



Roofing Application Best Practices

The following roofing application standards are recommended by the Colorado Roofing Association (CRA) for roofing in Colorado. These standards are designed for Colorado's extreme climate where standard roofing installation instructions, application requirements and uniform code may not account for the affect the Colorado climate can have on roofing systems. *Code references apply to the 2015/2018 International Residential Code (IRC) and International Building Code (IBC).*

These Installation guidelines are recommended for use by Roofing Industry Professionals as a supplement to or in the absence of local building codes and the manufacturers installation instructions. These guidelines are recommended for installation in Colorado's climate to prevent issues that might otherwise occur. Contractors have a legal obligation to comply with building code and the manufacturer's installation instructions which are part of the code. When in doubt on any particular application the CRA recommends applying the ~~more strict~~stricter application.

Steep Roofing

1. **Ice Dam Protection:** required in any areas that have a history of ice dams Including individual structures and specific locations on those structures. An ice barrier shall be installed in accordance with IRC R905.1.2 or IBC 1507.2.8.2 Ice Barrier.
2. **Shingle nailing:** All asphalt shingles shall be installed with 6-nails per shingle or as per manufacturers installation instructions for high wind areas.
3. **Roof Recover:** The installation of a roof covering over existing wood shake roofs shall not be permitted.
4. **Sheathing/Decking:** Plank decking with spaces greater than 3/8" will be considered as spaced sheathing as per IRC R905.2.1 or IBC 1507.2.1. Plywood sheathing that is not structurally solid and/or is delaminated shall not be considered as solid sheathing and shall be replaced.
5. **Rolled Roofing:** Mineral surfaced (#90) rolled roofing is not allowed on enclosed roof structures above living space.
6. **Drip edge:** Drip edge shall cover any gap between the roof sheathing and fascia by a minimum of 2-inches onto the roof deck and shall be adequately nailed per standard manufacturer specifications.
7. **Gas Flue Vents:** Rusted or damaged vent flashings shall be replaced with the roof. If replacing base flashing or a flue cap, the use of a certified HVAC contractor is recommended for safety reasons. Use extreme caution when adjusting or replacing gas flue vent base flashing, and be sure to check the attic space to make sure the flue vent is secure and has not been dislodged.
8. **Vent Flashing:** Do not reuse rusted or damaged vent flashings and never reuse auto caulk flashing. CRA's recommendation is to always install new flashing.

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9. **Maximum Layers of Asphalt:** All asphalt shingle roofs are to be torn off down to the roof deck for a maximum of 1-layer.
10. **Maximum Layers of Low Slope material:** 2-layers of low slope membrane shall be permitted if installed per manufacturers specifications and -IRC 908.3.1.1 or -IBC 1511.3.1.1. Water damaged or soaked material shall be replaced.
11. **Kick Outs:** Step flashing or pan flashing shall be installed at the end of all side walls with a minimum of 1” extending beyond the edge.
12. **Curbs:** Shall be installed a minimum 4” above the roof plane and shall be properly sealed and flashed per manufacturer’s instructions, unless it is a pre-manufacture item such as a Velux skylight.
13. **Crickets/Saddles:** Shall be installed on any penetrations greater than or equal to 30 inches in width or per manufacturer’s instructions.
14. **Dead Valleys:** Shall be treated as low slope roofing and properly protected with a low slope membrane or waterproofing.
15. **Valley Liners:** install valley underlayment is per IBC 905.2.8.2/required by code. Be sure to install per manufacturer instructions. CRA recommends use of self-adhered underlayment for this application including high temperature self-adhered under metal valleys and lap edges.
16. **Ventilation:** Proper ventilation is required in accordance with IRC R806.2. Minimum vent area requiring the net free ventilating area of an enclosed roof space or attic area to be 1 in 150 of the vented space. 1 in 300 of the vented space may be used if either of the following conditions are met:
 - A. In climate zones 6,7 and 8 a class I or II vapor retarder is installed on the warm side of the ceiling
 - B. Not less than 40 percent at the eaves and not more than 50 percent of the required ventilating area is provided by ventilators located in the upper portion of the attic space not more than 3 feet below the ridge or highest point of the space to be vented.

Non-Code Related Best Practices

- **Job Site Clean-up:** On a daily basis and to the best of your ability, keep job sites clean. This could include but is not limited to laying down tarps and having a dumpster on-site to remove debris, protecting landscaping and shrubbery and sweeping the site with a magnet.
- **Safety Considerations:** Provide necessary fall prevention equipment and training to your workers. Have a safety program in place - one that protects them from falls and is in compliance with current Occupational Safety & Health Administration (OSHA) federal guidelines. The cost of providing fall prevention equipment is nominal compared with the cost of a loss of life and livelihood.
- **Check roof twice a year:** although this is not a code requirement, performing a check-up on roof systems (including gutters) in the ~~fall~~Fall and ~~spring~~Spring will help diagnose potential problems early.



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