



NOTICE

Mandatory Residential Air Infiltration (Blower Door) Testing begins July 1st, 2017

Florida Energy Conservation Code States:

Effective July 1st, 2017; New Construction on residential buildings or dwellings units shall have Blower Door Testing performed by an Approved 3rd Party Agency.

Tests will be accepted from the following individuals:

1. Individuals defined under FS 553.993 (5) or (7)
 - a. Energy Auditor or Energy Rater
 - b. Currently Certified through RESNET or BUILDING PERFORMANCE INSTITUTE
2. Individuals licensed under FS 489.105(3)(f), (g) or (i);
 - a. Class A Air Conditioning Contractor
 - b. Class B Air Conditioning Contractor
 - c. Mechanical Contractor
3. Individual approved by the Building Official

To become registered with the Building Department, you must submit proof of PCCLB registration or submit the following:

1. Proof of licensure and/or certification as shown above
2. Proof of liability insurance (\$100,000 bodily injury/ \$25,000 property)
3. Proof of workman's compensation insurance or exemption
4. Proof of Business Tax receipt for the agency (if applicable)

Blower Door Testing reports verifying 7 air changes per hour or less must be submitted to the Building Department prior to the issuance of a Certificate of Occupancy and must be signed by the registered, qualified individual who performed the test.

Enacting code (R402.4.1.2) is found in the 2016

supplement: http://www.floridabuilding.org/fbc/thecode/2017_Code_Development/Glitch_2016/2016_Supplement_to_the_5th_Edition_2014_FBC.htm

For more information please contact us at (727) 464-3888.

ABOUT

Background – Air infiltration/exfiltration accounts for a substantial amount of wasted energy in the process of heating/cooling a building. The Florida Building Code, 5th Edition (2014) originally called for a test at the completion of a newly constructed building to verify whether or not the building had indeed been constructed airtight enough to meet the energy design requirements. This test involved sealing all the building openings except for one door and installing a blower fan on that one remaining door, lending to the term “blower door test” and measuring the amount of air pressurization and pressure loss. While the Florida Building Code, 5th Edition (2014) was made effective on June 30th, 2015, implementation of this blower door test was delayed until July 1st, 2017. Estimates are that in Florida, 51% of energy consumption is used for buildings; about 40% of the energy used for a building is used for cooling, and it is estimated that about 30% of the energy used for cooling the building is wasted through leakage of air between the inside and outside of the building.

What is a Blower Door Test? - The house is closed up from the outside. Exterior windows and doors are shut, fireplace dampers are closed. Then a frame with blower fan(s) is mounted in one exterior door opening and the fan(s) turned on then suck air out of the house to the exterior at a specific negative pressure (difference of 50 Pascals aka ach50). The frame is outfitted with measuring devices (airflow manometers) that are able to report the volume of air that is being removed from the house. If the volume of air being removed per hour turns out to be equivalent to between 3 and 7 times the volume of air inside the house, the test passes. Less than 3 implies not enough outside air can exchange with inside and indoor air quality will be poor, more than 7 means that too much outside air exchanges with the outside air and an unacceptable amount of energy is wasted.

Scope – 1 & 2 Family Dwellings. R101.4.9 –or- dwelling units. For the most part, this is single family homes, townhomes, duplexes, apartments and condominiums. In building code language, occupancies R-2 and R-3. Hotels (R-1) are typically not considered dwellings because they are short term and do not have cooking facilities.

Effective Date – For permits **APPLIED FOR** on July 1st, 2017 and after.

Process - Starts at permitting with the submittal of energy calculations. The middle is the construction process where the energy related features get installed. The end is the blower door test. The contractor will provide a minimum of 2 copies of Energy Calcs & Manual-J Calcs with the plan submittal package. The Energy Calcs & Manual-J Calcs will be attached to each plan set: one for the permit file set and one for the field inspection set.

Duct Testing – Duct testing is optional and is not required unless it is being claimed for credit in the energy calculations submitted.

Attic scuttle openings – According to RESNET Standard 802.2.4, if an attic is inside the conditioned space boundary, interior access doors and hatches between the house and the conditioned attic shall be opened; and attic exterior access doors and windows shall be closed. If an attic is outside the conditioned space boundary, interior access doors and hatches shall be closed and exterior access doors, dampers or vents shall be left in their as found position and their position during testing shall be recorded on the test report.

Terms- ACH = Air Changes per Hour



ABOUT

How does Blower Door Testing effect the Certificate of Occupancy? **The test results will be compared to the submitted Energy Calcs so please be careful how you complete your Energy Calcs.**

- A. If you use lower than the required maximum 7ACH in order to gain points on your calculation you will be required to achieve that selected ACH.

- B. If you elect to use the additional points achieved by performing a Duct Test. You will be required to submit passing results for that test.

- C. If your Blower Door Test results in **less than 3ACH** you will be required to introduce outside air into your building.

In the event the Blower Door Test results are below the **minimum 3 ACH**, reference FEC 2014 5th edition Table R403.5.2(1); Air Exchange Rate page R-4.11, The mechanical ventilation rate shall be as in addition to the air leakage rate and the same as in the proposed design, but no greater than $0.01 \times \text{CFA} + 7.5 \times (\text{Nbr} + 1)$.

CFA = Conditioned Floor Area
Nbr = Number of Bedrooms

Energy recovery shall not be assumed for mechanical ventilation.

EXAMPLE: 2500 conditioned floor area in a 3 bedroom single family home.

$0.01 \times 2500 \text{ CFA} = 25$ $7.5 \times (3 \text{ Nbr} + 1) = 30$ so, $25 + 30 = 55 \text{ CFM}$ outside air required

Suggestion: Outside air duct sized to accommodate 55 CFM connected to return on air conditioning system with motorized damper to open when air conditioning or heating is in operation.

Please note: Outside air will be required to be filtered.

Additional helpful information may be found by visiting:

<https://www.energycodes.gov/>

<https://buildingscience.com/>

<http://bcapcodes.org/>