

DUCT AIR LEAKAGE TESTING (Section N1103.3)

Sect. N1103.3.2 (R403.3.2) Sealing (Mandatory): Ducts, air handlers, filter boxes, and building cavities used as ducts shall be sealed. Joints and seams shall comply with either the *International Mechanical Code* or *International Residential Code*, as applicable.

Duct tightness shall be verified as follows:

Total duct leakage less than or equal to 5 CFM (141.6 L/min) per 100 ft² (9.29 m²) of conditioned floor area served by that system when tested at a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure.

During testing:

1. Block, if present, the ventilation air duct(s) connected to the conditioning system.
2. The duct air leakage testing equipment shall be attached to the largest return in the system or to the air handler.
3. The filter shall be removed and the air handler power shall be turned off.
4. Supply boots or registers and return boxes or grilles shall be taped, plugged, or otherwise sealed air tight.
5. The hose for measuring the 25 Pascals of pressure differential shall be inserted into the boot of the supply that is normally closest to the air handler.
6. Specific instructions from the duct testing equipment manufacturer shall be followed to reach duct test pressure and measure duct air leakage.

N1103.3.3 (R403.3.3): For the Test Criteria, the report shall be produced in the following manner: Perform the HVAC system air leakage test and record the CFM25. Calculate the total square feet of conditioned floor area (CFA) served by that system. Multiply CFM25 by 100, divide the result by the CFA and record the result. If the result is less than or equal to 5 CFM25/100SF "Total duct leakage" test or less than or equal to 4 CFM25/100SF for the "Duct leakage to the outside" test, then the HVAC system air tightness is acceptable.

DUCT LEAKAGE REPORT(S):

PROPERTY ADDRESS:
566 Jasmine Road Fuquay Varina, NC 27526

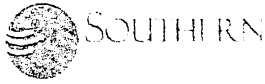
SYSTEM ONE (1)	
Area of home served (location): <i>Whole Home</i>	Fan attachment location: <i>Main</i>
Conditioned Floor Area (CFA) served by system (ft ²): <i>1348</i>	
CFM25 Total: <i>89</i>	Total Duct Leakage: <i>3.8%</i>

SYSTEM TWO (2) (IF APPLICABLE)	
Area of home served (location):	Fan attachment location:
Conditioned Floor Area (CFA) served by system (ft ²):	
CFM25 Total:	Total Duct Leakage:

SYSTEM THREE (3) (IF APPLICABLE)	
Area of home served (location):	Fan attachment location:
Conditioned Floor Area (CFA) served by system (ft ²):	
CFM25 Total:	Total Duct Leakage:

SYSTEM FOUR (4) (IF APPLICABLE)	
Area of home served (location):	Fan attachment location:
Conditioned Floor Area (CFA) served by system (ft ²):	
CFM25 Total:	Total Duct Leakage:

Company: SOUTHERN ENERGY MANAGEMENT	Test Date: <i>11/6/24</i>
Tester Name: Zach Keach CERTIFIED HERS RATER	Signature of Tester: <i>Zach Keach</i>
Phone: 919.817.4256	
Email: zach@southern-energy.com	
RATER ID: 2202266	



AIR SEALING: TESTING OPTION (Section N1102.4.2.2)

N1102.4.2.2 Testing Option. Building envelope tightness shall be considered acceptable when items providing insulation enclosure in N1102.2.14 and enclosure and air sealing in N1102.2.15 and air sealing in N1102.4.1 are addressed and when tested air leakage is less than or equal to one of the two following performance measurements:

1. 0.30 CFM50/Sq. Ft. 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 p.s.f. (50 Pa). A single point depressurization test (not temperature corrected) 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 E779-03 or ASTM E1827. 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, building air leakage result, tester name, date, and contact information, shall be included on the certificate described in Section N1101.14.

AIR SEALING TEST REPORT:

PROPERTY ADDRESS:
566 Jasmine Road Fuquay Varina NC 27526

TEST CRITERIA ONE (1)	
Fan attachment location:	
Blower door air leakage (CFM50):	
Total square feet of envelope surface area (SFSA):	
Total CFM50/SFSA:	(Must be \leq 0.30 CFM50/SFSA to pass Test Criteria 1)

-or-

TEST CRITERIA TWO (2)	
Fan attachment location:	<i>Front Door</i>
Blower door air leakage (CFM50):	<i>0.1602</i>
Conditioned volume of home (ft ³):	<i>21446</i>
Total ACH50: <i>4.5</i>	(Must be \leq 5 ACH50 to pass Test Criteria 2)

Company: SOUTHERN ENERGY MANAGEMENT	Test Date: <i>1/6/24</i>
Tester Name: Zach Keach CERTIFIED HERS RATER	Signature of Tester: <i>Zach Keach</i>
Phone: 919.817.4256	
Email: zach@southern-energy.com	
RATER ID: 2202266	