



### **RESIDENTIAL ASPHALT SHINGLE REQUIREMENTS**

Residential (one & two family dwellings) shall comply with Chapter 9 of the 2006 edition of the IRC. Commercial shall comply with Chapter 15 of the 2006 edition of the IBC

#### **Section R907.3 Re-covering 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 base 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 (2) or more applications of any type of roof covering.

#### **IRC Section R905.2**

#### **COMPONENT**

##### **1. Roof slope:**

#### **ASPHALT SHINGLE APPLICATION**

##### **INSTALLATION REQUIREMENTS**

Asphalt shingles shall only be used on roof slopes of two units vertical in 12 units horizontal (2:12) or greater. For roof slopes from two units vertical in 12 units horizontal (2:12) up to four units vertical in 12 units horizontal (4:12).

##### **2. Deck or Sheathing requirements:**

Asphalt shingles shall be fastened to solidly sheathed roofs.

##### **3. Underlayment:**

Underlayment shall conform with ASTM D 226, Type 1 or ASTM D 4869, Type 1, Or ASTM D6757

**For roof slopes from two units vertical in 12 units horizontal (2:12), up to four units vertical in 12 units horizontal (4:12)**

Underlayment shall be two layers applied in the following manner. Apply a minimum 19 inch strip or underlayment felt parallel to and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply 35-inch-wide sheets of underlayment overlapping successive sheets 19 inches and fastened sufficiently to hold in place.

**For roof slopes from four units vertical in 12 units horizontal (4:12) 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 only as necessary to hold in place.

##### **Required Ice Barrier**

A membrane 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.

##### **4. Application: Attachment**

Asphalt shingles shall have the minimum number of fasteners required by the manufacturer and Section 1504.1. 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 fasteners are required.

##### **Fasteners**

Galvanized, stainless steel, aluminum or cooper roofing nail, minimum 12-gage (0.015 inch) shank with a minimum 3/8 inch diameter head. Fasteners shall be long enough to penetrate into the sheathing 3/4 inch or through the thickness of the sheathing

##### **Flashing**

Base and cap flashing. Base flashing shall be of either corrosion-resistant metal of minimum nominal 0.019-inch thickness of mineral surface roll roofing weighing a minimum of 77 pounds per 100 square feet. Cap flashing shall be corrosion-resistant metal minimum nominal 0.019-inch thickness.

##### **Valleys**

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Valley linings of the following types shall be permitted:

1. For open valley (valley lining exposed) lined with metal, the valley lining shall be at least 24 inches wide.
2. For open valley, valley lining of two plies of mineral surfaced roll roofing, complying with ASTM D3909 or ASTM D6380 Class M, shall be permitted. The bottom layer shall be 18 inches and the top layer a minimum of 36 inches wide.
3. For closed valleys (valley covered with shingles), valley lining of one ply of smooth roll roofing complying with ASTM D 6380 Class S Type III, Class M Type II, or ASTM D 3909 and least 36 inches wide or valley lining as described in Items 1 and 2 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 or penetration more than 30 inches (862mm) wide as measured perpendicular to the slope. Cricket or saddle coverings shall be sheet metal or of the same material as the roof covering.

##### **Sidewall Flashing Other Flashing**

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

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

