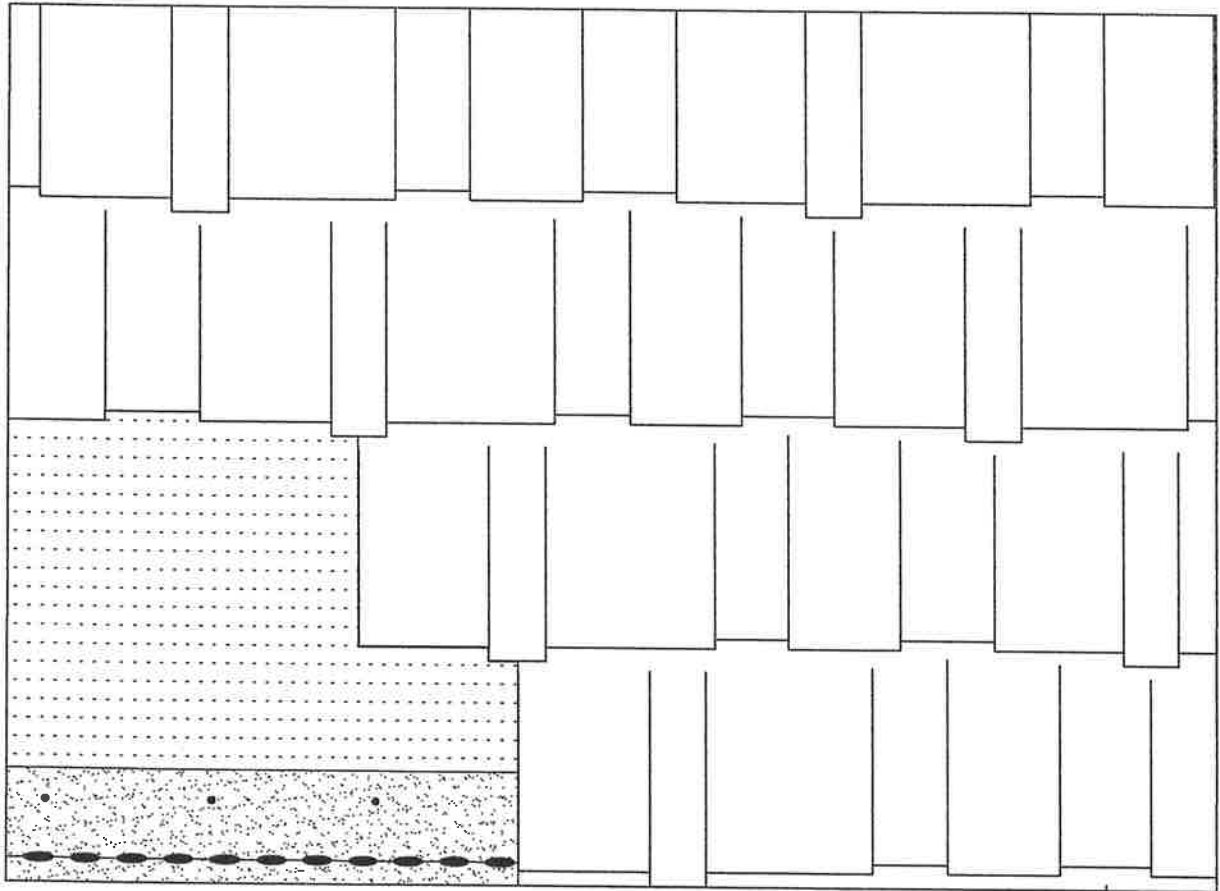


RESIDENTIAL SHINGLING GUIDE



City of Aberdeen
Building Inspection Dept.
(605) 626-7017
2015 IRC - pamphlet revised 3/16/18



GENERAL REQUIREMENTS FOR ROOF ASSEMBLIES

General. Roof decks shall be covered with approved roof coverings secured to the building or structure in accordance with the provisions of this chapter and the requirements of the manufacturer. Roof assemblies shall be designed and installed to ensure that the roof assembly shall serve to protect the building or structure.

Flashing. Flashings shall be installed in such a manner as to prevent moisture entering the wall through the joints in the coping, through moisture permeable material, at intersections with the roof plane or at parapet wall penetrations.

Flashing locations. Flashings shall be installed at wall and roof intersections; wherever there is a change in roof slope or direction; and around roof openings. A flashing shall be installed to divert the water away from where the eave of a sloped roof intersects a vertical sidewall (kick-out flashing). Where flashing is of metal, the metal shall be corrosion-resistant with a thickness of not less than 0.019 inch (No. 26 galvanized sheet).

Ice barriers. Aberdeen, SD is designated as an area subject to ice forming along eaves and thus causing water backup. An approved ice barrier shall be installed under all types of roofing unless specified otherwise by the manufacturer, inhabitable areas (such as detached garages) not containing conditioned spaces are also exempt from the requirement. Ice barriers shall extend from the lowest edge of all roof surfaces to a point not less than 24 inches inside the exterior wall line of the building. Roofs having a slope equal or greater than 8 units vertical in 12 units horizontal (8 in 12 pitch), the ice barrier shall be applied not less than 36 inches measured along the roof slope from the eave edge of the building.

Crickets and saddles. A cricket or saddle shall be installed on the ridge side of any chimney or penetration more than 30-inches wide measured perpendicular to the slope. Coverings shall be sheet metal or the same material as the roof coverings.

Product Identification. Roof covering materials shall be delivered in packages bearing the manufacturer's identifying marks and approved testing agency labels when required. Bulk shipments of materials shall be accompanied with the same information issued in the form of a certificate or on a bill of lading by the manufacturer.

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:

1. For open valley (valley lining exposed) lined with metal, the valley lining shall be at least 24 inches wide and of any 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 wide.
3. For closed valleys (valleys 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 (self-adhesive bitumen sheet) may be used in lieu of the lining material.

Drip edge. Drip edge shall be provided at rake edges and eaves of shingled roofs. Adjacent roof edge segments must overlap not less than 2 inches. Drip edges shall extend back onto the roof deck not less than 2 inches and be mechanically fastened at not more than 12 inches on center. Underlayment shall be installed over the drip edge along eaves and under the drip edge along rake edges.

REROOFING

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.

Roof replacement. Roof replacement shall include the removal of existing layers of roof coverings down to the roof deck.

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

Roof re-cover. The installation of new roof coverings over an existing roof covering **shall be permitted** where any of the following conditions occur:

1. Where the new roof covering is installed in accordance with the manufacturers approved instructions.
2. Complete and separate roofing systems, such as standing-seam metal roof systems, that are designed to transmit the roof loads directly to the buildings structural system and do not rely on existing roof systems for support.
3. Various special conditions apply for installation of new roof coverings over existing wood shake systems.

Roof re-cover not allowed. A roof re-cover *shall not be permitted* where any of the following conditions occur:

4. 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.
5. Where the existing roof covering is wood shake, slate, clay, cement or asbestos-cement tile.
6. Where the existing roof has two or more applications of any type of roof covering.

ROOF VENTILATION

Ventilation Required. Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross-ventilation for each separate space by vent openings protected against the entrance of rain or snow.

Minimum Area. The total net free vent area shall be 1 to 150 of the area of the vented space. The minimum area is permitted to be reduced to 1 to 300 provided at least 40% and not more than 50% of the required vent opening area is located in the upper portion of the attic or rafter space. Upper vents must be located not more than 3 feet below the ridge or highest point of the space, with the balance of vents provided in the eave or cornice. Where framing members conflict with the placement of upper roof vents, installation more than 3 feet below the ridge or highest point shall be permitted.

Vent Clearance. Where eave or cornice vents are installed, insulation shall not block the free flow of air. A minimum of a 1-inch space shall be provided between the insulation and the roof sheathing at the location of the vent.

ASPHALT SHINGLES

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

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

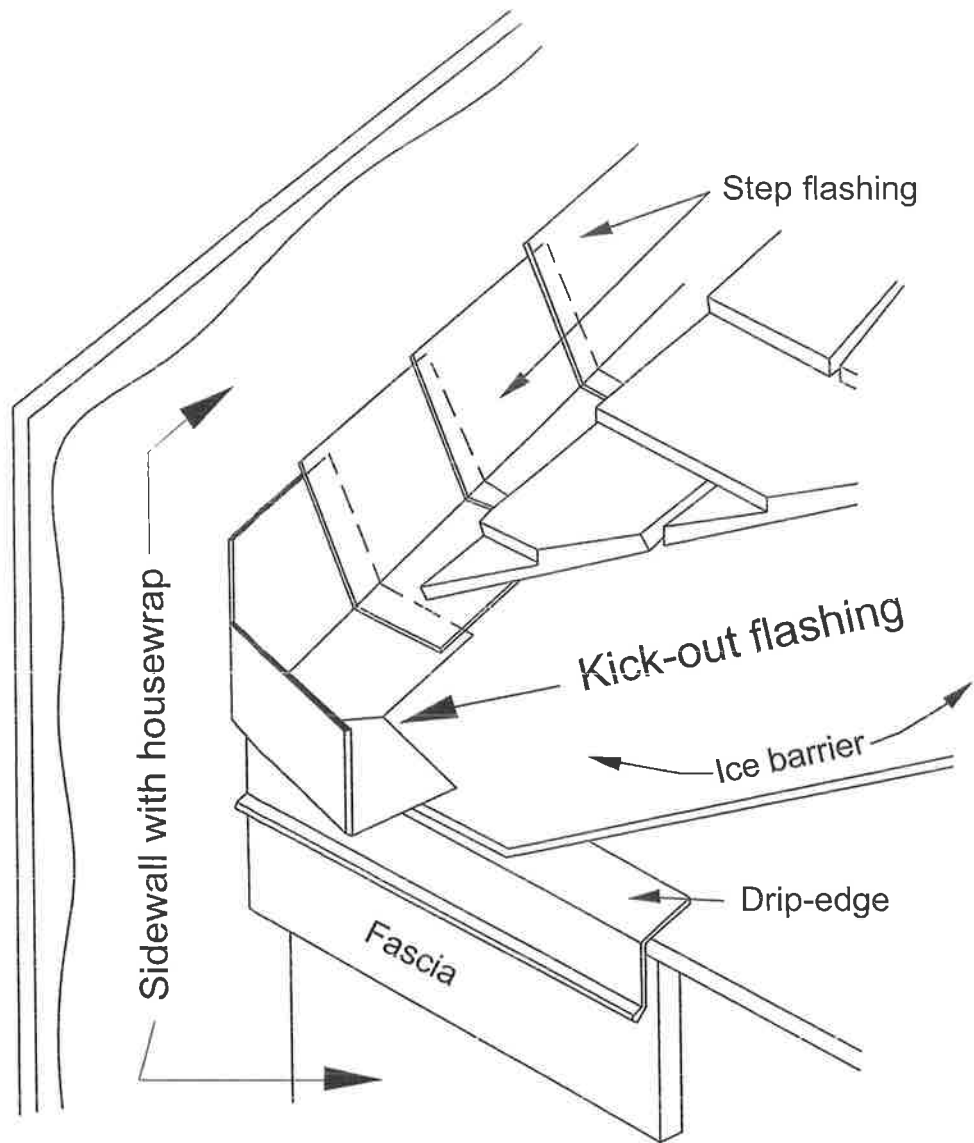
Attachment. Asphalt shingles shall have the minimum number of fasteners required by the manufacturer. For normal application, asphalt shingles shall be secured to the roof with not less than four fasteners per strip shingle or two fasteners per individual shingle. Where the roof slope exceeds 20:12,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

METAL ROOF PANELS

Slope. The minimum slope for lapped, non-soldered seam metal roofs without applied lap sealant shall be 3:12. The minimum slope for lapped, non-soldered seam metal roofs with applied lap sealant shall be one-half vertical unit in 12 units (4%) horizontal. The minimum slope for standing seam roof systems shall be one-fourth unit vertical in 12 units (2%) horizontal.

Attachment. Metal roofing shall be installed in accordance with the 2015 IRC and the manufacturer's installation instructions. Metal roofing fastened directly to steel framing shall be attached by approved fasteners.

If you do not see your style of roof covering listed here, please ask for specific installation requirements for your product.



Ice barrier required to extend 24 inches beyond the exterior wall line (towards peak of roof)

