

STATE OF WASHINGTON STATE BUILDING CODE COUNCIL

2015 Washington State Energy Code Development

Energy Code Proposal Short Form

For editorial Coordination, Clarifications & Corrections only,

May 2018 without substantive energy or cost impacts Log No. Code being amended: **Commercial Provisions** Residential Provisions (A MS Word version of the code is linked to the name)

Code Section # **R402.4.1.2**

Brief Description:

UPDATE - In the 2018 WSEC-R, a code official may require that air leakage testing be conducted by a third party testing agency. This proposal improves consistency by specifying the minimum credentials that testing agencies shall comply with.

To improve accuracy and accountability, this proposal also requires that the testing report include location verification and a time stamp of the date of the test.

Proposed code change text: (Copy the existing text from the Integrated Draft, linked above, and then use underline for new text and strikeout for text to be deleted.)

> R402.4.1.2 Testing. The building or dwelling unit shall be tested for air leakage. The maximum air leakage rate for any building or dwelling unit under any compliance path shall not exceed 5.0 air changes per hour. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascals). For this test only, the volume of the home shall be the conditioned floor area in ft2 (m2) multiplied by 8.5 feet (2.6 m). Where required by the code official, air leakage testing shall be conducted by an approved third party. A written report of the test results, including verified location and time stamp of the date of the test shall be signed by the party testing agency conducting the test and provided to the building owner and code official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope. Once visual inspection has confirmed air sealing (see has been conducted in accordance with Table R402.4.1.1, operable windows and doors manufactured by small business shall be are permitted to be sealed off at the frame prior to the test.

Testing of single-family dwellings and townhouses shall be conducted in accordance with RESNET/ICC 380, ASTM E779 or E1827. Test pressure and leakage rate shall comply with Section R402.4.1.3.

For all other Group R-2 occupancies, testing shall be conducted in accordance with ASTM E779, ASTM E1827 or ASTM E3158. The individual performing the air leakage test shall be trained and certified by an ISO 17024 accredited certification body, such as Air Barrier Association of America, or deemed equivalent by the code official.

Exception: For dwelling units that are accessed directly from the outdoors, other than detached one family dwellings and townhouses, an air leakage rate not exceeding 0.4 cfm per square foot of the dwelling unit enclosure area shall be an allowable alternative. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascals) in accordance with RESNET/ICC 380, ASTM E779 or ASTM E1827. For the purpose of this test only, the enclosure area is to be calculated as the perimeter of the dwelling unit, measured to the outside face of the exterior walls, and the centerline of party walls, times 8.5 feet, plus the ceiling and floor area. Doors and windows of adjacent dwelling units (including top and bottom units) shall be open to the outside during the test. This exception is not permitted for dwelling units that are accessed from corridors or other enclosed common areas.

During testing:

- 1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
- 2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
- 3. Interior doors, if installed at the time of the test, shall be open, access hatches to conditioned crawl spaces and conditioned attics shall be open.
- 4. Exterior or interior terminations for continuous ventilation systems and heat recovery ventilators shall be sealed.
- 5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
- 6. Supply and return registers, if installed at the time of the test, shall be fully open.

Exceptions:

- 1. Additions less than 500 square feet of conditioned floor area.
- 2. Additions tested with the existing home having a combined maximum air leakage rate of 7 air changes per hour. To qualify for this exception, the date of construction of the existing house must be prior to the 2009 Washington State Energy Code.

Chapter 6 Reference Standards

ASTM E3158-18 Standard Test Method for Measuring the Air Leakage Rate of a Large or Multizone Building

Purpose of code change:

Clarify code intent and improve air leakage testing accuracy.

Your name Lisa Rosenow Email address Irosenow@evergreen-tech.net

Your organization Evergreen Technology Consulting Phone number 360-539-5202

Other contact name Click here to enter text.

<u>Instructions</u>: For use with <u>Coordination, Clarifications & Corrections ONLY</u>. Send this form as an email attachment, along with any other documentation available, to: <u>sbcc@des.wa.gov</u>. For further information, call the State Building Code Council at 360-407-9277.