

Patriot

11

YOUR OBJECTIVE:

To learn the correct method for installing Patriot.

PATRIOT

Patriot shingles are manufactured to meet dimensional tolerances of +/-1/16" (1.6 mm).

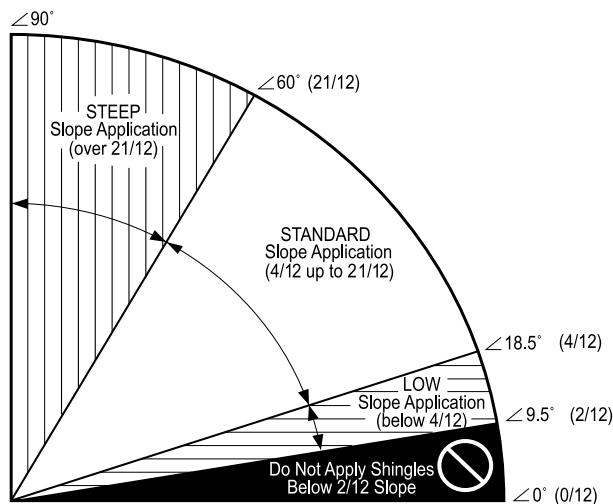


Figure 11-1: Slope definitions.

THE ROOF DECK MUST BE AT LEAST: 3/8" (9.5 mm) thick plywood, or 7/16" (11 mm) thick non-veneer, or 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® 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.

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

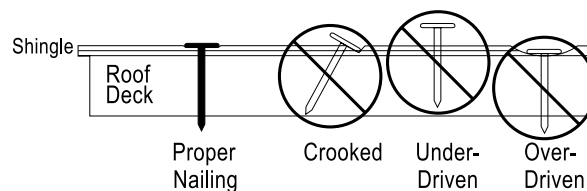


Figure 11-2: Proper and improper nailing.

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.

LOW AND STANDARD SLOPE

Use FOUR nails for every full shingle located as shown below.

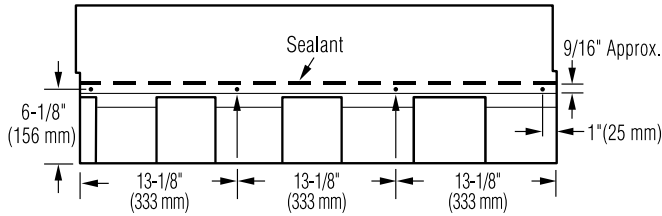


Figure 11-3

STEEP SLOPE

Use FOUR nails and four spots of asphalt roofing cement for every full shingle as shown below. Asphalt roofing cement meeting ASTM D4586 Type II is suggested. Apply 1" (25 mm) spots of asphalt roofing cement as shown.

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

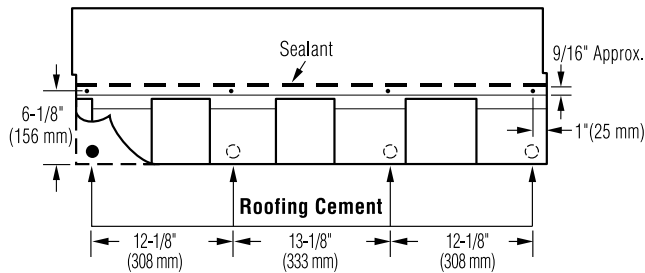


Figure 11-4

STEPPED-OFF DIAGONAL METHOD FOR CLEAN-DECK APPLICATION

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.

ALIGNMENT: Snap horizontal and vertical chalklines to help assure consistent $5\text{-}\frac{5}{8}$ " (143 mm) exposure of all shingles and to align diagonal offsets from course to course. Use the shingle's "shiplap" feature to obtain $5\frac{5}{8}$ " (143 mm) exposure by aligning the shingle's $\frac{3}{8}$ " (9.5 mm) shiplap edge with the top edge of the shingle beneath. Maintain the chosen offset consistently from course to course throughout the entire roof application. Fasten all shingles as shown in the "Fastening" section.

THE 7-COURSE, 5" STEPPED-OFF DIAGONAL METHOD

Important: Do not align end joints of a given course closer than 5" (127 mm) from one another. End joints must be at least 3" (76 mm) from the nails on the underlying course.

STARTER COURSE: Use CertainTeed's SwiftStart® $7\frac{5}{8}$ " x $38\frac{3}{4}$ " (194 mm x 984 mm) shingles or a starter course consisting of the shingles from which the lower $5\frac{5}{8}$ " (143 mm) has been removed (see below). Remember, the sealant on starter courses should lie as close as possible to the eaves edge of the roof.

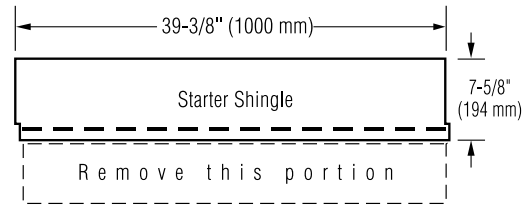


Figure 11-5: Make starter shingles by removing $5\text{-}\frac{5}{8}$ " below.

Next, cut 5" (127 mm) off the length of the first starter course shingle. Install this shingle on the lower left corner of the roof. Make sure there is $\frac{1}{2}$ " (13 mm) left overhanging both rakes and eaves if drip edge is being used. If you are not using drip edge, make the overhang $\frac{3}{4}$ " (19 mm). Continue with full-length starter course shingles along the eaves.

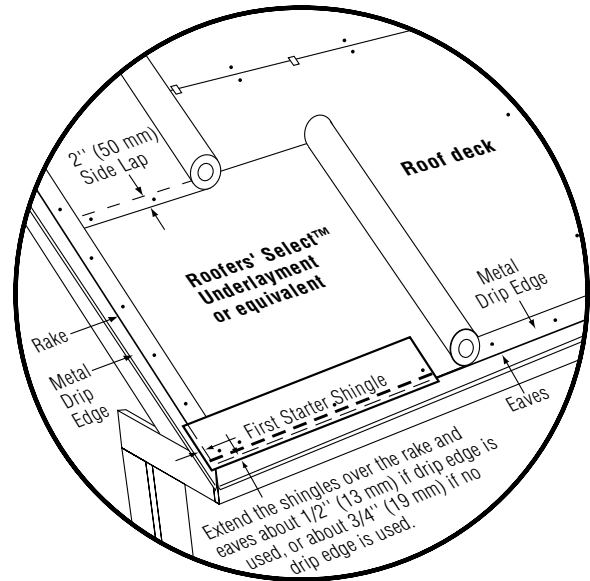


Figure 11-6

1ST COURSE: Cut the $\frac{3}{8}$ " x $5\frac{5}{8}$ " (9.5 mm x 143 mm) shiplap piece (upper left corner) from a full shingle and apply the remaining shingle at lower left corner of roof, aligning left and bottom edges flush with starter shingle.

2ND COURSE: Cut 5" (127 mm) off the left side of a shingle and install this $34\frac{3}{8}$ " (873 mm) piece over and above the first course shingle, in line with the left edge of the first course. Expose the bottom $5\frac{5}{8}$ " (143 mm) of the first course shingle. Align shiplap notch with top edge of shingles below.

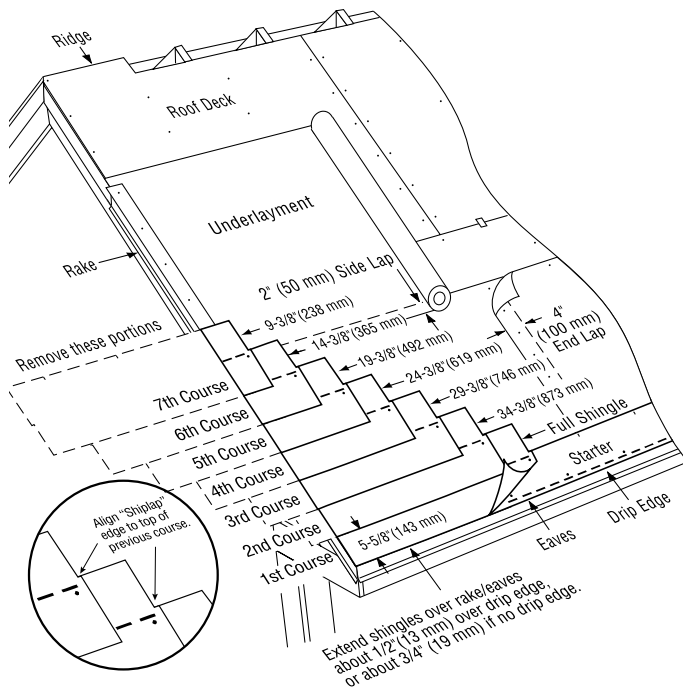


Figure 11-7: Applying the first 7 courses on a standard slope.

3RD THROUGH 7TH COURSES: Cut 10" (254 mm) off the first shingle of the third course, and install the remaining piece over and above the second course shingle; cut 15" (381 mm) off the first shingle of the fourth course, and install the remaining piece over and above the third course shingle; cut 20" (508 mm) off the first shingle of the fifth course, and install the remaining piece over and above the fourth course shingle; cut 25" (635 mm) off the first shingle of the sixth course, and install the remaining piece over and above the fifth course shingle; cut 30" (762 mm) off the first shingle of the seventh course, and install the remaining piece over and above the sixth course shingle. Install full shingles flush against the seven applied courses.

SUCCEEDING COURSES: As you go up the rake, repeat the same pattern used to start the first seven courses. Finish the courses with full shingles, working from the eaves up the roof.

Note: Patriot shingles can also be applied using a **7 Course 5⁵/₈" Stepped-Off Diagonal Offset, a 6 Course, 6" Stepped-Off Diagonal Offset or a 5 Course, 7" Stepped-Off Diagonal Offset.**

Note: When applying Patriot shingles using a Diagonal Offset Method, do not start a course with a shingle piece that has a length that is less than the offset dimension being used (5", 6" or 7").

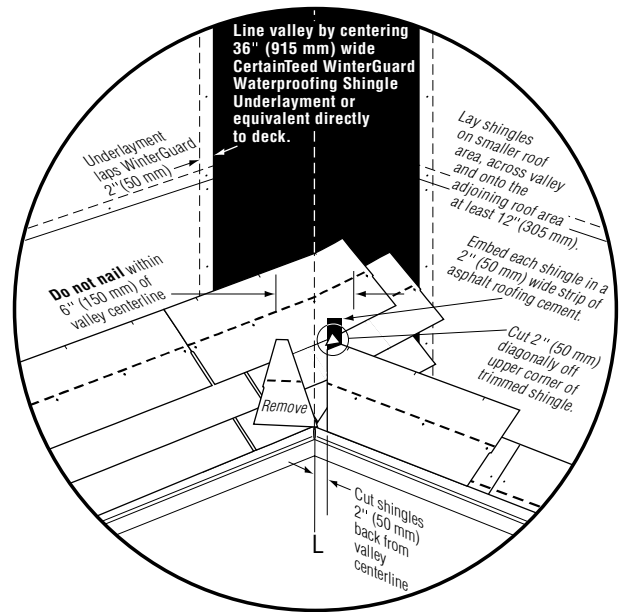


Figure 11-8: Closed-cut valley

CHIMNEY FLASHING

Metal Step Flashing

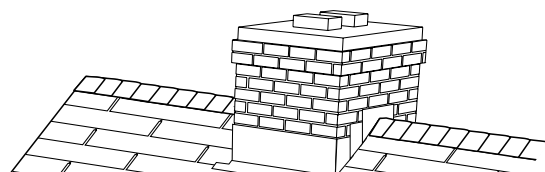
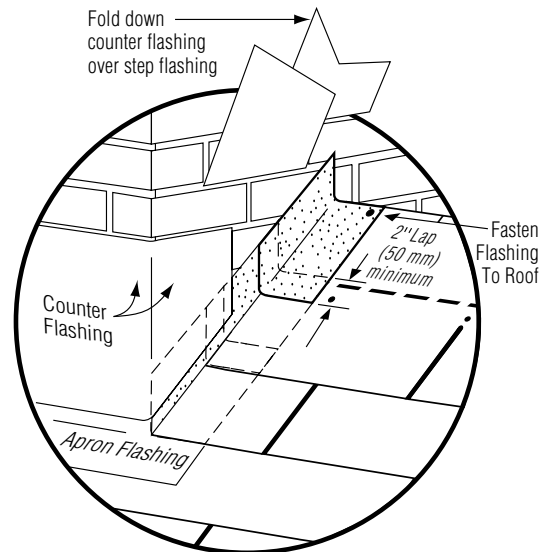
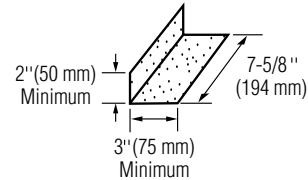


Figure 11-9: Flashing around a chimney.

CAPPING HIP AND RIDGE

SHADOW RIDGE® ACCESSORY SHINGLES

Shadow Ridge 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.

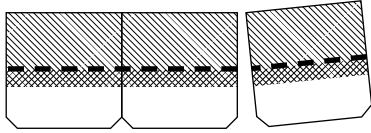


Figure 11-10: Shadow Ridge accessory shingles detach easily from three-piece units to make 72 individual cap pieces.

There are 24 three-piece units in each Shadow Ridge bundle, providing 72 individual caps that will cover 30 linear feet (33³/₄ linear feet, Metric) of a hip or ridge. Each English dimension cap piece is 12" by 12" (Metric caps are 13¹/₄" by 9⁷/₈") and features clipped corners on the bottom edge of the exposed portion.

APPLICATION IS AS FOLLOWS:

1. Apply shingles up to the hip or ridge on both sides, then trim flush.

NOTE: The last course of shingles should have an exposure of 5" (5⁵/₈" for metric) or less when the shingle cap or ridge vent is fastened in place. Otherwise, a potential water leak could occur at exposed shingle end joints. The figures used in this section illustrate the application of accessory shingles over a ridge vent; application directly to the roof deck is very similar.

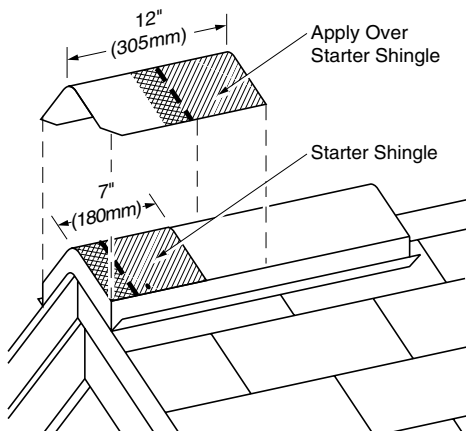


Figure 11-12: Apply a full cap shingle over the starter piece, flush with the bottom and side edges of the starter.

2. Install caps beginning at the bottom of a hip or at either end of a ridge. Apply a starter piece that has the bottom 5" (5⁵/₈" for metric) removed. Fasten the starter with two nails located about 3" from the rake edge, and 1" in from each side edge. Make sure fasteners used to apply caps penetrate at least ³/₄" into or through the decking.

NOTE: To assist in proper alignment when ridge vent is not used, snap a chalk line parallel to the hip or ridge along the line where the side edges of the cap shingles should be.

3. Apply a full cap shingle over the starter, and place fasteners at 5⁵/₈" (6¹/₄" for metric) up from the exposed bottom edge and 1" in from each side. Nails must not be exposed on the finished roof. All nail heads must be driven straight and must not cut into the shingle surface.

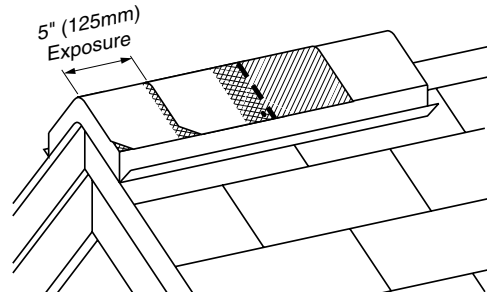
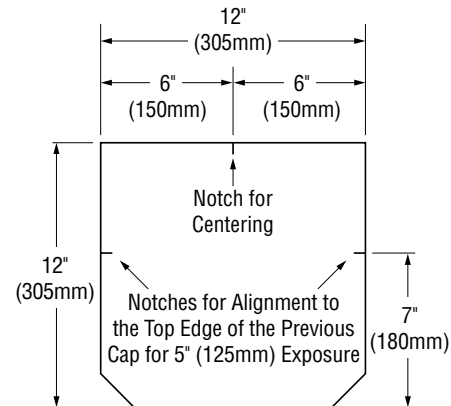
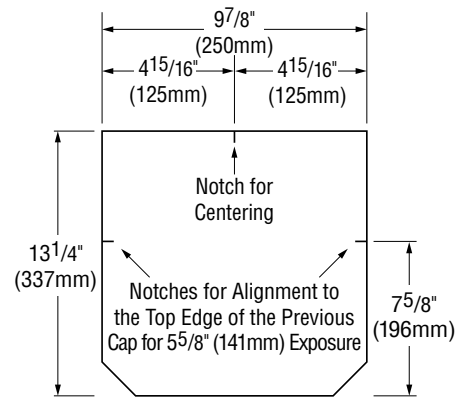


Figure 11-13: Install cap shingles at their correct exposure and cover all fasteners.

NOTE: Each cap has a laying/alignment notch at the top edge to center the piece on the ridge line, and two notches on each side to indicate the correct exposure and shadow-line placement. The side notches of the cap being applied should be aligned with the top edge of the previously applied cap.



English Dimension



Metric Dimension

Figure 11-14: Each Shadow Ridge shingle has a centering notch and two side-alignment notches to help ensure proper placement

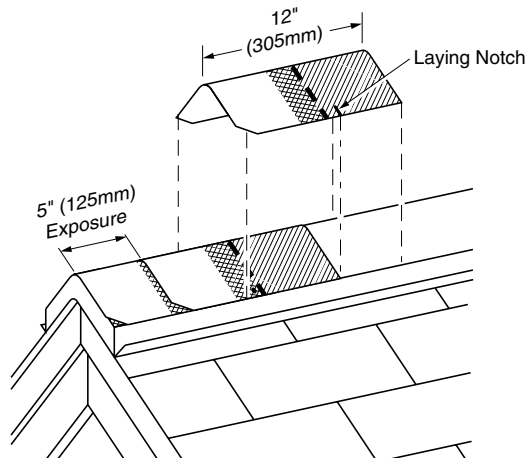


Figure 11-15: Use laying notches to center shingles on hips and ridges, and to locate the correct exposure.

ROOFING OVER AN EXISTING ROOF (ROOF -OVER)

NOTE: Nesting is preferred over “bridging” methods when reroofing because nesting sheds water best and looks better. Nesting, as described below, is an easy application process over square-tab asphalt strip shingles with a $5\frac{5}{8}$ " exposure. If you are covering a different type or size shingle, you may need to cut back the leading edge of all the **old shingle tabs** so that nesting is possible. This permits a flat nested application that avoids lifted edges and slumps.

PREPARING THE ROOF SURFACE FOR REROOFING

- ◆ Make the surface of the old roof as smooth as possible by replacing missing shingles. Split and nail flat all buckled, raised tabs and curling shingles.

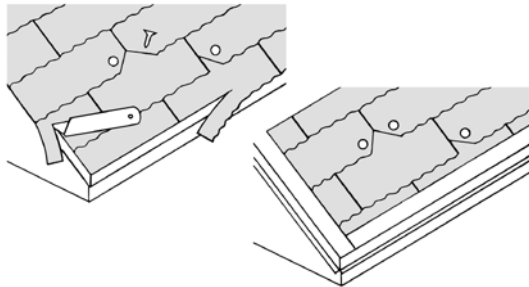


Figure 11-16: Preparing an old roof for reroofing.

- ◆ It's a good idea to cut old shingles back flush to the rakes and eaves.
- ◆ We suggest that you apply corrosion-resistant drip edge along the rakes and eaves, covering the edges of the old shingles. This will provide a uniform and straight edge that will help prevent water seepage under the shingle edges.

THE 7-COURSE, 5" STEPPED-OFF DIAGONAL NESTING METHOD

This 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 mm \pm 3.2 mm) exposure.

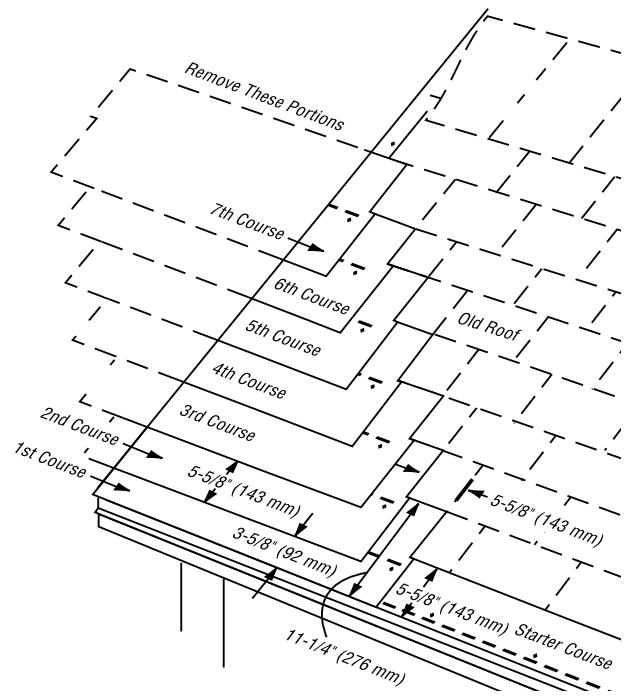


Figure 11-17: Roof-over 7 course 5" stepped-off, nested

STARTER COURSE: Use $5\frac{5}{8}$ " x $39\frac{3}{8}$ " (143 mm x 1000 mm) shingles for the starter course. To make a starter shingle, first cut the bottom $5\frac{5}{8}$ " (143 mm) off, then cut off a strip 2" (50 mm) across the top of the same shingle.

Cut 5" (127 mm) off the first shingle and install the remaining piece over the first course of the old shingles, at the lower left corner. Remember, the sealant on this starter course must lie as close as possible to the eaves edge of the roof. This will help hold the first course shingles down and provide good protection against wind blow-offs, which could start at the edge of the roof. If you are using drip edge, let the starter shingle extend out over the edge of the rake and eaves by $\frac{1}{2}$ " (13 mm). If you are not using drip edge, let the starter shingle extend over the rake and eaves by $\frac{3}{4}$ " (19 mm). Finish the course using similarly prepared starter strips; however, they should be full lengths $39\frac{3}{8}$ " (1000 mm).

1ST COURSE: The first course is made of $11\frac{1}{4}$ " x $39\frac{3}{8}$ " (286 mm x 1000 mm) shingle strips made by cutting 2" (50 mm) off the bottom of the shingles. Cut the $\frac{3}{8}$ " x $5\frac{5}{8}$ " (9.5 mm x 143 mm) shiplap piece (upper left corner) from this strip and apply this strip at the lower left corner of the roof. Align left corner flush with starter strip left corner. **For this course and all subsequent courses, align top edge of shingle to be applied with bottom edge of old shingle in next course.**

2ND COURSE: Cut 5" (127 mm) off the left end of a shingle and apply remaining $34\frac{3}{8}$ " (873 mm) piece. Exposure of 1st course **only** is reduced to $3\frac{7}{8}$ " (92 mm). Exposure for 2nd through 7th course is $5\frac{5}{8}$ " (143 mm).

3RD THROUGH 7TH AND SUCCEEDING COURSES: Apply as previously described in “7-Course, 5" Stepped-Off Diagonal Method” on the left.