

A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official*.

N1103.3.6 / R403.3.6 Duct leakage. The total leakage of the ducts system, where measured in accordance with Section R403.3.5, shall be as follows:

1. Rough-in test: The total leakage shall be less than or equal to 4.0 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m²) of *conditioned floor area* where the air handler is installed at the time of the test. ~~Where the air handler is not installed at the time of the test, the total leakage shall be less than or equal to 3.0 cubic feet per minute (85 L/min) per 100 square feet (9.29 m²) of *conditioned floor area*.~~

Exception:

- a. Where the air handler is not installed at the time of the test, the total leakage shall be less than or equal to 3.0 cubic feet per minute (85 L/min) per 100 square feet (9.29 m²) of *conditioned floor area*.
 - b. If the HVAC duct system is serving less than or equal to 1,200 square feet of *conditioned floor area*, the allowable duct leakage shall be ~~72~~ 50 cubic feet per minute or less.
2. Postconstruction test: Total leakage shall be less than or equal to 4.0 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m²) of *conditioned floor area*.
 1. ~~Test for ducts within thermal envelope: Where all ducts and air handlers are located entirely within the *building thermal envelope*, total leakage shall be less than or equal to 8.0 cubic feet per minute (226.6 L/min) per 100 square feet (9.29 m²) of *conditioned floor area*.~~

Exception:

If the HVAC duct system is serving less than or equal to 1,200 square feet of *conditioned floor area*, the allowable duct leakage shall be ~~72~~ 50 cubic feet per minute or less.

N1103.3.7 / R403.3.7 Building cavities. *Building* framing cavities shall not be used as ducts or plenums.

Supporting Information (Required):

The 2021 IECC changed the format of the duct testing requirements. The Denver 2018 IECC adoption allowed leakage as high as 6 CFM while the 2021 allows leakage as high as 8 CFM in specific circumstances. The Proposal narrows compliance to 4 CFM, ensures clarity, integrates Denver's 2019 amendments, and better defines what constitutes the duct system that must be tested. In addition, the proposal better matches the Cities 2030 goals by creating better more efficient duct systems.

Exceptions were added for duct leakage in small dwellings because of the CFM/100 sqft. quantification metric. Achieving less than 50 CFM of duct leakage, which is required of dwelling units that are less than 1200 sqft. Becomes impractical and also difficult to verify.

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 x No Impact

Cost of design: ___ Increase ___ Decrease x No Impact

Restrictiveness: ___ Increase ___ Decrease x 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.

Denver76 Green Code Duct Leakage from DGC proposal 96.2

Code Sections/Tables/Figures Proposed for Revision:

Instructions: If the proposal is for a new section, indicate (new), otherwise enter applicable code section.

New: 407.1 Duct testing

Proposal:

Instructions: Show the proposal using ~~strikeout~~, underline format.

Place an "X" next to the choice that best defines your proposal: ___ Revision x New Text ___ Delete/Substitute ___ Deletion

Add section as follows

407.1 Duct leakage. The total leakage of the duct system, where measured in accordance with Section IECC Section R403.3.5, shall be as follows:

1. Rough-in test: The total leakage shall be less than or equal to 3.0 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m²) of *conditioned floor area* where the air handler is installed at the time of the test.

Exception:

- a. Where the air handler is not installed at the time of the test, the total leakage shall be less than or equal to 2.5 cubic feet per minute (85 L/min) per 100 square feet (9.29 m²) of conditioned floor area.
 - b. If the HVAC duct system is serving less than or equal to 1,200 square feet of conditioned floor area, the allowable duct leakage shall be 40 cubic feet per minute or less.
2. Postconstruction test: Total leakage shall be less than or equal to 3.0 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m²) of conditioned floor area.

Exception

If the HVAC duct system is serving less than or equal to 1,200 square feet of conditioned floor area, the allowable duct leakage shall be 40 cubic feet per minute or less.

Supporting Information (Required):

The 2021 IECC changed the format of the duct testing requirements. The Denver 2018 IECC adoption allowed leakage as high as 6 CFM while the 2021 allows leakage as high as 8 CFM in specific circumstances. This Denver IECC proposal narrows compliance to 4 CFM and the DGC proposal narrows it further to 3 CFM of leakage. This increases efficiency beyond amendments made to the IECC portion on which the DGC builds.

Regardless of if ducts are leaking inside or outside of the building thermal envelope, efficiency is impacted. Better delivery equals better comfort and efficiency. This proposal's efficiency is achieved by increasing duct tightness requirements beyond that of the IECC.

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

Other Regulations Proposed to be Affected

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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:	<input type="checkbox"/> Increase	<input type="checkbox"/> Decrease	<input checked="" type="checkbox"/> No Impact
Restrictiveness:	<input checked="" type="checkbox"/> Increase	<input type="checkbox"/> Decrease	<input type="checkbox"/> 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.