



APPLYING ASPHALT SHINGLES ON LOW SLOPES

Historically, North American low-sloped roofs were shingled with a triple coverage two-tab "low pitch" shingle product. These shingles are not manufactured in North America today, so the industry has developed alternate procedures. Most shingles may be applied on roof slopes of 2:12 to 4:12 (a "low slope" roof), providing that the shingles are adequately sealed against wind lift, and special procedures are followed. In many building codes, allowances are made to permit applications of asphalt shingles to low sloped roofs. Although many of our other shingles may be used, Crowne Slate shingles should not be installed on low slope roofs. Never apply asphalt shingles to roof slopes less than 2:12.

For best low slope roof waterproofing performance, IKO recommends covering the entire low sloped area with one ply of IKO's GoldShield, ArmourGard, StormShield or Protecto Ice and Water Protector, applied with a 3" lap and 6" end laps. Caution: ice and water protectors are vapour barriers, so if used on entire roof areas, thorough ventilation must be ensured to avoid condensation beneath the roof deck. Once an ice and water protector product is laid down over the entire low sloped area, the shingles can be applied according to their normal application procedures. IKO's Ice and Water Protectors are excellent for this type of application since they seal around the shanks of the penetrating fasteners, preventing leakage which may result from ice backup or wind-driven rain. Alternately, the materials and procedures outlined below may be used if desired.

Eave Protection

For ice dam protection, install eave protection to cover the roof deck from the eave to at least 24" beyond the inside wall line, or at least 36" from the eave, whichever is greater. For superior protection, use option (see reverse side for drawings): (a) an IKO Ice and Water Protector applied with 3" lap and 6" end laps, or (b) IKO No. 25 Coated Glass Base Sheet, or Type M or S coated roll roofing laid with at least 4" head lap and end laps cemented with lap cement; if more than one course is necessary, the lap must be outside the exterior wall line, or (c) cement two layers of felt underlay together as shown on reverse, using asphalt cement applied uniformly at the rate of 2 gallons per 100 sq. ft.. Note that eave protection is required on most shingle roofs, not only low slopes.

Double Underlayment Protection for Low Slopes

Cover the remainder of the roof deck with two layers of an approved underlayment, starting with a 36" wide sheet overlapping the eave protection by 19". Thereafter 36" sheets are laid, each to overlap the upper 19" of the preceding course leaving 17" exposed. Each course of underlayment is nailed towards its upper edge with only enough nails to hold it in place until the shingles are applied. Ensure the underlay is tight and flat against the deck to minimize formation of buckles during shingle application.

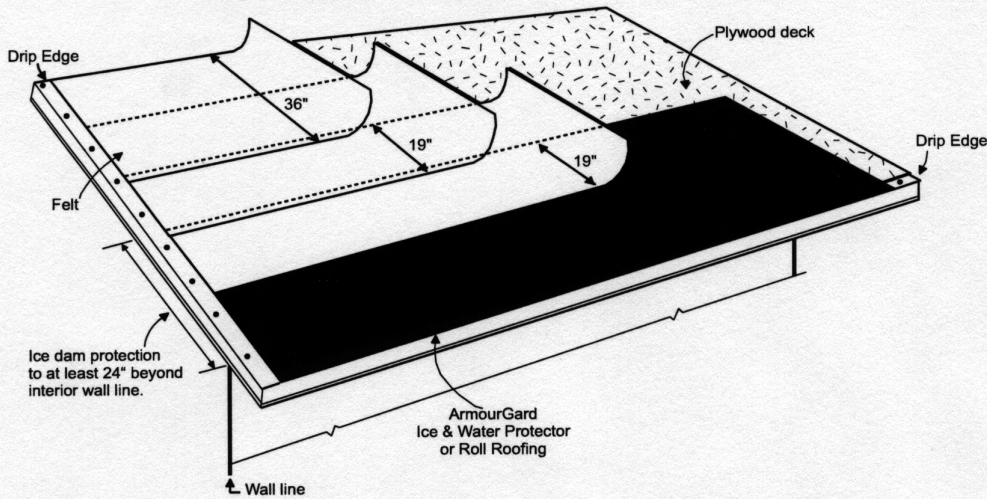
The shingles are then applied over the underlayment in the same manner as for normal slopes, except that extra care must be taken to ensure that the bottom edges are adequately sealed down, since the angle of the wind against a low slope roof can cause these edges to lift more easily than on a normal slope. When application conditions might limit the effectiveness of the sealing strip, such as in cool weather or in areas subject to high winds or blowing dust, shingle adherence should be ensured by sealing down each shingle with three 1" diameter spots of asphalt cement. Apply asphalt plastic cement in moderation since excessive amounts may cause blistering.

Triple Coverage Applications (3-Tab Shingles Only)

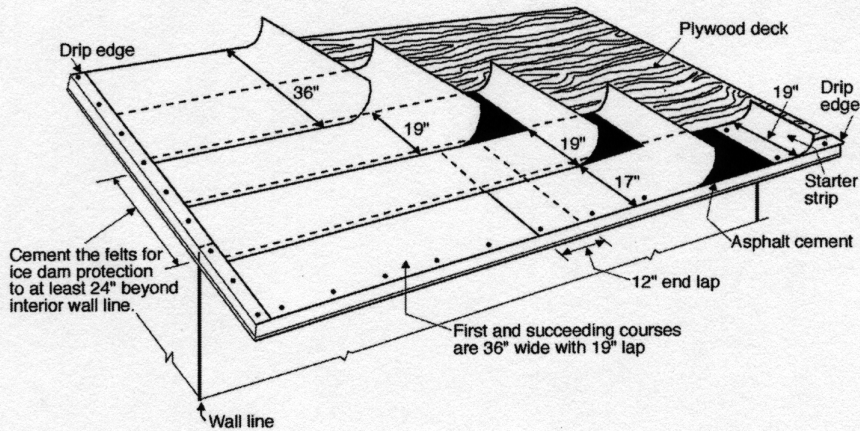
As a fourth option (d), the shingle exposure may be reduced to provide triple coverage. The eave protection is applied using one of the methods outlined above, but underlay on the remainder of the deck is not required. The starter strip and first shingle course are applied as is normally done (first course is solidly cemented to the starter strip), but in the second and succeeding courses the shingle exposure is reduced from the usual 5-5/8" to 4-3/8". Continue this pattern until the 7th course, where you will repeat the application method of the previous six courses. This will provide triple coverage over the entire roof area. The shingles are nailed in the usual positions, but a 7" band of asphalt lap cement is also applied, with the lower edge of the cement parallel to the tops of the shingle cutouts. This procedure is continued for the rest of the roof. When using this method, it is not necessary to cover the deck with underlayment. *See reverse side for drawings*

For additional information on any of IKO's products or application requirements, visit us on the web at www.iko.com, or contact us in Canada at 1-888-766-2468, or the United States at 1-888-456-7663.

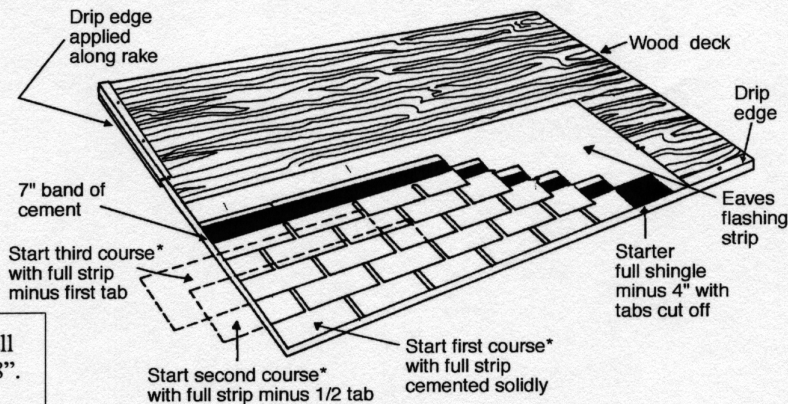
Option A & B - Ice & Water Protector or Roll Roofing Eave Protection, and 2-Ply Felt Underlayment



Option C - Cemented Felt Eave Protection and 2-Ply Felt Underlayment



Option D - Applying 3-Tab Shingles for Triple Coverage



* Note: Shingles in all courses exposed 4 3/8".