

Blower Door Air Leakage Testing Guide for Florida Code Compliance

Florida Solar Energy Center (FSEC)

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Background

Florida House Bill 535 and Senate Bill 1602 delayed implementation of several sections of the 5th Edition (2014) Florida Building Code including two residential provisions:

- Energy Conservation Code Section R402.4.1.2 regarding maximum building air leakage rates and mandatory leakage testing
- Residential Code Section R303.4 regarding whole-house mechanical ventilation requirement “triggers.”

These legislative changes were codified in the 2016 Supplement to the 5th Edition (2014) Florida Energy Conservation Code¹. This Supplement instituted a July 1, 2017 start date for mandatory building air leakage testing, changed the Section R402.4.1.2 maximum building air leakage rate from 5 ACH50 (air changes per hour when tested with a blower door at a pressure of 50 Pascals) to 7 ACH50, and also made changes to the tester qualification requirements.

Supplement underline and strikethrough changes to Section R402.4.1.2 are as follows:

R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 5 ~~7~~ air changes per hour in Climate Zones 1 and 2, and 3 air changes per hour in Climate Zones 3 through 8. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascals). ~~Where required by the code official,~~ Testing shall be conducted by either individuals as defined in Section 553.993(5) or (7), Florida Statutes or individuals licensed as set forth in Section 489.105(3)(f), (g), or (i) or an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official*. Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope*. ...

In addition, the 2016 Supplement changed the Florida Residential Code’s Section R303.4 whole-house mechanical ventilation requirement “trigger” from less than 5 ACH50 to less than 3 ACH50.

Previous to the 2016 Supplement changes, the residential Energy Conservation Code did not require building air leakage testing, so the Florida building industry will need to quickly learn about the new testing and mechanical ventilation requirements, and also the practical aspects

¹ 2016 Supplement (Code Fixes) to the 5th Edition (2014) Florida Building Code as per HB 535 and SB 1602: http://www.floridabuilding.org/fbc/thecode/2017_Code_Development/Glitch_2016/2016_Supplement_to_the_5th_Edition_2014_FBC.htm

to these changes such as how these leakage tests are performed, who can perform them and how test results are reported. These 2016 Supplement air leakage testing and ventilation requirements are continued in the recently approved 6th Edition (2017) Florida Energy Conservation Code which tentatively goes into effect December 31st, so the need for information on these changes will continue into next year.

Proposed Work

Educational material development is proposed to provide information about the new residential air leakage testing and mechanical ventilation requirement changes to the 5th Edition (2014) Florida Energy Conservation Code. Project tasks will include:

- Development of a 4 to 8 page informational guide (provided as a Word document) that provides a discussion on residential blower door air leakage testing for Florida Code compliance purposes. Guide topics will include an overview, Code testing requirements, definitions, pressure measurement, blower door components, testing and results reporting and an additional resources section.
- Development of a 2-page brochure (provided as a Word document) that summarizes the guide described above.

The draft final version of each document will be subject to review by the Florida Building Commission's Energy Technical Advisory Committee (TAC); FSEC will revise the documents based on recommendations made by the TAC.

Deliverables

Deliverables include the 4-8 page blower door air leakage testing and mechanical ventilation requirements informational document and 2-page summary brochure. All educational materials will be completed and delivered to BASF by October 20, 2017.