



# CASCADE™

*Signature Cut Shingles*

## Nailing Instructions

### General Instructions

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.

Nails must be corrosion resistant. They are 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 boards. Use 1" minimum nails for new construction. Applying these shingles over existing shingles will require longer nails. Nails may be hand driven, standard roofing nails or pneumatically driven coil nails.

Nails must be driven flush with the shingle surface. Do not under drive or over drive the nails. Under driven nails may damage the overlaying shingle by tearing through that shingle as it settles down over the nail's head or if stepped upon. An under driven nail may hold the overlaying shingle up, providing an opportunity for wind damage. An over driven nail will tear through the shingle, allowing a path for water intrusion and reducing the shingle's resistance to wind damage. A nail that is driven at an angle may cause any or all of the problems from under driven and from over driven nails.

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 nail 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 an extra path for water intrusion. 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

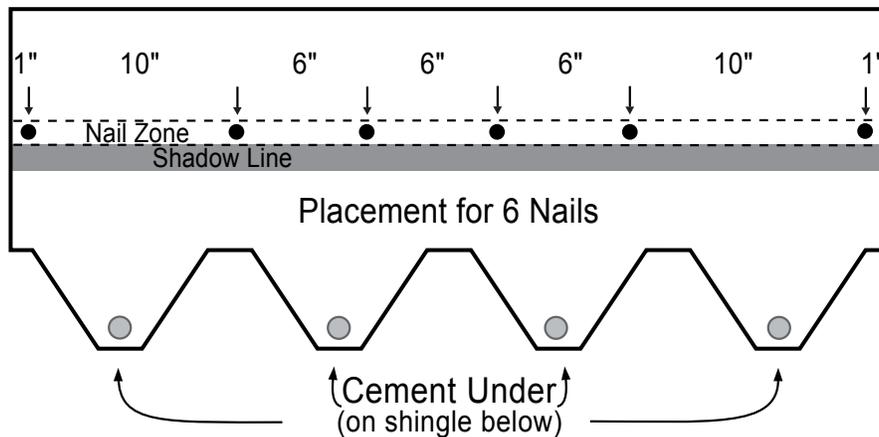
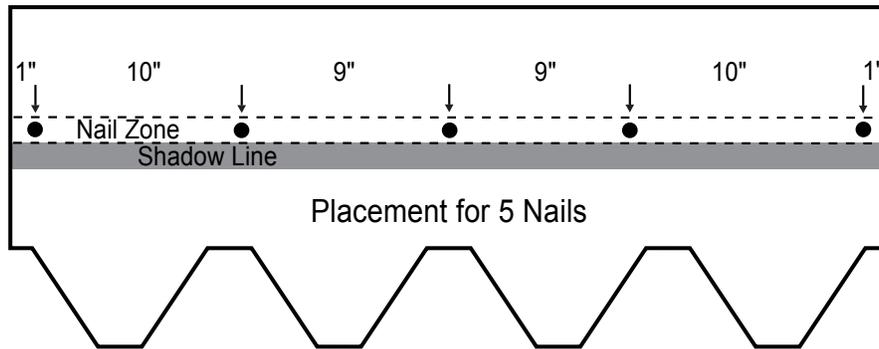
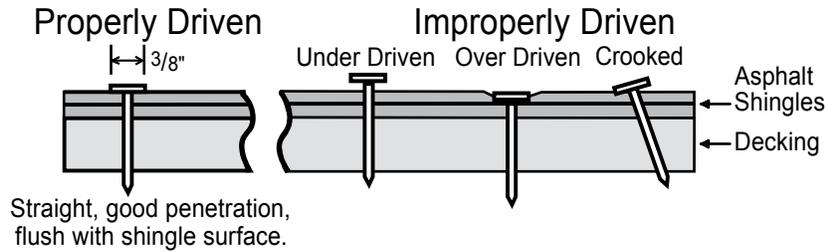
**Steep Slope Application:** On slopes greater than 20" per foot (Mansard type roofs), 6 nails are required. See the figure on page 2 for nail positions. Shingles must be hand sealed when applied with asphalt roof cement complying with ASTM D4586. Apply 4 spots about the size of a quarter, centered under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

**High Wind Application:** For areas 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 coverage. See the figure on page 2 for nail positions. PABCO® shingles have a self-sealing asphalt strip that must be subjected to heat to bond the shingles together. Direct warm sunlight can fully seal a roof in one day in hot climates. In other locations, the time needed to reach a fully sealed roof will be longer. If it is safe to allow the seal strip 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 sealing (as detailed above) is appropriate.

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### 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.

1718 Thorne Road  
Tacoma, Washington 98421-3207

www.pabcoroofing.com  
Phone (253) 272-0374