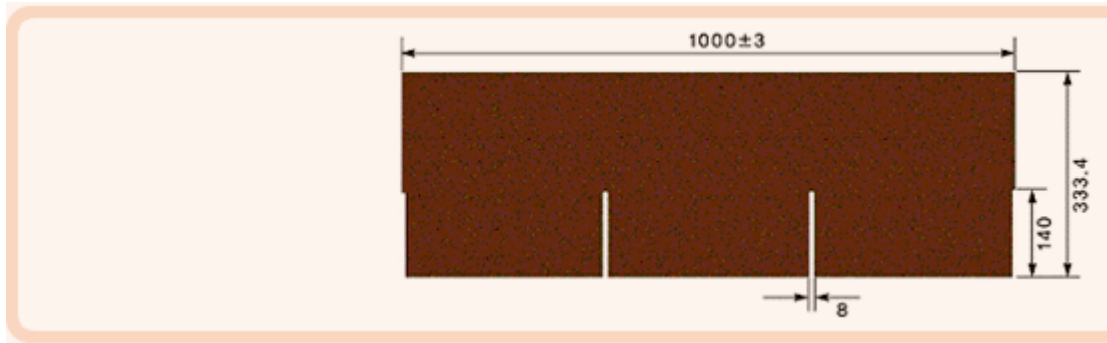


ROOF DECK

A continuous, dry, smooth and clean roof deck is required for proper installation of BITUTECHKOREA asphalt shingles. The roof deck should also be of a nail penetrating material like wood, tile cement deck or a similar material

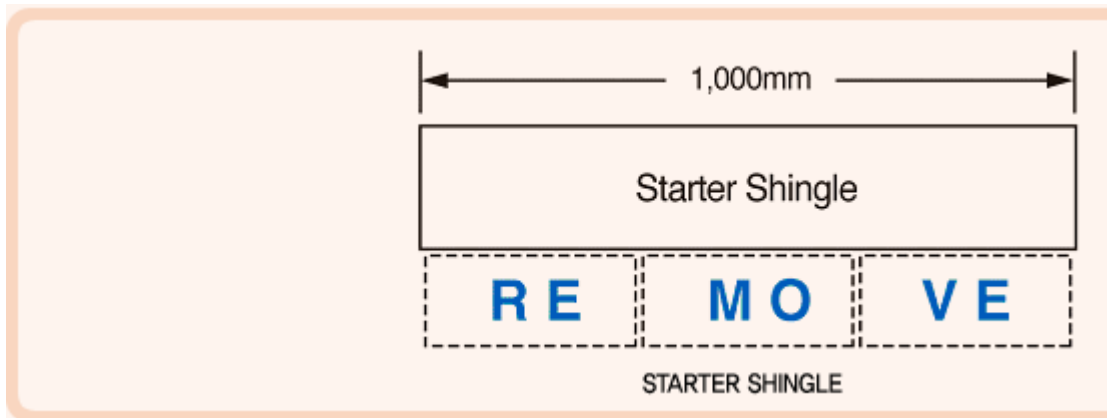


. PREPERATION

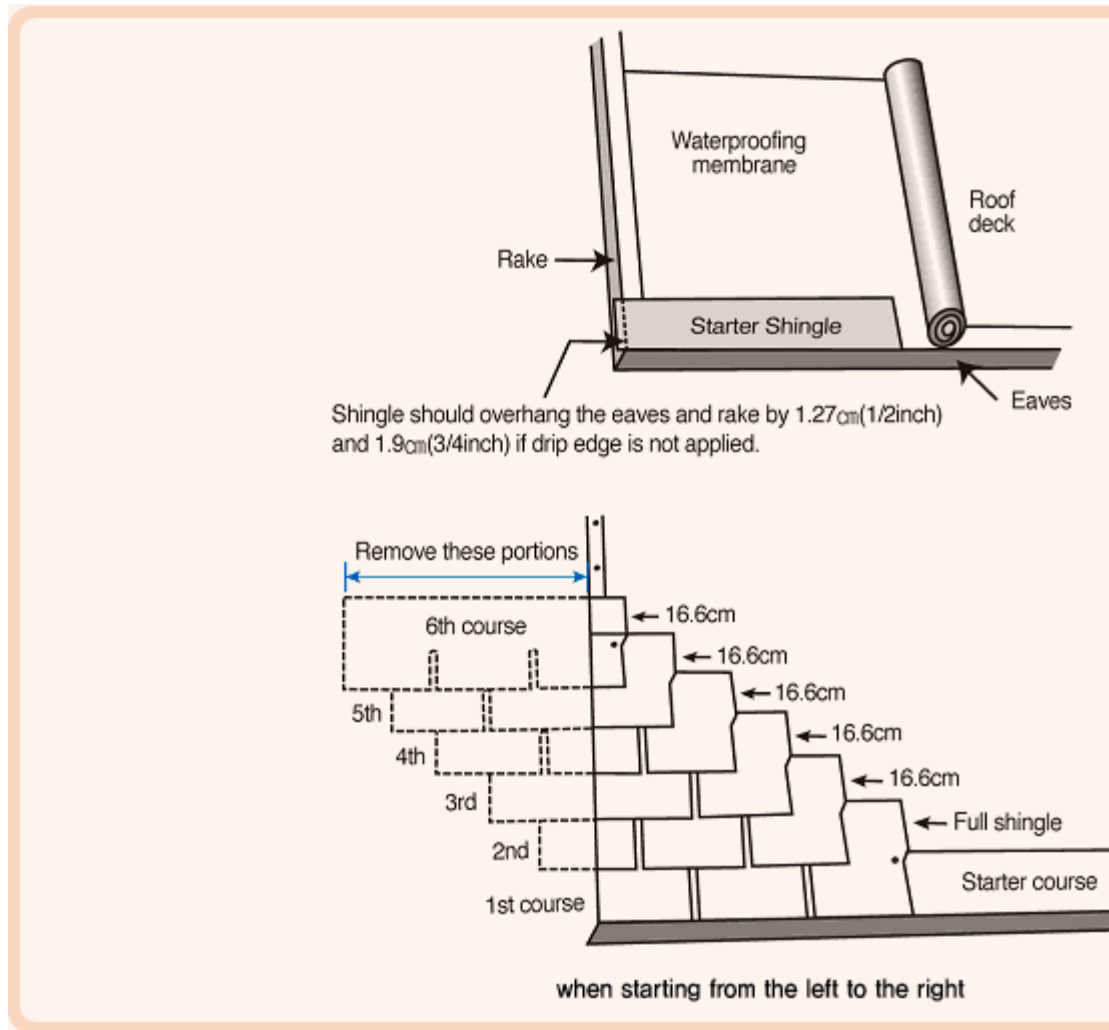
1. Apply one layer of underlayment over metal drip edge at eaves. Use only enough fasteners to hold in place.
2. Overlap from the eave to ridge with 5cm overlapping.
3. The applicator must use shingles from several different bundles to reduce potential for color variation.
4. Corrosion-resistant flashing must be used to help prevent leaks where a roof meets a wall, another roof, a chimney or other objects that penetrate a roof.
5. 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.
6. To prevent cracking, shingles must be sufficiently warm to allow proper forming for hips, ridges and valleys.

. INSTALLATION

1. Trim shingles on the left(right) side when installing from left(right) to right(left).
2. Cut tabs off of a 3-tab as shown and install at the eave line after peeling off the film of back side.

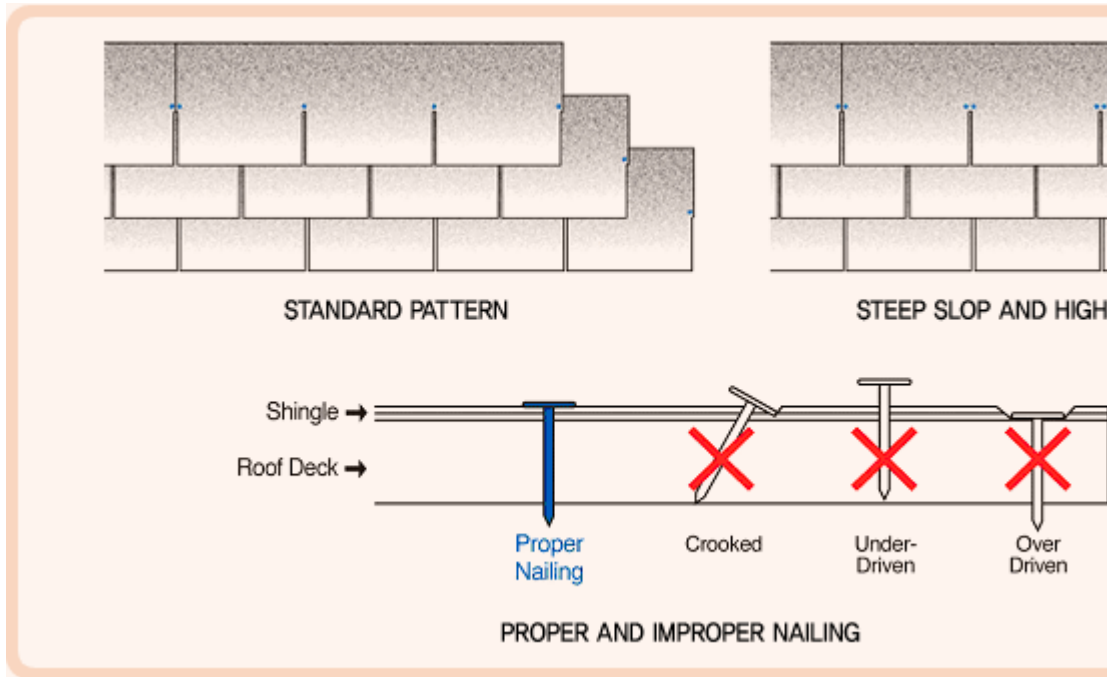


3. Apply a full shingle to each of the first seven courses after peeling off the film of back side to extend the pattern starting with the first course.
4. Repeat the process beginning with a full shingle and continue succeeding courses with a partial shingle 16.6cm shorter each time.
5. Apply a full shingle to each of the courses to extend the pattern starting with the first course.
6. Trim last course of shingle at the ridge line.



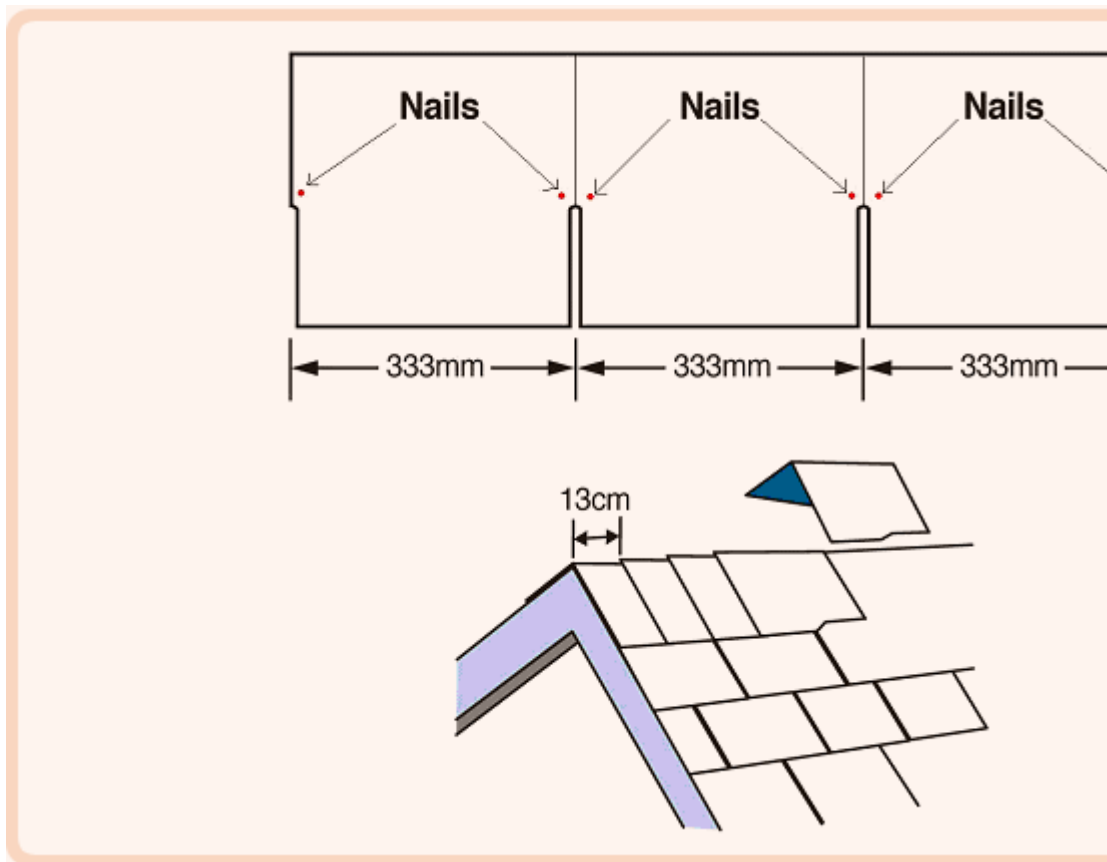
Fastening

1. Use four nails for each shingle.
2. The nails should penetrate the shingle.
3. The nails must be placed in 2.5cm from each edge of the shingle.
4. The length of the nails should be proportional to the thickness of the roof decking.



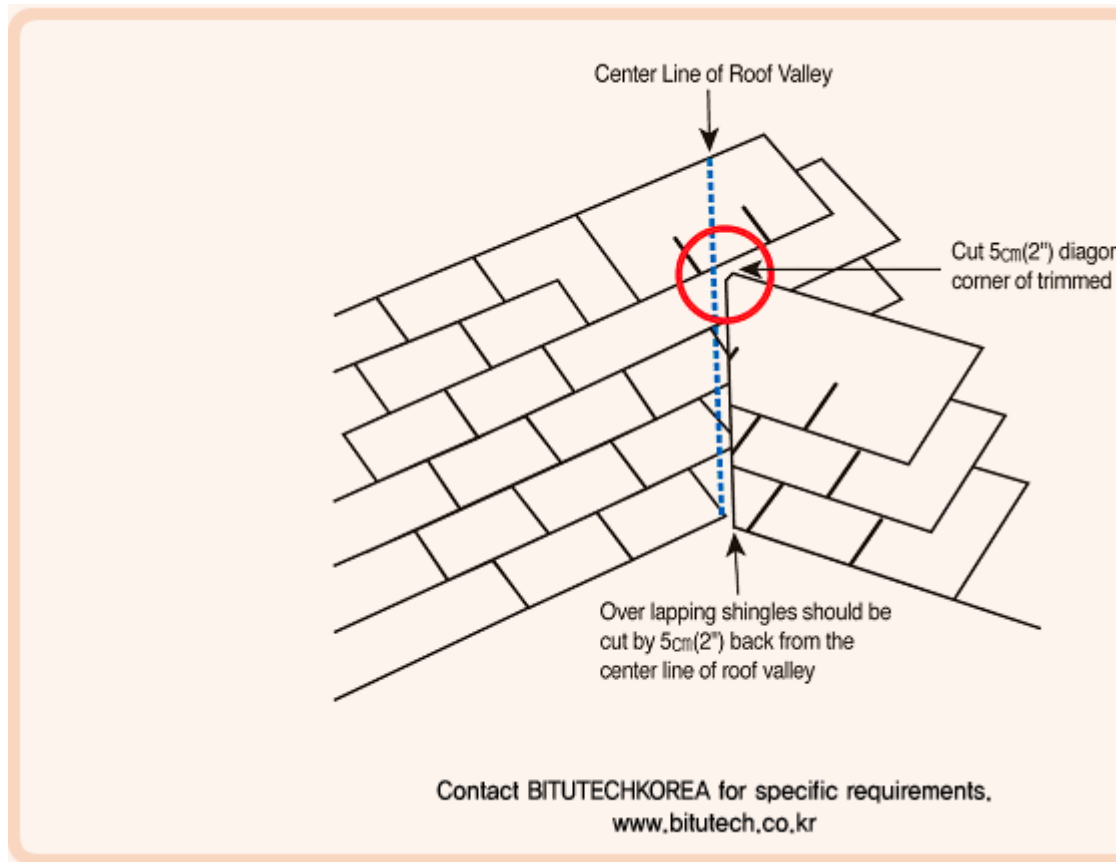
Ridges & Hips

1. Cut shingle using a roofing knife or utility knife into 3 pieces as below in order to make ridge shingles.
2. Apply ridge shingles after peeling off the film from the end of ridge opposite prevailing wind direction.
3. Leave 13cm exposure per shingle for hip and ridge application.
4. Bend over the ridge; apply two nails on each side.
5. Continue installing ridge shingles until the entire ridge is covered



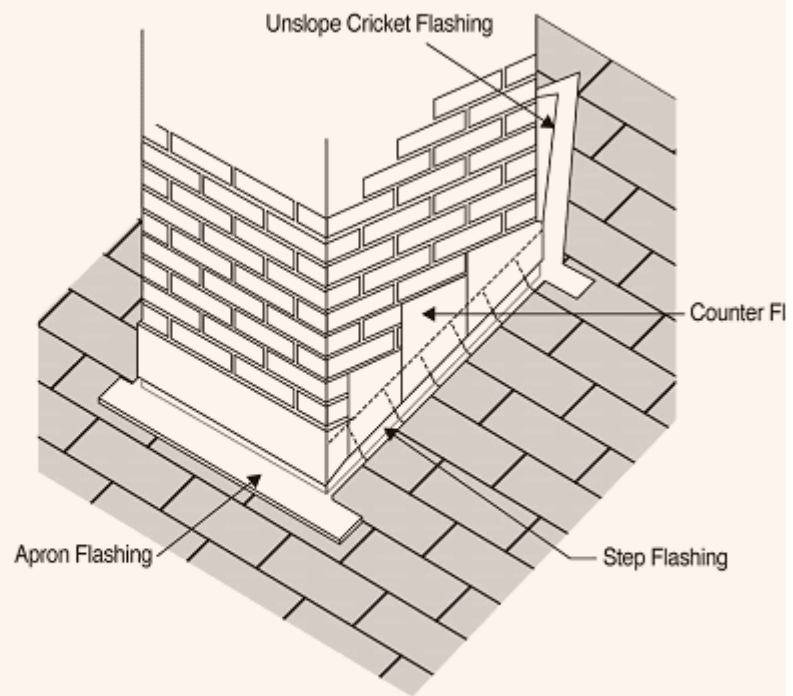
Valleys

1. Lay a 100cm wide valley liner of smooth surface roll roofing. Fasten on outer edges only
2. Lay all shingles on one side of valley and across center line of valley a minimum of 30cm.
3. Strike chalk line 5cm from the center line of the unshingled side. Apply shingles on the unshingled side up to the chalk line and trim, taking care not to cut the underlying shingles.



. FINISHING

All finishing such as joints, verges, and chimneys can be of prefabricated market materials like copper, metals or plastics.



Contact BITUTECHKOREA for specific requirements,
www.bitutech.co.kr