



Alternative Roofing

This handout is intended only as a guide and is based in part on the 2015 Minnesota State Building Code, Isanti City ordinances, and good building practice. While every attempt has been made to insure the correctness of this handout, no guarantees are made to its accuracy or completeness. Responsibility for compliance with applicable codes and ordinances falls on the owner or contractor. For specific questions regarding code requirements, refer to the applicable codes or contact the Isanti Building Department.

SCOPE

The scope of this handout will address the installation of *Alternative Roof Coverings*. Please see the “Roofing” handout for details on Asphalt Shingle Roof Coverings.

PERMITS, INSPECTIONS, AND LICENSES

- Building permits are required for all roofing projects. Permits can be obtained from the Isanti City Hall, 110 1st Ave NW; or online at www.cityofisanti.us.
- The Building Department will conduct 2 inspections: one inspection after tear-off to verify sheathing condition, flashing & ventilation, and Ice & Water barrier are properly installed. And a final inspection after completion. If any after hours or weekend work is being performed, notify the building department first because specific pictures may be required to verify compliance before covering with shingles.
- All roofing contractors must be licensed to obtain a permit. Specific questions regarding contractors should be directed to the Minnesota Department of Labor and Industry, (651) 284-5069 or 1-800-342-5354.

DEBRIS

The removal of existing roofing materials often results in debris moving about the neighborhood on windy days. All debris must be contained and removed in a timely manner to prevent it from blowing around onto adjacent properties.

GENERAL

- All roof covering materials must be delivered in packages bearing the manufacturers identifying marks and approved testing agency labels when required.
- Roof decks must be solidly sheathed for mineral-surfaced roll roofing. Solid sheathing may be plywood, OSB, or 1-inch nominal boards.
- Wood shingles and shakes may be applied over solid or spaced sheathing.
- Roof decks that are rotted or unsound must be repaired prior to reroofing.

REROOFING

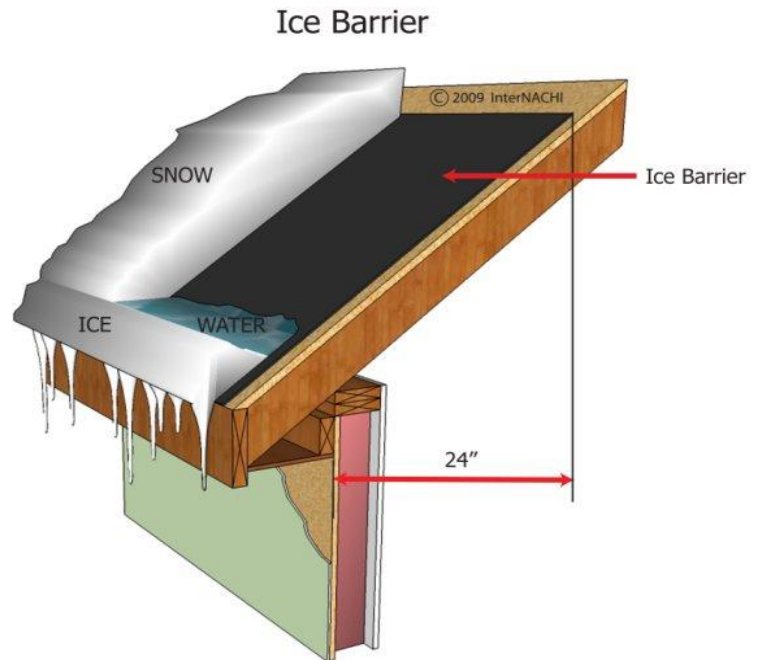
Verify with code if roofing may be installed over an existing roof, and the maximum number of layers allowed. Existing flashing, roof vents, etc. may *not* be reused. Flashing and other materials in good condition may *only* be reinstalled if it can be shown that flashing longevity can equal the shingle's rating. All roofing materials and fasteners are required to be compatible. Any sheathing that is replaced must be installed and fastened according to the code.



ICE AND WATER BARRIERS

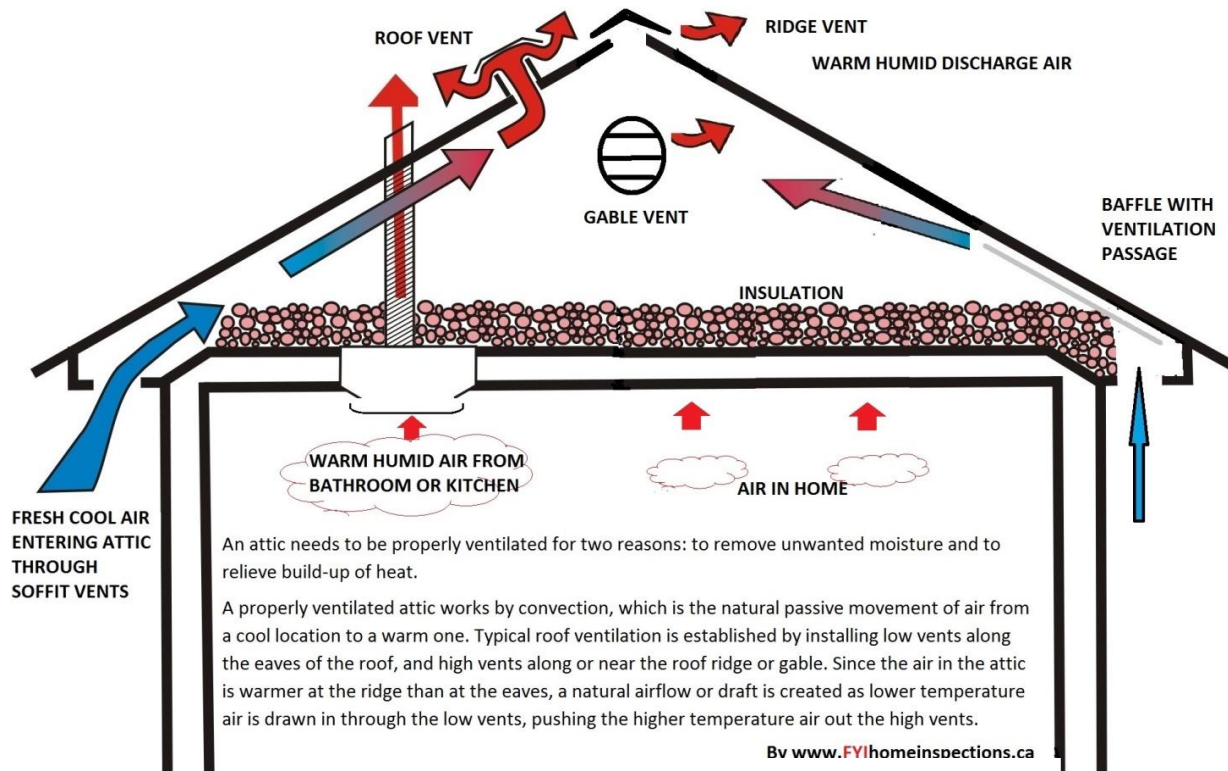
An ice and water barrier is required on all roofs, except for detached accessory buildings and garages *without* heat. The barrier must be at least two layers of underlayment cemented together or a self-adhering polymer modified bitumen sheet. The ice and water barrier must extend from the edge of the eaves to a point at least 24 inches inside the exterior wall line of the building. There are several manufacturers who make materials specifically for this requirement that are marketed under differing trade names. Ice and water barriers are not required along the rakes or in valleys.

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.



VENTILATION

- Ventilation of enclosed attics and enclosed rafter spaces is required. Ventilated openings must be provided with corrosion resistant mesh with openings of $\frac{1}{8}$ " to $\frac{1}{4}$ " inch.
- For attics without ceiling vapor barriers, 1 square foot of net free ventilating area should be provided for each 150 square feet of attic area.
- For attics with vapor barriers, and/or having 40-50% of the ventilating area provided by ventilators located with 3 feet of the ridge and the balance of the ventilation provided in the eave or cornice vents, ventilation may be 1 square foot of net free ventilating area for each 300 square feet of attic area.



WOOD SHINGLES - R905.7

- Fasteners: must be corrosion resistant with a minimum penetration of $\frac{1}{2}$ " into the sheathing. For sheathing less than $\frac{1}{2}$ ", the fastener must penetrate the sheathing. A min. of 2 fasteners per shake are required.
- Wood shingles must be installed on slopes that are at least 3:12 or greater. They must be made of a naturally durable wood of grades 1, 2, or 3 approved by the Cedar Shake and Shingle Bureau. A label of an approved grading or inspection bureau or agency must identify each bundle of shingles.
- Wood shingles must be installed in accordance with the manufacturer's instructions and the following:
 - Wood shingles must be laid with a side lap of not less than $1\frac{1}{2}$ " between joints in courses and no two joints in any three adjacent courses shall be in direct alignment.
 - Spacing between shingles may not be less than $\frac{1}{4}$ ", and no more than $\frac{3}{8}$ ". Weather exposure may not exceed what is specified in 2015 MN Residential Code section R905.7.
 - Wood shingles must be attached to the roof with two fasteners per shingle. Fasteners should be not more than $\frac{3}{4}$ " from the edge of the shingle and not more than 1" above the exposure line.

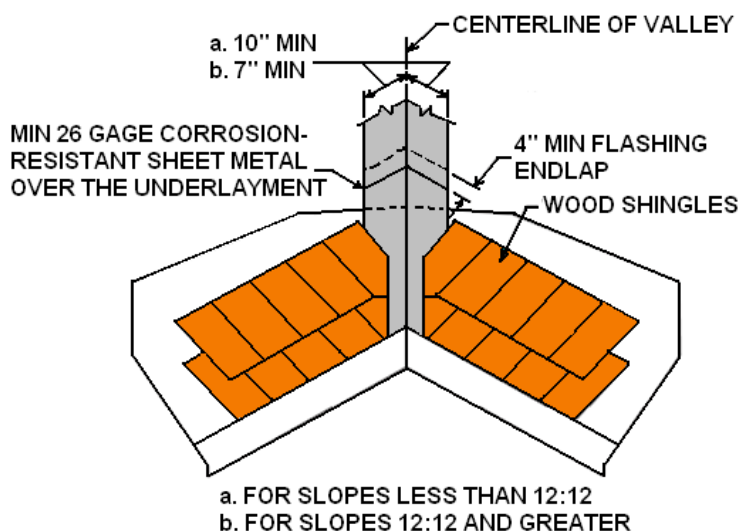
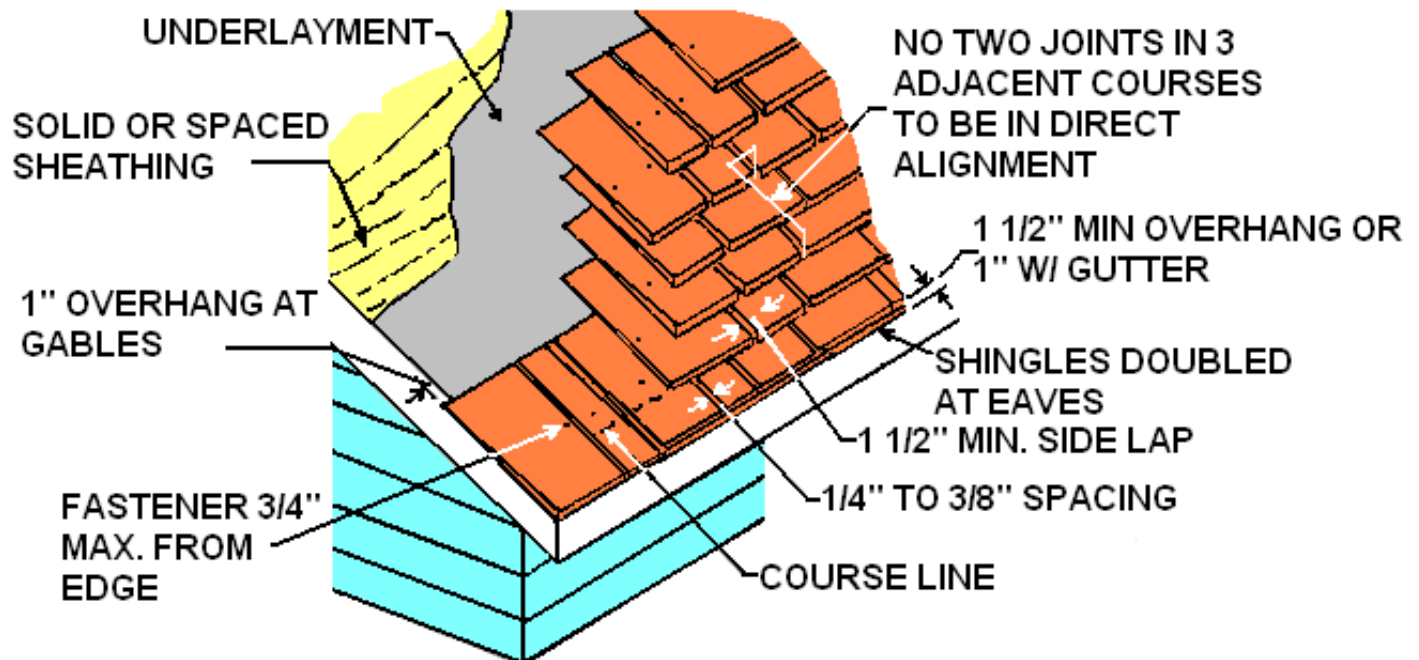
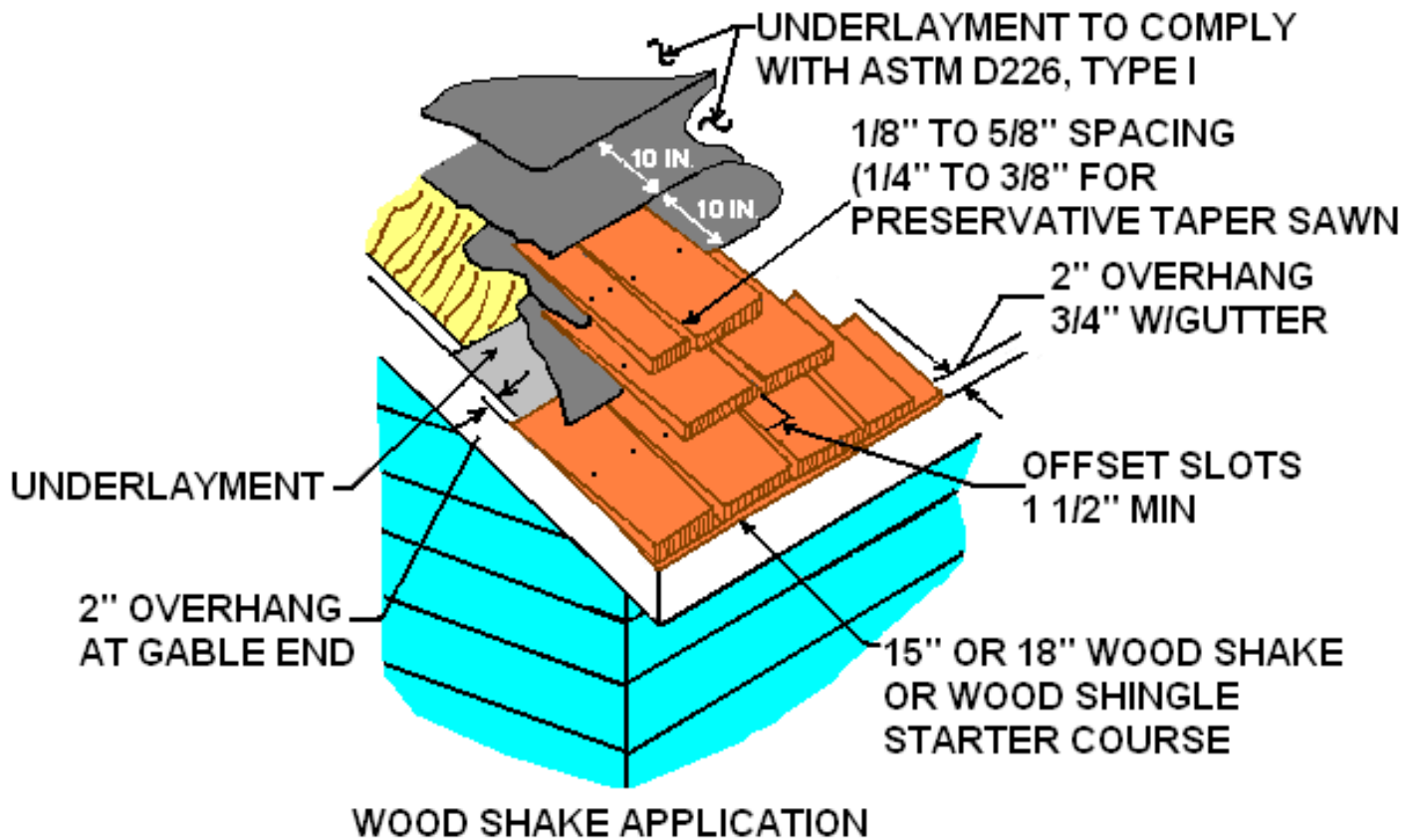


Figure R905.7.4
WOOD SHINGLE GRADE DESCRIPTION AND EXAMPLE LABEL

WOOD SHAKES - R905.8

- Fasteners for wood shakes must be corrosion resistant. Shakes must be attached with two fasteners per shake. Fasteners must be positioned not more than 1 inch from each edge and not more than 2 inches above the exposure line.
- Wood shakes must be installed on roof slopes of 3:12 or greater and must be installed in accordance with the manufacturer's installation instructions and the code. Wood shakes must be laid with a side lap of not less than 1 ½ inches between joints in adjacent courses.
- Spacing between shakes in the same course must be between ⅛ inch and ⅝ inch for shakes and taper sawn shakes of naturally durable wood and ¼ inch and ⅜ inch for preservative taper sawn shakes.
- The starter course at the eaves must be doubled and the bottom layer may be 15-inch, 18-inch, or 24-inch wood shakes or shingles. Fifteen-inch or 18-inch wood shakes may be used for the final course at the ridge.
- Shakes must be interlaid with 18-inch-wide strips of No. 30 felt shingled between each course in such a manner that no felt is exposed to the weather by positioning the lower edge of each felt strip above the butt end of the shake it covers a distance equal to twice the weather exposure. Underlayment must comply with ASTM D 226, Type I.



MINERAL SURFACED ROLL ROOFING - R905.5

- Mineral surfaced roll roofing may only be applied on roofs with a slope of 1:12 or greater. Mineral surface roll roofing must conform to ASTM D 3909 or ASTM D 6380, Class M.
- Mineral surface roll roofing must be installed in accordance with the manufacturer's installation instructions.

