

Boral **Roofing**
Build something great™



Cedarlite® 600/Madera 900/700

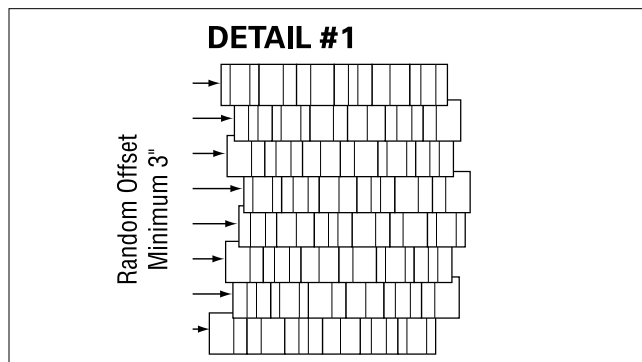
FLORIDA INSTALLATION GUIDE



GENERAL:

Cedarlite® 600 and Madera 900/700 have four different shake detail patterns and it is suggested that they be applied in a random, broken-bond with a minimum 3" offset (see detail #1) between the sidelaps of adjacent courses. Sidelaps in alternate courses shall not be in direct alignment.

Due to the irregular nose treatment of this tile, some variance from a 10" exposure can be expected in order to maintain a minimum 3-1/2" headlap.



SLOPE SPECIFICATIONS:

Cedarlite® 600 and Madera 900/700 may be installed on roof slopes 2:12 and greater.

On roof slopes less than 3:12 (mortar/adhesive set system only), a sealed underlayment system is required.

SHEATHING:

Cedarlite® 600 and Madera 900/700 must be installed over solid decking. See the current TRI/FRSA Concrete and Clay Roof Tile Installation Guide and Miami-Dade Roofing Application Standard (RAS) 118 or 120 for High Velocity Hurricane Zone (HVHZ). Nailing of substrate must be done in accordance with ICC or Miami-Dade requirements as applicable.

Sheathing minimum 15/32" plywood or as required by local building department.

UNDERLAYMENT:

Refer to current TRI/FRSA Manual. On roof slopes under 4:12 a sealed underlayment system is required. For requirements in HVHZ, refer to RAS 118 and 120.

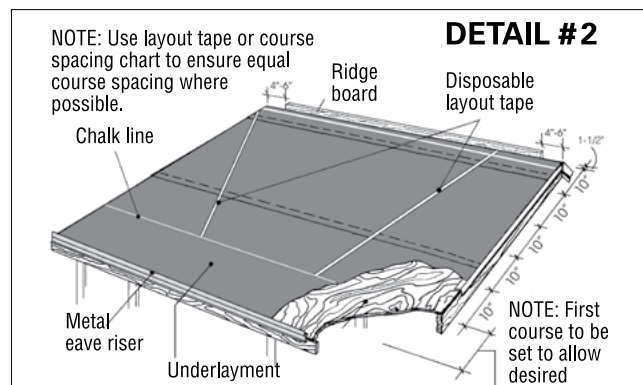
Refer to manufacturer's guidelines for alternative underlayment installation requirements i.e. self-adhered membranes.

All penetrations or cuts through the underlayment, e.g. vents, stacks, skylights, etc., must be sealed in accordance with acceptable roofing practice and local codes. Underlayment must be completely watertight before Cedarlite® 600 or Madera 900/700 is installed.

For two-ply underlayment systems using mortar/adhesive set, refer to current TRI/FRSA Manual for anchor sheet fastening pattern.

COURSING:

Cedarlite® 600 and Madera 900/700 may be laid with a variable headlap to prevent cutting of the top course. The use of a premarked layout tape with 10" coursing will maintain the minimum 3" headlap. The first course is marked at a maximum of 12-1/2" from the edge of the roof, and the last course is marked 1/2" from the ridge. Hold the layout tape perpendicular to the eave and swing the tape until the top mark is 1/2" from ridge to mark course spacing (see detail #2).



LOADING:

The method of roof loading shown (see details #3, #4, and #5) represents one method of placement for efficient application but is not intended to suggest that this is the only method that will work. Each applicator will have personal preferences for stack location and spacing. The important aspect of loading is to spread the load evenly across the roof while using proper increments that assure that the proper amount of tile is loaded on the roof.

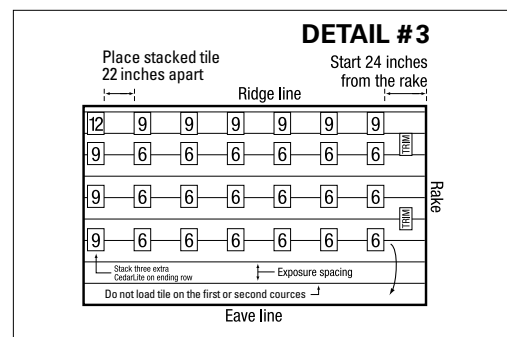
TYPICAL GABLE ROOF:

Lay out stacks beginning from the ridgeline down to the eaves. Place stacks 22 inches apart and always start at the right side.

Repeat procedure every other course thereafter.
Do not load stacks on the first course from the eave.

Detail #3 represents a roof with an odd number of courses, placing six tiles in a stack along the eave course. If there is an even number of courses on the roof, the tiles will need to be stacked in stacks of twelve on the ridge.

See detail #3 for number of tiles per stack.



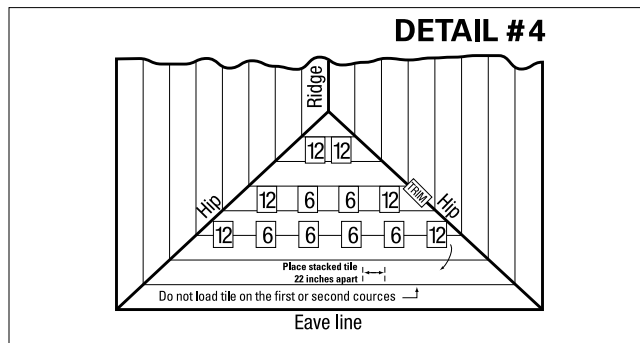
TYPICAL HIP ROOF:

Lay out stacks beginning from the eave up. Place stacks on the second and third course from the eave and at every other course up to the top of the hip. Place stacks 22 inches apart and always start from the right side.

Stacks which sit next to the hip line should have twelve tiles to compensate for the cut pieces that will be filled in.

Number of tiles in stacks at far left may vary due to roof size.

See detail #4 for number of tiles per stack.



TYPICAL VALLEY ROOF:

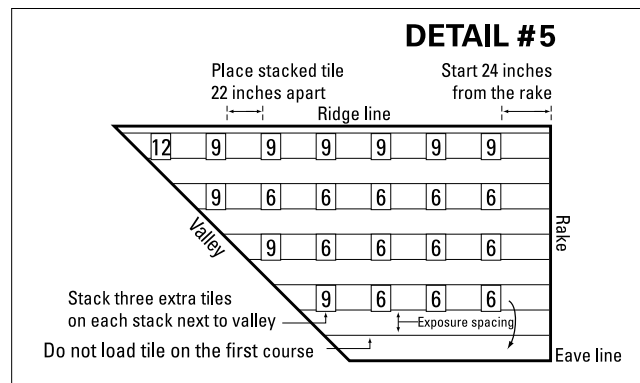
Lay out stacks beginning from the ridgeline down to the eaves. Place stacks 22 inches apart and always start at the right side.

Repeat procedure at every other course thereafter. Do not load stacks on the first course from the eave.

Stacks which sit next to the valley should have three extra pieces to compensate for the cut pieces that will be filled in. Do not load product within the 24" valley zone where the valley metal will be placed.

Number of tiles next to the valley will vary due to roof size.

See detail #5 for number of tiles per stack.



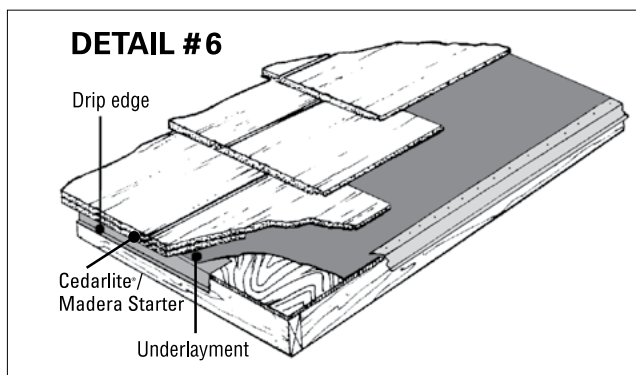
EAVE TREATMENT:

The nose end of the tile shall extend beyond the eave approximately 1".

There are two options to install the eave course as below:

A. Cedarlite® 600 or Madera 900/700 Starter:

For single-ply underlayment system, cover all exposed plywood with drip edge. Install Starter at desired overhang (see detail #6). Refer to current TRI/FRSA Manual for any requirements of separator sheets between deck and metal drip edge and the use of multi-ply underlayment systems.



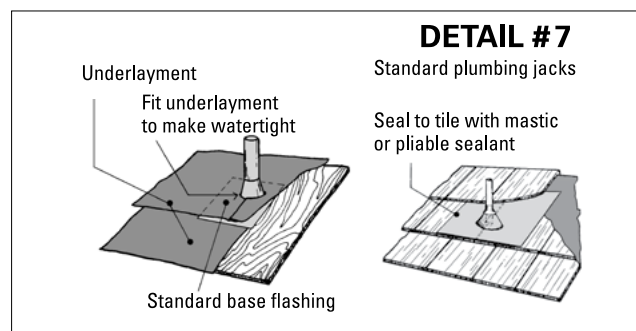
B. Metal Eave Riser:

For use of 7/8" metal eave riser refer to current TRI/FRSA Manual for use with all underlayment systems.

PIPE FLASHING:

Install the base flashing in shingle fashion with the underlayment. Seal all penetrations through underlayment.

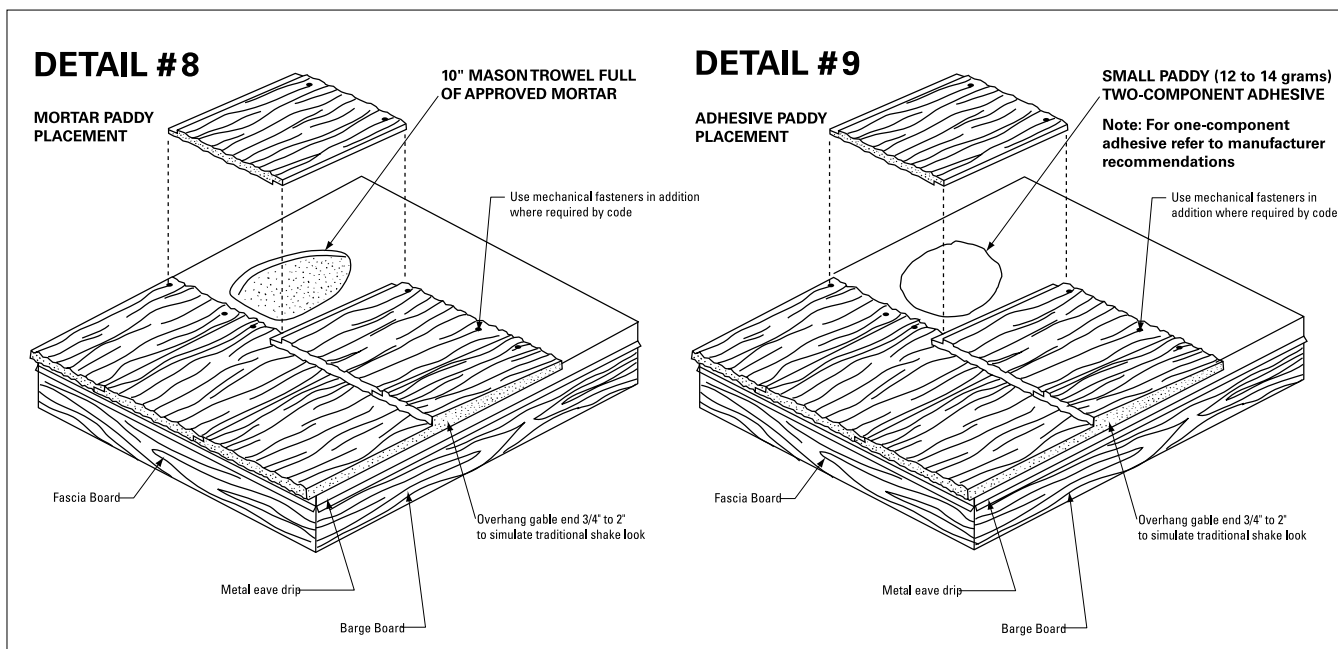
The primary flashing must be installed shingle fashion with a minimum 3" headlap (see detail #7).



FASTENING:

The tile shall be attached to resist the aerodynamic moment determined when using the design pressures for building and fixing calculations set forth in the local building code.

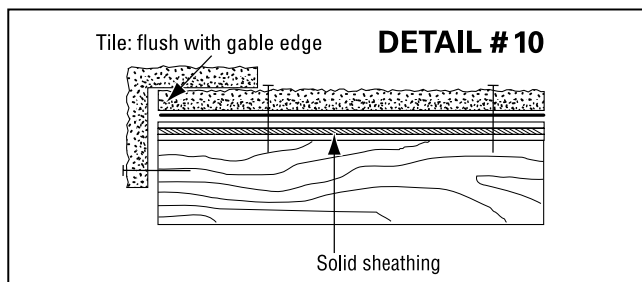
For HVHZ use Boral Roofing NOA #12-0308.13 for Madera 900, NOA #12-0308.14 for Madera 700 and NOA #12-0308.15 for Cedarlite® 600.



RAKE OR GABLE END TREATMENT:

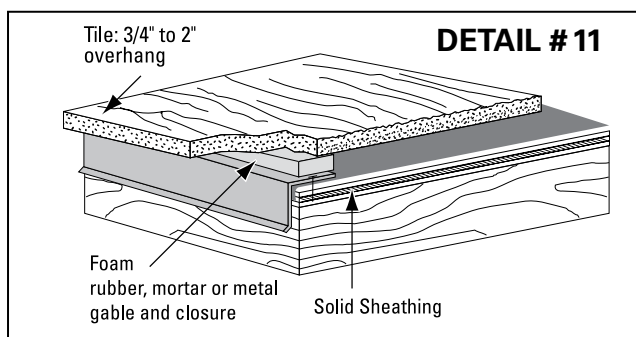
There are two options to complete the gable edge of the roof:

- A. Tile is applied flush to the gable edge. Rakes are fastened with two corrosion resistant fasteners of sufficient length to penetrate minimum 3/4" into barge rafter (see detail #10).



- B. Each course will extend 3/4" to 2" over gable edge to simulate traditional wood shake appearance. It is important to cut each rake course to ensure desired aesthetics. An optional 3/4" impregnated foam strip, metal wedge, or mortar may be used to provide a rake closure (see detail #11).

Small cut gable pieces must be secured in accordance with good roofing practice.



NOTE: Rain channels/sidelocks are to be removed on all tile pieces that overhang the barge rafter or gable end.

VALLEY TREATMENT:

Install valleys in accordance with current TRI/FRSA Manual or RAS 118, 120 in HVHZ.

Small cut pieces must be secured in accordance with good roofing practice.

Refer to current TRI/FRSA Manual for installation options.

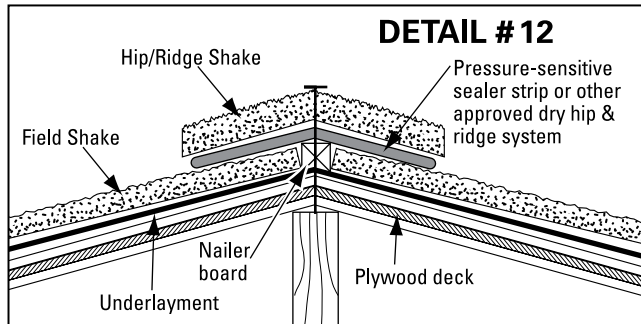
Valley flashing material must be minimum No. 26 gauge corrosion-resistant steel.

SIDE WALL AND HEAD WALL TREATMENT:

Prepare flashing as prescribed in the current TRI/FRSA Manual or RAS 118, 120.

HIP AND RIDGE TREATMENT:

Tile is cut and laid to fit as close as possible to nailer. Install approved self-adhered membrane over wood or metal nailer and down onto tile surface (see detail #12 - mechanically fastened option).



Ridge and hip tile shall be installed to a minimum 2" headlap. Mortar point up is optional if another form of approved weatherblocking is used and will maintain the wood shake aesthetic.

Mechanically fastened or adhesive set systems require a hip and ridge support member, wood or metal or a tested alternate.

For mortar set systems, a full cavity mortar set hip and ridge system is acceptable.

For a complete list of options, refer to current TRI/FRSA Manual (Hip and Ridge Installation Guidelines).

Note: For steeper roof slopes it is recommended to consider using the 90 degree rake tile instead of the ridge tile to help create a better fit.

Replacing Broken Cedarlite® 600/Madera 900/700:

Remove the broken piece and fasteners and patch the resulting hole in the underlayment. Gently lever up the left piece. Slide the new piece in place and fasten with approved adhesive. Refer to the current TRI/FRSA Manual.

SPECIAL INSTRUCTIONS:

EACH DAY DURING INSTALLATION THE ROOF SHOULD BE SWEEPED AND WASHED TO REMOVE CEMENT DUST AND DEBRIS WHICH CAN DISCOLOR THE TILE.

IMPORTANT NOTICE

Boral Roofing will issue publications containing recommendations for the installation of its products from time to time. These are recommendations for the proper installation of Cedarlite® 600 and Madera 900/700.

It is important to recognize that these recommendations are neither warranties, express or implied, nor representative of the only method by which Boral Roofing products may be properly installed. Rather, they try to summarize for the designer, applicator or developer good roofing practice and some of the industry standards for the installation of concrete roofing tile which have been developed over a period of time from actual trade practice and the requirements of various building code agencies. Notwithstanding, Boral Roofing wants to stress that it is neither familiar with all local building codes as these pertain to the installation of its products nor the local weather conditions. Equally, Boral Roofing neither installs tile itself nor has any control over its installation. Consequently, the general contractor, the roofing contractor and/or installer, and the homeowner must accept the responsibility for ensuring that Cedarlite® 600 and Madera 900/700 are installed in accordance with all applicable building and roofing installation codes and good roofing practice.

When they are new, Cedarlite® 600 and Madera 900/700 tiles have a visible shine on the surface that is due to an acrylic sealer that is applied to the tile during manufacture. This sealer is applied to all concrete tiles to prevent efflorescence from occurring as the tiles are subjected to periods of wetting and drying. Since efflorescence is only a temporary condition and the likelihood of reoccurrence diminishes with age, the sealer and shiny surface will slowly break down and wear away exposing the natural surface and color of the tile. While this process usually occurs very gradually, visible as only a slight lightening of the appearance, occasionally climate conditions are such that the sealer will exhibit patches of white that is often mistaken as efflorescence. While this condition can be unsightly, it does not affect the integrity of the tile and it will gradually go away. How long this process lasts can vary depending on climate conditions, roof slope and exposure but normally it will be completely gone within the first five years. After this initial appearance change, it will not reoccur and the color-through tiles will then maintain an even color for the life of the roof.

Boral Roofing does not and cannot warrant any method of installation of Cedarlite® 600 and Madera 900/700 and this installation guide includes only recommended installation methods.

Questions or suggestions regarding installation should be directed to 1-800-2 REROOF or 1-800-669-TILE (8453).

Changes, additions and/or deletions to this guide should be submitted to:

Boral Roofing
7575 Irvine Center Dr., #100
Irvine, CA 92618

ABOUT BORAL ROOFING

Boral Roofing is a subsidiary of Boral USA, and is the country's largest premium provider of complete roofing and re-roofing solutions for architects as well as commercial and residential builders. Boral Roofing operates 12 clay and concrete tile manufacturing plants throughout the U.S.

ABOUT BORAL USA

Headquartered in Roswell, Georgia, Boral USA is the holding company for Boral's US operations which include leading manufacturers in the building material industry. Boral USA's subsidiaries include Boral Bricks; #1 manufacturer of clay brick in the United States, Boral Roofing; the nation's leading manufacturer of clay and concrete roof tiles, Boral Stone Products, manufacturer of Cultured Stone® the most recognized brand of manufactured stone veneer, and Boral Composites Inc; manufacturer of Boral TruExterior™ Siding and Trim, the #1 brand of poly-ash exterior products.

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Website



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