

NorthGate® ClimateFlex® 13

YOUR OBJECTIVE:

To learn the correct procedure for installing NorthGate ClimateFlex shingles.

NORTHGATE CLIMATEFLEX

NorthGate ClimateFlex shingles have the installer-friendly NailTrak® feature, which provides 1-1/2" wide nailing area and specially formulated QuadraBond laminating adhesive (See Figure 13-3).

NorthGate ClimateFlex is impact resistant and is specially manufactured with SBS modified asphalt to meet UL 2218 Class 4 impact resistance rating.

NOTE: NorthGate ClimateFlex must be installed over a clean deck (no roof-overs) to obtain the UL 2218 rating. It is strongly recommended Shadow Ridge ClimateFlex impact resistant cap shingles be installed on all hips and ridges. Some insurance carriers may not consider the roof system as compliant to UL 2218 Class 4 without impact resistant cap shingles.

Closed-cut valleys are preferred by CertainTeed when applying these shingles; however, open and woven valleys are also acceptable.

STANDARD OR STEEP SLOPES: CertainTeed recommends DiamondDeck® or RoofRunner™ synthetic Underlayment 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. Follow manufacturer's application instructions.

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 or 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.

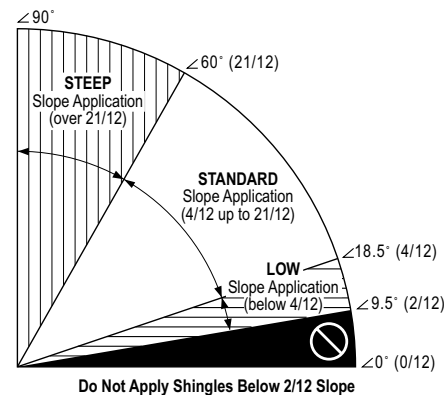


Figure 13-1: Slope definitions.

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

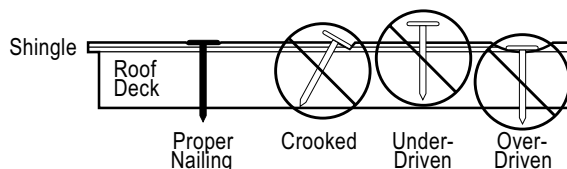


Figure 13-2: Proper and improper nailing.

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" (25 mm) long.

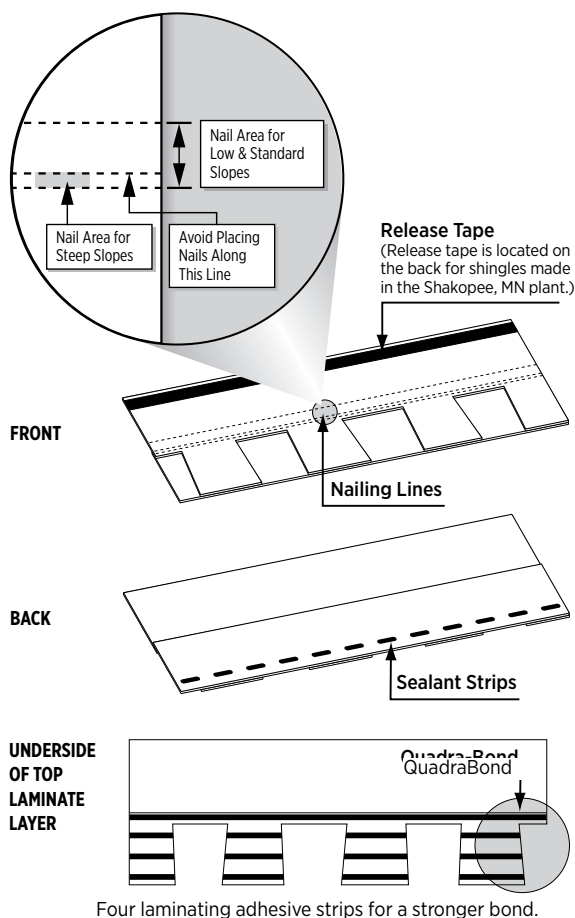


Figure 13-3: NailTrak® features a wider nail area and extra-strong QuadraBond construction.

LOW AND STANDARD SLOPE

Use four nails for every full NorthGate ClimateFlex shingle as shown below.

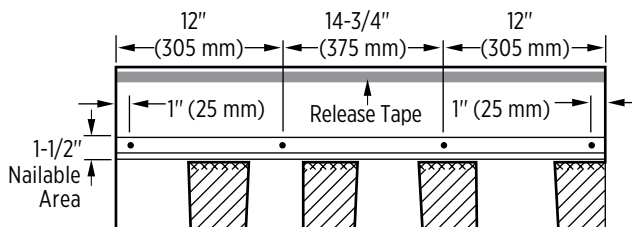


Figure 13-4: Use four nails for every full shingle.

IMPORTANT: When "six nailing" a full shingle, follow the nail pattern shown in figure 13-5, nails can be placed in the 1-1/2" nailable area.

★ STEEP SLOPE

Use six nails and four spots of asphalt roofing cement** for every full NorthGate ClimateFlex shingle as shown below.

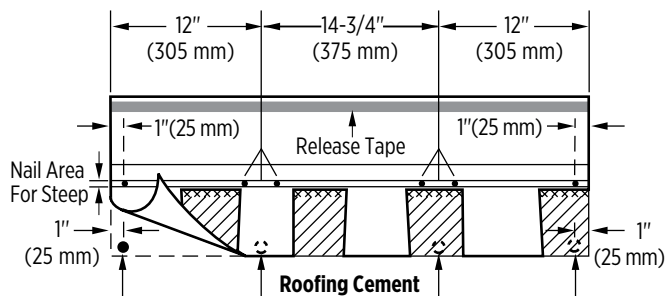


Figure 13-5: Use six nails and four spots of asphalt roofing cement on steep slopes.

IMPORTANT: Failure to follow these steep slope instructions can void the warranty in the event of a shingle delamination.

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

TWO CLEAN-DECK APPLICATION METHODS FOR NORTHGATE CLIMATEFLEX SHINGLES

FIVE-COURSE DIAGONAL METHOD (6" AND 11") FIVE-COURSE DIAGONAL METHOD (5-5/8" AND 11-1/4")

NOTE: The 6" and 11" method is shown below. The 5-5/8" and 11-1/4" method follows the same application instructions as the 6" and 11" method except the dimensions of the shingle cut-offs in the second and third courses are 5-5/8" and 11-1/4" respectively.

CAUTION: Use of other installation methods may result in an objectionable pattern.

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.
- ◆ Snap chalklines to assure shingles will be correctly aligned. Expose all shingles 5-5/8" (143 mm).

STARTER COURSE:

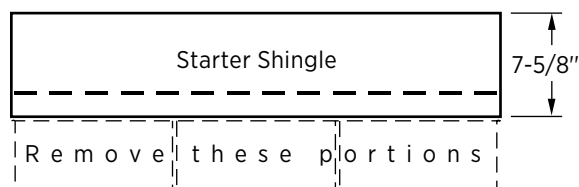


Figure 13-6: Make starter shingles that are 7-5/8" in height.

1. Use CertainTeed Swiftstart® Starter, or three-tab self-sealing shingles with the lower tab portions removed. Be sure that the starter shingles are at least 7-5/8" in height. (Figure 13-6).
2. For the first starter, cut 6" from one side of the starter shingle.
3. Apply the 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".
4. Use full length starter shingles for the rest of the course.

1ST COURSE: Apply a full shingle at the lower left corner of the roof. Make the lower edge and left edge lie flush with the edges of the starter course (Figure 13-7).

2ND THROUGH 5TH COURSES:

CAUTION! Failure to follow instruction steps 1-5 below will bring joints too close together and may cause unattractive patterns!

1. Cut 6" off the left end of the first shingle and save this piece for later use. Apply the 32-3/4" long piece over and above the first-course shingle. Leave the bottom 5-5/8" tab portion of the first-course shingle exposed.
2. Cut 11" off the first shingle of the third course and save this for later. Install the 27-3/4" long piece over and above the second-course shingle.
3. Apply the previously removed 11" long piece over and above the third-course shingle.
4. Apply the previously removed 6" long piece from the second course over and above the fourth-course shingle.
5. Install a full shingle against the right edge of each shingle in courses one through five.

Continuing up the Roof:

1. Beginning again with a full shingle, repeat the five-course pattern up the left rake. (Figure 13-8, B).
2. Fill-in courses across the roof in a stepped diagonal fashion using full shingles. (Figure 13-8, A). Do not run courses straight across.

IMPORTANT: Do not align joints of shingles closer than 3-1/2" from one another.

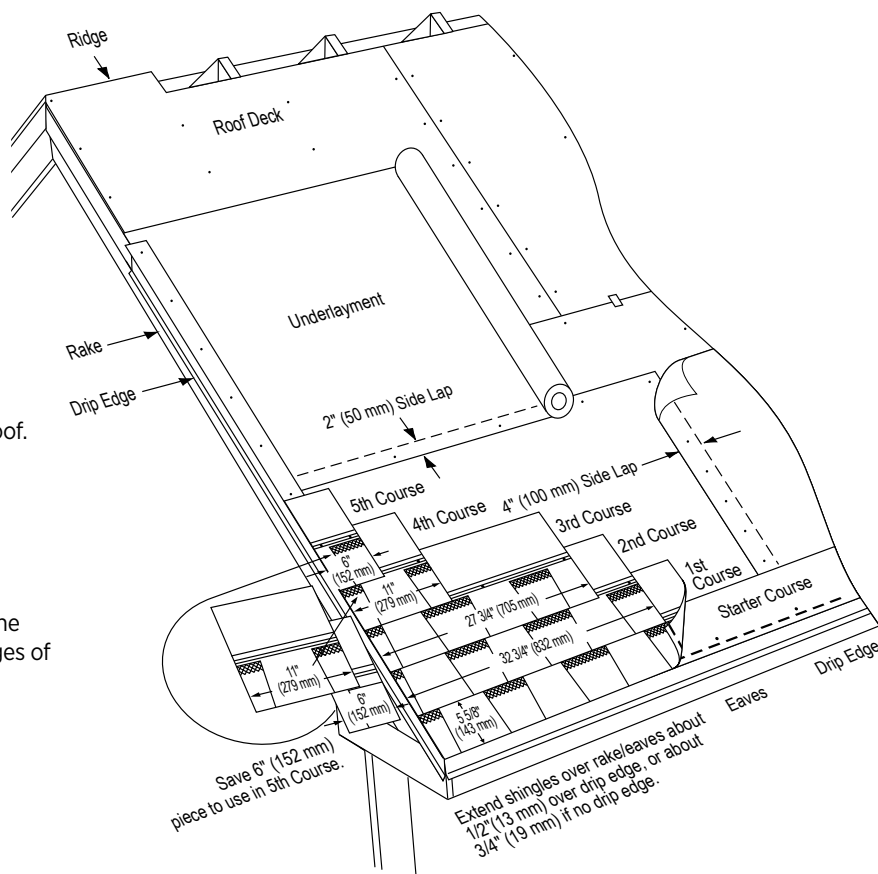


Figure 13-7: Applying the first 5 courses of NorthGate ClimateFlex.

Figure 13-8: "Five-Course Diagonal Method" installation schematic

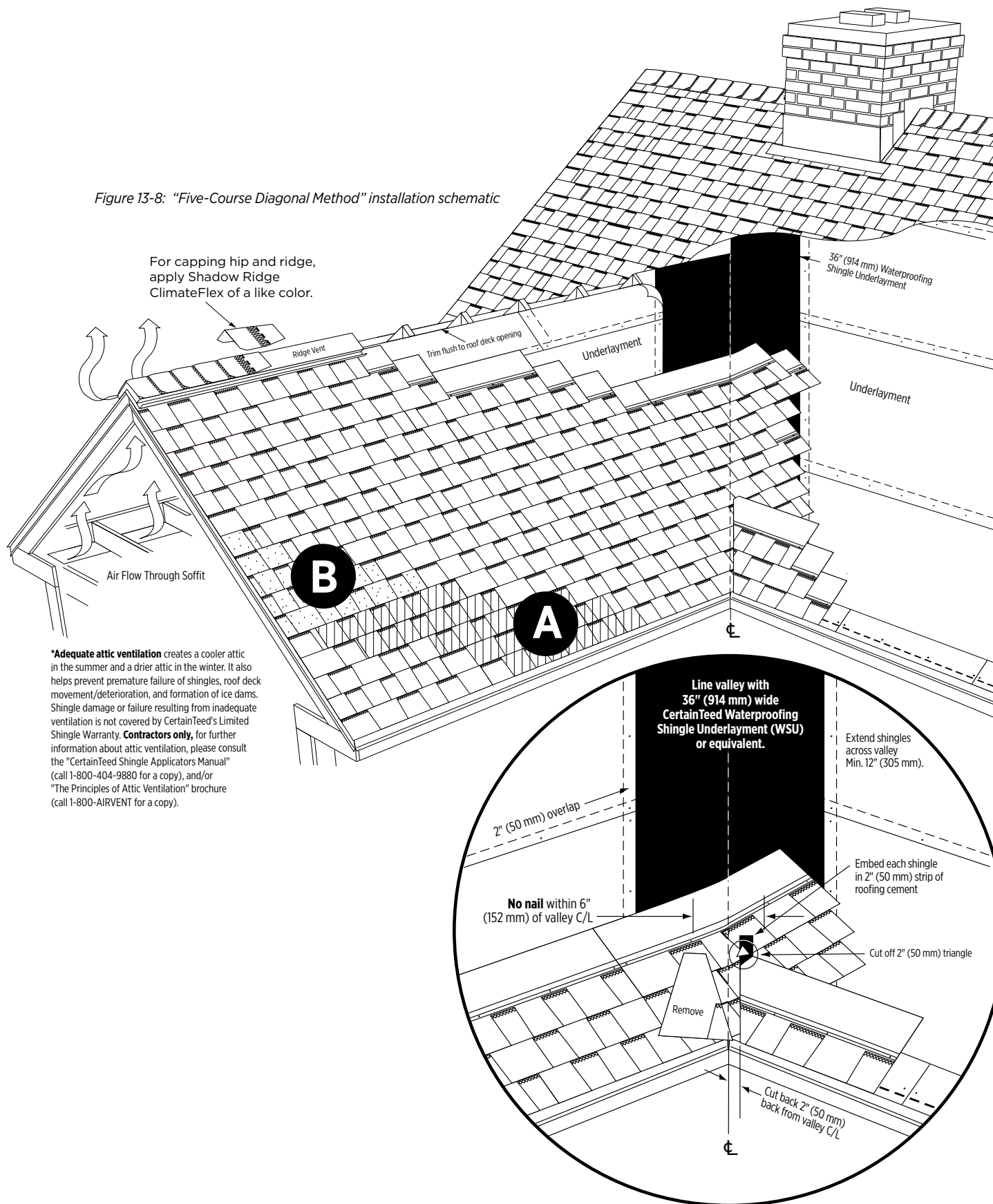


Figure 13-9: Highlight of closed-cut valley details

CHIMNEY FLASHING

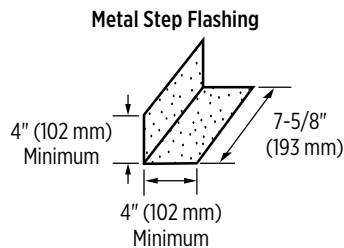


Figure 13-10: Step flashing minimum dimensions.

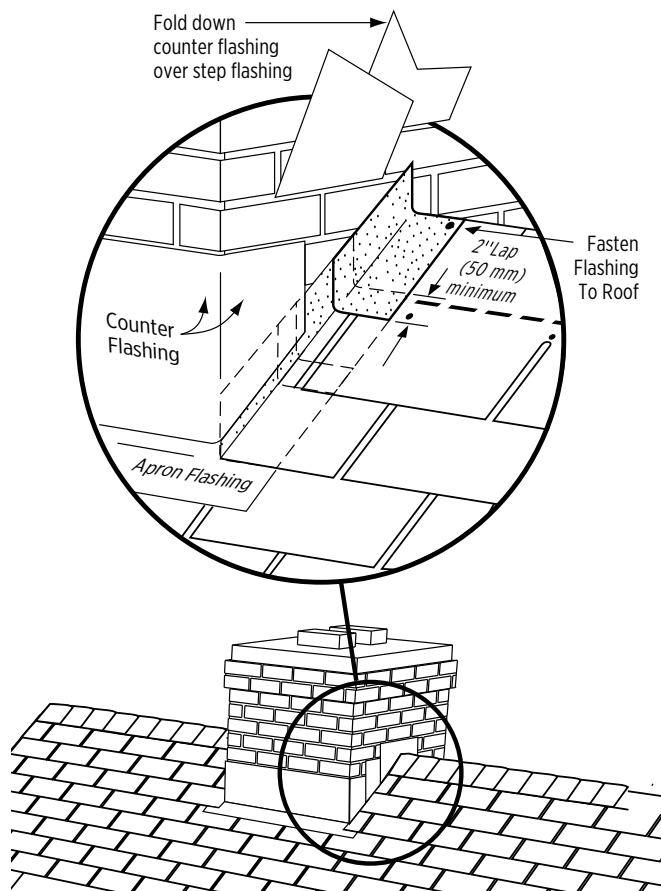


Figure 13-11: Flashing around a chimney.

ROOF-OVER METHODS FOR NORTHGATE CLIMATEFLEX SHINGLES

Cut old shingles back flush to rakes and eaves. Apply drip edge along rakes and eaves, if desired. The “5-Course Diagonal Nesting” method of application described below is suggested for roofing over square-tab asphalt roofing shingles of 5-5/8" +/- 1/8" (143 mm +/- 3.2 mm) exposure.

NOTE: The UL 2218 rating cannot be achieved with a roof-over.

Starter Course: The starter course consists of 5-5/8" x 38-3/4" (143 mm x 984 mm) strips formed by cutting off the top 2" (50 mm) of CertainTeed's Swiftstart® self-sealing shingles, or equivalent. Cut 6" (152 mm) off the left end of the first starter shingle only. Apply the remaining 32-3/4" (832 mm) piece to the lower left corner of the roof, overhanging the rakes and the eaves 1/2" (13 mm) if drip edge is used, or 3/4" (19 mm) if no drip edge is used. Continue with full lengths along eaves.

IMPORTANT: When the first course shingles are applied, ensure that the end joints of the starter shingles and the first course shingles are NEVER LESS THAN 3-1/2" (90 mm) apart. Either plan the starter shingles' application to avoid end joints getting closer than 3-1/2" (90 mm) or cut back the affected first course shingle to ensure the minimum 3-1/2" (90 mm) end joint spacing.

1st Course: Cut 2" (50 mm) off the bottom of the full NorthGate ClimateFlex shingle and apply remaining 11-1/4" x 38-3/4" (286 mm x 984 mm) pieces. For all courses, align top edge of shingle to be applied with bottom edge of old shingle in next course.

2nd Course: Cut 6" (152 mm) off the left end of a full shingle and apply remaining 32-3/4" (832 mm) piece. Exposure of 1st course only is reduced to 3-5/8" (92 mm).

3rd, 4th, 5th and Succeeding Courses: Apply as described above in “5-Course Diagonal Application Method” section.

HIPS AND RIDGES

These shingles have an accented shadow line that is designed to complement these shingles. Simply fold along the pre-cut lines and detach individual cap pieces. Save valuable installation time compared to cutting 3-tab shingles.

★ SHADOW RIDGE CLIMATEFLEX SHINGLES

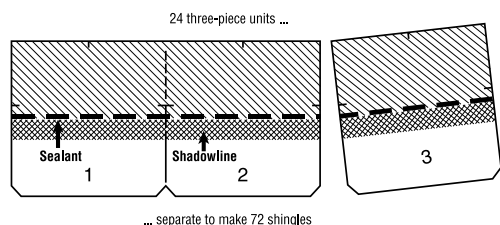


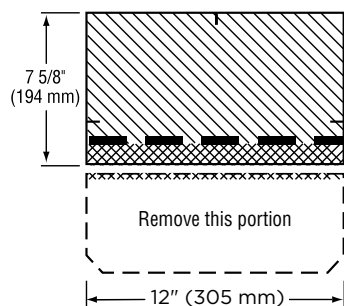
Figure 13-12: Shadow Ridge ClimateFlex shingles detach easily from three-piece units to make 72 individual cap pieces.

There are 24 three-piece units in each bundle, providing 72 individual caps that will cover 30 linear feet of a hip or ridge. Each cap piece is 12" by 12" and features clipped corners on the bottom edge of the exposed portion.

Shadow Ridge ClimateFlex shingle Application is as follows:

Apply primary roofing up to hip or ridge on both sides of roof and trim flush. Ensure that the Shadow Ridge ClimateFlex shingles will adequately cover the top course of the shingles on both sides of the hip and ridge. Use only CertainTeed Shadow Ridge ClimateFlex shingles of a like color for capping hips and ridges, in order to assure a color match.

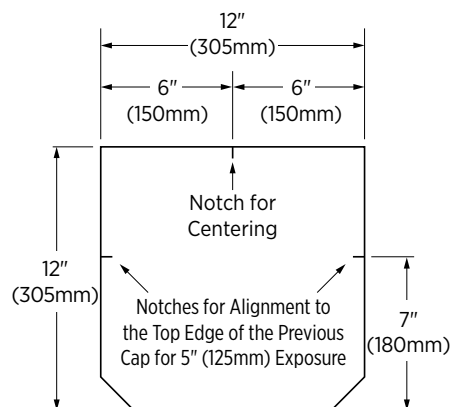
Start by cutting off the bottom 5-5/8" (143 mm) of one Shadow Ridge ClimateFlex shingle and applying the 7-5/8" x 12" piece over hip or ridge by bending this starter shingle along its centerline and forming into place, see A. Align butt edge to the bottom of the hip or to either end of ridge, flush with the edges of the in-place primary shingles. Fasten with two (2) fasteners – minimum 1-3/4" (45 mm) long, see A.



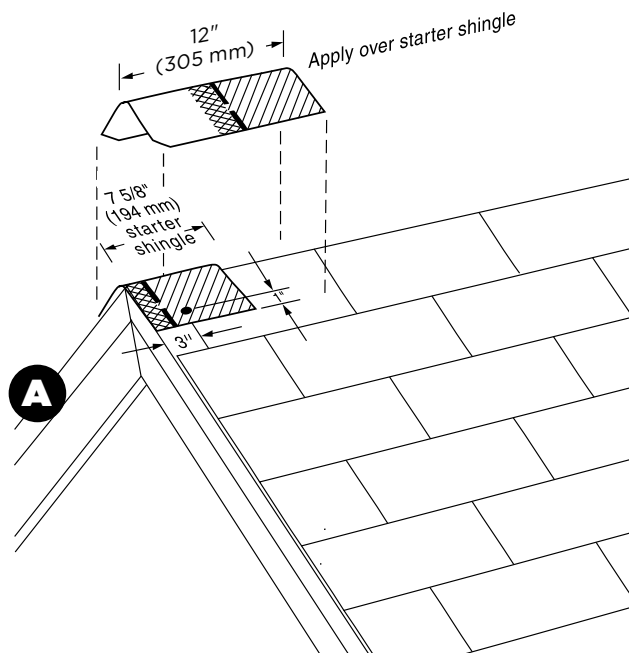
Then apply a full 12" x 12" piece over starter, bending the shingle along its centerline and forming into place over the hip or ridge, flush with the bottom and sides of the starter shingle. Fasten with two (2) fasteners – minimum 1-3/4" (45 mm) long, see B.

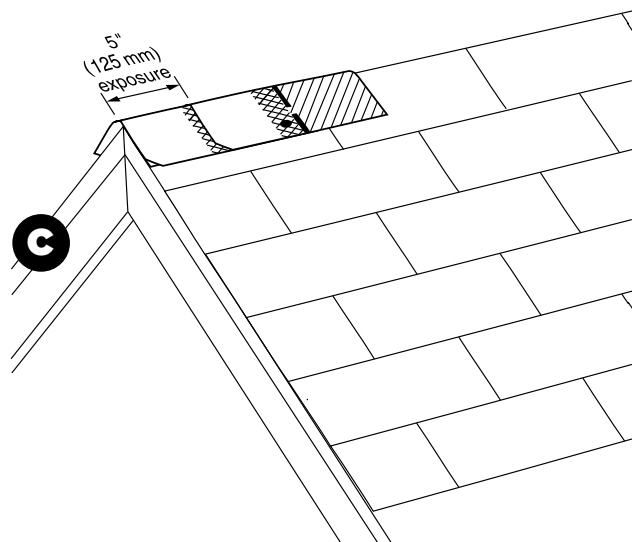
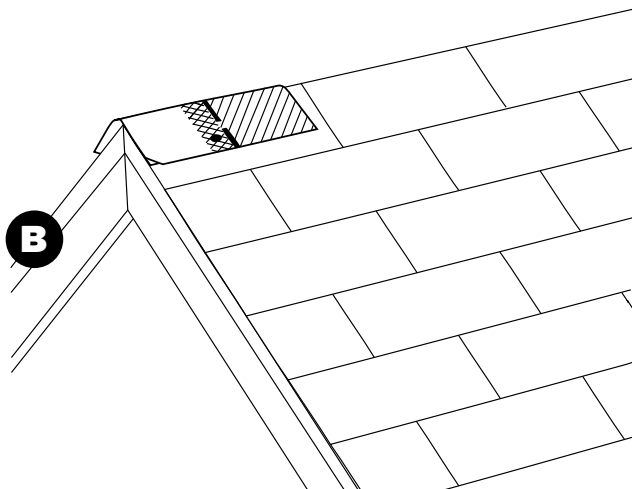
Continue application of Shadow Ridge ClimateFlex shingles up the ridge or along the ridge, forming each shingle over the hip or ridge, and fasten as shown in Fastening. Expose Shadow Ridge ClimateFlex shingles 5" (125 mm) covering all fasteners, see C.

The notches on each shingle may be used to help center the shingle on the ridge and to ensure the 5" (125 mm) exposure.



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 Shadow Ridge ClimateFlex shingles should be.





SHADOW RIDGE CLIMATEFLEX 4PC SHINGLES

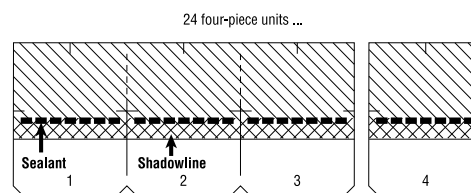
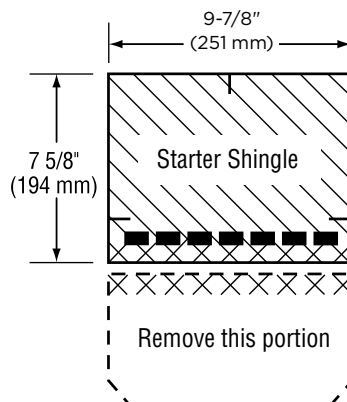


Figure 13-13: Shadow Ridge ClimateFlex 4PC Shingles detach easily from four-piece units to make 96 individual cap pieces.

There are 24 four-piece units in each bundle to make 96 individual caps that will cover 45 linear feet. Each cap piece is 13-1/4" by 9-7/8" and features clipped corners on the bottom edge of the exposed portion.

Shadow Ridge ClimateFlex 4PC Shingles Application is as follows:

Apply primary roofing up to hip or ridge on both sides of roof and trim flush. Ensure that the Shadow Ridge ClimateFlex 4PC shingles will adequately cover the top course of the shingles on both sides of the hip and ridge. Use only CertainTeed Shadow Ridge ClimateFlex 4PC shingles of a like color for capping hips and ridges, in order to assure a color match.

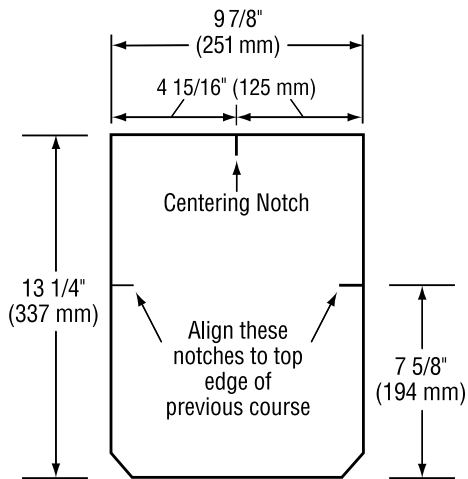


Start by cutting off the bottom 5-5/8" (143 mm) of one Shadow Ridge ClimateFlex 4PC shingle and applying the 7-5/8" x 9-7/8" (194 mm x 251 mm) piece over hip or ridge by bending this starter shingle along its centerline and forming into place, see D. Align butt edge to the bottom of the hip or to either end of ridge, flush with the edges of the in-place primary shingles. Fasten with two (2) fasteners – minimum 1-3/4" (45 mm) long, see E.

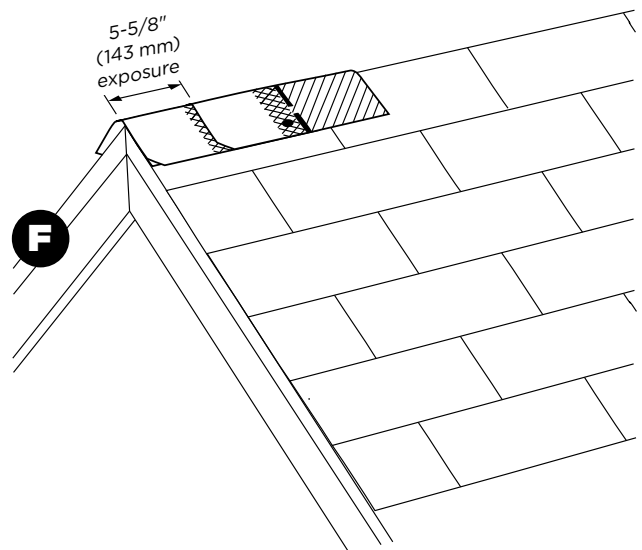
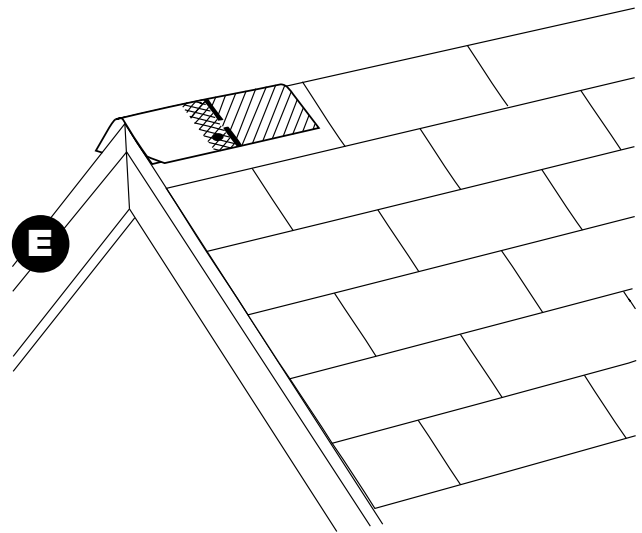
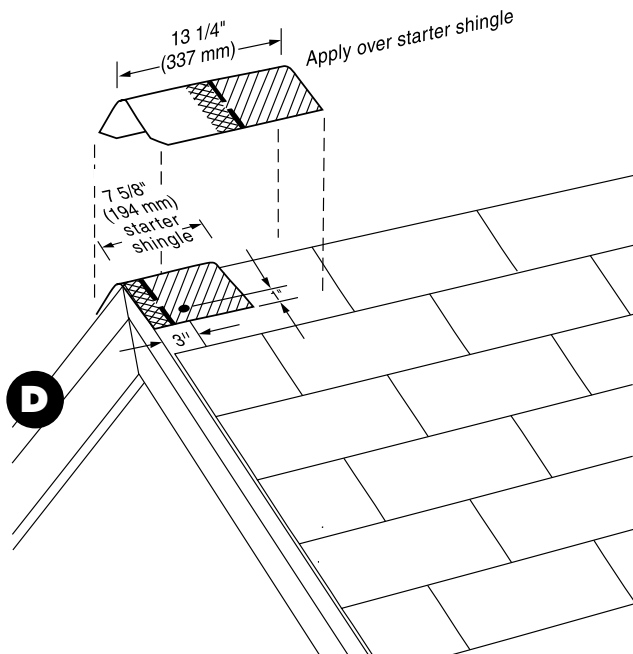
Then apply a full 13-1/4 x 9-7/8" piece over starter, bending the shingle along its centerline and forming into place over the hip or ridge, flush with the bottom and sides of the starter shingle. Fasten with two (2) fasteners – minimum 1-3/4" (45 mm) long.

Continue application of Shadow Ridge ClimateFlex 4PC shingles up the ridge or along the ridge, forming each shingle over the hip or ridge, and fasten as shown in Fastening. Expose Shadow Ridge ClimateFlex 4PC shingles 5-5/8" (143 mm) covering all fasteners, see F.

The notches on each shingle may be used to help center the shingle on the ridge and to ensure the 5-5/8" (143 mm) exposure.



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 Shadow Ridge ClimateFlex 4pc shingles should be.



SECTION 13 SELF-TEST

13-1. NorthGate™ ClimateFlex™ meets UL2218 Class 4 impact resistance ratings because it is SBS modified.

- A. True.
- B. False.

13-2. When applying NorthGate ClimateFlex shingles on roof slopes up to 21/12, fasteners should be placed in the 1-1/2" nailing area.

- A. True.
- B. False.

13-3. When "six-nailing" a full NorthGate ClimateFlex Shingle, nails must be spaced evenly across the shingle.

- A. True.
- B. False.

13-4. Failure to follow steep slope fastening instructions can void the warranty in the event of a shingle delamination.

- A. True.
- B. False.

13-5. NorthGate ClimateFlex shingles can only be applied using the "6" and 11" Method."

- A. True.
- B. False.

13-6. Using Shadow Ridge ClimateFlex cap shingles is strongly recommended.

- A. True.
- B. False.

Test on-line @ www.certainteed.com/samtest