



Construction Services & Permitting  
**Blower Door Test Certification**  
**Submission for Review**

Effective January 1, 2018

Property Address:		Unit No.:
Permit No.:	Company:	
Parcel ID:	Tester Name:	
Date of Testing:	Contact number:	
		Email:

**402.4.1.2 Testing.** Building envelope air tightness shall be demonstrated by Section 402.4.1.2

The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 7 air changes per hour. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascals). As required by the Building Official, testing shall be conducted by 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 Building Official prior to Certificate of Occupancy issuance. Testing shall be performed at any time after creation of all scheduled penetrations of the building thermal envelope.

Check off the following requirements during testing:

- Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weather-stripping or other
- Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration
- Interior doors, if installed at the time of the test, shall be open
- Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed
- Heating and cooling systems, if installed at the time of the test, shall be turned off
- Supply and return registers, if installed at the time of the test, shall be fully open

$V_b$	Building volume (ft <sup>3</sup> )	=	_____
$Q_{50}$	Airflow at 50 Pascal (CFM)	=	_____
$ACH_{50}$	Air changes per hour at 50 Pascal		
$Q_{50} \times 60 \div V_b =$ _____ $ACH_{50}$			
Pass <input type="checkbox"/>		Fail <input type="checkbox"/>	

*I hereby certify that the above envelope leakage performance results demonstrate compliance with Florida Energy Code requirements in accordance with Section R402.4.1.2.*

\_\_\_\_\_  
Signature of Tester

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Contractor Name or Company Name

# 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 1, 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 5 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 5 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 1, 2017 and after.

Process - A Blower Door Test Certification form 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. The contractor signing the form must be registered with the City of St. Petersburg as a Blower Door Contractor or registered as a Class A, Class B Air Conditioning Contractor or Mechanical Contractor.

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

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 allowed maximum 7 ACH 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 Air Door test results in less than 3ACH you will be required to introduce outside air into your building.

Additional helpful information may be found by visiting:

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

<http://bcapcodes.org/>

<https://buildingscience.com/>