

## 1 General Instructions

ALWAYS FOLLOW LOCAL BUILDING CODES. TO QUALIFY FOR WARRANTY PROTECTION AND TO OBTAIN STATED COVERAGE, THESE DIRECTIONS MUST BE FOLLOWED. See PABCO's limited warranty for details, limits and conditions. Ask your supplier for a copy or visit our web site at [pabcoroofing.com](http://pabcoroofing.com).

Standard application exposure is 4 1/2" to the weather.

The standard step-by-step application instructions below apply to slope/inclines between 4" per foot and 21" per foot. See Section 8 below for additional requirements for use on slopes between 4:12 and 2:12. These shingles are not approved for use on roof slopes less than 2:12.

**IMPORTANT: FROM COURSE TO COURSE UP THE DECK, END JOINTS MUST BE MAINTAINED WITH A HORIZONTAL OFFSET OF 5 3/4". THE INSTALLER MUST ASSURE THAT ALL END JOINTS ARE COVERED. UNCOVERED END JOINTS MAY RESULT IN LEAKS WHICH ARE NOT COVERED BY PABCO'S LIMITED WARRANTY.**

**Ventilation:** To prevent harmful condensation, air must circulate freely under the roof deck. FHA Minimum Property Standard indicates: A minimum of 1 square foot of total net free ventilating area is required for each 150 square feet of ceiling area, or 1 square foot for each 300 square feet of ceiling area if (A) a vapor barrier is installed on the warm side of the ceiling or (B) approximately one-half the ventilation is provided near the ridge.

## 2 Roof Deck Requirements: New Construction

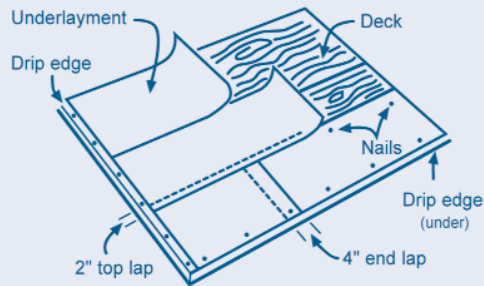
Plywood decks must be at least 3/8" thick plywood or 7/16" OSB type structural sheets conforming to the exposure standards and specifications of the APA - The Engineered Wood Association and the building code, or wood board decks must be well-seasoned, minimum nominal thickness 1", not over 6" in width.

PABCO 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 underlayment felt complying with ASTM D226, D4869 or D6757 and the building code. Underlayment is applied with 2" top laps and 4" end laps. Lap the felt a minimum of 6" from both sides over all hips, ridges and valleys.

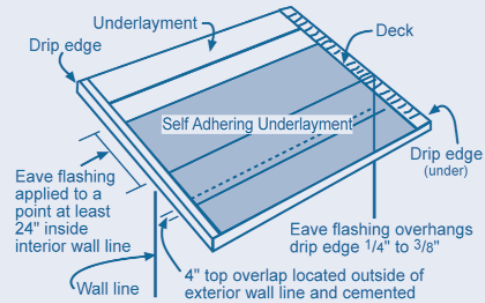
Drip edges are made of corrosion resistant materials that extend 2" minimum back from the roof edges and bend downward over them. Apply drip edges directly to the deck along the eave and over the underlayment along the rake.



## 4 Eaves Flashing

If winter temperatures average 30°F or less, and ice may form along eave to cause a back-up of water, install a self adhering eave flashing for ice dam protection. Install this self adhering, peel and stick type underlayment sheet, complying with ASTM D1970, parallel to the eave. It overhangs the drip edge 1/4" to 3/8". This sheet extends up the roof to at least 24" inside the interior wall line. Horizontal (top) overlaps (when needed), should be located over the overhang area. Top laps are at least 4", end laps are at least 6".

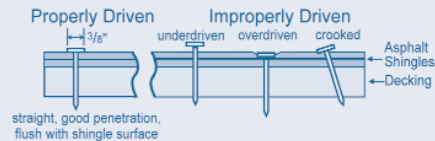
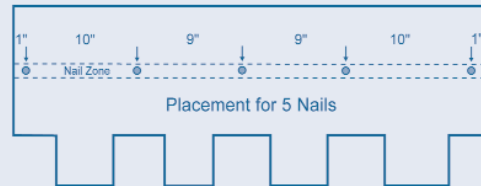
## 4 Eaves Flashing (Continued)



## 5 Nailing Instructions

Use five nails per shingle for normal application, positioned in the nail zone as shown below. Nails shall be at least 1" long, aluminum or galvanized, 3/8" head, 11 or 12 gauge roofing nails. Nails must be driven flush with shingle surface. NAILS MUST NOT BE OVERDRIVEN TO CUT INTO SHINGLES. See Nail Application Instructions Technical Bulletin at [pabcoroofing.com](http://pabcoroofing.com) for more information and details.

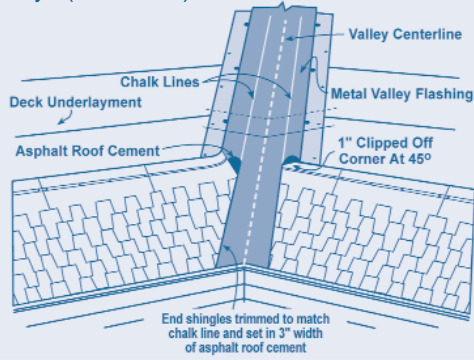
Fastening these shingles down with nails is recommended. Staples will be accepted where allowed in the building code.



## 6 Valleys

Valley application must be in compliance with the building code. Where allowed, PABCO recommends using open metal valleys (closed cut valleys are also accepted). This valley starts with a 36" underlayment centered down the valley. PABCO recommends the use of self adhering underlayment for this bottom layer. The underlayment felt covering the decks extends over this and is trimmed overlapping 6". A second layer of felt is applied over this, centered down the valley. The metal valley flashing must be at least 26 gauge galvanized metal or an equally corrosion resistant metal, at least 24" wide, formed with a "W" shape and center rib. Apply the metal valley without puncturing it. Center the metal in the valley over the second layer of underlayment, extending beyond the drip edge 1/4" to 3/8". If more than one piece of flashing metal is needed, the lower piece is nailed at the top. The upper piece laps over the lower piece nails by at least 12" and the lap is cemented together with asphalt roof cement complying with ASTM D4586. Snap 2 chalk lines down the valley, starting 3" on either side of the valley center line at the top of the valley and diverging 1/8" per foot down the valley. Apply the shingles into the valley in the normal sequence of application for the rest of the roof. Trim the shingles to the chalk line, but never use a piece less than 12" wide. If necessary, trim the preceding shingle on the course. Apply the shingles into the valley so that no nails pass through the valley metal. Clip the upper shingle corner (in the valley) 1" at 45°. Embed each shingle end in a 3" wide strip of asphalt roof cement. See Valley Application Instructions Technical Bulletin at [pabcoroofing.com](http://pabcoroofing.com) for more information and details.

**6** Valleys (Continued)



**7** Application, 5 3/4" Diagonal Offset Pattern

**FIRST STARTER COURSE:** Use PABCO Universal Starter or a self sealing three tab shingle with the tabs cut off and the adhesive at the eave. Remove 7 1/2" from the end of the first piece and apply it at the lower left hand corner of the roof, overhanging the drip edge 1/4" to 3/8". Nail in place with 4 nails about 2" up from the eave, spaced evenly across the shingle. Continue the Starter across the deck with full shingles.

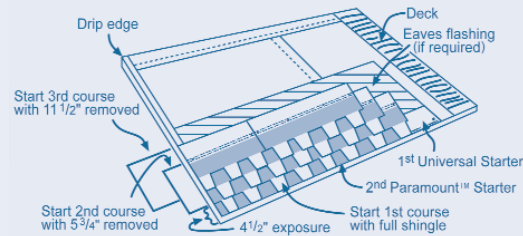
**SECOND STARTER COURSE:** Use Paramount™ Starter to assure matching shingle colors. Cut 5 3/4" off the length of the first slab of Starter and apply at the lower left hand corner of the roof. This Starter is applied, flush with the first starter course at the rake and eave drip edge. Continue the Starter across the deck with full shingles. See Paramount™ Starter Application Instructions Technical Bulletin at pabcoroofing.com for more information and details.

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

**SECOND COURSE:** Cut 5 3/4" from the left end of a shingle and apply the 34 1/4" long piece over the headlap of the first course shingle, exposing the first course 4 1/2".

**THIRD COURSE:** Cut 11 1/2" from the left end of the shingle and apply the 28 1/2" long piece over the headlap of the second course shingle, exposing the second course 4 1/2".

**SUCCEEDING COURSES:** Courses four through seven are begun with a partial shingle 5 3/4" shorter progressively, establishing the overall diagonal offset 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 partial shingles 5 3/4" shorter progressively each time.



**8** Special Applications

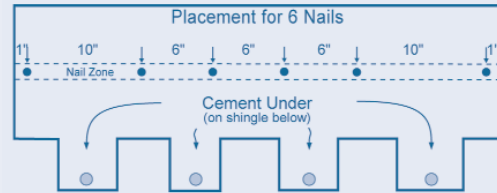
For areas where local knowledge indicates exposure to high winds may occur, shingles must be applied with 6 nails (spaced as shown below) and sealed to qualify for wind damage warranty coverage.

**Steep Slope Application:** On slopes greater than 21" per foot (Mansard type roofs), 6 nails are required, spaced as shown below. These shingles are to be hand sealed at the time of application with asphalt roof cement, by applying 4 spots about the size of a quarter, each centered under a tooth, 1" up from the bottom edge of that covering tooth.

**8** Special Applications (Continued)

**Low Slope Application (Between 4:12 and 2:12):**

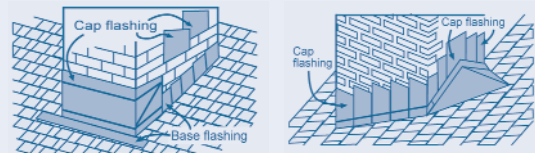
Cover the entire low slope area with a self adhering underlayment, applied directly to the roof deck (over the eave drip edge). Install this self adhering, peel and stick type underlayment sheet, complying with ASTM D1970, parallel to the eave, with 4" top laps and 6" end laps. This covering acts as a vapor barrier. Extra attention to adequate ventilation is required.



**9** Base and Cap (Counter) Flashing

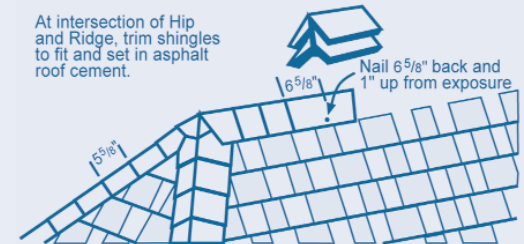
Install the metal base flashing for the front of a chimney, skylight, vent or adjoining wall as illustrated, over the headlap of the last course of shingles below the chimney, and extending up the chimney. Set both the roof and chimney overlaps in asphalt roof cement. Where the roof abuts the chimney or vertical wall, the shingles must be flashed with metal flashing shingles applied over the end of each course of shingles. The flashing shingles are 8" by 6 1/2", bent to extend 4" out over the shingles on the roof deck and 4" up the vertical surface. Each flashing shingle is placed so that its 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.

The base flashing must be flashed with 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. See ARMA Residential Asphalt Roofing Manual for additional details.



**10** Hips and Ridges

Trim shingles to be even with the ridge and cap with shadow cap shingles exposed 5 5/8" to the weather. Nail 6 5/8" back from the exposed edge and 1" up from the side with galvanized roofing nails long enough to penetrate deck 3/4". A course of double ridge shingles is recommended to accent the hip & ridge lines. **IMPORTANT:** In cold weather (40°F or below) store shingles for hip & ridge in heater location 24 hours prior to application.



**11** Reroofing

PABCO recommends that this shingle not be used for covering over an existing shingle roof. Remove all roofing materials from the deck. Inspect and repair the deck as needed. Proceed with the application as with a new roof.