

Air sealing: Testing option (Section 402.4.2.2)
(In accordance with the 2012 NORTH CAROLINA ENERGY CONSERVATION CODE)

402.4.2 Air sealing. Building envelope air tightness shall be demonstrated by Section 402.4.2.1 or 402.4.2.2.

402.4.2.2 Testing option. Building envelope tightness shall be considered acceptable when items providing insulation enclosure in Section 402.2.1 2 and air sealing in Section 402.4.1 are addressed and when tested air leakage is less than or equal to one of the two following performance measurements:

1. 0.30 CFM50/Square Foot of Surface Area (SFSA) or
2. Five (5) air changes per hour (ACH50)

When tested with a blower door fan assembly. at a pressure of 33.5 psf (50 Pa). A single point depressurization, not temperature corrected, test is sufficient to comply with this provision, provided that the blower door fan assembly has been certified by the manufacturer to be capable of conducting tests in accordance with ASTM E 779-03. Testing shall occur after rough in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation and combustion appliances. Testing shall be reported by the permit holder, a NC licensed general contractor, a NC licensed HVAC contractor, a NC licensed Home Inspector, a registered design professional, a *certified BPI Envelope Professional* or a *certified HERS rater*.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed;
2. Dampers shall be closed, but not sealed, including exhaust, backdraft, and flue dampers;
3. Interior doors shall be open;
4. Exterior openings for continuous ventilation systems, air intake ducted to the return side of the conditioning system, and energy or heat recovery ventilators shall be closed and sealed;
5. Heating and cooling system(s) shall be turned off; and
6. Supply and return registers shall not be sealed.

The air leakage information, including building air leakage result, tester name, date, and contact information, shall be included on the certificate described in Section 401.3.

For Test Criteria 1 above, the report shall be produced in the following manner: Perform the blower door test and record the *CFM50* _____. Calculate the total square feet of surface area for the building thermal envelope, all floors, ceilings, and walls (this includes windows and doors) and record the area _____. Divide *CFM50* by the total square feet and record the result below. If the result is less than or equal to **[0.30 CFM50/SFSA]** the envelope tightness is acceptable; or

For Test Criteria 2 above, the report shall be produced in the following manner: Perform a blower door test and record the *CFM50* _____. Multiply the *CFM50* by 60 minutes to create *CFHour50* and record _____. Then calculate the total conditioned volume of the home and record _____. Divide the *CFHour50* by the total volume and record the result below. If the result is less than or equal to **[5 ACH50]** the envelope tightness is acceptable.

Property Address: _____
Fan attachment location: _____ Company Name: _____
Contact Information: _____
Signature of Tester _____ Date _____

Completed by:

- Permit Holder.
- NC Licensed General Contractor.
- NC Licensed HVAC Contractor.
- NC Licensed Home Inspector.
- Registered Design Professional.
- Certified BPI Envelope Professional.
- Certified HERS Rater