

Roofing Guidelines

Fire and Inspections Department

507-377-4340

The following are the general code requirements for roofing. If there should be details that are not outlined in this handout, please contact the building inspection office or the shingle manufacturer for more information.

Overlay Roofing: See attachment #1

These guidelines should be followed when shingles are being applied over existing shingles.

1. A maximum of 2 layers total may be on a roof at any one time
2. Existing shingles must be flat and in good condition
3. The roof rafters must be adequate to support the additional weight
4. Refer to Attachment #1 for details

Tear Off and Reshingling

These guidelines should be applied when all shingles are being removed and work is beginning from the roof deck. For more detailed requirements, see the shingle manufacturer's recommendations.

Roof Decking:

Asphalt shingles shall be fastened to solidly sheathed decks or 1 inch nominal boards. Gaps between boards must be filled in with same size material or roof should be over sheathed with a minimum of 3/8" plywood or OSB.

Underlayment :

For roof slopes from two units vertical in 12 units horizontal (17-percent slope), up to four units vertical in 12 units horizontal (33-percent slope), underlayment shall be two layers applied in the following manner. Apply a 19-inch (483 mm) strip of underlayment felt parallel to 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), and 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. End laps shall be offset by 6 feet (1829 mm).

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 a 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.

Ventilation:

Soffit ventilation contributes up to ½ of required ventilation

1. 1 to 150- 1 square foot of vent area for every 150 square foot of attic space without continuous soffit ventilation.
2. 1 to 300- 1 square foot of vent area for every 300 square foot of attic space with continuous soffit ventilation.

Flashing: See attachment #1 & #2 Any flashing in place that is approved and in good condition may be reused

1. Valley linings shall be installed in accordance with the manufacturer's installation instructions before applying shingles. Valley linings of the following types shall be permitted:
 1. For open valleys (valley lining exposed) lined with metal, the valley lining shall be at least 24 inches (610 mm) wide and of any of the corrosion-resistant metals Galvanized steel 0.0179 26 (zinc coated G90) For open valleys, valley lining of two plies of mineral surfaced roll roofing, complying with ASTM D 3909 or ASTM D 6380 Class M, shall be permitted. The bottom layer shall be 18 inches (457 mm) and the top layer a minimum of 36 inches (914 mm) wide.
 3. For closed valleys (valley covered with shingles), valley lining of one ply of smooth roll roofing complying with ASTM D 6380 and at least 36 inches wide (914 mm) or valley lining as described in Item 1 or 2 above shall be permitted. Self-adhering polymer modified bitumen underlayment(ice guard) complying with ASTM D 1970 shall be permitted in lieu of the lining material
2. Vertical side wall and front wall: See attachment
3. Chimney: See attachment. Crickets not required on chimneys less than 30" wide

Fasteners:

Fasteners for asphalt shingles shall be galvanized steel, stainless steel, aluminum or copper roofing nails, minimum 12 gage [0.105 inch (3 mm)] shank with a minimum 3/8 -inch-diameter (10 mm) head, ASTM F 1667, of a length to penetrate through the roofing materials and a minimum of 3/4 inch (19 mm) into the roof sheathing. Where the roof sheathing is less than 3/4 inch (19 mm) thick, the fasteners shall penetrate through the sheathing. Fasteners shall comply with ASTM F 1667.

Note: All Construction debris and trash must be contained in a covered metal container/dumpster.

Overlays: This illustration is a suggested overlay method. Questions on different applications can be forwarded to the building inspection office or to the shingle manufacturer.

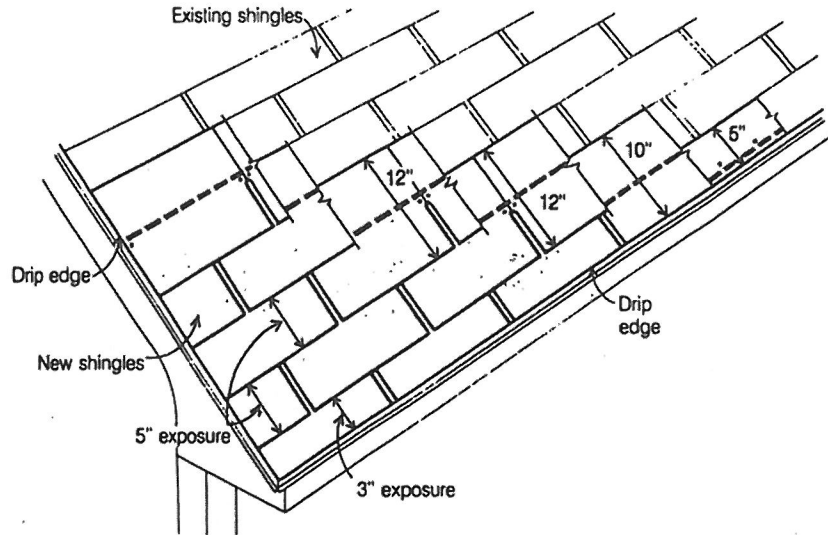


Figure 53: Application of new asphalt shingles over existing asphalt shingles

Flashing: Where roofing meets a vertical sidewall, metal step shingles are recommended for application. Bring the siding over the vertical sections of the step flashing to serve as cap flashing. Only where shingling meets a vertical front wall is continuous flashing is accepted.

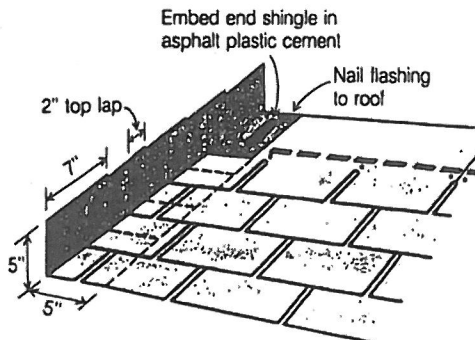


Figure 32: Application of step flashing

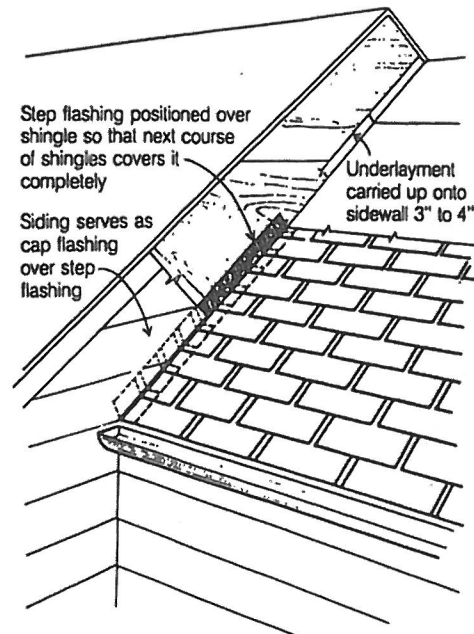
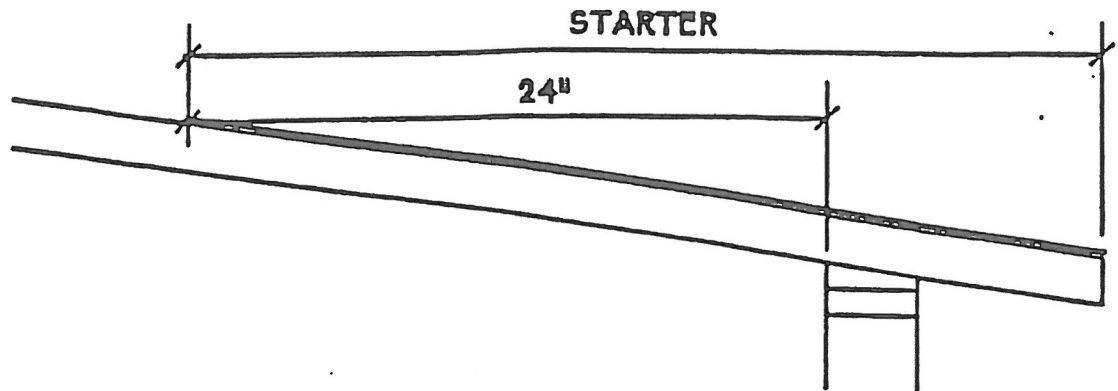
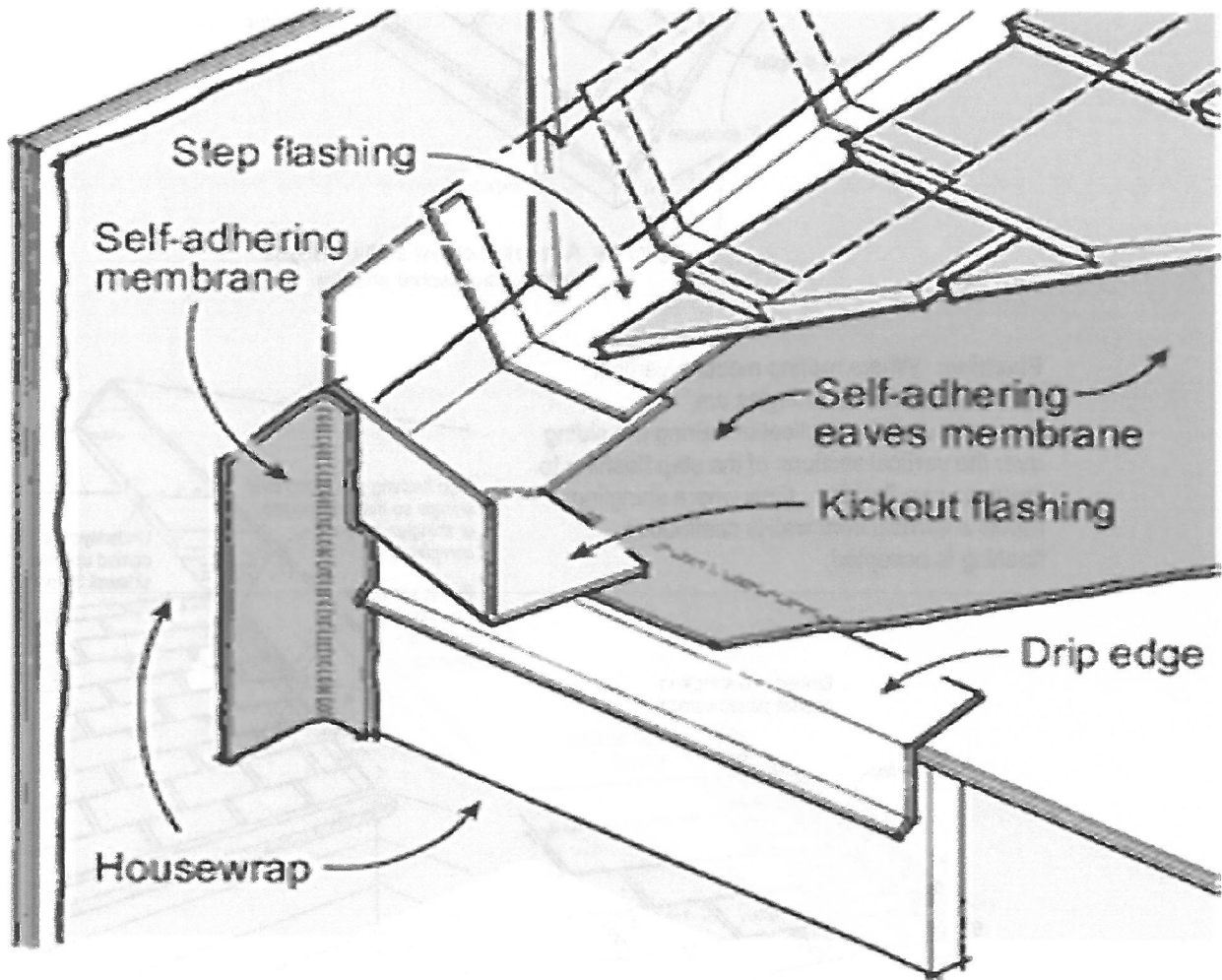


Figure 33: Application of step flashing against vertical sidewall



Ice barrier protection must extend 24" inside the exterior wall line.



Kickout flashing at roof edge and side wall termination

The following illustrations are suggested flashing applications for chimney areas. If an alternate method is going to be used, please contact the building inspection office or the shingle manufacturer to ensure proper installation.

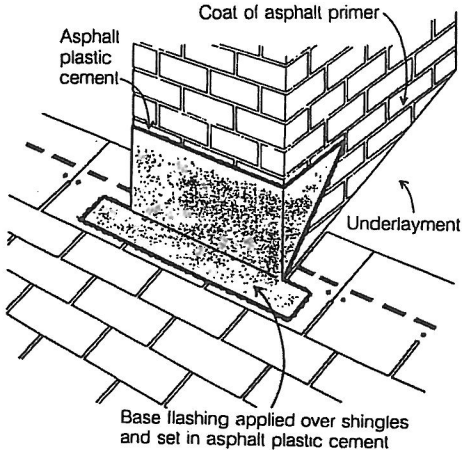


Figure 40: Application of base flashing at front of chimney

Place the rear base flashing over the cricket and the back of the chimney as shown in Figures 42 through 44. Cut and bend the metal base flashing to cover the cricket and extend onto the roof surface at least 6 inches. It should also extend at least 6 inches up the brickwork and far enough laterally to lap the step flashing on the sides.

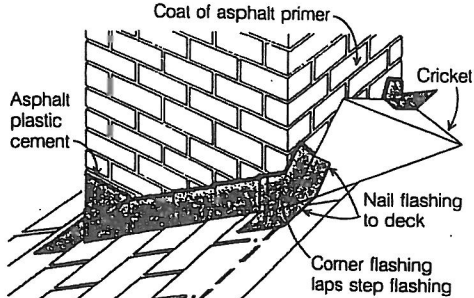


Figure 42: Application of corner base flashing at rear of chimney

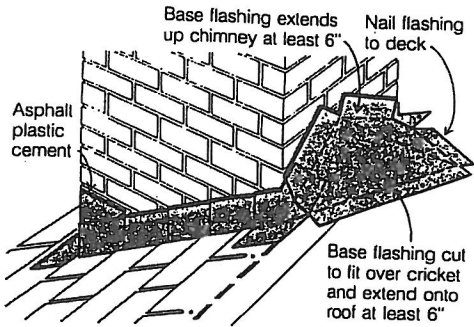


Figure 43: Application of base flashing over cricket

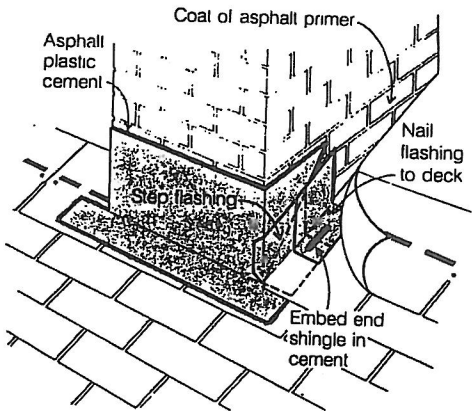


Figure 41: Application of base flashing at side of chimney

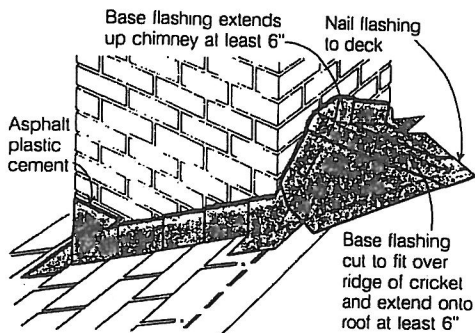


Figure 44: Application of base flashing over ridge of cricket

