

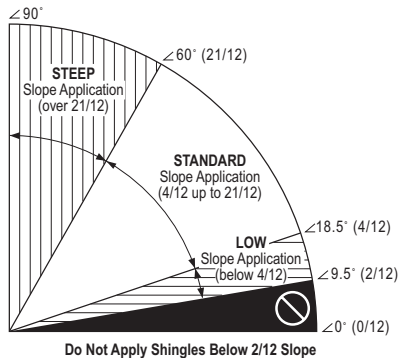
Read Before You Start Application

To obtain stated area coverage and to achieve designed performance, these directions must be followed, including 8" (203 mm) exposure to weather.

Highland Slate shingles conform to:

ASTM D3462
ASTM D3018 Type I
ASTM E 108 Class A Fire Resistance
ASTM D3161 Class F Wind Resistance
UL 2390/ASTM D6381 Class H Wind Resistance
UL 997 Wind Resistance
ASTM D7158 Class H Wind Resistance
NYC-MEA-120-79-M
CSA Standard A123.5-98 (& -05)

Slope Restrictions



The roof deck must be at least: 3/8" (9.5 mm) thick plywood, or 7/16" (11 mm) thick non-veneer, or 1" (25 mm) thick nominal wood deck.

For UL fire rating: underlayment may be required.

Apply flat and unwrinkled.

Standard or Steep Slopes: CertainTeed recommends DiamondDeck™ synthetic Underlayment, Roofers' Select™ High-Performance Underlayment, or shingle underlayment meeting ASTM D226, D4869 or D6757. When DiamondDeck or other synthetic underlayment is installed, take care to ensure sufficient deck ventilation. Follow manufacturer's application instructions.

Low Slopes: One layer of CertainTeed's WinterGuard™ Waterproofing Shingle Underlayment (or equivalent meeting ASTM D1970) or two layers of 36" (914 mm) wide felt shingle underlayment (Roofers' Select or underlayment product meeting ASTM D226, D4869 or D6757) lapped 19" (483 mm) must be applied over the entire roof; ensure sufficient deck ventilation. When DiamondDeck or other synthetic underlayment is installed, weather-lap at least 20" (500 mm) and ensure sufficient deck ventilation. Follow manufacturer's application instructions.

Cold Weather Climates (All Slopes): WinterGuard or its equivalent is strongly recommended whenever there is a possibility of ice build-up.

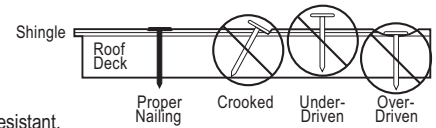
Flashing: Corrosion-resistant flashing must be used to help prevent leaks where a roof meets a wall, another roof, a chimney or other objects that penetrate a roof.

Sealing: Shingle sealing may be delayed if shingles are applied in cool weather and may be further delayed by airborne dust accumulation. If any shingles have not sealed after a reasonable time period, hand sealing may be necessary.

Caution: To prevent cracking, shingles must be sufficiently warm to allow proper forming for hips, ridges and valleys.

Fastening — IMPORTANT

For decks 3/4" (19 mm) thick, or thicker, nails must go at least 3/4" (19 mm) into the deck. On thinner decks, nails must go at least 1/8" (3.2 mm) through the deck. Nails must be 11 or 12 gauge roofing nails, corrosion-resistant, with at least 3/8" (9.5 mm) heads, and at least 1-1/4" (32 mm) long.

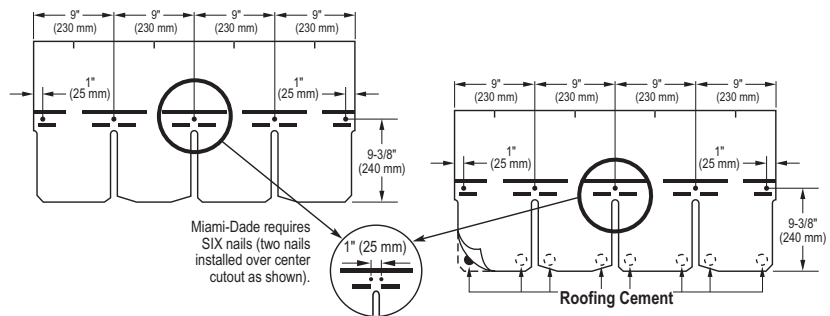


Low and Standard Slope

(2:12 to 21:12):

Use FIVE nails for every Highland Slate shingle, located as shown below left.

For Miami-Dade, SIX nails are required (see inset).



Steep Slope (greater than 21:12):

Use FIVE nails and EIGHT spots of asphalt roofing cement* for each full Highland Slate shingle as shown above right. For Miami-Dade, SIX nails are required. Apply 1" (25 mm) diameter spots of asphalt roofing cement under each tab corner. Asphalt roofing cement meeting ASTM D4586 Type II is suggested. Press shingles into place; do not expose cement

*CAUTION: Excessive use of roofing cement can cause shingles to blister.

Roofing Over An Existing Roof (Roof-Over)

"Tear-off"

It is important to determine that the roof deck is in satisfactory condition and the load-bearing capacity is adequate for application of these shingles. If the old roof consists of two or more layers of shingles, or if the roof consists of wood shingles (other than sawn square butt style), it is **required** to tear off (remove) existing roofing. If the old shingles have exposure lengths other than 8" (203 mm), it is **strongly recommended** to tear off existing roofing, since roofing over these shingles can lead to periodic patterns which may have an objectionable appearance. After tear-off, repair decking and/or install new decking, and apply underlayment, eaves flashing and shingles according to procedure in "4-1/2" Single Column Vertical Racking Method" section.

Roof-Over

Over Asphalt Shingles:

IMPORTANT: If Highland Slate shingles are applied over existing asphalt roofing shingles having exposure lengths other than 8" (203 mm), special application instructions must be followed in order to avoid raised shingle edges which can result in objectionable appearance and reduced performance of the roofing. Contact CertainTeed RPG Technical Service at 800-345-1145 for a copy of Highland Slate "Roof-over" instructions.

Over Square-Butt Wood Shingles:

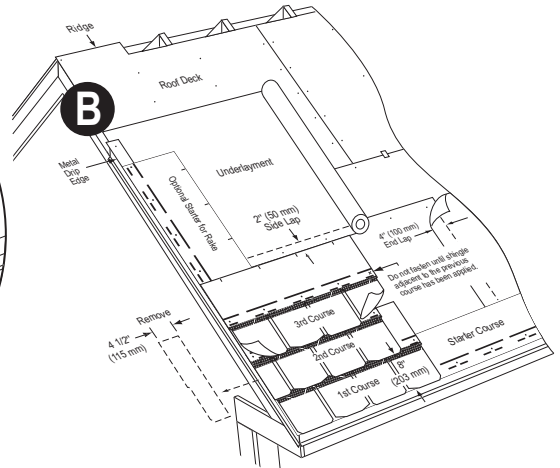
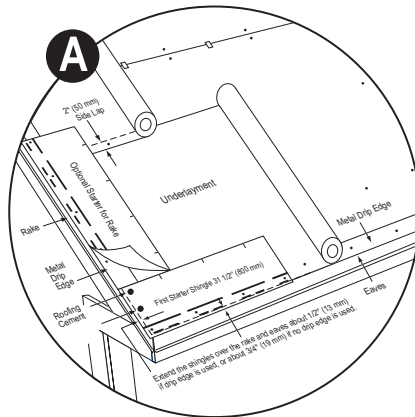
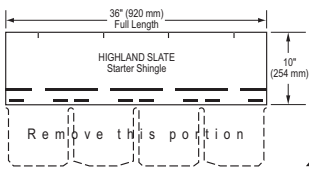
If the roof consists of square-butt sawn wood shingles, apply beveled wood strips to obtain an even base and apply underlayment, eaves flashing and shingles according to procedure in "4-1/2" Single Column Vertical Racking Method" section.

4-1/2" Single Column Vertical Racking Method (New Roof or Tear-Off)

Underlayment: Apply as required, following manufacturer's instructions. Diagram "A" illustrates application of Roofers' Select and standard felt underlayment, for standard or steep-slopes only. When DiamondDeck™ or other synthetic underlayments are installed, follow manufacturer's instructions and ensure sufficient deck ventilation.

Alignment: Snap horizontal and vertical chalklines to assure shingles will be correctly aligned. Expose all shingles 8" (203 mm).

Starter Course: IMPORTANT: Use CertainTeed's High-Performance Starter Shingles or remove the lower 8" (203 mm) tab portions from Highland Slate shingles. **DO NOT ROTATE OR "FLIP" FULL SHINGLE. SEALANT STRIPES MUST BE AT LOWER-MOST EDGE.**



Cut 4-1/2" (115 mm) off the **LEFT** end of the first starter shingle only. Apply the 31-1/2" (800 mm) remaining piece to the lower left corner of the roof. Install nails approximately 3" (76 mm) up from eave, assuring they go into solid wood.

Use full length "High-Performance Starter or Highland Slate starter shingles" for rest of the course. For added protection, it is suggested that each shingle tab at the rake edge be hand-sealed using a good quality roofing cement.

1st Course: (See ❸). Apply a full Highland Slate shingle at the lower left corner of the roof, flush with the starter course left corner. Fasten with 5 nails.

2nd Course: (See ❹). Cut 4-1/2" (115 mm) off the left end of a full shingle and apply remaining 31-1/2" (800 mm) piece over left edge of 1st course. Fasten with 5 nails and ensure 8" (203mm) exposure.

Succeeding Courses: Begin application of the 3rd course with a full shingle. Fasten with 4 nails, **leaving the right end unfastened until later.** (See ❺).

Begin the 4th course using a shingle with 4-1/2" (115 mm) cut off its left end. (See ❻). Fasten with 5 nails. To begin the application of subsequent courses, alternate full shingles [36" (914 mm)] and cut shingles [31-1/2" (800 mm)] up the rake edge, fastening as described above. (See ❼).

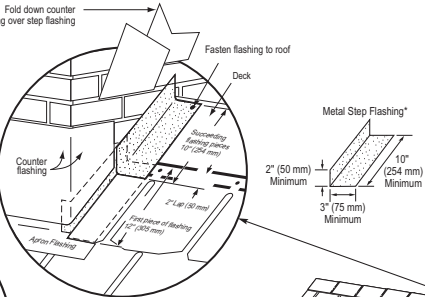
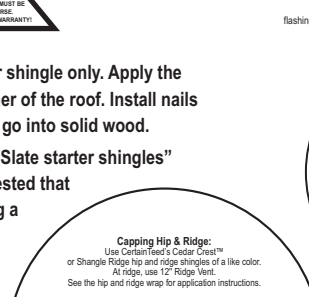
Remaining Columns and Course Completion: (See ❼). Apply a full shingle against the right edge of each shingle in previous column.

When applying a shingle against a covered shingle, carefully lift the right edge of the shingle above and slip the new shingle under it. Fasten as usual with 5 fasteners; then, fasten the loose right edge of the shingle above.

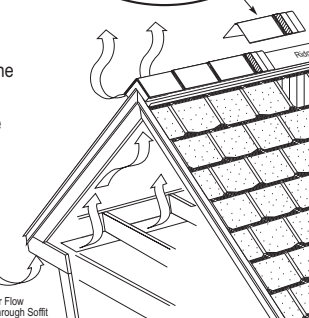
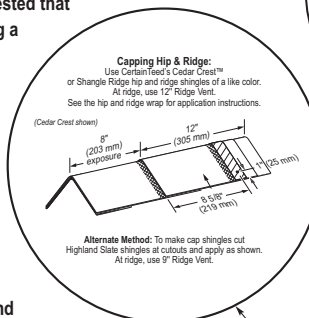
Note: It is suggested, not required, that each shingle tab at the rake edges be hand-sealed for extra protection against wind blow-offs. Apply a 1/4" bead (or 1" spots every 6" up the rake) of roofing cement beneath each shingle tab and press the shingles into place to bring the cement near the edge, but not visible.

An alternative suggestion is to install Highland Slate starter shingles or CertainTeed's High-Performance Starter [10" x 36" (254 mm x 914 mm)] along the rake edges of the roof. Be sure to apply two quarter-sized (1" diameter) spots of roofing cement and butt shingles (**DO NOT OVERLAP**) as shown in illustration.

For approved alternate application instructions, contact CertainTeed.



Metal Step Flashing:
First course of metal flashing must consist of a minimum 5" x 12" (127 mm x 305 mm) piece applied flush with the lowest edge of the first shingle. Succeeding courses of flashing must consist of pieces that are a minimum 5" x 10" (127 mm x 254 mm) in size. Each succeeding course of flashing must "overlap" the flashing course beneath it a minimum of 2" (50 mm).



***Adequate attic ventilation** creates a cooler attic in the summer and a drier attic in the winter. It also helps prevent premature failure of shingles, roof deck movement/deterioration, and formation of ice dams. Shingle damage or failure resulting from inadequate ventilation is not covered by CertainTeed's Limited Shingle Warranty. **Contractors only,** for further information about attic ventilation, please consult the "CertainTeed Shingle Applicators Manual" (call 1-800-404-8880 for a copy), and/or "The Principles of Attic Ventilation" brochure (call 1-800-AIRVENT for a copy).

