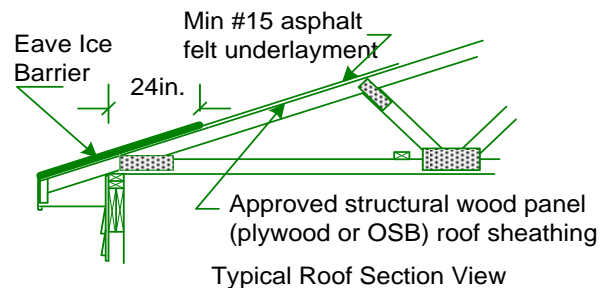


Asphalt Shingles

Applies to dwellings, accessory, and commercial buildings (heated or not heated)

- **Helpful Tip:** Manufacturer's installation instructions covering most roof applications are printed on packaging of asphalt shingles. The packaging also is required to state the standards that the shingles are manufactured to. In addition, much helpful information is available from manufacturers through their web sites on the internet or through building material suppliers.
- **Asphalt Shingles:** Asphalt shingles shall have self-seal strips or be interlocking and shall comply with ASTM D 225 or D 3462. Shingles shall be applied in accordance with manufacturer's installation instructions.
- **Slope:** Asphalt shingles shall only be used on roof slopes of 2:12 or greater. For roof slopes from 2:12 up to 4:12 double underlayment application is required.
- **Underlayment:** required underlayment shall conform with ASTM D226, Type I, or ASTM D 4869, Type I (No. 15 asphalt felt underlayment), or ASTM D 1970. Underlayment shall be applied shingle fashion, parallel to and starting from the eave and lapped 2 inches, fastened sufficiently to hold in place. End laps shall be offset by 6 feet.

- **Ice Protection:** Extra precautions are required in this climate to help prevent damage to the roof structure caused by Ice Dams. (The leading causes of ice dams are heat bypasses which allow heat to escape from heated rooms into the attic space). An ice barrier that consists of a self-adhering polymer modified bitumen sheet or at least two layers of underlayment cemented together (i.e. mop down), shall be used in lieu of normal underlayment and shall extend from the eave edge to a point at least 24 inches inside the exterior wall line of the building.



- **Fasteners:** Fasteners for asphalt shingles shall be galvanized steel, stainless steel, or copper roofing nails, min. 12 gauge shank with a min. 3/8 inch diameter head, of a length to penetrate through the roofing material and a minimum of 3/4 inch penetration into the roof sheathing. Fasteners shall comply with ASTM F 1667.
- **Attachment:** Asphalt shingles shall have the minimum number of fasteners required by the manufacturer. For typical applications, this requires not less than four fasteners per strip shingle or two per individual shingle.
- **Flashing:** Corrosion resistant flashing must be used to prevent leaks where roof meets a wall, another roof, a chimney, or other objects that penetrate a roof (asphalt cement or other sealant is not approved in lieu of flashings). Flashings shall be corrosion resistant metal of minimum nominal 0.019 inch thickness. Flashings shall be installed in accordance with the code and the shingle manufacturer's installation instructions. A **cricket or saddle** shall be installed on the ridge side of chimneys wider than 30 inches. Flashing against a **vertical sidewall** shall be by the step-flashing method.
- **Roof Ventilation:** Enclosed attics and enclosed rafter spaces shall have cross ventilation. The total net free ventilating area shall not be less than 1 to 150 of the area of the space ventilated except the ratio may be reduced to 1 to 300 if ventilation is a combination of roof vents and soffit vents.
- **Reroofing:** A total of only two layers are allowed. New asphalt shingles shall not be applied without first removing existing roof coverings where the existing roof has two or more applications of any type of roof covering, where the existing roof covering is wood shake, slate, clay or cementitious tile, or where the existing roof is water soaked or has deteriorated to the point it is not suitable as a base for additional roofing.

Typical Asphalt Shingle Application for Roofs sloped 4:12 or steeper (Partial Roof View)

