

Proper Nail Application

PABCO recommends the use of nails. The local building code may require nails. Use five nails per shingle for normal application, as shown on page 2. Use corrosion resistant nails, commonly galvanized or aluminum. Use $\frac{3}{8}$ " diameter heads, 11 or 12 gauge roofing nails. They must be long enough to penetrate through the roofing materials and at least $\frac{3}{4}$ " into the deck. If the deck is less than $\frac{3}{4}$ " thick, the nails must penetrate through the deck. Nails must be 1" minimum for new construction. Applying these shingles over existing shingles will require longer nails. Standard roofing nails or pneumatically driven coil nails are permitted.

Drive nails flush with the shingle surface. Under driven nails may damage the overlaying shingle by tearing through that shingle as it settles down over the nails head or if stepped upon. It may also hold the overlaying shingle up, providing an opportunity for wind damage. An overdriven nail will tear through the shingle, allowing a path for leaking and reducing the shingle's resistance to wind damage. A nail that is driven at an angle may cause any or all of these problems.

Nails must be properly positioned on the shingle. See the figures on page 2. The "Nail Zone" is a band of light colored granules running across the face of the shingles 9 $\frac{1}{2}$ " to 11" up from the leading edge of the teeth. If nails are placed below the Nil Zone, the nail heads may not be covered by the overlaying shingles. If nails are placed above the Nail Zone, the wind resistance of the shingles is reduced and damage may occur which allows a path for leaking. The indicated positions across the shingle are to assure the nails are not near the end-to-end joints of the overlaying shingles.

Special Applications

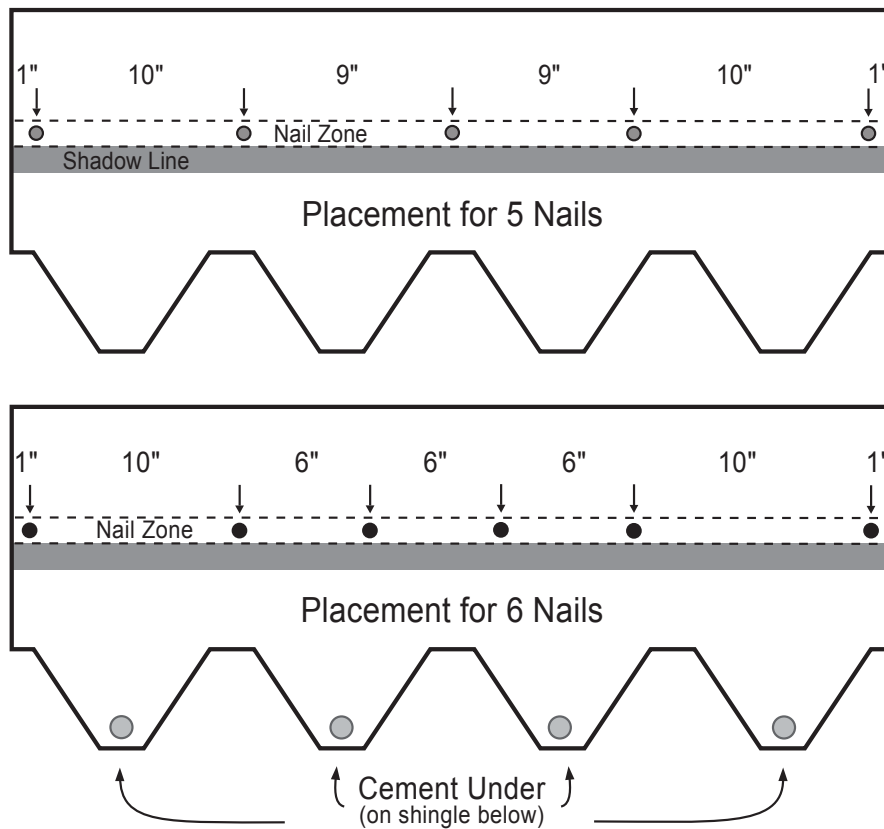
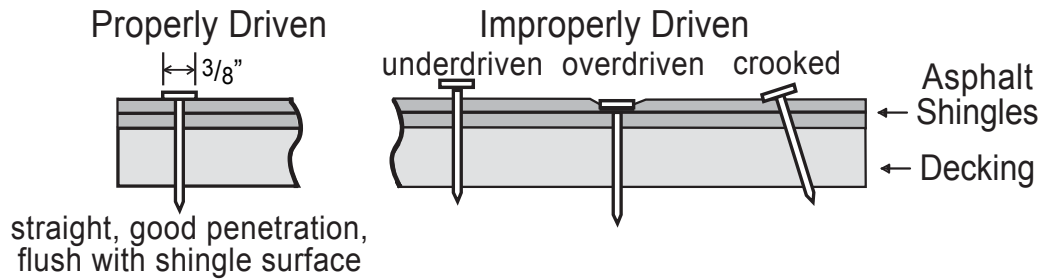
Steep Slope Application: On slopes greater than 20" per foot (Mansard type roofs), 6 nails are required. See figure on page 2. Shingles must be hand sealed when applied with asphalt roof cement complying with ASTM D4586. Apply 4 spots about the size of a quarter, centered under each covering tooth, 1" up from the bottom edge of that covering tooth.

Where local knowledge indicates exposure to high winds is likely (or where required by the building code), shingles must be applied with 6 nails and sealed to qualify for the wind damage warranty. Cascade shingles have self-sealing asphalt strips that bond the shingles together when subjected to heat. Direct warm sunlight can fully seal a roof in one day in hot climates. In other locations, the time needed to fully seal will be longer. If it is safe to allow the seal strips to bond the roof, that bond is generally stronger than a hand sealed roof. If it is not reasonable to wait for the seal strip bond, hand seal (as detailed above).

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 defect. See PABCO's limited warranty for details, limits and conditions.

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