



DENVER AMENDMENT PROPOSAL FORM FOR PROPOSALS TO THE 2019 DENVER BUILDING CODE AMENDMENTS AND THE 2021 INTERNATIONAL CODES



2021 CODE DEVELOPMENT CYCLE

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2) One proposal per this document is to be provided with clear and concise information.

Is a separate graphic file provided (“X” to answer): ___ Yes or ___ No

3) Highlight the code and acronym that applies to the proposal

<u>Acronym</u>	<u>Code Name</u>	<u>Acronym</u>	<u>Code Name</u>
DBC-AP	Denver Building Code–Administrative Provisions	IPC	International Plumbing Code
IBC	International Building Code	IRC	International Residential Code
IECC	International Energy Conservation Code	IFGC	International Fuel Gas Code
IEBC	International Existing Building Code	IMC	International Mechanical Code
IFC	International Fire Code	DGC	Denver Green Code

AMENDMENT PROPOSAL

Please provide all the following items in your amendment proposal.

Code Sections/Tables/Figures Proposed for Revision:
Instructions: If the proposal is for a new section, indicate (new), otherwise enter applicable code section.

Proposal:
Instructions: Show the proposal using ~~strikeout~~, underline format.
Place an “X” next to the choice that best defines your proposal: ___ x **Revision** ___ **x** **New Text** ___ Delete/Substitute ___
 Deletion

Proposal is for Appendix AF for radon control methods.

Section AF101.1 General is replaced as follows:

AF101.1 General. ~~This appendix contains requirements for new construction in jurisdictions where radon-resistant construction is required.~~ Compliance with the provisions of Appendix F shall be required in all the following conditions:

1. Construction of one- and two-family dwellings and townhouses constructed under the International Residential Code.
2. Additions to dwellings units with existing radon control systems, that include living space, or storage or utility spaces constructed over previously exposed earth.
3. New basement additions converted from existing crawl spaces.
4. Additions to dwellings units without existing radon control systems, that include living space, or storage or utility spaces constructed over previously exposed earth with a foundation footprint more than 30 percent of the foundation footprint of the existing dwelling unit.
5. Alterations to existing dwelling units or accessory structures that convert nonliving spaces directly over the earth into living space, or storage or utility spaces, such as a change of use of a garage to a living space.

Exceptions:

1. Alterations to existing *dwelling units* or *accessory structures* where existing floor assemblies are to remain unaltered.
2. Unconditioned attached and detached garages.

Section AF103.2 Subfloor preparation is amended by adding an exception #4 as follows:

4. A soil gas collection mat system shall be installed on top of the sub-grade and beneath a concrete floor slab. The mat shall be installed in a continuous rectilinear loop having a minimum dimension of 1-inch in height by 12-inches in width and a nominal cross-sectional area for airflow of no less than 12 square inches. The mat shall be constructed of a matrix that allows for the movement of air through it and shall be capable of supporting the concrete placed upon it. The matrix shall be covered by approved filter material on all four sides to prevent dirt or concrete from entering the matrix. All breaches and joints in the filter material shall be repaired prior to the placement of the slab. The loop shall be located within 18 inches (458 mm) of the inside of the exterior perimeter foundation walls. Flat mat materials shall not be spaced further than 20 feet between runs and shall communicate with the bottom of the concrete slab. Where foundation walls, grade beams, or similar separate the under-slab areas, the mat shall communicate through the separations, into each separate area, and form a continuous loop around the exterior perimeter foundation walls. Both ends of the loop shall enter a "T" or equivalent connection from either side to reduce restrictions at the point of connection to the riser.

Section AF103.5.3 Vent pipe is amended by adding an exception as follows:

Exception: For new *basement additions* the vent pipe shall not be required to extend vertically through building floors and the roof where an active wall vent in accordance with Section AF103.13 is installed.

Section AF103.6.2 Multiple vent pipes is amended by adding an exception as follows:

Exception: A separate vertical vent pipe is not required in a separate subslab area where a minimum of 2 penetrations are provided through the footing or barrier adjacent to a vented subslab area. Each penetration shall be a minimum of 12 square inches (0.094 m²) for each 10 feet (3.048 m) or less of footing or barrier length.

Section AF103.8 Vent pipe accessibility is amended as follows:

AF103.8 Vent pipe accessibility. ~~Access to radon~~ Radon vent pipes and a space for future fan installation shall be provided in accessible for future fan installation through attic or roof top areas outside the habitable space. Access for future fans shall not be located in crawl spaces, basements, below grade, or below habitable spaces. Fans located in unvented attic space shall be isolated in an enclosure that does not communicate with the rest of the attic space. The fan enclosure shall be sealed against air leakage and shall be vented to the outdoors.

Section AF103.13 Active wall vent is added as follows:

Section AF103.13 Active wall vent. The vent pipe for *dwelling units* complying with section AF103.5.3 shall be permitted to be installed on the outside of the *building* when in accordance with all the following:

1. The vent pipe shall be an active system with fan locations compliant with section AF103.8.
2. The vent pipe shall extend vertically past the roof eave and terminate not less than 12 inches (305 mm) above the surface of the *roof covering*.
3. The vent pipe termination shall be no less than 3 feet (914 mm) above any forced-air inlet located within 10 feet (3048 mm), not less than 2 feet above any window or other opening located within 10 feet, and not less than 10 feet from any window or other opening in adjoining or adjacent buildings.

4. The vent pipe shall not terminate over public walkways or over an area where condensate or vapor could create a nuisance or hazard or could be detrimental to the operation of regulators, relief valves or other equipment.
5. Piping joints and connections to fans and other components that are subject to fan- induced positive pressure shall be tested for leakage while the system is operating normally. Leak tests shall be conducted with a liquid bubble solution or other *approved* method.

Supporting Information (Required):

All proposals must include a written explanation and justification as to how they address physical, environmental, and/or customary characteristics that are specific to the City and County of Denver. The following questions must be answered for a proposal to be considered.

- Purpose: What does your proposal achieve?

The proposal provides provisions addressing radon control issues which are being addressed by Denver, including for an active depressurization system to be retrofit or newly installed by modifying some of the provisions for passive systems. This will expand radon mitigation requirements beyond only new construction and include additions, crawl space conversions, and conversions of accessory structures into living space. The proposed code language will assist with expediting the permitting process with additional details for complaint radon control systems.

- Reason: Why is your proposal necessary?

Denver is experiencing a significant increase in additions to existing properties and crawlspaces being converted into basements for additional living space. These additions and conversions create an opportunity to install a radon mitigation system and better protect the occupants. However, it is not practical to install a radon mitigation system in an existing property when the exhaust piping is required to extend vertically through the building floors which are already finished. This system allows an active wall vent penetration for qualified additions.

- Substantiation: Why is your proposal valid? (i.e. technical justification)

This proposal uses methods employed by the City of Portland, Fort Collins and others. Many other stakeholders and experts in radon mitigation were consulted in the development of this proposal.

Bibliography and Access to Materials (as needed when substantiating material is associated with the amendment proposal):

Other Regulations Proposed to be Affected

***For proposals to delete content from the 2019 Denver Green Code in conjunction with adding it to other mandatory Denver codes and/or regulations, only.**

Please identify which other mandatory codes or regulations are suggested to be updated (if any) to accept relocated content.

Referenced Standards:

List any new referenced standards that are proposed to be referenced in the code.

Impact:

How will this proposal impact cost and restrictiveness of code? ("X" answer for each item below)

Cost of construction: Increase Decrease No Impact
 Cost of design: Increase Decrease No Impact

Restrictiveness: Increase Decrease No Impact

Departmental Impact (City use only):

This amendment proposal increases/decreases/is neutral to the cost of plans review.

This amendment increases/decreases/is neutral to the cost of inspections.