



Building Division Policy

Building Division

Subject: Re-roofing Guidelines

Date: June 2, 2009

Updated: May 7, 2012

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 walk, 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 2009 *International Building Code* and the 2009 *International Residential Code*. All requirements for roofing in these codes will be enforced. However, as the adopted building codes cannot cover all permutations of varied roofing installations, the following guidelines have been promulgated as Broomfield Building Division policy.

1. The design wind speed in the City and County of Broomfield is 110 miles per hour (measured in 3 second gust). Due to this design wind speed, the 2009 *International Residential Code* and the 2009 *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 of the laminated/dimensional shingles available carry the required Class F rating. There are a several 3-tab shingles that have also been tested to the required Class F. We will ask for the shingle brand, style, and year warranty to be noted on permits in order to check that the particular shingle is approved.
2. Broomfield has amended the IRC and IBC effective May 7, 2012, by deleting the requirement to remove all existing layers of asphalt shingles in hail-prone areas. It is now acceptable to install one new layer of asphalt shingles over one existing layer of asphalt shingles. It will be necessary to follow the manufacturer's installation instructions when doing an overlay. Where two or more layers of any type of roof coverings exist, all existing layers shall be removed before applying new roof coverings.

Situation: 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. In those situations, it is acceptable to use the provisions for existing buildings in Chapter 34 of the IBC, particularly Section 3403.3. This section of the IBC permits the alteration or repair of nonstructural elements using the same materials that are already in place provided that they do not adversely affect any structural member or

the fire-resistance rating of any part of the building or structure. In other words, the repair or replacement of existing roof covering may be made using the same materials and methods found on the existing roof. 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 of damage, and the proposal for repairing that won't 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.

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 permits/inspections will not be required for the minor repair/patch based on BMC 15-03-070 (B) (2):

- **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."
 - **BMC 15-03-070 (B) (2).** "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 repair in accordance with current code will be required 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.
3. 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. For existing roofs with old lumber board decking, a new roof deck of structural sheathing panels shall be installed if the gaps between the individual boards exceed ¼ inch.
 4. For single family homes, the Building Division has added an amendment to the 2009 *International Residential Code* which will **require an approved drip edge along eaves and rake edges**. For multi-family dwellings and commercial buildings, the applicable code is the 2009 *International Building Code*, which **also requires drip edge** in accordance with Section 1507.2.9.3.

5. 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 shield* is not required by the code. Adequate ventilation and correct insulation can prevent ice damming from occurring.
6. On roof slopes from 2/12 to 4/12, the underlayment shall be two layers 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.
7. 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.
8. Masonite *Woodruf* shingles exist on many homes in Broomfield. Due to many factors, repairs to these roofs using the same or similar materials are not permitted.
9. 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.
10. Roof ventilation protected against the entrance of rain or snow is required for enclosed attics and enclosed rafter spaces. The contractor shall determine adequacy of 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.
11. A mid-roof inspection is required. This shall be called when the roof is at least 25% but not more than 75% complete, and a ladder shall be provided. As most residential re-roof projects can be completed in a day, contractors are encouraged to obtain their permit well in advance of construction. The city inspectors are quite busy, and inspections may need to be scheduled several days ahead.
12. A final inspection is required. This inspection may be called as soon as the mid-roof inspection has been approved and entered into the permit system. A ladder shall be provided for access for the final inspection.