

YOUR OBJECTIVE:

To learn the correct procedure for installing NorthGate™ shingles.

NORTHGATE

NorthGate shingles have the installer-friendly NailTrak® feature, which provides **1½" wide nailing area** and specially formulated Quadra-Bond laminating adhesive (See Figure 14-3).

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

NOTE: NorthGate must be installed over a clean deck (no roof-overs) to obtain the UL 2218 rating. It is strongly recommended NorthGate Accessory or NorthGate Ridge 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, Roofers' Select® High Performance 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® Waterproofing Shingle Underlayment, or its equivalent,* applied over the entire deck surface. Consult the WinterGuard and individual shingle application instructions for details.

* For low slopes, underlayment equivalents to WinterGuard 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.

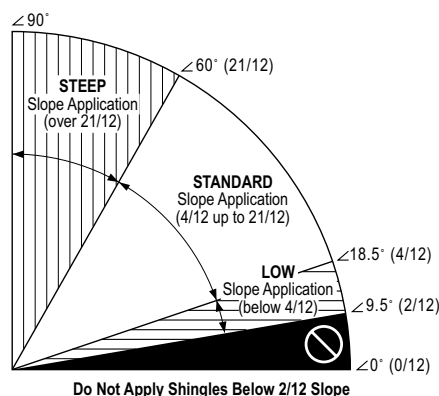


Figure 14-1: Slope definitions.

THE ROOF DECK* MUST BE AT LEAST: ⅜" (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 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

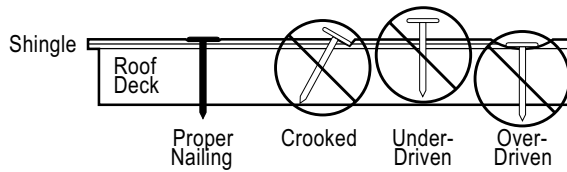


Figure 14-2: Proper and improper nailing.

IMPORTANT: For decks $\frac{3}{4}$ " (19 mm) thick or thicker, nails must go at least $\frac{3}{4}$ " (19 mm) into the deck. On thinner decks, nails must go at least $\frac{1}{8}$ " (3.2 mm) through the deck.

Nails must be 11- or 12-gauge roofing nails, corrosion-resistant, with at least $\frac{3}{8}$ " (9.5 mm) heads, and at least 1" (25 mm) long.

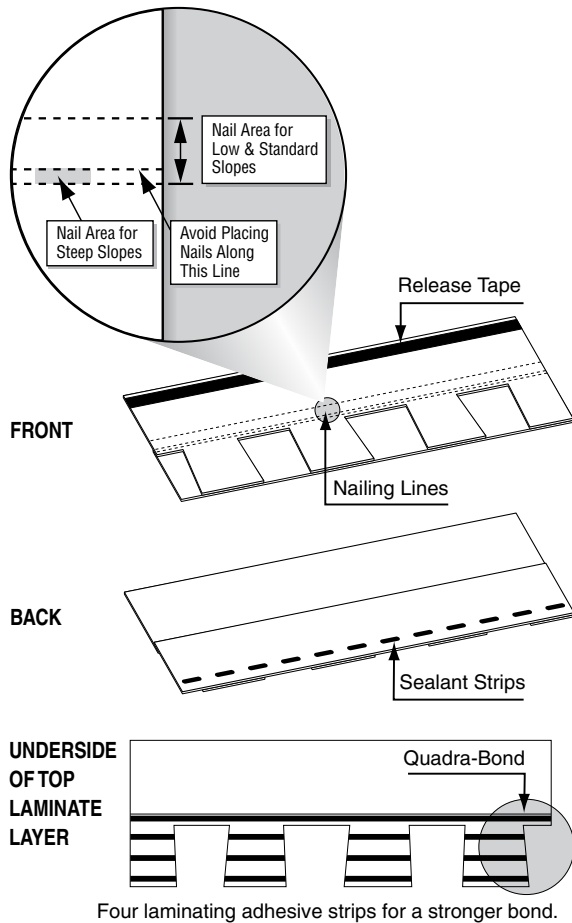


Figure 14-3: NailTrak® features a wider nail area and extra-strong Quadra-Bond construction.

LOW AND STANDARD SLOPE

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

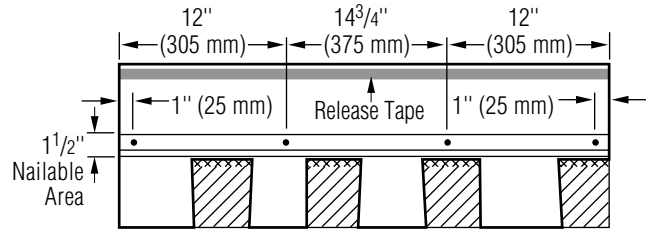


Figure 14-4: Use four nails for every full shingle.

★ **IMPORTANT:** When "six nailing" a full shingle, follow the nail pattern shown in figure 12-5, nails can be placed in the $1\frac{1}{2}$ " nailable area.

STEEP SLOPE

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

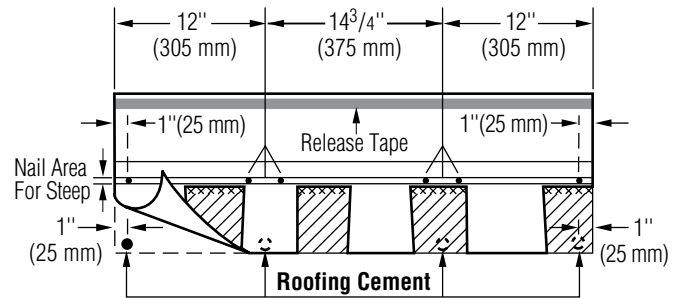


Figure 14-5: Use six nails and four spots of asphalt roofing cement on steep slopes.

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

TWO CLEAN-DECK APPLICATION METHODS FOR NORTHGATE SHINGLES

FIVE-COURSE DIAGONAL METHOD (6" AND 11") FIVE-COURSE DIAGONAL METHOD (5⁵/₈" AND 11¹/₄")

NOTE: The 6" and 11" method is shown below. The 5⁵/₈" and 11¹/₄" 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 5⁵/₈" and 11¹/₄" 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 5⁵/₈" (143 mm).

STARTER COURSE:

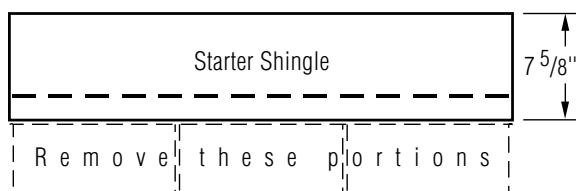


Figure 14-6: Make starter shingles that are 7⁵/₈" in height.

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 7⁵/₈" in height**. (Figure 14-6).
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 14-7).

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 32³/₄" long piece over and above the first-course shingle. Leave the bottom 5⁵/₈" 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 27³/₄" 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 14-8, B).
2. Fill-in courses across the roof in a stepped diagonal fashion using full shingles. (Figure 14-8, A). Do **not** run courses straight across.

IMPORTANT: Do not align joints of shingles closer than 3¹/₂" from one another.

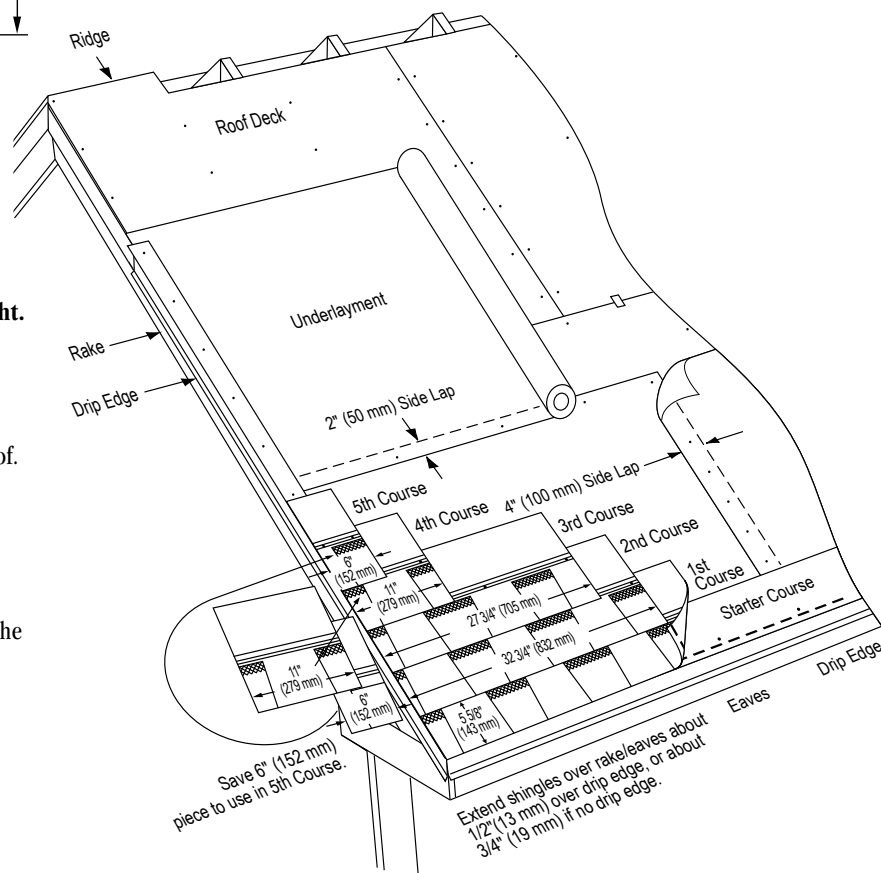
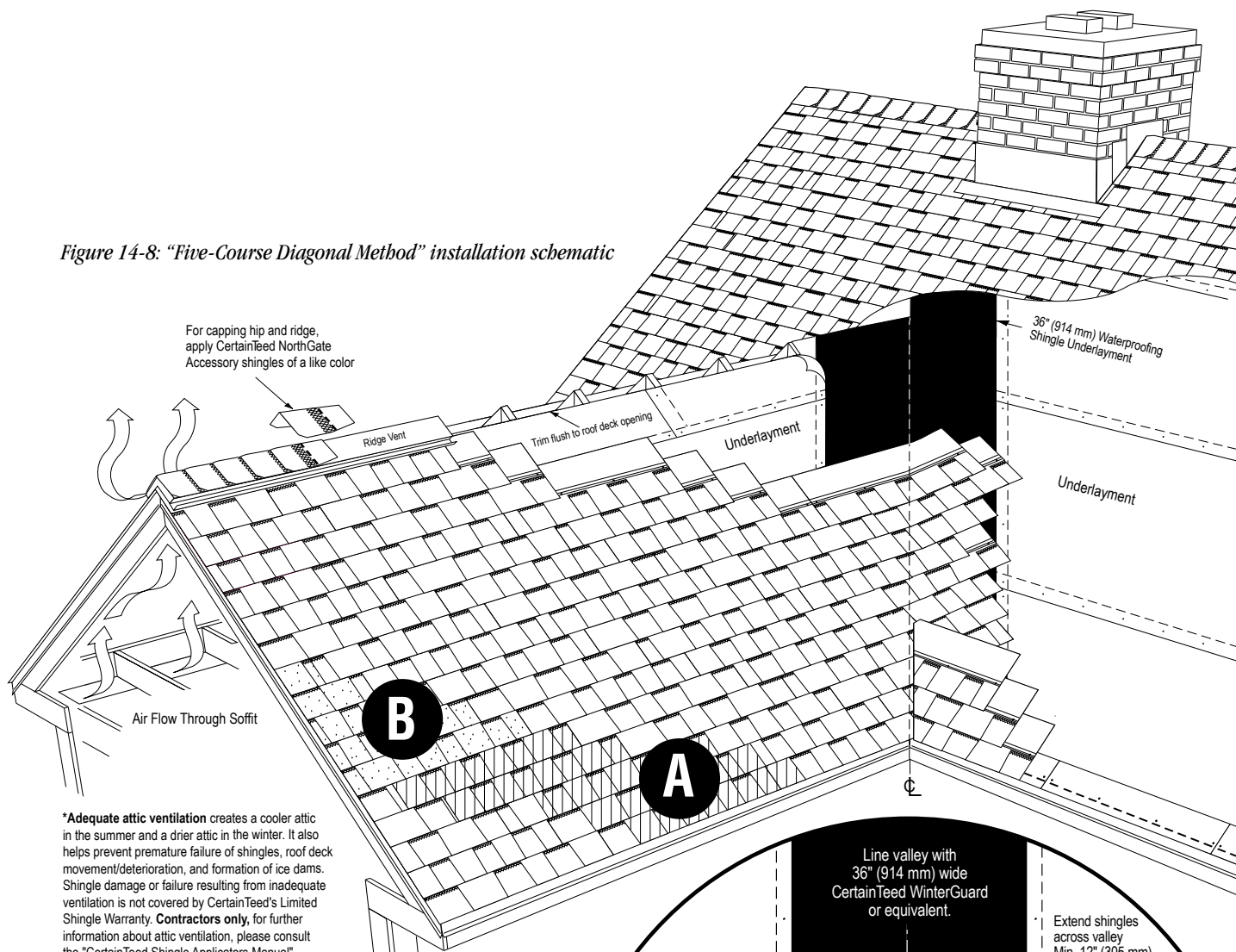


Figure 14-7: Applying the first 5 courses of NorthGate®.

Figure 14-8: "Five-Course Diagonal Method" installation schematic



***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 1-800-404-9880 for a copy), and/or "The Principles of Attic Ventilation" brochure (call 1-800-AIRVENT for a copy).

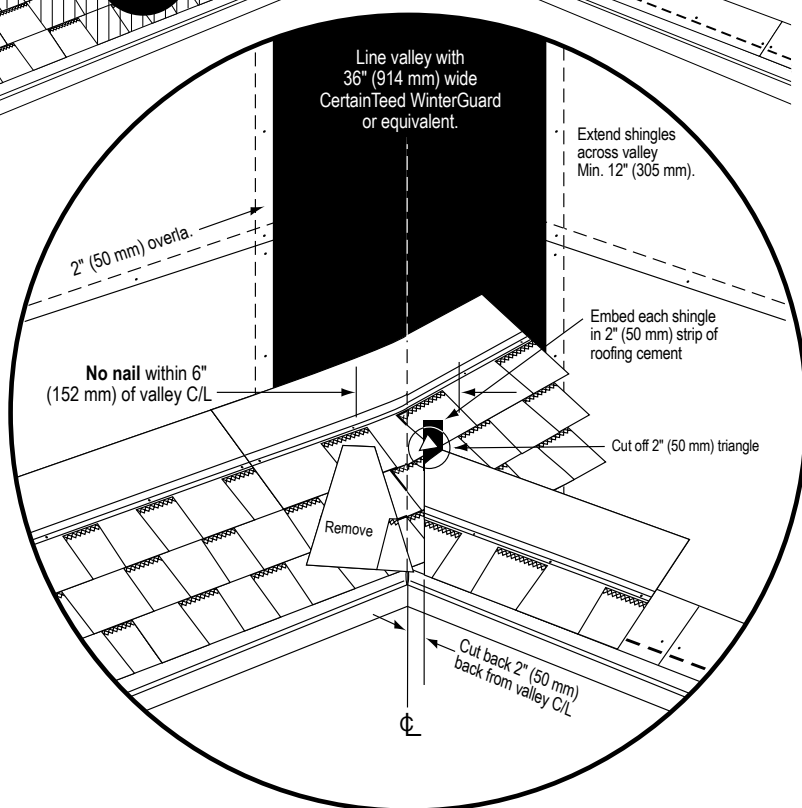


Figure 14-9: Highlight of closed-cut valley details

CHIMNEY FLASHING

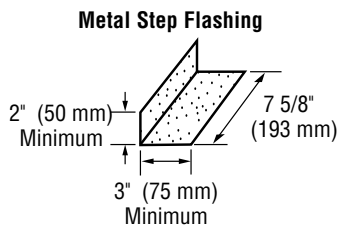


Figure 14-10: Step flashing minimum dimensions.

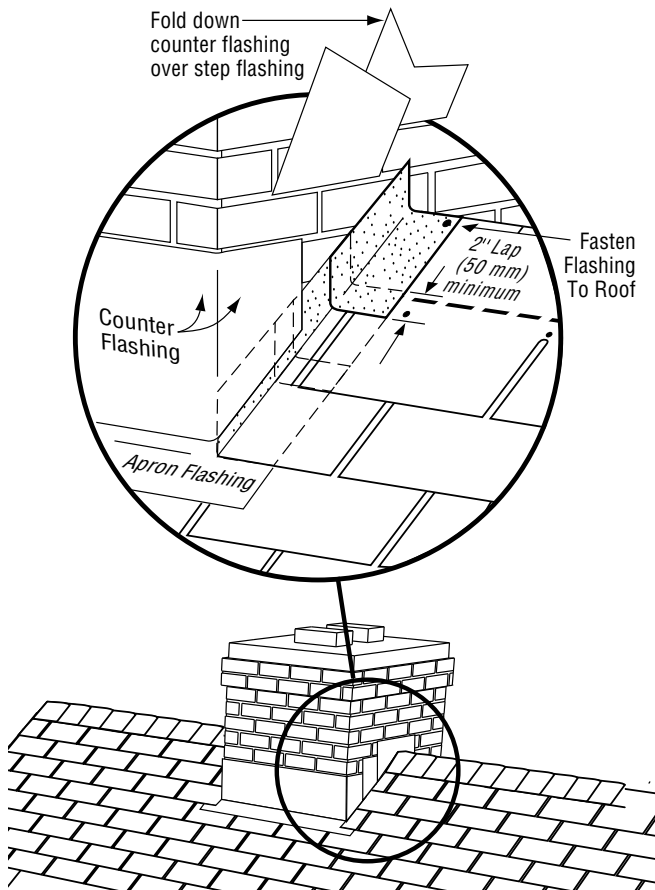


Figure 14-11: Flashing around a chimney.

ROOF-OVER METHODS FOR NORTHGATE 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 $5\frac{5}{8}" \pm \frac{1}{8}"$ ($143 \text{ mm} \pm 3.2 \text{ mm}$) exposure.

STARTER COURSE: The starter course consists of $5\frac{5}{8}" \times 38\frac{3}{4}"$ ($143 \text{ mm} \times 984 \text{ mm}$) 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 $32\frac{3}{4}"$ (832 mm) piece to the lower left corner of the roof, overhanging the rakes and the eaves $\frac{1}{2}"$ (13 mm) if drip edge is used, or $\frac{3}{4}"$ (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 $3\frac{1}{2}"$ (90 mm) apart. Either plan the starter shingles' application to avoid end joints getting closer than $3\frac{1}{2}"$ (90 mm) or cut back the affected first course shingle to ensure the minimum $3\frac{1}{2}"$ (90 mm) end joint spacing.

1ST COURSE: Cut 2" (50 mm) off the bottom of the full NorthGate shingle and apply remaining $11\frac{1}{4}" \times 38\frac{3}{4}"$ ($286 \text{ mm} \times 984 \text{ mm}$) 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 $32\frac{3}{4}"$ (832 mm) piece. Exposure of 1st course only is reduced to $3\frac{5}{8}"$ (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.

NORTHGATE ACCESSORY SHINGLES

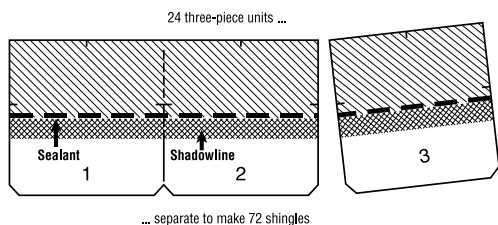


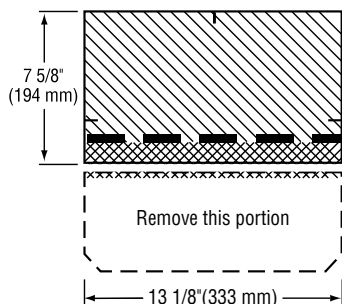
Figure 14-12: NorthGate Accessory shingles detach easily from three-piece units to make 72 individual cap pieces.

There are 24 three-piece units in each bundle, providing 72 individual caps that will cover 33³/₄ linear feet (10.287 linear feet, Metric) of a hip or ridge. Each dimension cap piece is 13¹/₄" by 13¹/₈" and features clipped corners on the bottom edge of the exposed portion.

NORTHGATE ACCESSORY APPLICATION IS AS FOLLOWS:

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

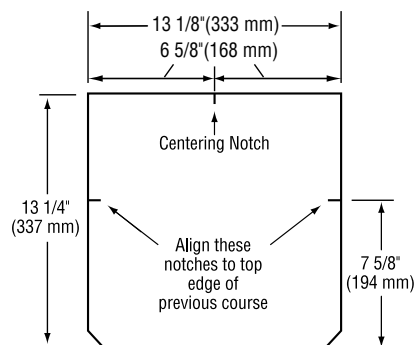
Start by cutting off the bottom 5⁵/₈" (143 mm) of one NorthGate Accessory shingle and applying the 7⁵/₈" x 13¹/₈" (194 mm x 333 mm) piece over hip or ridge by bending this starter shingle along its centerline and forming into place, see A. Align butt edge to the bottom of the hip or to either end of ridge, flush with the edges of the in-place primary shingles. Fasten with two (2) fasteners – minimum 1³/₄" (45 mm) long, see A.



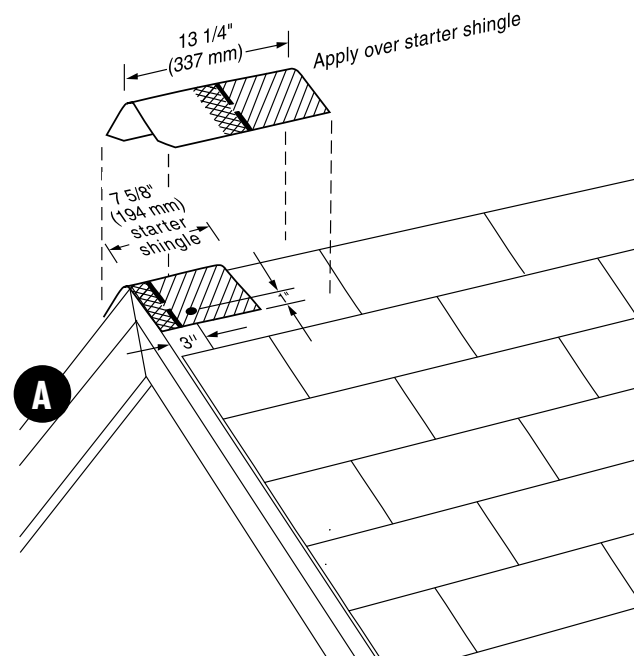
Then apply a full 13³/₄ x 13¹/₈" (337 mm x 333 mm) piece over starter, bending the shingle along its centerline and forming into place over the hip or ridge, flush with the bottom and sides of the starter shingle. Fasten with two (2) fasteners – minimum 1³/₄" (45 mm) long, see B.

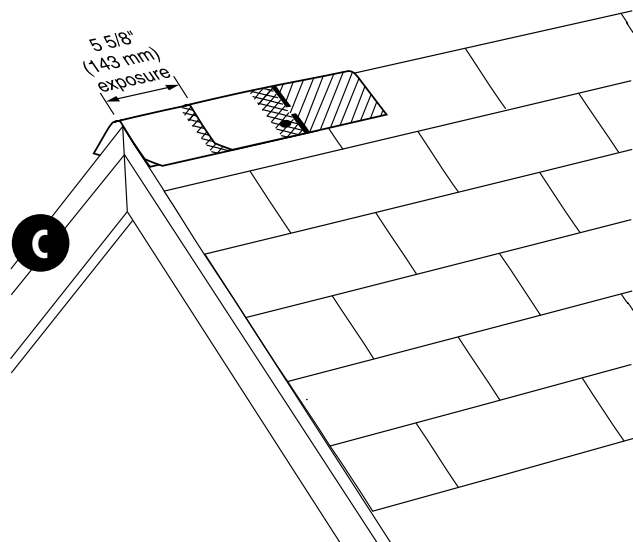
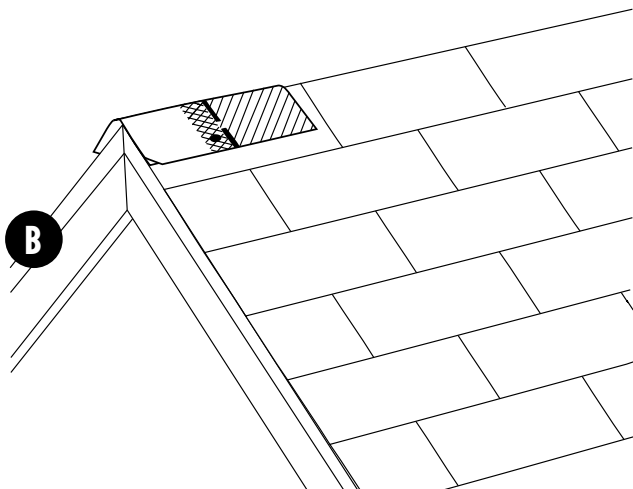
Continue application of NorthGate Accessory shingles up the ridge or along the ridge, forming each shingle over the hip or ridge, and fasten as shown in Fastening. Expose NorthGate Accessory shingles 5⁵/₈" (143 mm) covering all fasteners, see C.

The notches on each shingle may be used to help center the shingle on the ridge and to ensure the 5⁵/₈" (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 NorthGate Accessory shingles should be.





NORTHGATE RIDGE ACCESSORY SHINGLES

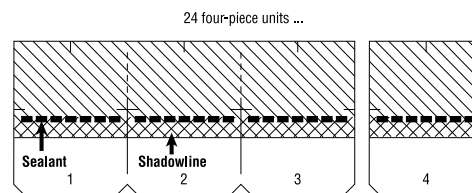
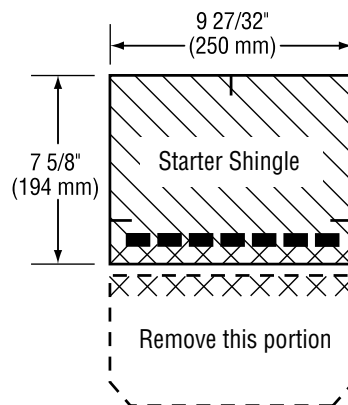


Figure 14-13: NorthGate Ridge Accessory shingles detach easily from four-piece units to make 96 individual cap pieces.

There are 24 four-piece units in each bundle, providing 96 individual caps that will cover 45 linear feet (13.716 linear feet, Metric) of a hip or ridge. Each dimension cap piece is $13\frac{1}{4}$ " by $9\frac{27}{32}$ " and features clipped corners on the bottom edge of the exposed portion.

NORTHGATE RIDGE ACCESSORY APPLICATION IS AS FOLLOWS:

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

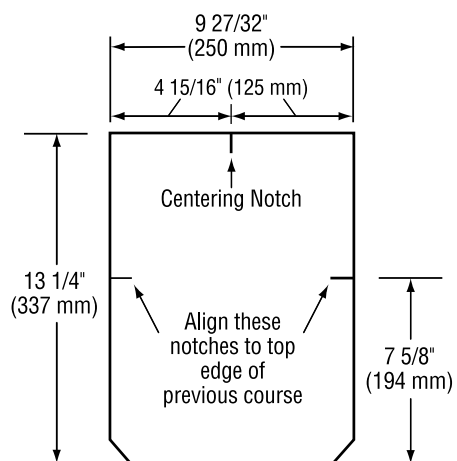


Start by cutting off the bottom $5\frac{5}{8}$ " (143 mm) of one NorthGate Ridge Accessory shingle and applying the $7\frac{5}{8}$ " x $9\frac{27}{32}$ " (194 mm x 250 mm) piece over hip or ridge by bending this starter shingle along its centerline and forming into place, see D. Align butt edge to the 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 $1\frac{3}{4}$ " (45 mm) long, see E.

Then apply a full $13\frac{3}{4}$ x $9\frac{27}{32}$ " (337 mm x 250 mm) 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 $1\frac{3}{4}$ " (45 mm) long.

Continue application of NorthGate Ridge Accessory shingles up the ridge or along the ridge, forming each shingle over the hip or ridge, and fasten as shown in Fastening. Expose NorthGate Ridge Accessory shingles $5\frac{5}{8}$ " (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 5⁵/₈" (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 NorthGate Ridge Accessory shingles should be.

