

City of Prairie Village  
Building Codes  
913-385-4604

Permit requirements for:

**RE-ROOFING**

Based on the 2012 IRC

**Procedure:**

A building permit is required for all re-roofs which involve 25% or more of the entire roof area. Repairs on roofs less than 25% of the entire roof area do not require a permit.

**Contractors:** Any contractor obtaining a permit to roof commercial or residential properties must have the following in good standing: Prairie Village contractor's license **AND** the appropriate Johnson County contractor's license **AND** be registered with the Kansas Attorney General's Office roofing registration office.

**Fees:**

The fee for a residential roof permit is \$45.00. Permit fees for commercial roofing are based on the value of the work.

**Inspections:**

A midphase inspection (old roofing removed and new roofing begun) is mandatory for all re-roofs requiring a permit. Call 913-385-4604 to schedule this inspection.

**Materials:**

Only Class A, B or C roof covering materials are allowed. Non-classified roofing is not allowed.

All roof covering materials shall be delivered in packages bearing the manufacturer's identifying marks and approved testing agency labels.

**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.

**Re-covering vs. Replacement:**

New roof coverings **shall not** be installed without first removing all existing layers of roof coverings where **any** of the following conditions occur:

- 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.
- Where the existing roof covering is wood shake, slate, clay, cement or asbestos-cement tile.
- Where the existing roof has **two or more** applications of **any** type of roof covering.

Where the existing roof assembly includes an ice barrier membrane that is adhered to the roof deck, the existing ice barrier membrane shall be permitted to remain in place and covered with an additional layer of ice barrier membrane.

**Roof Covering:**

Where the application of a new roof covering over wood shingle 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 damaged, cracked or broken slate or tile which shall not be reinstalled. Existing vent flashing, metal edgings, drain outlets, collars and metal counterflashings shall not be reinstalled where rusted, damaged or deteriorated. Aggregate surfacing materials shall not be reinstalled.

**Ice Barrier:**

An **ice barrier** that consists of at 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 lowest edges of all roof surfaces to a point at least 24 inches inside the exterior wall line of the building, as required by **Table R301.2 (1) of the 2012 International Residential Code.**

**Flashings:**

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

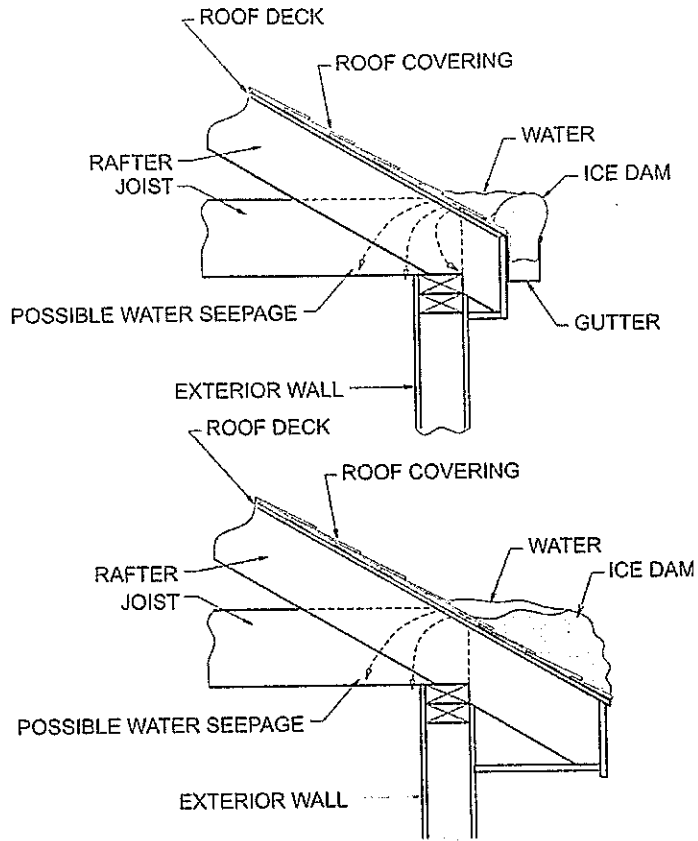
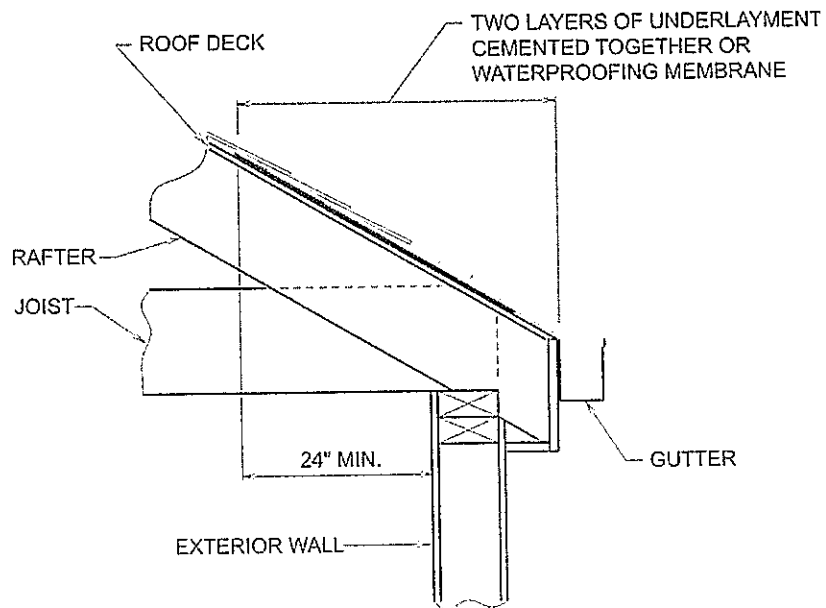


Figure 1507.8.4(1)  
POSSIBLE WATER DAMAGE AT ICE DAMS



For SI: 1 inch = 25.4 mm.

Figure 1507.8.4(2)  
PROTECTIVE ICE SHEILD



**1507.2.8 Underlayment application.** For roof slopes from two units vertical in 12 units horizontal (17-percent slope) and up to four units vertical in 12 units horizontal (33-percent slope), underlayment shall be two layers applied in the following manner. Apply a minimum 19-inch-wide (483 mm) 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 (914 mm) sheets of underlayment overlapping successive sheets 19 inches (483 mm), by fastened sufficiently to hold in place. Distortions in the underlayment shall not interfere with the ability of the shingles to seal. For roof slopes of four units vertical in 12 units horizontal (33-percent slope) 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 (51 mm), fastened sufficiently to hold in place. Distortions in the underlayment shall not interfere with the ability of the shingles to seal.

❖ Low-sloped roofs, 2:12 to 4:12, shed water more slowly than steeper roofs, therefore requiring greater protection from water backing up under the shingles. This is particularly important when considering wind-driven water and ice damming. For this reason, two layers of underlayment are required. For greater slopes, only one layer of underlayment is necessary, except at eaves where ice dams are potentially a problem.

Installation of underlayment material over a distorted surface can result in reduced wind and weather (moisture) resistance and poor aesthetics. Regardless of the slope, underlayment need only be fastened well enough to stay in place until the shingles are applied. The application of shingle fasteners will serve to fasten the underlayment.

**1507.2.8.1 High wind attachment.** Underlayment applied in areas subject to high winds [ $V_{asd}$  greater than 110 mph (49 m/s) as determined in accordance with Section 1609.3.1] shall be applied with corrosion-resistant fasteners in accordance with the manufacturer's instructions. Fasteners are to be applied along the overlap at a maximum spacing of 36 inches (914 mm) on center.

Underlayment installed where  $V_{asd}$  in accordance with Section 1609.3.1, equals or exceeds 120 mph (54 m/s) shall comply with ASTM D 226 Type II, ASTM D 4869 Type IV, or ASTM D 6757. The underlayment shall be attached in a grid pattern of 12 inches (305 mm) between side laps with a 6-inch (152 mm) spacing at the side laps. Underlayment shall be applied in accordance with Section 1507.2.8 except all laps shall be a minimum of 4 inches (102 mm). Underlayment shall be attached using metal or plastic cap nails with a head diameter of not less than 1 inch (25 mm) with a thickness of at least 32-gauge [0.0134 inch (0.34 mm)] sheet metal. The cap nail shank shall be a minimum of 12 gauge [0.105 inch (2.67 mm)] with a length to penetrate through the

roof sheathing or a minimum of  $\frac{3}{4}$  inch (19.1 mm) into the roof sheathing.

**Exception:** As an alternative, adhered underlayment complying with ASTM D 1970 shall be permitted.

❖ These provisions are intended to improve the performance of underlayment on roofs subjected to high winds, particularly if shingles are lost due to a high-wind event. Where the nominal wind speed is greater than 110 mph (49 m/s), fasteners must be approved for asphalt shingle installation and should be flat headed and corrosion resistant.

Based on observations of roof underlayment performance both in the field following hurricanes as well as in laboratory tests, ASTM 226, Type I, underlayment is not permitted where the nominal wind speed exceeds 120 mph (54 m/s). In laboratory tests, ASTM 226, Types I and II, underlayment performed dramatically different, with the ASTM 226, Type II, material remaining in place and exhibiting fewer signs of distress. In addition, the attachment of the underlayment must be accomplished with cap nails. A 1-inch (25.4 mm) head diameter of the cap portion recognizes the type most commonly used in the field. The exception specifically permits the use of a self-adhered underlayment in accordance with Section 1507.2.4 (ASTM D 1970).

**1507.2.8.2 Ice barrier.** In areas where there has been a history of ice forming along the eaves causing a backup of water, an ice barrier that consists of at 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 lowest edges of all roof surfaces to a point at least 24 inches (610 mm) inside the exterior wall line of the building.

**Exception:** Detached accessory structures that contain no conditioned floor area.

❖ Ice dams form when snow melts over the warmer parts of a roof and refreezes over the colder eaves. This ice formation acts like a dam and causes water to back up beneath the roof covering. The water will eventually leak causing damage to the structure, including the walls, ceilings and roof [see Commentary Figures 1507.8.4(1) and (2)]. In areas where this is prevalent, the installation of an ice barrier is required in accordance with this section.

There is an exception to this section that exempts accessory buildings from such restrictions as they are unheated structures where the need for protection against ice dams is unnecessary. The same exception is found in Sections 1507.5.4, 1507.6.4, 1507.7.4, 1507.8.4 and 1507.9.4.

**1507.2.9 Flashings.** Flashing for asphalt shingles shall comply with this section. Flashing shall be applied in accordance