

## Highland Slate®

## 15

## YOUR OBJECTIVE:

To learn the correct method for installing Highland Slate®.

## HIGHLAND SLATE

Highland Slate is an oversized (18" x 36" designer shingle with an 8" exposure that replicates blended slate. Highland Slate shingles are built to meet dimensional tolerances of  $\pm 1/16"$ .

Not following any one of these requirements may jeopardize the building owner's ability to qualify for an insurance rate reduction (in regions where available).

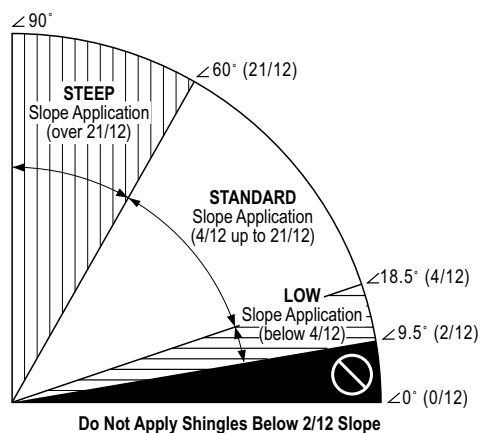


Figure 15-1: Slope definitions.

**STANDARD OR STEEP SLOPES:** CertainTeed recommends DiamondDeck® Synthetic Underlayment, RoofRunner™ or shingle underlayment meeting ASTM D226, D4869 or D6757. Take care to ensure sufficient deck ventilation when DiamondDeck, RoofRunner or other synthetic underlayment is installed.

**LOW SLOPES:** All roof shingles applied to a low slope deck (2" to below 4" per foot) require the use of CertainTeed WinterGuard® or Grace Ice & Water Shield® Waterproofing Shingle Underlayment, or its equivalent,\* applied over the entire deck surface. Consult the WinterGuard or Grace Ice & Water Shield and individual shingle application instructions for details.

\*For low slopes, underlayment equivalents to WinterGuard and Grace Ice & Water Shield include:

- 1) waterproofing shingle underlayments meeting ASTM D1970;
- 2) in areas not prone to snow or ice, two layers of 36"(915 mm) wide felt shingle underlayment lapped 19"(485 mm).
- 3) in areas not prone to snow or ice, two layers of CertainTeed's DiamondDeck or RoofRunner in shingle fashion (half lap) per the low-slope application instructions.

Shingle underlayment should meet ASTM D6757, ASTM D4869 Type I or ASTM D226 Type I. Ensure sufficient deck ventilation when DiamondDeck, RoofRunner or other synthetic underlayment is installed.

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

**COLD WEATHER CLIMATES (ALL SLOPES):** Application of WinterGuard or Grace Ice & Water Shield or a waterproofing shingle underlayment meeting ASTM D1970 is strongly recommended whenever there is a possibility of ice build-up. Follow manufacturer's application instructions.

**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.

**WARRANTY:** These shingles are warranted against manufacturing defects and are covered by SureStart™ protection. See the warranty itself for specific details and limitations.

\*

For technical questions, information on acceptable alternative application methods and materials, or a copy of the product warranty, contact the sources listed below:	Warranty	Alternate Instructions	Technical Questions
Your supplier or roofing applicator	✓		
CertainTeed Home Institute 800-782-8777	✓	✓	
CertainTeed-RPG Technical Services 800-345-1145	✓	✓	✓

## FASTENING

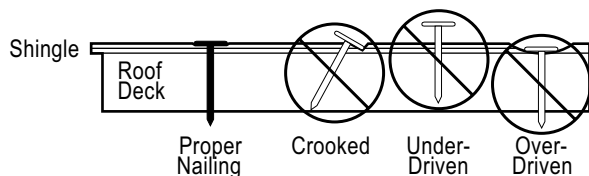


Figure 15-2: Proper and improper nailing.

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:

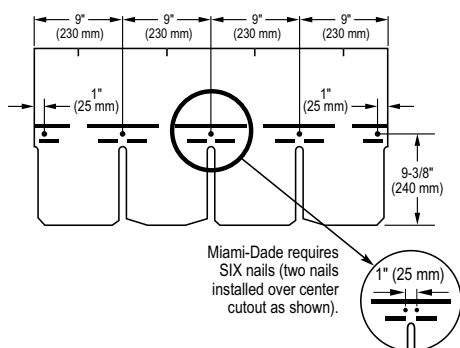


Figure 15-3: Use FIVE nails for every Highland Slate® shingle. For Miami-Dade, SIX nails are required (see inset).

### STEEP SLOPE:

Use FIVE nails and EIGHT spots of asphalt roofing cement\* for each full Highland Slate shingle. For Miami-Dade, SIX nails are required. Apply 1" diameter spots of asphalt roofing cement under each tab corner. Asphalt roofing cement meeting ASTM D4586 Type II is suggested.

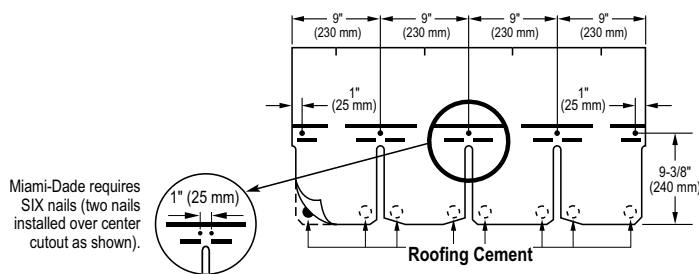


Figure 15-3A: Use FIVE nails and eight spots of asphalt roofing cement under each tab corner.

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

## CLEAN DECK APPLICATION METHOD

### PREPARING THE DECK:

- ◆ Apply underlayment as required. CertainTeed suggests that a layer of shingle underlayment be applied. For UL fire rating, underlayment is generally required. Apply flat and unwrinkled.

INSTALL ON NEW ROOFS AND TEAR-OFFS USING THE FOLLOWING METHOD:

- ◆ 4-1/2" Single Column Vertical Racking Method.

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

### STARTER COURSE:

**IMPORTANT!**

1. Use CertainTeed's High-Performance Starter Shingles or remove the lower 8" tab portions from Highland Slate shingles. This is a requirement in order to be eligible for the 110 mph wind warranty. Do not rotate or "flip" full shingle. Sealant stripes must be at lower-most edge.
2. Cut 4-1/2" off the LEFT end of the first starter shingle only.
3. Apply the 31-1/2" remaining piece to the lower left corner of the roof. Make sure there is 1/2" overhanging the rakes and eaves if drip edge is being used. If you are not using drip edge, make the overhang 3/4". Install nails approximately 3" up from eave, assuring they go into solid wood.
4. Use full 36" long by 10" wide starter shingles for the rest of the course.

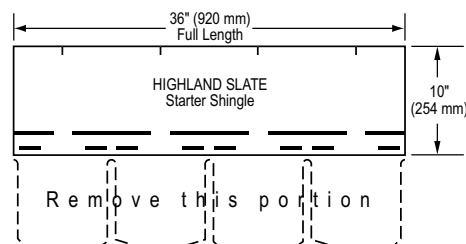


Figure 15-4: Make starter shingles by removing the lower 8" portion.

**1ST COURSE:** (Figure 15-6). 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:** (Figure 15-6). Cut 4-1/2" off the left end of a full shingle and apply remaining 31-1/2" piece over left edge of 1st course. Fasten with 5 nails and ensure 8" exposure.

**SUCCEEDING COURSES:** Begin application of the 3rd course with a full shingle. Fasten with 4 nails, leaving the right end unfastened until later. (Figure 15-6). Begin the 4th course using a shingle with 4-1/2" cut off its left end. Fasten with 5 nails. To begin the application of subsequent courses, alternate full shingles [36"] and cut shingles [31-1/2"] up the rake edge, fastening as described above.

### REMAINING COLUMNS AND COURSE COMPLETION:

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.

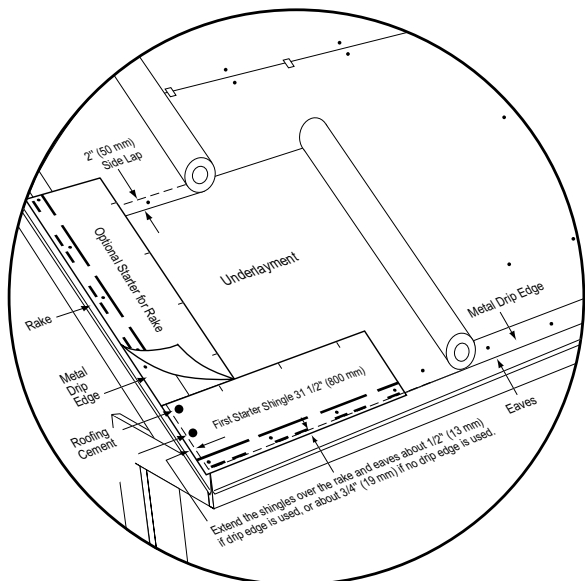


Figure 15-5: Standard slope underlayment and starter drip edge details.

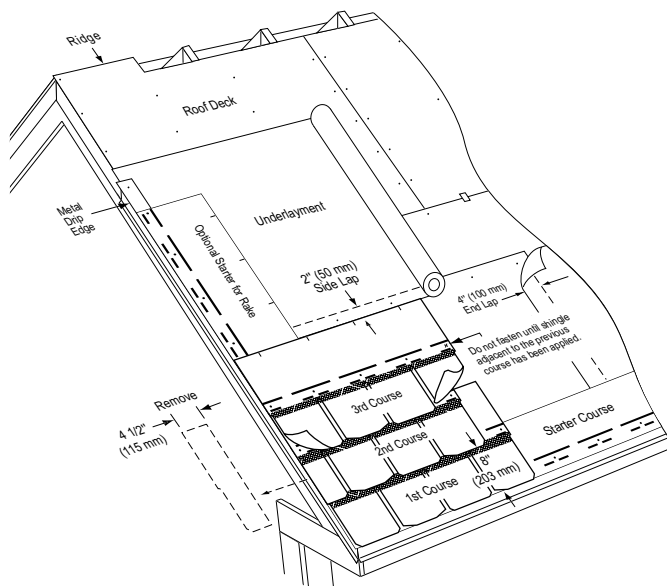


Figure 15-6: Applying the first three courses on a standard slope.

Figure 15-7: Installation schematic.

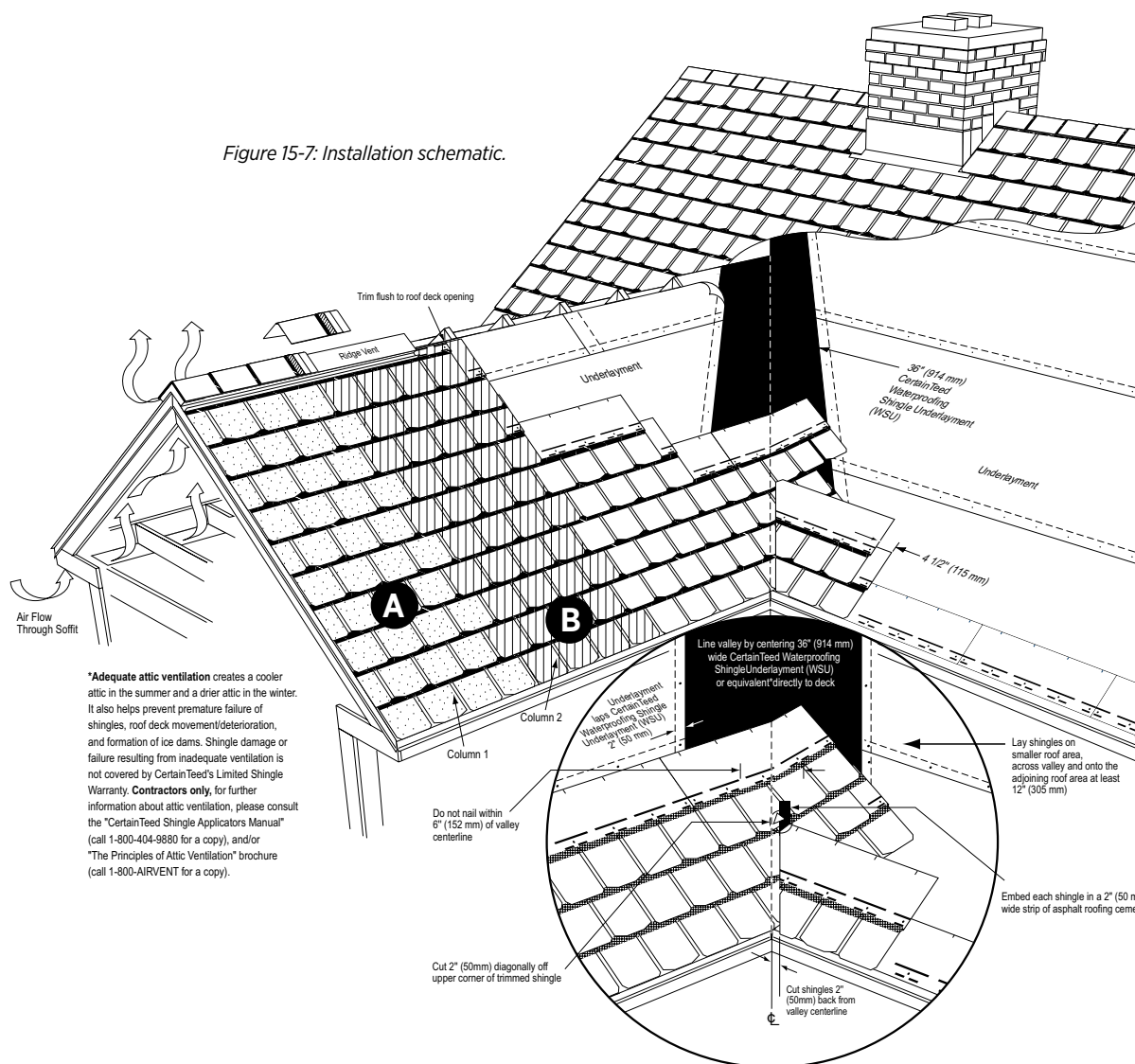


Figure 15-8: Highlight of closed-cut valley detail.

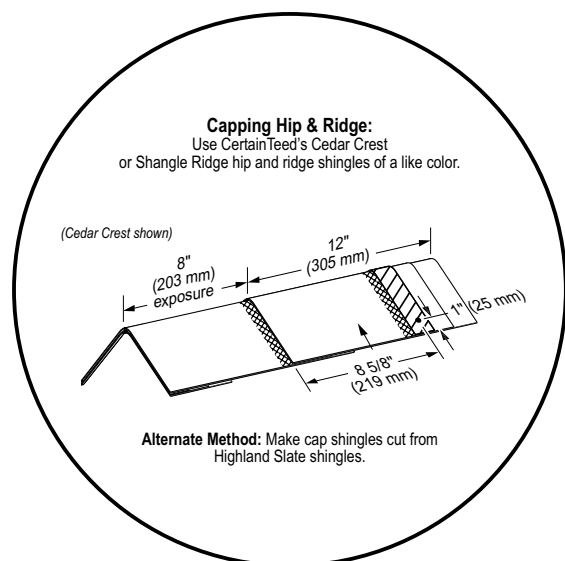


Figure 15-9: Installation of caps along hips and ridges.

## CEDAR CREST MEDIUM-PROFILE HIP AND RIDGE ACCESSORY SHINGLES

Use Cedar Crest® accessory shingles to cover hips and ridges. Carefully separate the three-piece units prior to application, by first folding along the pre-cut lines and then detaching the pieces (see Figure 15-10). No cutting is necessary. There are 30 individual shingles (10 three-piece units) in each bundle. One bundle will cover 20 linear feet. Each 12" x 12" shingle has a shadowline that is a design feature which is visible when applied properly. To prevent shingle damage during application, they must be sufficiently warm to allow proper forming.

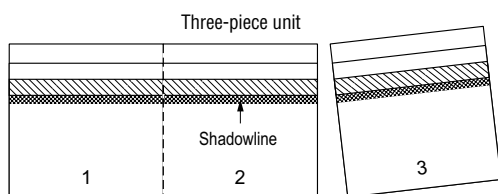


Figure 15-10: Separate to make 3 cap shingles.

### FASTENING

**IMPORTANT:** Use TWO nails to fasten each shingle. Fasteners must be minimum 1-3/4" (45 mm) long. For the starter shingle, place fastener 1" in from each side edge and about 2" up from the starter shingle's exposed butt edge, making sure fastener goes 3/4" into the deck or all the way through the deck. (see Figure 15-11). For each full Cedar Crest shingle, place fasteners 8-5/8" up from its exposed butt edge and 1" in from each side edge (see Figure 15-12).

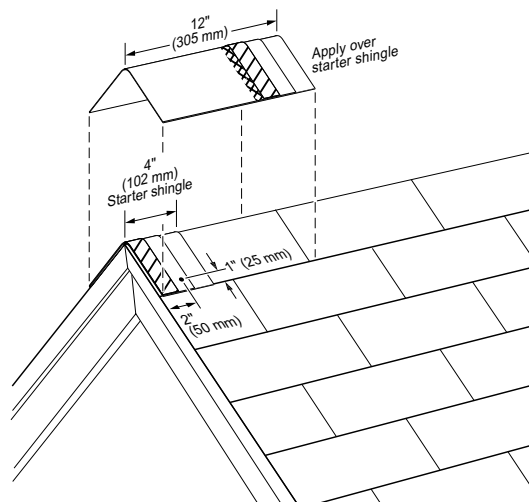


Figure 15-11: Apply a full cap shingle over the starter shingle.

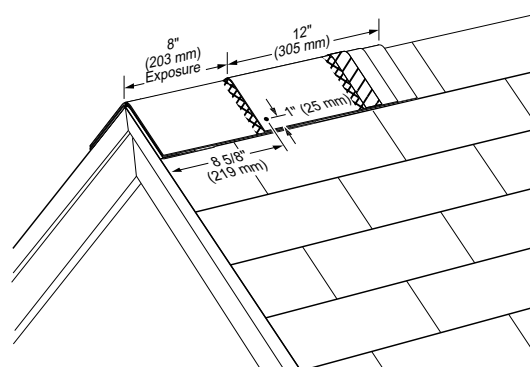


Figure 15-12: Install cap shingles at an 8" exposure and fasten with one nail on each side as shown.

**IMPORTANT:** High Wind Instructions. In order to achieve the ASTM D3161 Class "F" Wind Resistance Classification each "hip and ridge" shingle must be both 1) fastened with nails as shown and 2) hand-sealed with two 1/4" wide beads of either BASF "Sonolastic® NP1™ Adhesive" or Henkel "PL® Polyurethane Roof & Flashing Cement" applied from the middle of the shingle's raised overlay on the top piece and extending approximately 4" along the sides of the headlap along a line 3/4"-1" in from each side edge of the shingle's headlap as shown. Immediately align and apply the next overlying shingle, gently pressing tab sides into adhesive. Only one side of the double thickness tab is laminated together; to secure the other side, after folding the shingle over the ridge and nailing into position, a 1" diameter spot of either NP1 or PL adhesive must be applied between the shingle layers as shown. Immediately align and apply the next overlying shingle, gently pressing tab sides into adhesive.

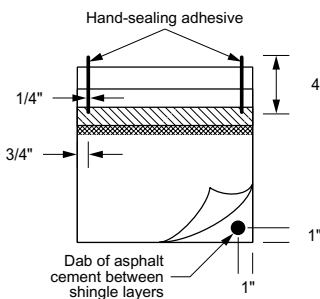


Figure 15-13: Hand seal caps.

## HIPS AND RIDGES

### CEDAR CREST® APPLICATION

Apply primary roofing up to hip or ridge on both sides of roof and trim flush. Ensure that the Cedar Crest shingles will adequately cover the top course of the shingles on both sides of the hip or ridge. Prepare a 4" "starter" shingle by cutting off the lower 8" color granule portion of one Cedar Crest shingle. Apply the 4" starter piece with raised overlay edge over the bottom corner of the hip or to either end of the ridge, overhanging the corner or end by approximately 1/2" and bending the starter shingle along its centerline to form into place (see Figure 15-11). Install a nail on each side about 2" up from the starter shingle's exposed butt edge and 1" in from each side edge of the shingle.

Then apply a full 12" x 12" piece over the starter, bending the shingle along its centerline and forming it into place over the hip or ridge, flush with the bottom and side edges of the starter shingle. Fasten with two nails minimum 1-3/4" long with one nail on each side of shingle 8-5/8" up from the butt edge and 1" in from each side edge (see Figure 15-12).

Continue application of Cedar Crest shingles up the hip or along the ridge, forming each shingle over the hip or ridge, and fasten as shown in Fastening. Expose Cedar Crest shingles 8", covering all fasteners.

To assist in proper alignment, snap a chalk line parallel to the hip or ridge applying along the line where the side edges of the Cedar Crest shingles should be.

- Before nailing, be sure to remove the protective tape from the sealant between the cap's two layers (Figure 15-14).
- Bend the cap along the centerline of its longer dimension so that it forms into place over the hip or ridge.
- Fasten each cap with two fasteners (Figure 15-15). The fasteners must be 1-3/4" long, or longer, so they penetrate either 3/4" into the deck or completely through the deck, exposing at least 1/8" of the tip of the nail. Expose 8" of the Accessory along the ridge or hip line and cover all fasteners.

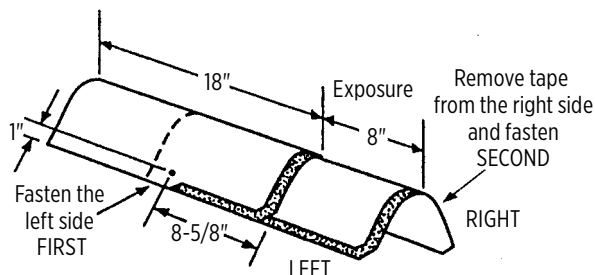


Figure 15-15: Installation of Shangle Ridge shingles on hips and ridges.

- If shingle-over ridge vents are being installed (Figure 15-16), they must match the 12" width dimensions of the hip and ridge caps. Be sure to follow the ridge vent manufacturer's instructions. To attach the cap shingles to the shingle-over ridge vent, use hot-dipped galvanized nails of sufficient length to penetrate 3/4" into, or through, the deck.

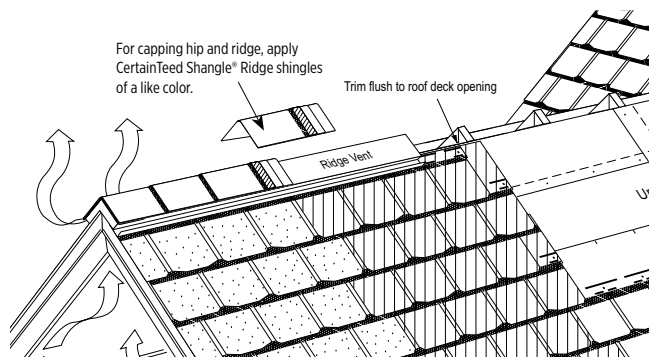


Figure 15-16: Installation of Shangle Ridge shingles on ridge vent.

### SHANGLE RIDGE APPLICATION

Apply Shangle Ridge® shingles to hips and ridges.

- Each shingle is a 12" by 18", color-coordinated, pre-assembled, double-layered product. Exposure is 8".
- Apply Highland Slate up to the hip or ridge from both sides and trim flush. Allow for adequate coverage by making sure the last course of shingles will not be exposed more than 8" when the cap shingles are applied.
- To assist with proper alignment when ridge vents aren't used, snap a chalk line parallel to the hip or ridge along the line where the side edges of the cap should be.
- If possible, try to start at the end of the ridge opposite to where the prevailing wind strikes the house. This will give the wind and rain less of a chance of getting underneath the cap. As for the hip, begin by installing the cap at the bottom and work your way up.

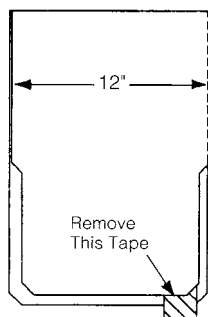


Figure 15-14: Shangle Ridge®.



## ROOFING OVER APPLICATION

### “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) CertainTeed requires using the nesting method described below. Never apply Highland Slate shingles over laminates or lock-type shingles. Failure to follow these directions will cause shingle “bridging” that can give an objectionable appearance and reduce the performance of the roofing.

### CUTBACK/NESTING METHOD

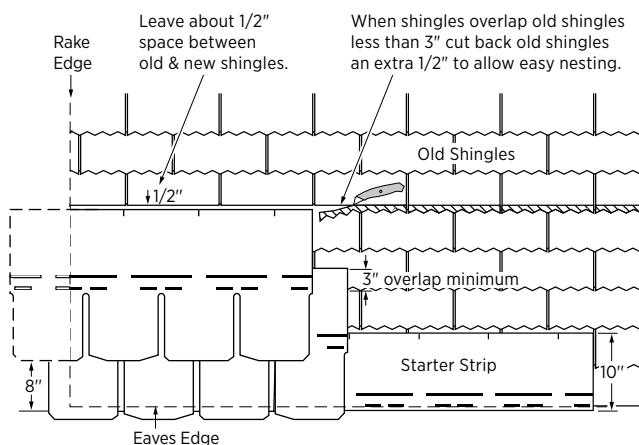


Figure 15-17: “Cutback/Nesting Method”

- 1) Make the surface of the old roof as smooth as possible by replacing missing shingles. Split and nail flat all buckled, raised or curled shingle tabs.
- 2) Cut old shingles back flush to the rakes and eaves.
- 3) Apply corrosion-resistant drip edge along the rakes and eaves, covering the edges of the old shingles.

- 4) Starter Course: If applying over old 5" exposure shingles, prepare starter strip according to Highland Slate application instructions. Apply starter strip with sealant near bottom edge so that the top edge of the starter strip will nest below the lower edge of the third course of old shingles. Starter shingle should overhang eaves and rake edges about 1/2". If applying over shingles of other than 5" exposure, apply CertainTeed High-Performance™ 10" starter in a similar fashion, with the sealant near the eaves. Follow the cutback/nesting method described below if the top edge of the starter shingle overlaps the old shingles less than 3".
- 5) Remainder of Roof: Apply Highland Slate shingles using the 4-1/2" single column vertical racking method. When Highland Slate shingles overlap the old shingles less than 3", cut back old shingles to the overlap dimension plus about 1/2", to allow easy nesting. This “Cutback/Nesting Method” permits the upper part of the Highland Slate shingle to lay smoothly against the old shingles, resulting in a roof that will perform better and have a more even appearance.

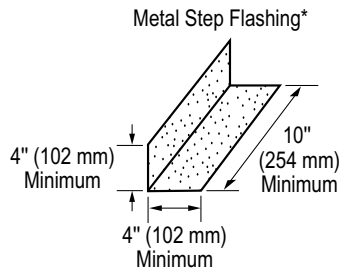
### OVER SQUARE-BUTT WOOD SHINGLES:

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.

## METAL STEP FLASHING

The first course of metal flashing must be a minimum of 8" x 12" (203.2 mm x 305 mm), bent as shown in Figure 15-18, applied flush with the lowermost edge of the first shingle.

Succeeding courses of flashing must consist of pieces that are a minimum 8" x 10" (203.2 mm x 254 mm), bent as shown in Figure 15-18. Place each piece of flashing 2" (50 mm) up the roof from where the lowermost edge of the next (overlapping) shingle will be applied. Each succeeding course of flashing must "overlap" the flashing course below it a minimum of 2" (50 mm).



### Metal Step Flashing\*:

First course of metal flashing must consist of a minimum 8" x 12" (203.2 mm x 305 mm) piece applied flush with the lowermost edge of the first shingle. Succeeding courses of flashing must consist of pieces that are a minimum 8" x 10" (203.2 mm x 254 mm) in size. Each succeeding course of flashing must "overlap" the flashing course beneath it a minimum of 2" (50 mm).

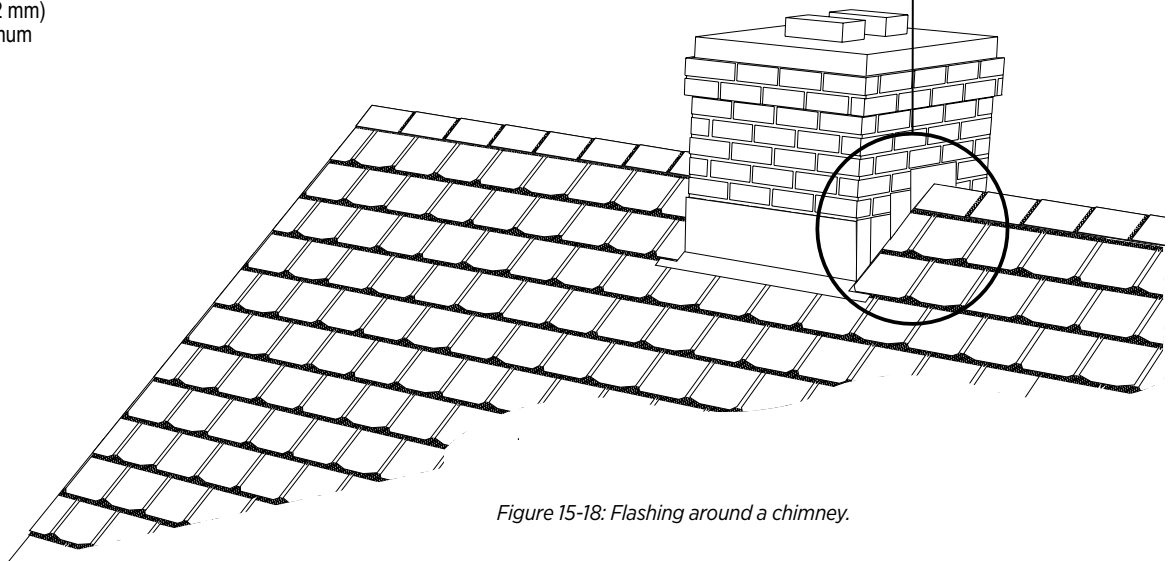
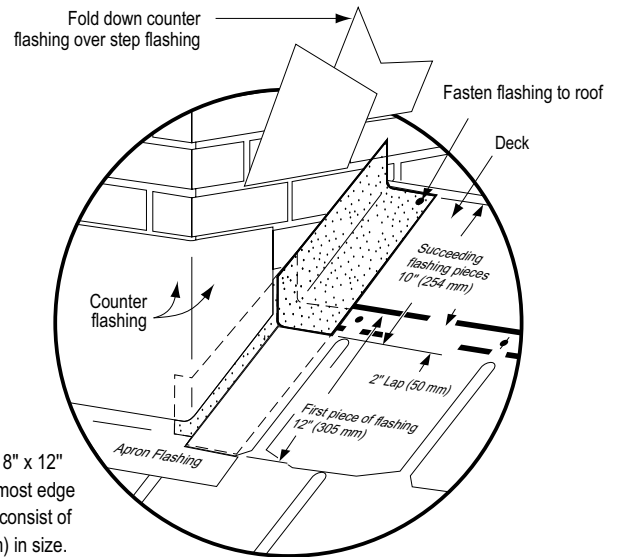


Figure 15-18: Flashing around a chimney.

## SECTION 15 SELF-TEST

**15-1. Highland Slate® shingles are built to meet dimensional tolerances of  $\pm 1/16"$ .**

- A. True.
- B. False.

**15-2. On standard slopes, use 5 nails to fasten each full Highland Slate shingle.**

- A. True.
- B. False.

**15-3. CertainTeed High-Performance starter shingles can be used when installing Highland Slate.**

- A. True.
- B. False.

**15-4. The approved application method for clean-decks is the 4-1/2" Single Column Vertical Racking Method.**

- A. True.
- B. False.

*Test on-line @ [www.certainteed.com/samtest](http://www.certainteed.com/samtest)*