ROOFING:
Asphalt Shingles

OVERLAY or TEAR-OFF?

New roof covering shall not be installed without first removing existing roof coverings when using asphalt shingles. This change is due to Ramsey County now being located in the moderate range of the hail exposure map.

SHEATHING

Roof sheathing shall be checked prior to re-roofing and repaired or replaced if rotted or unsound. Replacement sheathing shall conform to the requirements of the building code.

ROOF PITCH

Asphalt shingles shall not be used on roofs with less than a 2:12 pitch and require special application procedures for pitches less than 4:12. Manufacturer's instructions on package must be followed.

FASTENERS

Asphalt shingles shall be fastened with not less than four nails or approved staples. Nails shall be not less than 12 gauge with 3/8-inch minimum diameter head. Nails or staples shall be of sufficient length to penetrate through roofing material and at least 3/4 inch driven so that it tightly bears against the shingle but does not cut the surface of the shingle. Nails or staples must be installed in the location on each shingle per the manufacturer's instructions. Any crooked fasteners should be removed and replaced.

UNDERLAYMENT

A. For roof pitches 2:12 to less than 4:12:

Two layers of 15# felt applied shingle fashion. Starting with a 19-inch wide sheet and a 36-inch wide sheet over it at the eaves, each subsequent sheet shall be lapped 19-inches horizontally.

B. For roof pitches of 4:12 and over:

One layer of 15# felt lapped two inches horizontally and 4-inches vertically. End laps shall be offset by 6 feet.

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. Typically, two rows are required but more than two may be required depending on the size of the soffit overhang.

EXCEPTION: Detached accessory structures that contain no conditioned floor area.

VALLEY LININGS

Valley linings shall be installed in accordance with manufacture'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 using approved corrosion-resistant metals.
2. For open valley, valley lining of two plies of mineral surfaced roll roofing shall be permitted. The bottom layer shall be 18 inches and the top layer a minimum 36 inches wide.
3. For closed valleys (valley covered with shingles), valley lining of smooth roll roofing at least 36 inches wide or approved underlayment complying with ASTM D 1970.

CRICKETS AND SADDLES

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

OTHER FLASHING

All other flashing and roof vents shall be checked and if rusted or in bad condition shall be replaced. Base and cap flashing shall be corrosion resistant metal of a minimum nominal 0.019 inch thickness. Roof vents and other flashing must be installed according to manufacturer's instructions. Generally, all require the bottom part of the vent to be placed above the shingles so that about half of the vent is above the lower shingles and half is below the uppermost shingles. Any replacement of flashing at masonry chimneys must be properly cut in and re-tuckpointed or caulked with an approved product.

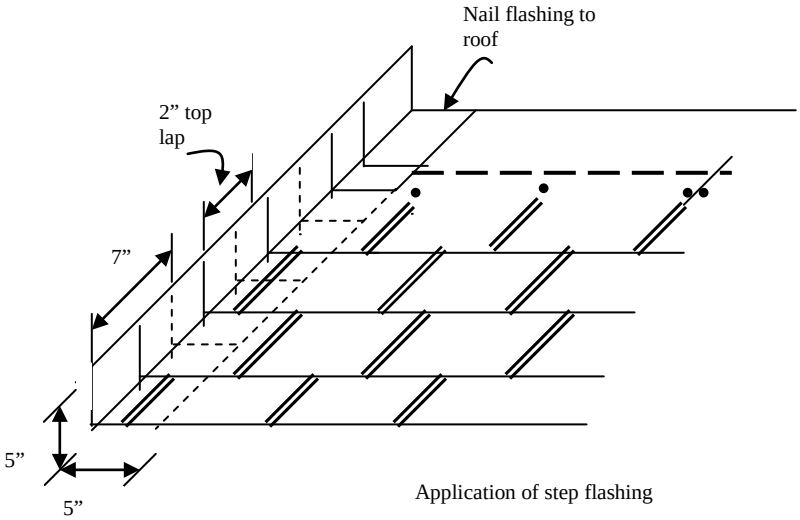
ROOF AND SOFFIT VENTS

The total net free ventilating area shall not be less than 1 to 150 of the area of the space ventilated except that the total area is permitted to be reduced to 1 to 300, provided at least 50 percent and not more than 80 percent of the required ventilating area is provided by ventilators 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 required ventilation provided by eave or cornice vents.

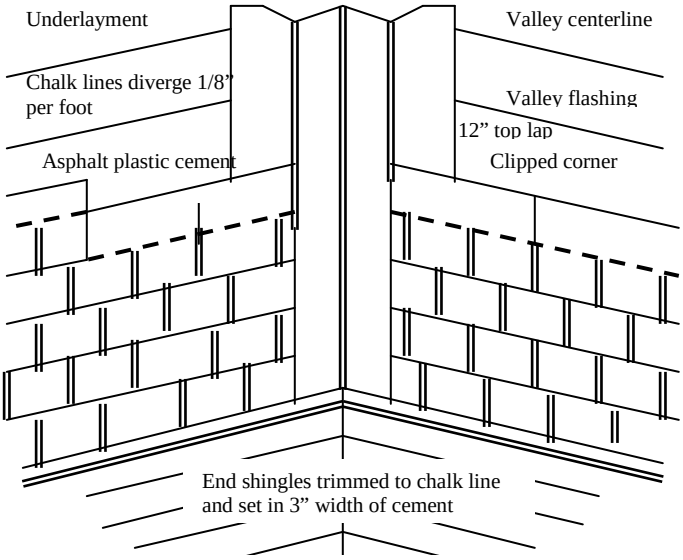
EXHAUST VENTS

Care should be taken to insure that kitchen and bathroom exhaust fan pipes are connected to the appropriate dampered exhaust roof vent with no openings into the attic that would allow exhaust air back into the attic space. The exhaust vents should be installed on the roof the same as other attic vents and other vent pipe flashing.

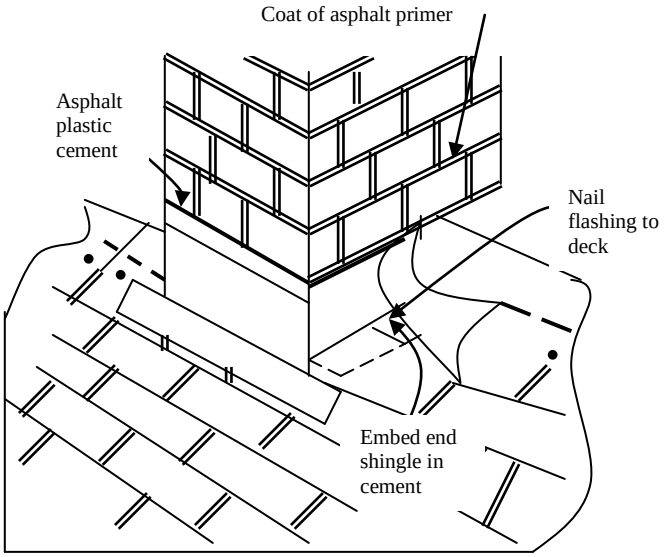
When re-roofing around furnace flues, take care to not dislodge the joints of the flue pipe within the attic or within interior chases this pipe might pass through. Also, verify you have a listed vent cap or remove the old one. If in doubt, consult a licensed heating contractor.



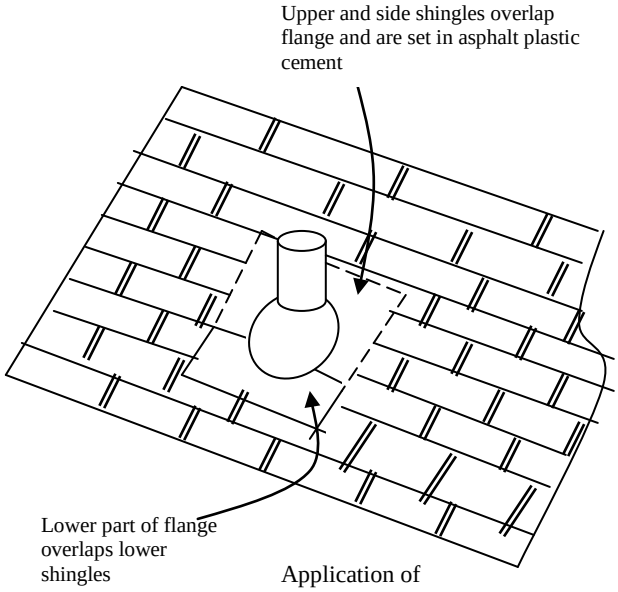
Application of step flashing



Application of shingles in open valley



Application of base flashing at side of chimney



Application of shingles around flashing