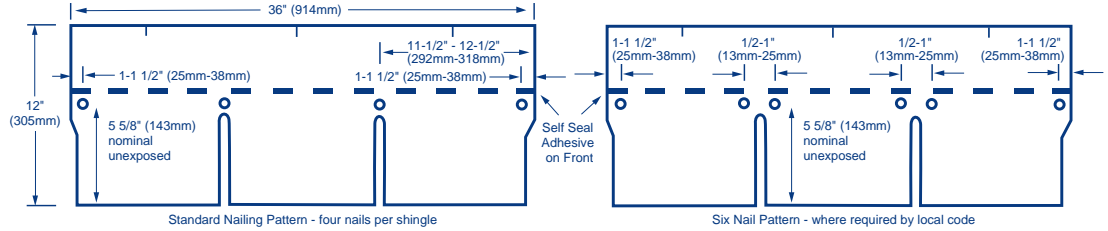


APPLICATION INSTRUCTIONS

Note: These shingles must be nailed a nominal 5 5/8" (143mm) from bottom of shingles, not in or above self seal, as shown. Nails should remain unexposed.



GENERAL INSTRUCTIONS

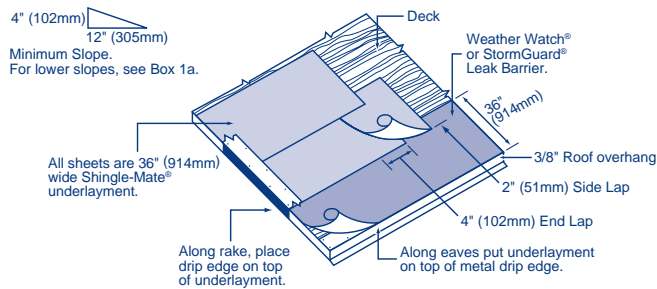
- **ROOF DECKS:** For use on new or reroofing work over well-seasoned, supported wood deck, tightly-constructed with maximum 6" (152mm) wide lumber, having adequate nail-holding capacity and smooth surface. Plywood decking as recommended by The Engineered Wood Assn. is acceptable. Plywood decks for Class A installations must be 3/8" (10mm) thick or greater with underlayment as noted below. Shingles must not be fastened directly to insulation or insulated deck unless authorized in writing by GAF Materials Corporation. Roof decks and existing surfacing material must be dry prior to application of shingles.
- **UNDERLAYMENT:** Underlayment is required on new construction and required for reroofing when old roof is removed from the deck. Use only "breather type" material like GAF Materials Corporation Shingle-Mate® Underlayment or equivalent. Underlayments must be installed flat, without wrinkles.
- **FASTENERS:** Use of nails is recommended. (Staple specifications and application instructions are available from GAF Materials Corporation, Contractor Services Dept., 1361 Alps Road, Wayne, NJ 07470.) Use only zinc coated steel or aluminum, 10-12 gauge, barbed, deformed or smooth shank roofing nails with heads 3/8" (10mm) to 7/16" (12mm) in diameter. Fasteners should be long enough to penetrate at least 3/4" (19mm) into wood decks or just through the plywood decks. Fasteners must be driven flush with the surface of the shingle. Over driving will damage the shingle. Raised fasteners will interfere with the sealing of the shingles. For normal installation, four fasteners must be installed per shingle, a nominal 5 5/8" (143mm) up from the bottom of the shingle. Fasteners must be installed approximately 11- 1 1/2" (25-38mm) and 11 1/2"-12 1/2" (292-318mm) from each side.
- **WIND RESISTANT:** These shingles have a special thermal sealant that firmly bonds the shingles together after application when exposed to sun and warm temperatures. Shingles installed in Fall or Winter may not seal until the following Spring. If shingles are damaged by winds before sealing or are not exposed to adequate surface temperatures, or if the self-sealant gets dirty, the shingles may never seal. Failure to seal under these circumstances results from the nature of self-sealing shingles and is not a manufacturing defect. To insure immediate sealing,

- apply 2 quarter-sized dabs of shingle tab adhesive on the back of each tab, approximately 1" (25mm) from end and 1" (25mm) up from bottom of each tab corner. The shingle must be pressed firmly into the adhesive.
- NOTE: Application of excess tab adhesive can cause blistering of the shingle. For maximum wind resistance along rakes, cement shingles to underlayment and each other in a 4" (102mm) width of asphalt plastic roof cement.
- NOTE: The film strips on the back of each shingle are to prevent sticking together of the shingles while in the bundle. Their removal is NOT required during application.
- **CANADIAN COLD WEATHER APPLICATIONS:** CSA A123.5-M90 mandates that shingles applied between September 1 and April 30 shall be adhered with a compatible field-applied adhesive. See Wind Resistant for GAF Materials Corporation's recommendations for the application of that adhesive.
- **MANSARD AND STEEP SLOPE APPLICATIONS:** For roof slopes greater than 21° (1750mm/m) per foot (do NOT use on vertical side walls), shingle sealing must be enhanced by hand sealing. After fastening the shingle in place, apply 2 quarter-sized dabs of shingle tab adhesive as indicated in Wind Resistant above. The shingle must be pressed firmly into the adhesive.
- **EXPOSURE:** 5" (127mm)
- **THROUGH VENTILATION:** All roof structures must be provided with through ventilation to prevent entrapment of moisture laden air behind roof sheathing. Ventilation provisions must at least meet or exceed current F.H.A., H.U.D. or local code minimum requirements.
- **NON-CORRODING METAL DRIP EDGES:** Recommended along rake and eave edges on all decks, especially plywood decks.
- **ASPHALT PLASTIC CEMENT:** For use as shingle tab adhesive. Must conform to ASTM D4586 Type I or II.

1 Underlayment: Standard Slope—4/12 (333mm/m) or more

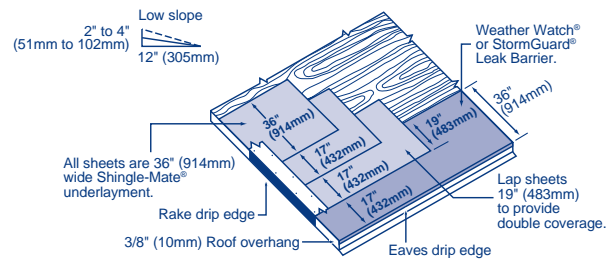
Application of underlayment: Cover deck with one layer of underlayment installed without wrinkles. Use only enough nails to hold underlayment in place until covered by shingles.

Application of eave flashing: Install eave flashing such as GAF Materials Corporation Weather Watch® or StormGuard® Leak Barrier in localities where leaks may be caused by water backing up behind ice or debris dams. Eave flashing must overhang the roof edge by 3/8" (10mm) and extend 24" (610mm) beyond the inside wall line.



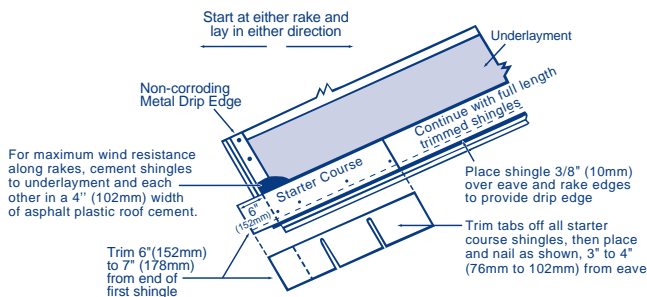
1a Underlayment: Low Slope 2/12-4/12 (167mm-333mm/m)

Application of underlayment and eave flashing: Completely cover the deck with two layers of underlayment as shown. Use only enough nails to hold underlayment in place until covered by shingles. Use blind nailing for eave flashings. At eaves and where ice dams can be expected, use one layer of GAF Materials Corporation Weather Watch® or StormGuard® Leak Barrier. Eave flashing must overhang the roof edge by 3/8" (10mm) and extend 24" (610mm) beyond the inside wall line. Where ice dams or debris dams are not expected, install 2 plies of Shingle-Mate® underlayment.



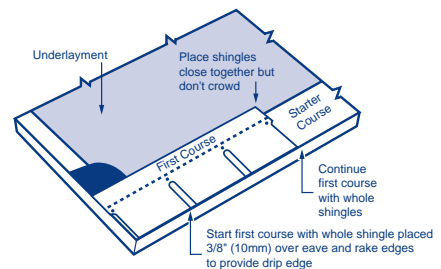
2 Starter Course

Use of any GAF MC 3-tab Shingle is recommended. Apply as shown.



3 First Course

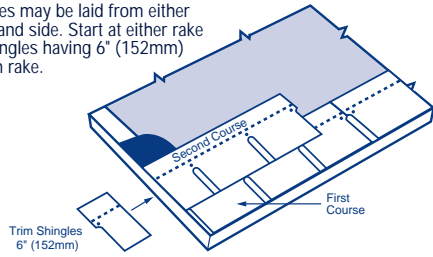
Start and continue with full shingles laid flush with the starter course. Shingles may be laid from left to right or right to left. DO NOT lay shingles straight up the roof since this procedure can cause an incorrect color blend on the roof and may damage the shingles.



4 Second Course

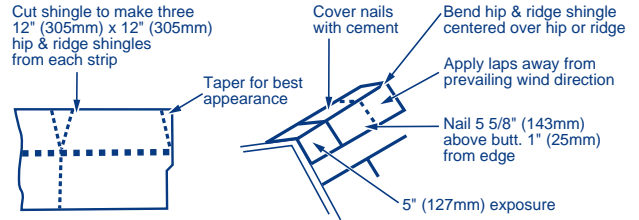
Start and continue second course and all even numbered courses as shown. Position the shingle on the top of the cutouts of the underlying shingle so that there will be 5" (127mm) of each shingle exposed. Strike a chalk line about every 6 courses to check parallel alignment with eaves. Factory applied self-sealing dots on lower courses are designed to seal down the shingle tabs in an upper course.

NOTE: Shingles may be laid from either left or right hand side. Start at either rake edge with shingles having 6" (152mm) trimmed from rake.

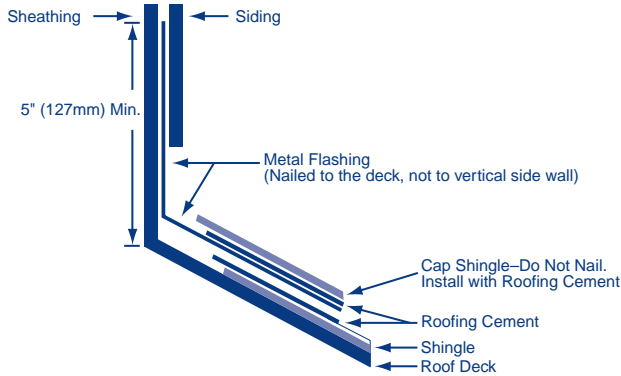


5 Hip and Ridge

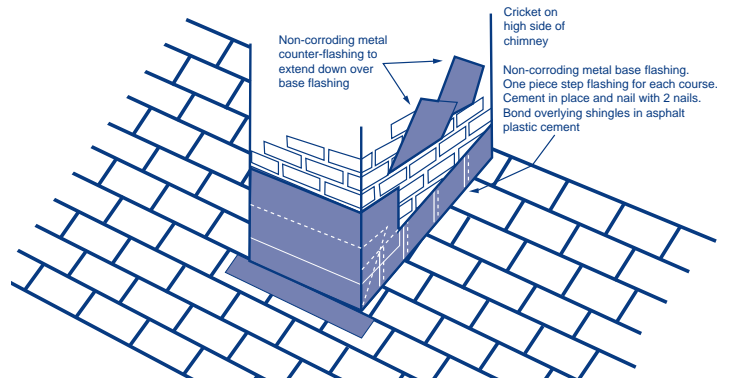
Use GAF hip & ridge shingles, or cut hip & ridge shingles from these full shingles, and apply as shown. Position laps away from prevailing wind direction.



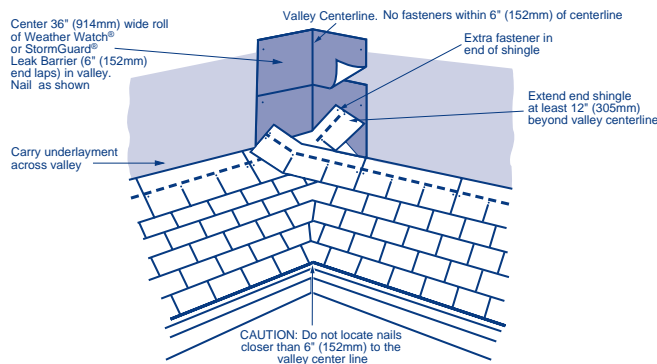
6 Wall Flashing (Sloped Roof to Vertical Wall)



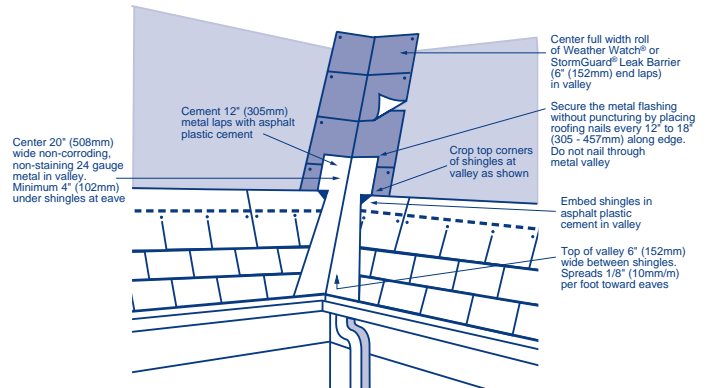
7 Chimney Flashing



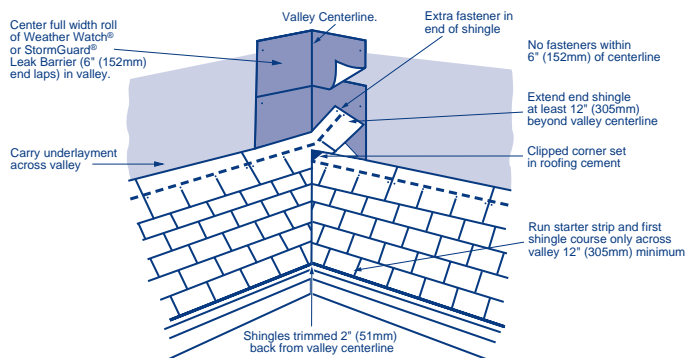
8 Valley Construction - Closed or Woven Valley



9 Valley Construction—Open Cut



10 Valley Construction—Closed Cut



Precautionary Notes

These shingles are fiberglass, self-sealing asphalt shingles. Because of the natural characteristics of the high quality waterproofing material used, these shingles will be stiff in cold weather and flexible in hot weather.

1. Bundles should not be dropped on edge nor should attempt be made to separate shingles by "breaking" over ridge or other bundles.
2. Handle carefully. Shingles can easily be broken in cold weather or their edges damaged in hot weather.
3. All exposed materials must be of Class A type.
4. Storage should be in a covered, ventilated area—maximum temperature 110°F (43°C). Store on flat surface and use weight equalization boards if pallets are to be double stacked. Shingles must be protected from weather when stored at job site. Do not store near steam pipes, radiators, etc., or in sunlight. All rolled product must be stored on ends.
5. If shingles are to be applied during PROLONGED COLD periods or in areas where airborne dust or sand can be expected before sealing occurs, the shingles MUST be hand sealed. See Wind Resistant instructions.

Re-Roofing

If old asphalt shingles are to remain in place, nail down or cut away all loose, curled or lifted shingles; replace with new; and just before applying the new roofing, sweep the surface clean of all loose debris. Since any irregularities may show through the new shingles, be sure the underlying shingles provide a smooth surface. Fasteners must be of sufficient length to penetrate the wood deck at least 3/4" (19mm) or just through plywood. Follow other above instructions for application. Note: Shingles can be applied over wood shingles when precautions have been taken to provide an acceptable smooth surface. This includes cutting back old shingles at eaves and rakes and installing new wood edging strips as needed. Make surface smooth and use beveled wood strips if necessary. Install #30 underlayment to maintain Class A rating.

This product is sold with an express LIMITED WARRANTY only. A copy of the LIMITED WARRANTY stating its terms and restrictions is printed on the product wrapper or may be obtained from the distributor of this product or directly from GAF Materials Corporation. Any deviation from printed instructions shall be the responsibility of applicator and/or specifier.