

# Tahoma®

## 3-TAB SHINGLES

### Directions For Application

#### 1 General Instructions

NOTICE: THESE SHINGLES MUST BE APPLIED TO CONFORM WITH ALL APPLICABLE BUILDING CODES. THESE DIRECTIONS REPRESENT COMMON AND ACCEPTED ROOFING PRACTICES. DEVIATIONS FROM THESE DIRECTIONS MAY ADVERSELY AFFECT WARRANTY COVERAGE, THE ASSEMBLED ROOF SYSTEM PERFORMANCE, ROOF APPEARANCE, COMPLIANCE TO PRODUCT STANDARDS, COMPLIANCE TO CODES, AND STATED ROOF AREA COVERAGE. See the PABCO® Limited Shingle Warranty for details, limits, and conditions. Ask your supplier for a copy or visit our web site at [www.pabcoroofing.com](http://www.pabcoroofing.com).

Apply shingles exposing the bottom 5-5/8" to the weather. The step-by-step application instructions below apply to standard slope/inclines between 4" per foot and 21" per foot. For low slopes (between 2" and 4" per foot) and steep slopes (more than 21" per foot), modify the installation as described in Section 8. Do not apply these shingles on roofs having a slope less than 2" per foot.

IMPORTANT: THE DIAGONAL APPLICATION DESCRIBED HERE IS NECESSARY TO PREVENT OBJECTIONABLE PATTERNING. PABCO IS NOT RESPONSIBLE FOR PATTERNING ON ROOFS IF THE DIAGONAL METHOD OF APPLICATION IS NOT USED.

Ventilation: To prevent harmful condensation, air must circulate freely under the roof deck with air flow in all areas. A minimum of 1 ft<sup>2</sup> of total net free ventilating area is required for each 150 ft<sup>2</sup> of attic floor area. 1 ft<sup>2</sup> for each 300 ft<sup>2</sup> of attic floor area may be allowed if at least 40 percent and not more than 50 percent of the required ventilating area is provided by exhaust vents located in the uppermost portion of the attic or rafter spaces and a vapor barrier is present on the warm side of the insulation.

#### 2 Roof Deck Requirements: All Construction

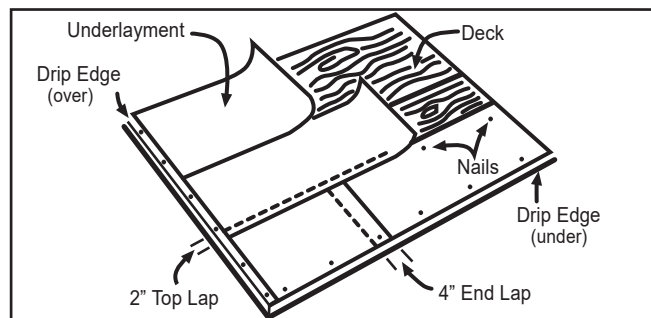
The minimum deck thickness must be either 3/8" plywood or 7/16" OSB type sheathing, conforming to the specifications of the APA - The Engineered Wood Association and the building code. As an alternative, the deck may be well-seasoned wood boards 1" minimum nominal thickness, 6" maximum width, spaced no greater than 1/8" apart. The deck must be sound and provide good anchorage for nails.

THESE SHINGLES SHOULD NEVER BE APPLIED TO ANY OTHER DECK without first obtaining written approval from PABCO® Roofing Products. Requests for approval must be accompanied by the deck manufacturer's recommended application procedure for asphalt shingles. APPLICATION DIRECTLY OVER POLYURETHANE OR POLYSTYRENE SURFACES WILL NOT BE APPROVED.

#### 3 Underlayment

On decks with a pitch of 4" per foot or greater, for new construction or when old roofing has been removed, apply a single layer of breathable underlayment or asphalt saturated felt underlayment. Asphalt saturated felt must comply with ASTM D226, D4869, or D6757, or equivalent and the building code. The underlayment is installed to extend 1/4" to 3/8" beyond the drip edge at the eaves. Overlap underlayment layers with a 2" top lap, 4" end laps, or as directed by the underlayment manufacturer, and a minimum of 6" over both sides of all hips, ridges, and valleys. See Section 8 for application on slopes between 2" and 4" per foot.

Drip edges are made of corrosion resistant materials that extend 2" minimum back from the roof edges and bend downward over them. Apply drip edge directly to the deck along the eaves and over the underlayment along the rakes. Note: Drip edge is required by most building codes.

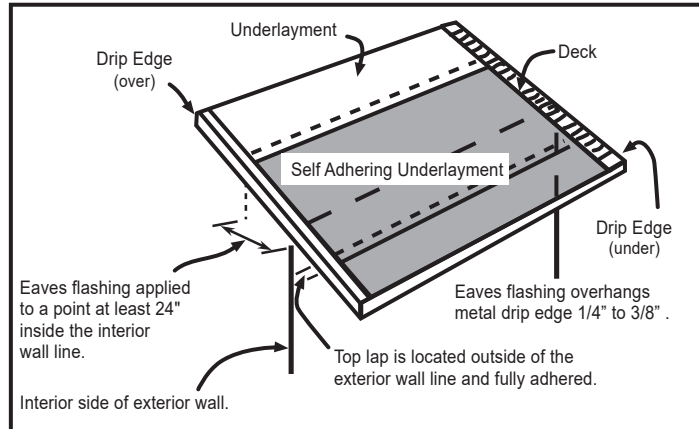


**PABCO® Roofing Products**  
Exceptional People. Remarkable Products.®

1476 Thorne Road Tacoma, WA 98421  
253.272.0374 [www.pabcoroofing.com](http://www.pabcoroofing.com)

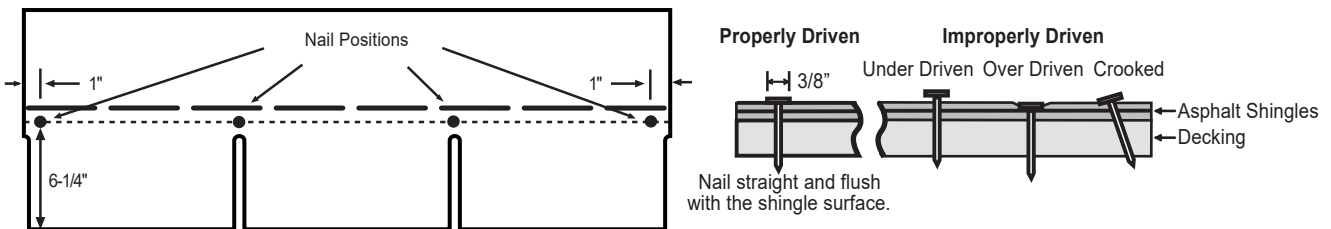
## 4 Eaves Flashing

If winter temperatures average 30 °F or less, and ice may form along eaves to cause a back-up of water, install an eaves flashing for ice dam protection. Install a self adhering, peel and stick type underlayment sheet complying with ASTM D1970 parallel to the eaves, applied per the manufacturer's instructions. This sheet extends 1/4" to 3/8" beyond the drip edge at the eaves. This sheet extends up the roof to at least 24" inside the interior wall line. Horizontal laps (when needed), are located outside the wall line.



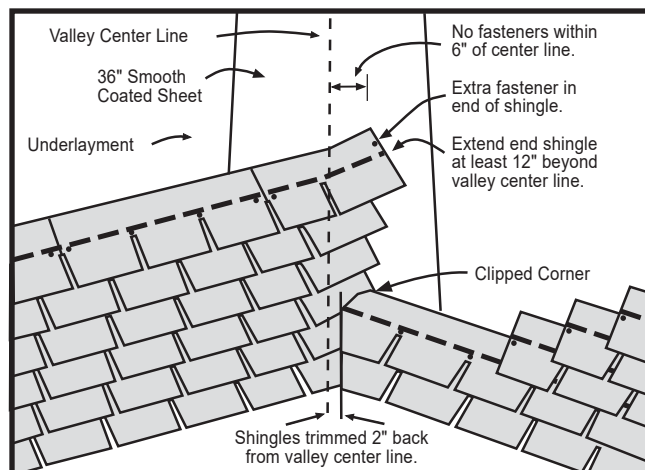
## 5 Nailing Instructions

PABCO® recommends the use of nails. Most building codes do not allow the use of staples. Use four nails per shingle for normal application, positioned as shown below. Nails shall be at least 1" long, aluminum or galvanized, 3/8" head, 11 or 12 gauge roofing nails. Drive nails flush with shingle surface. NAILS MUST NOT BE OVER DRIVEN. See Section 8 for six nail application location and use. See our Tahoma® Nailing Instructions for additional details.



## 6 Valleys

Valley application must comply with the building code. Where allowed, PABCO® recommends closed cut valleys (woven and open metal valleys are also allowed). This valley starts with a 36" underlayment centered down the valley. PABCO® recommends self adhering underlayment (ASTM D1970) for this bottom layer. The underlayment covering the decks is trimmed to overlap this at least 6". A second layer of smooth coated sheet roofing (ASTM D224, ASTM D6380 Type S, or heavier) is applied over the other underlayments, centered down the valley. Lay the first course of shingles along the eaves of one roof plane and over the valley, extending it into the adjoining plane at least 12". The shingle must be sufficiently warm and flexible to not crack when formed across the valley. Press the shingle into the valley smoothly and nail normally except that no nail is closer than 6" to the valley center line, and with 1 nail at the terminal end of each strip. Never use a piece less than 12" wide. If necessary, trim the preceding shingle on the course. Follow the same procedure for succeeding courses of that roof plane. Then apply the first course of shingles along the eaves of the intersecting roof plane, extending it over the previously applied shingles and trim it 2" short of the valley center line. Clip the upper corners of each shingle 1" at 45°. Succeeding courses are applied in the same way. Other valley applications can be considered, by providing a detailed request to PABCO. See ARMA Residential Asphalt Roofing Manual for details and alternatives.



## 7 Application, 5-5/8" Diagonal Offset Pattern

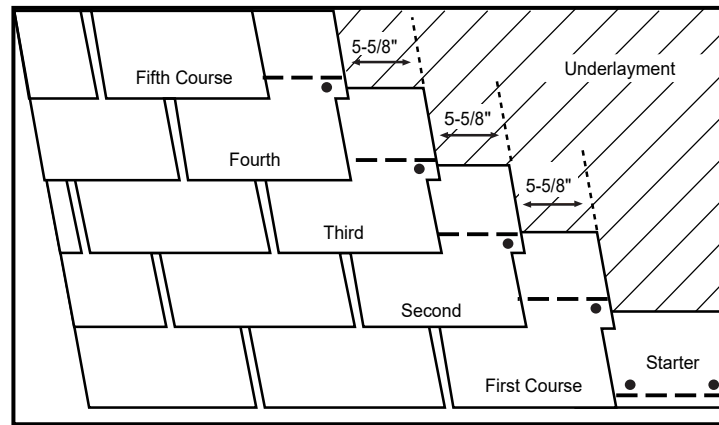
**STARTER COURSE:** Use PABCO® Universal Starter with the adhesive at the eaves (or a self sealing three tab shingle with the tabs cut off). Cut 6" off the length of the first slab of starter course and apply at the lower left hand corner of the roof. The starter course overhangs the drip edge at the rake and eaves 1/4" to 3/8". Continue the starter course across the deck with full length shingles.

**FIRST COURSE:** Start with a full shingle applied flush with the starter course at the lower left hand corner of the roof.

**SECOND COURSE:** Cut 5-5/8" from the left end of a shingle and apply the 33-3/4" long piece over the headlap of the first course shingle, exposing the first course 5-5/8".

**THIRD COURSE:** Cut 11-1/4" from the left end of the shingle and apply the 28-1/8" long piece over the headlap of the second course shingle, exposing the second course 5-5/8".

**SUCCEEDING COURSES:** Courses four through seven are begun with a partial shingle 5-5/8" shorter progressively, establishing the overall diagonal pattern. See illustration below. Pieces cut from shingles along the left rake can be used to finish off courses at the right rake. Now apply a full shingle to courses one through seven. Repeat the diagonal pattern from the first courses starting course eight as a full shingle and proceeding with the first shingle for each course 5-5/8" shorter each time.

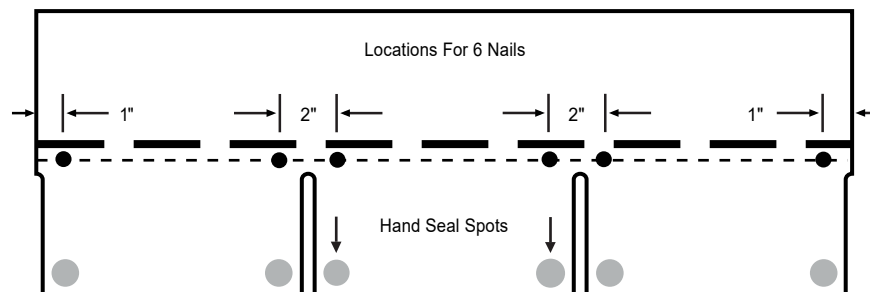


**Application 6-9/16" Offset:** As an acceptable alternative, apply starter course as above. Start the first course with a full shingle. Then start courses two through six with 6-9/16", 13-1/8", 19-11/16", 26-1/4", and 32-13/16" cut from the left end of the shingle. Courses seven through twelve repeat the process beginning with a full shingle, and starting each succeeding course with a partial shingle 6-9/16" shorter each time. Succeeding courses also repeat this procedure beginning again with a full shingle.

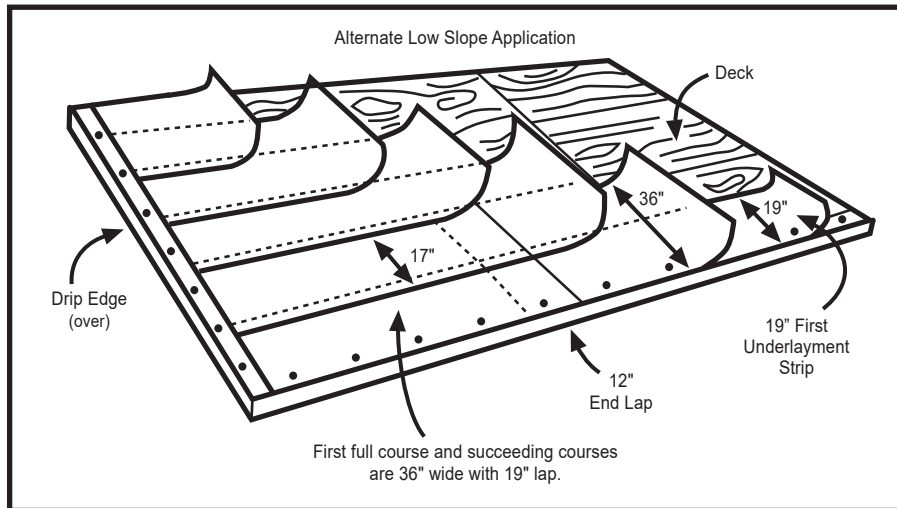
## 8 Special Applications

For areas where local knowledge indicates exposure to high winds may occur or where required by code, shingles must be applied with 6 nails (spaced as shown below) and sealed to qualify for wind damage warranty coverage.

**Steep Slope Application:** On slopes greater than 21" per foot (Mansard type roofs), 6 nails are required, spaced as shown below. These shingles must be hand sealed at the time of application with asphalt roof cement complying with ASTM D4586 Type II, applying 6 quarter sized spots under the shingle tab corners as shown below.

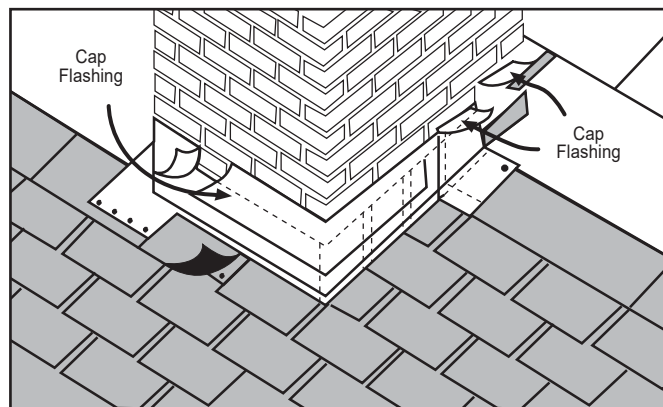


Low Slope Application: On slopes between 2" and 4" per foot, where allowed by code, apply one layer of a self adhering ASTM D1970 sheet per the manufacturer's instructions. As an alternative, provide a double layer of breathable underlayment, asphalt saturated felt underlayment complying with ASTM D226, D4869, or D6757, or equivalent and the building code. For 36" asphalt saturated felts, start by applying a minimum 19" wide underlayment strip across the eaves. Over this, apply a full 36" wide sheet. Continue 36" wide sheets, lapping each 19" over the preceding course. For other sheets, follow the low slope instructions for that material.



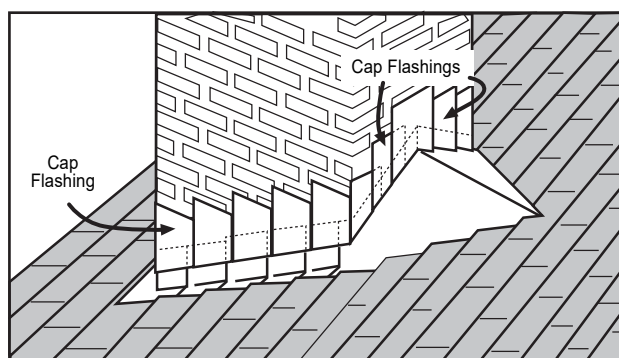
## 9 Base Flashing

The base flashing for the front of the chimney is installed as illustrated over the headlap of the last course of shingles below the chimney, and extending up the chimney. Set the roof and chimney overlaps in asphalt roof cement. Where shingle ends are against a vertical surface (sidewall or chimney), the shingles must be flashed with metal step flashing shingles applied over the end of each shingle. The flashing shingles are at least 8" by 7-5/8", bent to extend 4" out over the shingles on the roof deck and 4" up the vertical surface, and extending up the roof 7-5/8". Each flashing shingle is placed so that its leading (bottom) edge is just back from the exposed edge of the shingle which will overlap it. It is secured to the deck with one nail near the top corner. See the ARMA Residential Asphalt Roofing Manual for additional details.



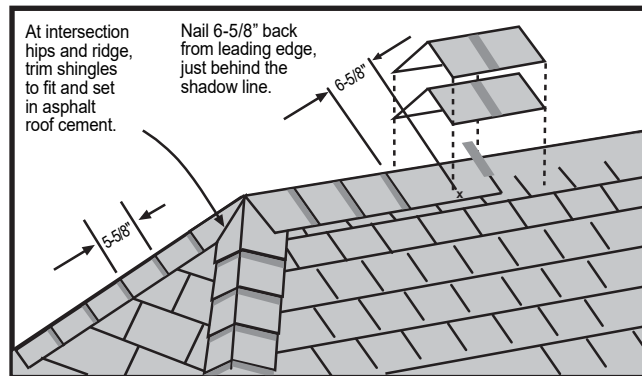
## 10 Cap (Counter) Flashing

The base flashing of chimneys, skylights, vents, and adjoining walls must be covered by a cap flashing of sheet metal. The cap flashing must extend at least 1" into the masonry mortar joints and be caulked with asphalt roof cement to insure a water-tight connection. Base flashing should be cut to cover the entire cricket and extend 6" up the brickwork on the chimney.



## 11 Hips and Ridges

Trim shingles even with the ridge and cover with PABCO® Shadow Cap shingles exposed 5-5/8" to the weather. Nail each side 6-5/8" back from the exposed edge (just behind the shadow line) and 1" up from the bottom edge with galvanized roofing nails long enough to penetrate into the deck at least 3/4" or through if the deck is thinner than 3/4". Applying PABCO® Shadow Cap double thick is recommended to accent the hip & ridge lines. **IMPORTANT:** In cold weather (40 °F or below) store shingles for hip & ridge in a heated location 24 hours prior to application to assist in bending the shingles without damaging or cracking them.



## 12 Reroofing

When reroofing, confirm the ventilation complies with the requirements in Section 1 and the deck complies with the requirements detailed in Section 2. If local building codes permit, removing old three-tab shingles is not required if the existing deck and framing will support workers, new roofing, and the usual snow loads. Make the surface as smooth as possible by replacing missing shingles and splitting and nailing all buckles, raised tabs, and curled shingles. Applying a drip edge along the rakes to cover edges of old roofing is recommended. Proceed with the application as new shingles, except using nails long enough to penetrate through all roofing material and 3/4" into the deck. If the old roofing shingles are laminated, interlocking, or Dutch Lap, their size or shape may result in an uneven surface appearance. If a smooth base surface is desired, remove the old shingles, prepare the deck and apply shingles as for new construction.

### The PABCO® Limited Shingle Warranty

PABCO warrants that our shingles are free from manufacturing defects that adversely affect their performance. PABCO is not responsible for failures of any roof system that are not directly attributable to a PABCO product. See the PABCO Limited Shingle Warranty for details, limits, and conditions.



1476 Thorne Road Tacoma, WA 98421  
253.272.0374 www.pabcoroofing.com