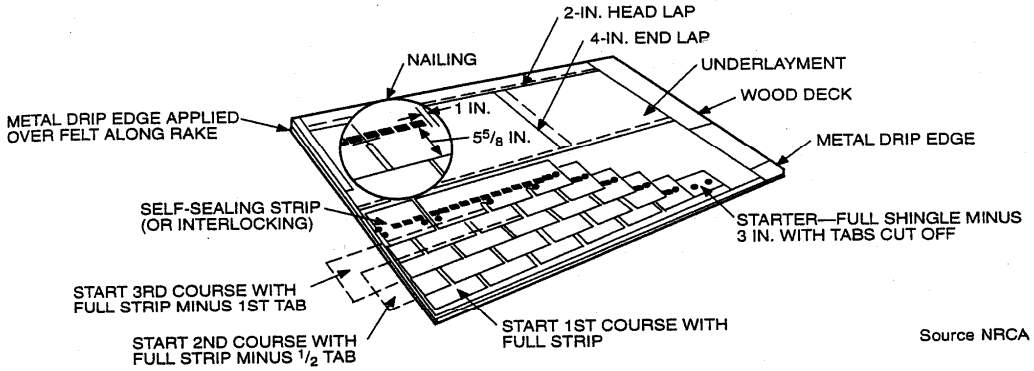
Asphalt Shingles Information Sheet

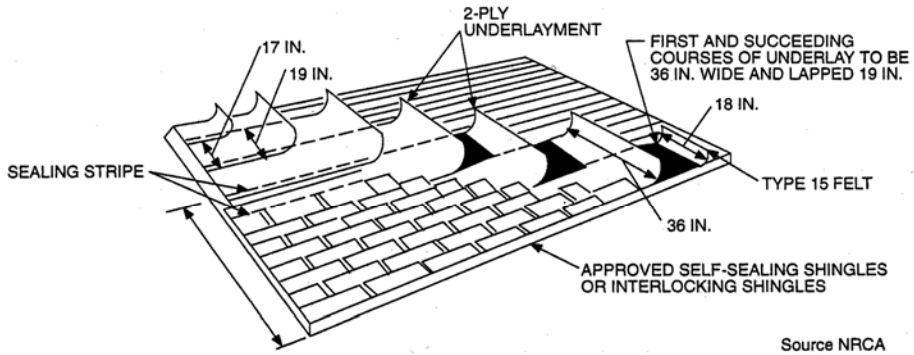
Asphalt shingles. The installation of asphalt shingles shall comply with the provisions of this section and the manufacturer's installation instructions.



ASPHALT ROOFING SHINGLES APPLICATION HIGH SLOPE (4:12 MINIMUM)

Sheathing requirements. Asphalt shingles shall be fastened to solidly sheathed decks.

Slope. Asphalt shingles shall only be used on roof slopes of 2 units vertical in 12 units horizontal (2:12) or greater. For roof slopes from 2 units vertical in 12 units horizontal (2:12) up to 4 units vertical in 12 units horizontal (4:12), double underlayment application is required.



NOTE: In areas where average daily temperature in January is 25°F or less, felt plies of underlayment should be cemented up from eaves far enough to overlie a point 24 in. inside the inside wall line of the building.

Underlayment. Unless otherwise noted, required underlayment shall be 15# or 30# asphalt paper, Type I. Self-adhering polymer modified bitumen sheet shall comply with ASTM D 1970.

Underlayment application. For roof slopes from 2 units vertical in 12 units horizontal (17 percent slope), up to 4 units vertical in 12 units horizontal (33 percent slope), underlayment shall be two layers applied in the following manner: Apply a 19-inch strip of underlayment felt parallel with and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply 36-inch-wide sheets of underlayment overlapping successive sheets 19 inches, and fastened sufficiently to hold in place. For roof slope of 4 units vertical in 12 units horizontal or greater, underlayment shall be one layer applied in the following manner. Underlayment shall be applied shingle fashion, parallel to and starting from the eave and lapped 2 inches, fastened sufficiently to hold in place. End laps shall be offset by 6 feet.

Asphalt shingles. Asphalt shingles shall have self-seal strips or be interlocking.

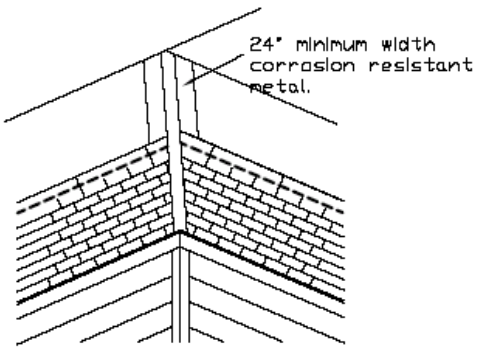
Fasteners. Fasteners for asphalt shingles shall be galvanized steel, stainless steel, aluminum, or copper roofing nails, minimum 12 gage [0.105 inch] shank with a minimum 3/8-inch diameter head, of a length to penetrate through the roofing materials and a minimum of 3/4 inch into the roof sheathing. Where the roof sheathing is less than 3/4 inch thick, the fasteners shall penetrate through the sheathing.

Attachment. Asphalt shingles shall have the minimum number of fasteners required by the manufacturer. For normal application, asphalt shingles shall be secured to the roof with not less than four fasteners per strip shingle or two fasteners per individual shingle. Where the roof slope exceeds 20 units vertical in 12 units horizontal (20:12), special methods of fastening are required.

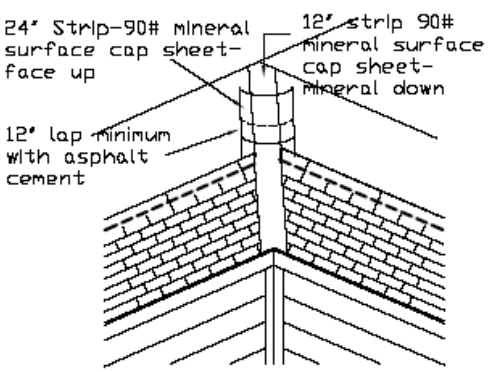
Ice protection. An ice barrier that consists of a least two layers of underlayment cemented together, or of a self-adhering polymer modified bitumen sheet, shall be used in lieu of normal underlayment **and extend from the eave's edge to a point at least 24 inches inside the exterior wall line of the building**. The exception to this would be detached unheated structures.

Base and cap flashing. Base and cap flashing shall be installed in accordance with manufacturer's installation instructions. Base flashing shall be of either corrosion-resistant metal of minimum nominal 0.019-inch thickness or mineral surface roll roofing weighing a minimum of 77 pounds per 100 square feet. Cap flashing shall be corrosion-resistant metal of minimum nominal 0.019-inch thickness.

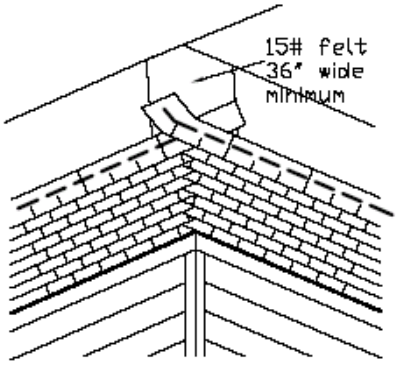
Valleys. Valley linings shall be installed in accordance with manufacturer's installation instructions before applying shingles. Valley linings of the following types shall be permitted:



Metal Valley



Mineral Surface Valley

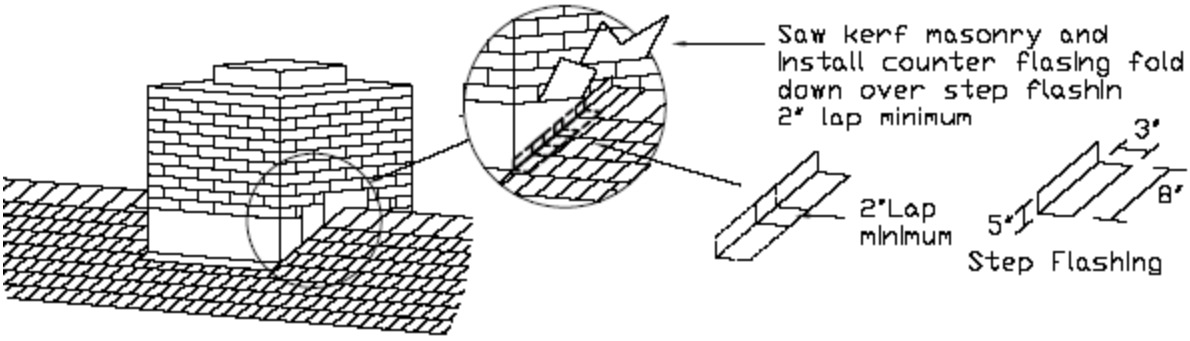


Closed Valley

1. For open valley (valley lining exposed) lined with metal, the valley lining shall be at least 24 inches wide and of any of the corrosion-resistant metals.
2. For open valleys, valley lining of two plies of mineral surface roll roofing, complying with ASTM D 249, shall be permitted. The bottom layer shall be 18 inches and the top layer a minimum of 36 inches (914 mm) wide.
3. For closed valleys (valley covered with shingles), valley lining of one ply of smooth roll roofing complying with ASTM D 224 Type II or Type III and at least 36 inches wide or valley lining as described in Items 1 and 2 above shall be permitted. Specialty underlayment complying with ASTM D 1970 may be used in lieu of the lining material.

Crickets and saddles. A cricket or saddle shall be installed on the ridge side of any chimney greater than 30 inches wide. Cricket or saddle coverings shall be sheet metal or of the same material as the roof covering.

Sidewall flashing. Flashing against a vertical sidewall shall be by the step-flashing method.



Other flashing. Flashing against a vertical front wall, as well as soil stack, vent pipe, and chimney flashing, shall be applied according to asphalt shingle manufacturer's printed instructions.

Mineral-surfaced roll roofing.
The installation of mineral-surfaced rolling roofing shall comply with the manufacturer's installation instructions and the following:

Deck requirements. Mineral-surfaced roll roofing shall be fastened to solidly sheathed roofs.

Deck slope. Mineral-surfaced roll roofing shall not be applied on roof slopes below 1 unit vertical in 12 units horizontal (8 percent slope).

Material standards. Mineral-surfaced roll roofing shall conform to ASTMD224, D249, D371, or D3909.

Application. Must be consistent with the ice protection provisions under asphalt shingles.

Reroofing

Structural and construction loads. The structural roof components shall be capable of supporting the roof covering system and the material and equipment loads that will be encountered during installation of the roof covering system.

Recovering versus replacement. New roof coverings shall not be installed without first removing existing roof coverings where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. Where the existing roof covering is wood shake, slate, clay, cement, or asbestos cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.

Roof recovering. Where the application of a new roof covering over wood shingle or shake roofs creates a combustible concealed space, the entire existing surface shall be covered with gypsum board, mineral fiber, glass fiber, or other approved materials securely fastened in place.

Reinstallation of materials. Existing slate, clay, or cement tile shall be permitted for reinstallation, except that damaged, cracked, or broken slate or tile shall not be reinstalled. Existing vent flashing, metal edgings, drain outlets, collars, and metal counter flashings shall not be reinstalled where rusted, damaged, or deteriorated. Aggregate surfacing materials shall not be reinstalled.

Flashings. Flashings shall be reconstructed in accordance with approved manufacturer's installation instructions. Metal flashing to which bituminous materials are to be adhered shall be primed prior to installation.