

Ventilation

The total net free ventilating area shall not be less than 1/150 of the space to be ventilated, except that the total area is permitted to be reduced to 1/300 provided at least 50 percent and not more than 80 percent of the required ventilating area is supplied with ventilators. They must be located in the upper portion of the space to be ventilated, at least 3 feet above eave or cornice vents with the balance of the ventilation provided by eave or cornice vents. As an alternative, the net free cross-ventilation area may be reduced to 1/300 when a vapor barrier having a transmission rate not exceeding 1 perm is installed on the warm side of the ceiling.

Tear offs and overlays with inadequate ventilation shall be upgraded to meet these requirements.

Fasteners

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 nails per strip shingle or two fasteners per individual shingle. Nails shall not be less than 12 gauge with 3/8 inch minimum diameter head.

Nails shall be of sufficient length to penetrate through roofing material and at least 3/4 inch into roof sheathing or through the thickness of the roof sheathing, whichever is less.

Roofing Contractors

Bremner County requires that all contractors carry liability insurance and provide the Building and Zoning Department with a current Certificate of Liability Insurance. Call this office to verify we have this on file for your contractor.

Contractors must apply for and sign Building Permit applications. They may stop in the Building and Zoning Department or visit our website at www.co.bremner.ia.us to obtain the application. Permit applications must be received and payment must be made in full before any work begins.

- Ask your contractor for a current list of references you may contact to determine if previous customers were satisfied.
- You may call the Building & Zoning Department to determine what current projects a contractor has obtained permits for.
- Call this office prior to the start of work to determine if the contractor has obtained a permit.
- Suggest that the contractor include wording in your contract that provides for final payment only after a project passes final inspection by the Building & Zoning Department.

Building Permits

- Homeowners doing their own roofing are required to obtain a building permit.

- Roofing permits must include the project address, the number of squares of roofing, type of roofing used, whether it is a tear-off or overlay, and whether sheathing will be replaced.

Inspections

Please contact this office at 352-0332 to schedule a final inspection once the job is completed.

This brochure is intended to explain some of the requirements for roofing with asphalt shingles. If you have further questions, please call the Building & Zoning Department.

319-352-0332

7:00 A.M.—4:30 P.M.

ROOFING WITH ASPHALT SHINGLES



Bremner County

Building & Zoning Department
415 East Bremer Avenue
Waverly, Iowa 50677

319-352-0332

www.co.bremner.ia.us

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Definitions

Eaves: The lower edge of the roof which runs parallel with the wall.

Rake: The edge of the roof that runs from the eaves to the peak or the highest point of the roof.

Roof Edge: A preformed metal edging which is installed on roof edge to extend the drop lines.

Roof Pitch: Roof pitch is the amount the roof rises from horizontal in a 12 inch distance. Usually expressed as a fraction. Example 4/12.

Square: One square equals 100 sq ft of roofing. Most asphalt shingles are packaged so that three packages, called bundles, equal one square.

Sheathing: The sheet material over the rafters or trusses which forms the deck of the roof. Usually 4' x 8' sheets of plywood or oriented strand board.

Underlayment: Felt material which is placed over the sheathing and under the shingles.

Spaced Sheathing: Boards applied with spaces between boards which forms the decking under wood shingles. Not acceptable for asphalt shingles.

Ice Dam Protection: Ice dam protection is accomplished by adhering a special roofing material membrane to the roof sheathing from the eaves to a specified dimension inside the outside wall line. Brand names include: Winterguard, Ice-shield, Rubberized Felt, Ice & Water Barrier and Weatherguard. These names are not Recommendations, but are listed only to clarify understanding.

Soffit: Underside of the part of the roof that extends past the wall line.

Overlay or Tear-off ?

The reroofing of a structure having asphalt shingles may be accomplished by either overlay; adding an additional layer of asphalt shingles (one overlay is permitted over an original shingle roof) or tear-off; completely removing the existing shingles, underlayment (if necessary), flashing, etc., and then roofing as if new construction.

To assist in making the decision whether to overlay or tear-off, consider the following:

- Check the framing beneath. It must be adequate to carry the additional weight of new material plus the weight of roofers and their equipment.
- Check the condition of the existing deck sheathing. It must be adequate for both support and anchorage of new roof fasteners.
- Check the condition of the roofing surface. If it is warped, curled, or badly weathered to the point where providing a level surface for the new material will be difficult, it should be removed. If the surface is defective to the point where it will not serve as underlayment, it should be removed.

Sheathing

Roof sheathing shall be checked prior to reroofing and repaired or replaced if rotted or unsound. Replacement sheathing shall conform to the requirements of the Building Code.

Roof Pitch

Asphalt shingles shall in no case be used on roofs with less than 2/ 12 pitch.

Underlayment

Roof Pitches from 2/12 to less than 4/12:
Two layers of 15# felt must be applied in shingle fashion, starting with a 19 inch wide sheet and a 36 wide sheet over it at the eaves. Each subsequent sheet shall be lapped 19 inches horizontally. End laps shall be offset by 6 feet.

Roof pitches of 4/12 and over:

One layer of 15 pound felt lapped 2 inches horizontally and 4 inches vertically.

Ice Dam Protection

- Ice dam protection is required on all heated structures where the potential for ice dams exist. It is required on attached garages whether they are heated or not. It is required on porches attached to the house. Unheated detached accessory buildings and detached garages are not required to have ice dam protections.

- Ice dam protection shall extend from the eave's edge to a point at least 24 inches inside the exterior wall line of the building. The exterior wall line is the inside face of the exterior wall. See Diagram E.

Valley Flashing

- Valley flashing shall consist of not less than 28 gauge corrosion resistant metal. The metal shall extend at least 8 inches from the center line each way. Sections of flashing shall have an end lap of not less than 4 inches.
- Exception: Valley flashing requirement is not necessary when the valley consists of woven asphalt shingles applied in accordance with the manufacturer's recommendations.

Flashing

- Intersections of roof surfaces with vertical walls, chimneys, and projections through the roof create potential areas of leakage that must be protected by corrosion resistant metal flashings.
- To maintain water resistance, it is necessary to apply flashing so that differential movements caused by settling, etc. are accommodated. Secure base or step flashing to the roof deck (not to the wall) and cap flashing to the masonry or vertical wall as shown. (See sketch back page). Do not fasten the cap flashing or siding to the base of step flashing.
- Each metal flashing piece (commonly call tin shingles) is to be placed slightly up the roof from where the exposed edge of the next overlapping shingle will be located, so as to hide the flashing.
- These flashings need to be installed as each course of asphalt shingles are installed. If you have doubts about correct installation please contact this office. These flashings will not be effective if installed incorrectly and are very difficult to change once installed.
- Roof Edge is required on both eave and rake edges. Be careful to install rake piece on top of eave piece to enable it to shed water.

Sketches of Approved Roofing Applications

Improper installation of flashing is the greatest cause of failures of roof-covering systems. Whenever one plane of a roof intersects another plane, flashing is required where the planes intersect. Thus, flashing is required at valleys and intersections of the roof with vertical surfaces, such as walls, parapets, sides of chimneys, etc. Furthermore flashing is required around all edges of the roof, such as at eaves and rakes, to prevent the entry of water underneath the roofing.

This sketch shows the approved application of valley flashing for asphalt shingles. The roof-valley flashing shall not be provided of less than 0.016-inch (No. 28 galvanized sheet gage) corrosion resistant metal (Diagram A). Please be aware that there are many lighter gage materials available at building supply stores. These materials are intended for other uses and are not acceptable for valley flashing or other flashing applications. Valley flashing shall extend at least 8 inches from the center line of each way. Sections of flashing shall have an end lap of not less than 4 inches. Alternatively, the valley shall consist of woven asphalt shingles applied in accordance with the manufacturer's printed instructions (Diagram B).

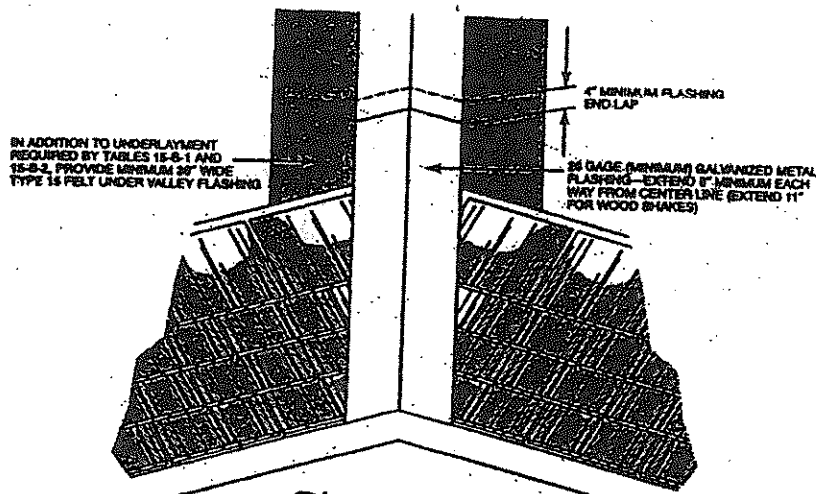


Diagram A

VALLEY FLASHING
(Asphalt or Wood Shingles and Wood Shakes)

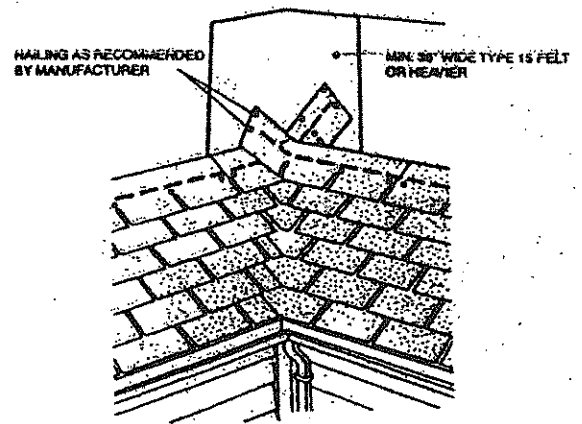


Diagram B

ALTERNATE VALLEY FLASHING
(Asphalt Shingles)

At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be provided per the roof manufacturer's instructions and, when of metal, shall not be less than 0.019-inch (No. 26 galvanized sheet gage) corrosion-resistant metal. Because of the exposure of these flashing materials they are required to be of a heavier material than the valley flashing. To maintain water resistance, it is necessary to apply flashings so that differential movements caused by settling, etc., are accommodated. Secure base or step flashing to the roof deck (not to the wall) and secure cap flashing to the masonry or vertical wall, as shown. Do not fasten the cap flashing or siding to the base or step flashing. In most cases where the roof meets the wall, the siding will serve as the counterflashing (Diagram C). Counterflashing is sometimes referred to as cap flashing and is flashing embedded in the vertical surface that caps over the flashing materials that extend up from the roof surface (Diagram D). Caulking or black jack is not an acceptable substitute for counterflashing.

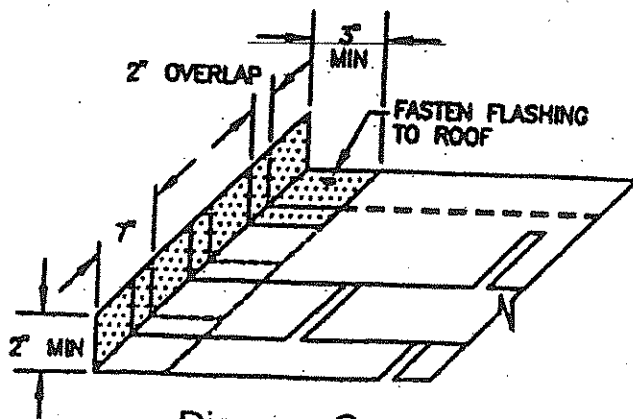


Diagram C

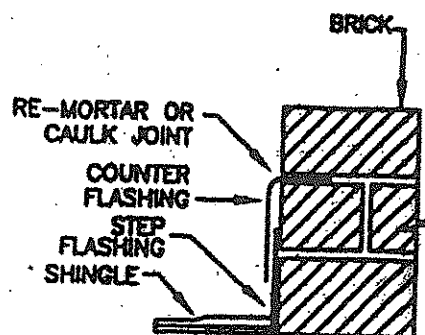
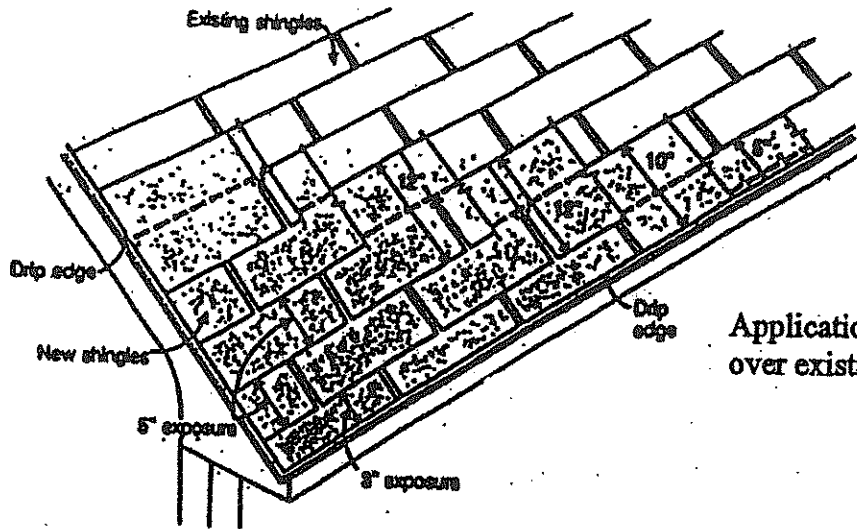
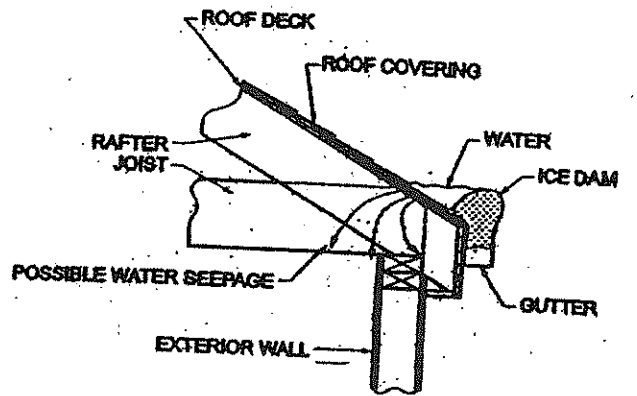
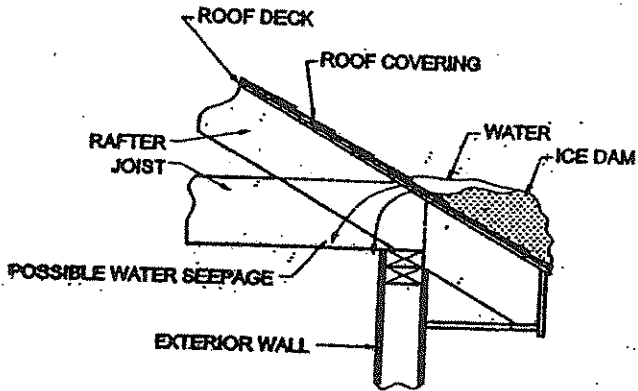


Diagram D



Application of new asphalt shingles over existing asphalt shingles.



POSSIBLE WATER DAMAGE AT ICE DAMS

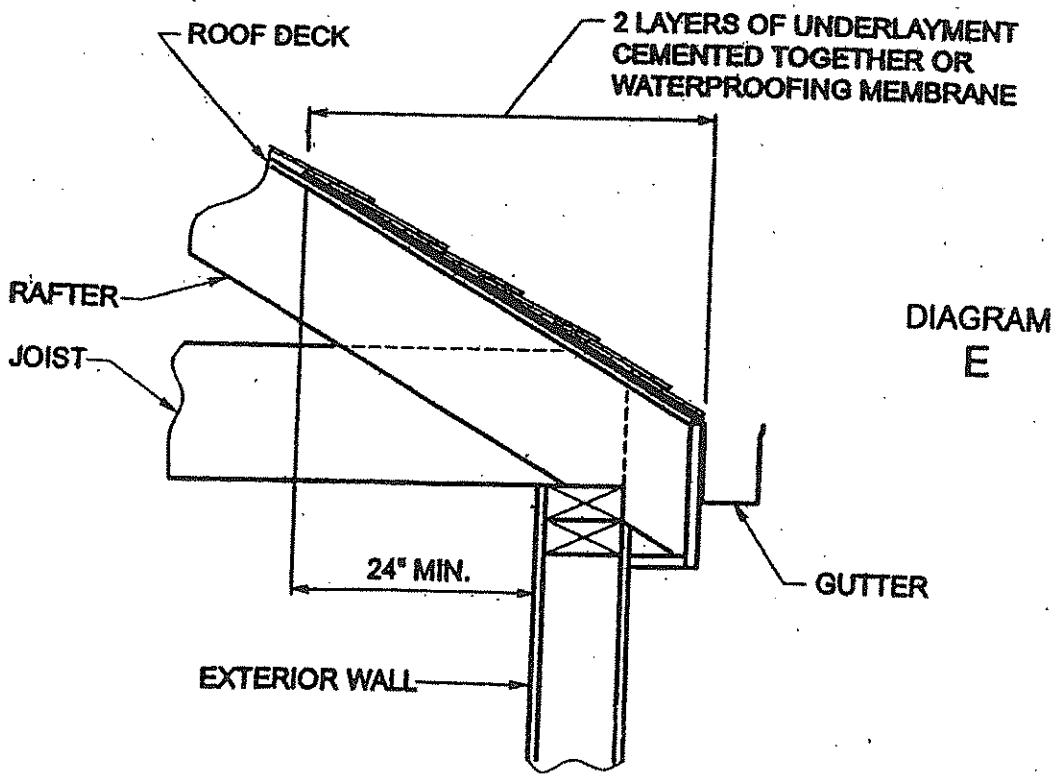


DIAGRAM E

PROTECTIVE ICE SHEILD INSTALLATION