



CITY OF NORTH MANKATO

Residential Roofing Replacement

The following is a guideline to assist in compliance with the requirements of the Minnesota State Building Code.

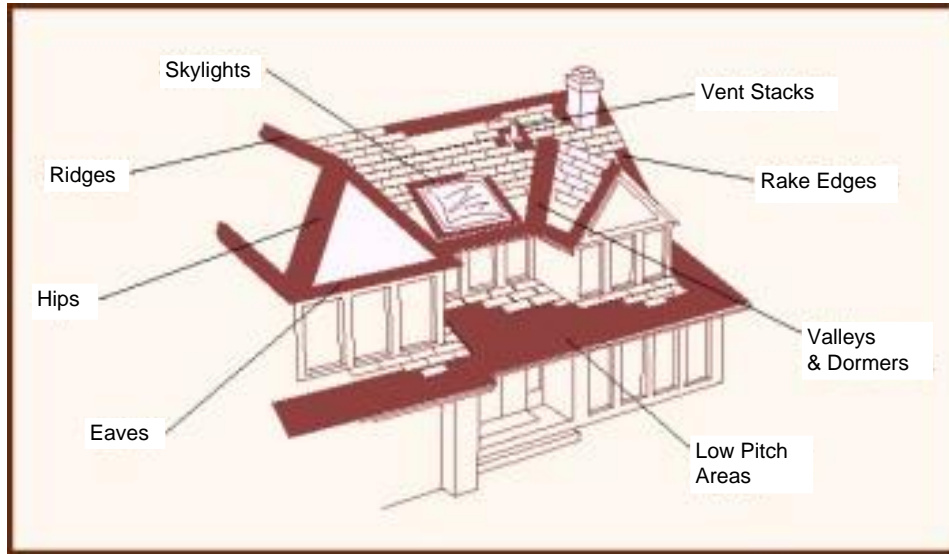
- Asphalt shingle packaging shall bear a label to indicate compliance with ASTM D7158 or ASTM D3161 with the required classification of D or F
- Identify the roof pitch(es) to determine which approved roof covering(s) can be installed

ROOF COVERING	PITCH REQUIREMENTS	ROOF COVERING	PITCH REQUIREMENTS
Asphalt Shingles	2" rise per 12" run or greater (♦ * ^)	Metal Roof Panels (lapped, with sealant)	½" rise per 12" run or greater
Clay/Concrete Tile	2½" rise per 12" run or greater (* ^)	Metal Roof Panels (standing seam)	¾" rise per 12" run or greater
Wood Shingles/Shakes	3" rise per 12" run or greater (♦ *)	Modified Bitumen Roofing	¾" rise per 12" run or greater
Metal Shingles	3" rise per 12" run or greater (♦ *)	Thermoset Single-ply Roofing	¾" rise per 12" run or greater
Metal Roof Panels (lapped, no sealant)	3" rise per 12" run or greater	Thermoplastic Single-ply Roofing	¾" rise per 12" run or greater
Slate Shingles	4" rise per 12" run or greater (♦ *)	Liquid-applied Coatings	¾" rise per 12" run or greater
Mineral-surfaced Roll Roofing	1" rise per 12" run or greater (♦ *)	Sprayed Polyurethane Foam Roofing	¾" rise per 12" run or greater

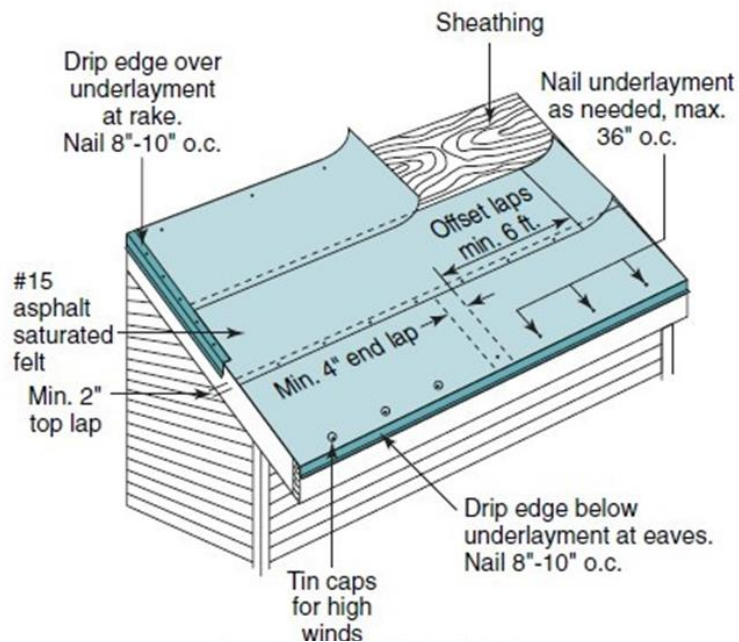
- Make sure the roof decking is in good condition and there are no gaps greater than allowed by the roofing manufacturer; roof sheathing shall be checked prior to re-roofing and repaired or replaced if rotted or unsound. Replacement sheathing shall conform to the requirements of the Building Code and the manufacturer of the product.
- ♦ Install the required ice barrier starting at the eaves to a point **no less than 24" inside the interior of the exterior wall** (measured horizontally). **(Refer to attached diagram)**
- Make sure all flashing is constructed of a minimum 26-gauge, corrosion-resistant sheet metal.
- Install the front wall, vertical sidewall, soil stack, vent pipe, and/or chimney flashing in accordance with the manufacturer's printed instructions. Apply counter flashing in a shingle-like fashion **(refer to attached diagram)**
- Install valley linings and flashing in accordance with the manufacturer's installation instructions before applying roof covering.
- A cricket is required on all chimneys or penetrations when the dimension parallel to the ridge is greater than 30". See Table R1003.20-2015 MN State Residential Code **(Refer to attached diagram)**; <https://codes.iccsafe.org/public/document/MRC2015/chapter-10-chimneys-and-fireplaces>
- If installing drip edge for asphalt shingles**-the drip edge at the eave shall be installed prior to the installation of the ice barrier protection. The drip edge at the rake/gable ends shall be installed after the all the underlayment material has been installed. **(Refer to the attached diagram)**
- * Install the required underlayment materials, ensuring the underlayment materials extend to the edges of the roof deck. ^ **(For Asphalt Shingles-Roofs with pitches of 2:12 up to, but not including, 4:12 have double underlayment requirements. First, apply a 19" strip along the eave, and then 36" strips lapped a minimum of 19". Call for additional information)**
- Ensure all roof covering materials are installed in accordance with the manufacturer's installation instructions.
- Ensure all venting terminations extend through the roof deck and are properly flashed.

- Ensure the minimum attic cross-ventilation is provided.
- How to calculate the minimum required attic ventilation:
1. When soffit/eave venting is provided, 1 sq. ft. minimum of net free ventilation area shall be provided for every 300 sq. ft. of attic area (40%-50% of the net required ventilation opening must be located in the upper portion of the roof, no more than 3'-0" below the ridge). The remaining ventilation must be located in the eave/soffit.
 2. When less than 50% of the required ventilation is provided in the eave/soffit, 1 sq. ft. minimum of net free ventilation area shall be provided for every 150 sq. ft. of attic area.
- All removed and excess roofing materials must be disposed of at an MPCA-approved landfill.

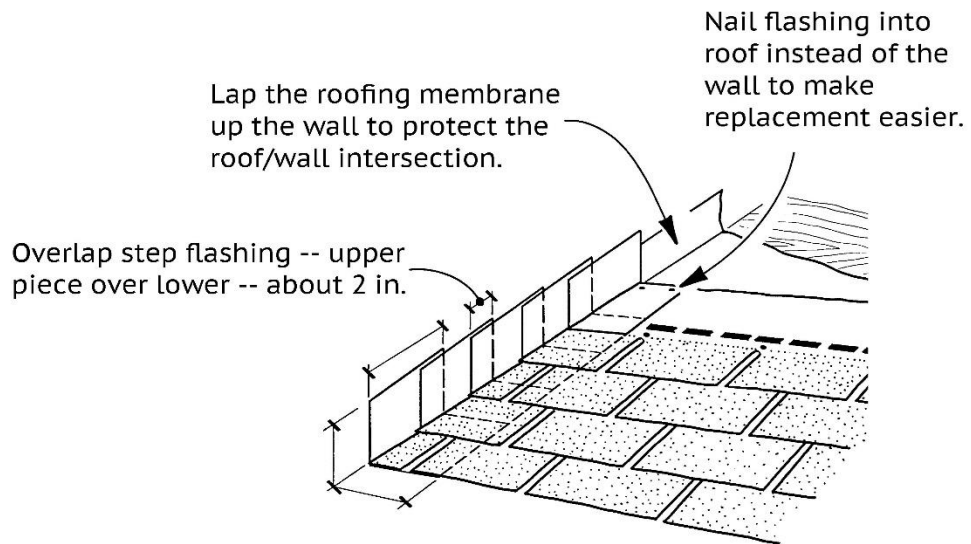
RECOMMENDED AREAS FOR ICE PROTECTION BARRIER



Underlayment for Asphalt Shingles



SIDEWALL/COUNTER FLASHING



CHIMNEY CRICKET

