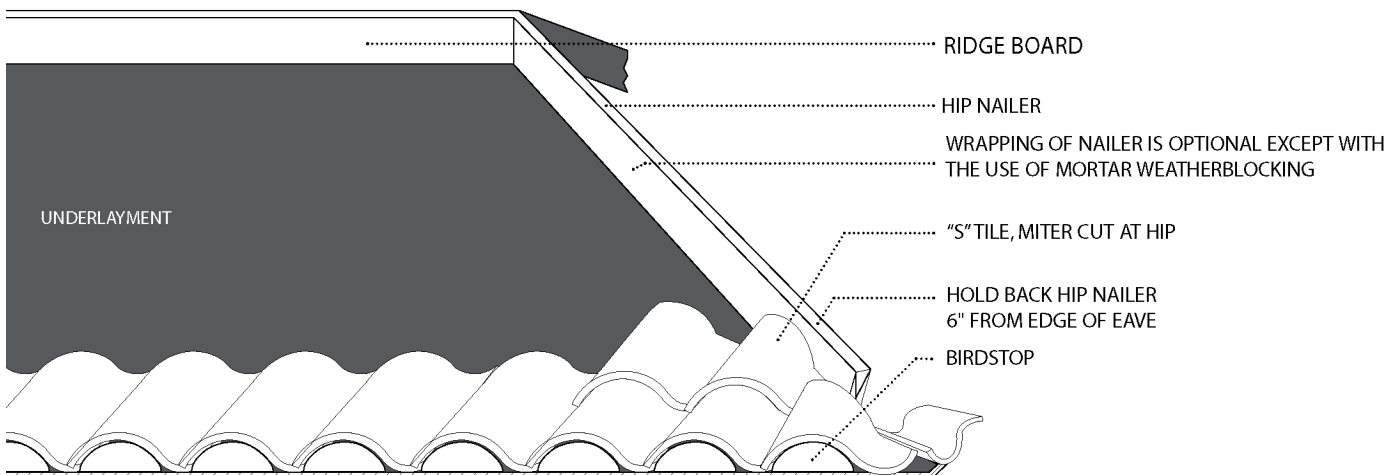


RIGHT GABLE END

The right gable rake tiles are installed prior to setting the additional top over the field and rake tile. The first top at the right gable end will need to be cut by approximately 3" and drilled with a small hole to allow for fastening into the nailerboard. The following courses of top tiles are abutted up to the next right rake tile until finished at the ridge line.



HIP AND RIDGE DETAILS



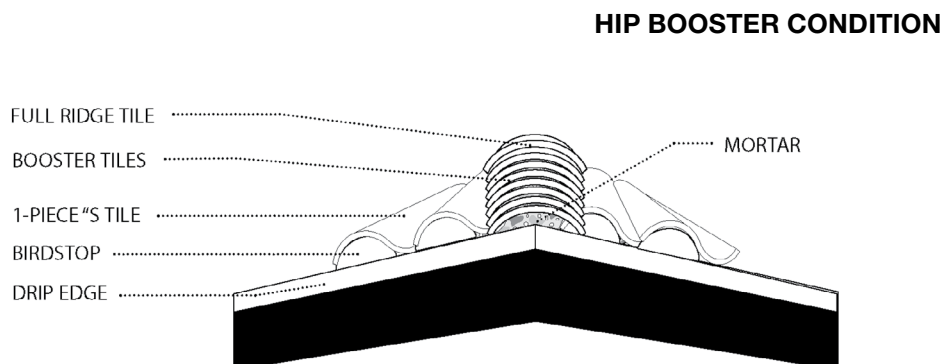
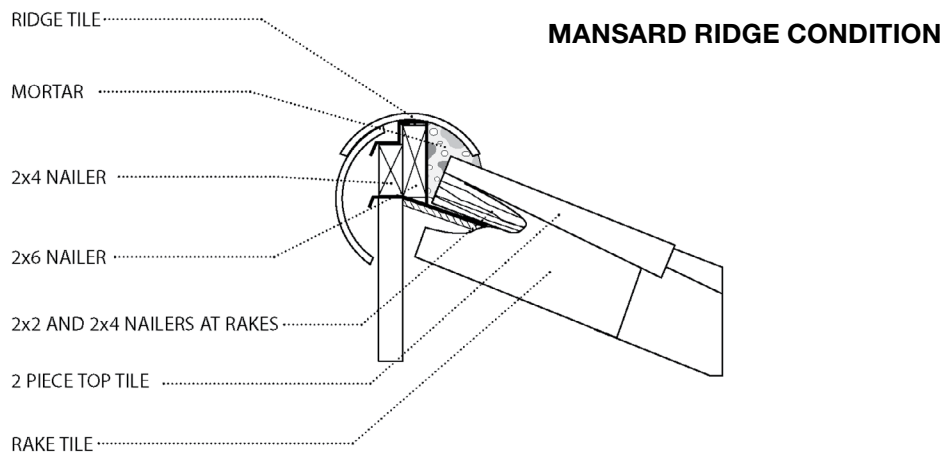
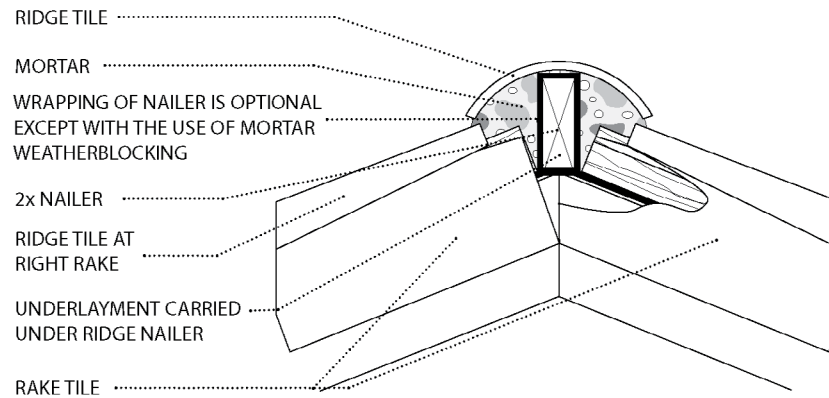
STANDARD HIP AND RIDGE CONDITION

Nailer boards are to be of sufficient height to maintain an even plane of the trim tiles. The typical nailer board sizes are as follows:

1-Piece "S" Tile - Nominal 2 x 6

ClayLite® - Nominal 2 x 4 with additional 1 x 2 batten(s) due to the slightly lower profile

Note: Some roof slopes may require a different nailer board size.



WARRANTY

U.S. Tile® clay roof tiles come with a Transferable Limited Clay Product Warranty that includes color fade limited coverage. Please see our website at WestlakeRoyalRoofing.com for details.

COLOR

Colors depicted may vary from actual colors due to the inherent variations in natural clay products and the limitations of the lithographic printing process (or variations in equipment and monitor settings).

The concerned parties should examine actual color samples at both the time of initial color selection and once again from the delivered production run prior to roof loading and installation.

In order to avoid unattractive color patterning during the installation of blended colors, the skilled installer should periodically view the roof from ground level at the distance of about 50 feet and make any necessary corrections. This will help ensure that any “hot spots,” checkerboarding, streaks, or stairstepping in the finished roofscape will be avoided. Proper blending can only be achieved as the product is loaded and installed to prevent undesired color patterning.

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