
Building Division

Subject: Re-roofing Guidelines

Date: 4/24/2019 Updated: 6/22/2021

The City and County of Broomfield requires building permits for the replacement of roofing materials on all buildings. See Broomfield Municipal Code Section 15-03-070:

Permits

(A) Required. Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical, plumbing system, elevator, moving walkway, escalator or dumbwaiter, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit.

The City and County of Broomfield has adopted the 2018 *International Building Code* and the 2018 *International Residential*



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Code. All requirements for roofing in these codes will be enforced. However, as the adopted building codes cannot cover all variations of roofing installations, the following guidelines have been set forth as Broomfield Building Division policy.

1. The nominal design wind speed (IBC - V_{asd}) in the City and County of Broomfield is 110 miles per hour (measured in 3 second gust). Due to this design wind speed, the 2018 *International Residential Code* and the 2018 *International Building Code* require asphalt shingles to be tested in accordance with ASTM D3161, Class F or may be tested to ASTM D7158, Class G or H. The shingle bundle wrappers shall be labeled to indicate compliance. The code does not mention or otherwise dictate any warranty type or period. A shingle that has been tested to ASTM Class F as required by the code does NOT have to carry any wind warranty at all. Most modern asphalt shingles available carry the required Class F, G, or H rating. There may be specialty shingles that do not indicate the required testing, therefore, we will ask for the shingle brand, style, and other information sufficient to check that the particular shingle can be approved.
2. The currently adopted 2018 editions of the IRC and IBC require removing all existing layers of roof covering if: the existing roof covering is soaked or deteriorated; the existing roof covering is wood shake, slate, or tile; or where the existing roof has two or more applications of any type of roof covering. This means that asphalt shingles may be applied over one single existing layer of asphalt shingles unless the existing roof or roof covering is not adequate as a base. It will be necessary to follow the manufacturer's installation instructions when doing an overlay.
3. In general, alterations, repairs, or additions to existing buildings shall be made with materials as required by the current code. Existing materials installed in compliance at the time of their installation are permitted to remain in accordance with Broomfield Municipal Code Section

15-03-040 (G)(4). There may be occasions where only a small portion of the existing roof covering is in need of replacement or a limited amount of the roof is in need of repair. Repairs shall not cause the building to be reduced in code compliance from the previous level.

Case by case evaluation shall determine what is "minor" considering the type of roof, the extent/type/location of damage, and the proposal for repairing that will not invalidate the system's capacity to do its intended job. The applicant will need to demonstrate to us if they feel that the damage is "minor" by a written statement including their reasons along with justifying information and/or photographs. **If any repair extends to a valley or slope change then the repair would be considered a major repair and require a permit.**

Minor repair. When determined to be a minor repair to an existing situation, work may be done in the same manner and arrangement as was in the existing system in accordance with BMC 15-03-040 (G) (4) paragraph 2, and does not require a permit.

- **Section 15-03-040 (G) (4) paragraph 2.** "Minor additions, alterations, renovations and repairs to existing installations shall meet the provisions for new construction, unless such work is done in the same manner and arrangement as was in the existing system, is not hazardous and is approved."
- "Repairs. Application or notice to the building official is not required for ordinary repairs to structures..."

Major Repair. When determined to be **beyond** a minor repair, permits, inspections and repairs will be required in accordance with current code as follows:

- **Hail or Wind damage:** Affected portions of the roof may be replaced as appropriate for the situation without complete replacement, however it needs to be done in entire section increments (i.e. ridge to eave and gable to gable). As an example, a hail or wind storm may affect directly exposed surfaces, but not other surfaces. It might be appropriate to issue a permit for one side of the roof only, however the entire affected side will need to be replaced in accordance with code. Details shall be provided to show how the transition areas will be addressed if only doing a partial replacement.
4. After the existing shingles have been removed, the applicant shall verify that the roof decking is sound and free from sags, holes, and delamination of plywood. Damaged or unsound decking shall be replaced or covered with new decking. Existing roofs with spaced sheathing or lumber decking may remain unless the gaps between the individual boards exceed $\frac{1}{4}$ inch. Gaps shall be repaired with new lumber or covered with new roof sheathing.
 5. The 2018 *International Residential Code* Section R905.2.8.5 requires an approved drip edge along eaves and rake edges for single-family homes. For multi-family dwellings and commercial buildings, the applicable code is the 2018 *International Building Code*, which also requires drip edge in accordance with Section 1507.2.9.3.
 6. In the City and County of Broomfield, there has not been a substantial history of ice damming; therefore, no special treatment of eaves is required. *Ice and water shields* are not required by the code. Adequate ventilation and correct insulation can prevent ice damming from occurring.

7. On roof slopes from 2/12 to 4/12, the underlayment shall be two layers, ½ lapped, of felt in accordance with IRC Section R905.2.7 and IBC Section 1507.2.8 for asphalt shingles. For laminated or dimensional shingles, the manufacturer's installation instructions shall be followed.
8. On low slope roofs with slopes less than 2/12, asphalt shingles are not permitted unless an alternate method or material roofing system is proposed and approved by the building official per BMC 15-03-060 (K). Mineral-surfaced roll roofing may be installed on solidly sheathed roofs with slopes as low as 1/12. Roof slopes less than 1/12 shall be roofed with an approved flat roofing product or system.
9. Masonite *Woodruff* shingles exist on many homes in Broomfield. Due to many factors, repairs to these roofs using the same or similar materials are not permitted.
10. Insulation meeting the current *International Energy Conservation Code* is required for a few specific instances. Where re-roofing includes removal of materials such that the roof cavity or attic is exposed and no insulation is present, the full prescriptive insulation shall be installed. If the exposed cavity is already filled with insulation, no additional insulation is required. On structures with insulation on top of the roof deck, insulation shall not be removed unless replaced with new insulation having the same or greater R-value. In no case shall re-roofing cause an increase in the energy usage of the building.
11. Flat roof assemblies shall comply with the requirements of the International Building Code. Complete submittals shall include the full assembly: existing deck; existing insulation; existing roofing materials to be removed or to remain; slip sheet or recover board; added insulation; specific brand, type, and thickness of the roofing material; attachment details for mechanically attached or fully-adhered; written confirmation of the roof assembly fire rating; and listing from an approved testing agency showing that the assembly is capable of withstanding Broomfield's design wind speed of $V_{ult} = 143$ mph or $V_{asd} = 110$ mph.
12. Roof ventilation protected against the entrance of rain or snow is required for enclosed attics and enclosed rafter spaces. The contractor shall determine the adequacy of the existing attic vents; additional ventilation may be required. Typically adding soffit vents is not required, as additional roof-mounted ventilation can be installed as needed. No reduction in the area of attic or soffit vents is permitted unless calculations are provided to the building division for review. The net free ventilation area shall be 1/150 of the vented attic space. This required net free ventilation area may be reduced to 1/300, provided that the home has a vapor retarder and the ventilating is split between high and low zones in accordance with IRC Section R806.2.