



RENTAL HOUSING AIR SEALING, VENTILATION AND COMBUSTION STANDARDS FOR MCO 244.435 (b)

Minneapolis Housing Inspection Services

October 2011

1. Required information to be collected by auditor and provided to property owner.

A Building Performance Institute (BPI) certified professional or a residential energy auditor who meets the minimum qualifications established by the State of Minnesota Department of Commerce, shall collect, at a minimum, the following information about the house:

- a. Measured house air leakage at a pressure difference of 50Pa (CFM50)
- b. Floor area of conditioned space in house (sq. ft.)
- c. Number of floors above grade
- d. Number of bedrooms
- e. Calculation of VR: Ventilation Requirement (CFM), defined by the following formula:

$$VR = (0.02 \times \text{conditioned floor area}) + [15 \times (\text{number of bedrooms} + 1)]$$

- f. Calculation of HTC: House Tightness Criteria (CFM50) that is equal to the Ventilation Requirement multiplied by N where N depends on the number of floors, as follows:

$$HTC = \text{Ventilation Requirement} \times N$$

Number of Floors	Value of N
1 to 1.25	20.3
1.3 to 2	16.5
2.5 or more	14.6

- g. Identification of attic by-pass air sealing opportunities including by-passes around chimneys, ducts, drop soffits, shower inserts or other large penetrations; interior and exterior wall top-plates; and plumbing and wiring penetrations.
- h. Levels of insulation in the house thermal envelope including all exterior walls and attic.

The N-value is based on standards from the American Society of Heating, Refrigeration and Air-Conditioning Engineers.

2. Requirement for air sealing.

- a. The owner must air seal the home if the house air leakage (CFM50) is more than 30% greater than the House Tightness Criteria
- b. When house air sealing is conducted a post-treatment house air leakage test and combustion safety tests of all appliances shall be conducted. Inspection of air sealing treatments must be completed either by: 1) a BPI certified Building Analyst or Envelope Professional; or 2) a contractor that has their quality of work tested by a third-party that delivers government or utility-funded conservation programs in the

- State of Minnesota such as the Center for Energy and the Environment, Neighborhood Energy Connection, and Community Action Partnership organizations; or 3) a residential energy auditor through a home energy audit that includes a blower-door test and combustion safety check, and is offered by a state-approved utility-administered conservation improvement program; or 4) a residential energy auditor who meets the minimum qualifications established by the State of Minnesota Department of Commerce. This post-treatment house air leakage test and combustion safety test need not be the same auditor who conducted the initial energy audit.
- c. If air-sealing does not result in a minimum of 20% reduction in house air leakage, the post-treatment inspection must verify that attic bypasses and other significant air leakage locations identified by the audit were sealed properly.
3. **Combustion safety requirement.** If any combustion appliance (boiler, furnace, hot water heater excluding two-pipe sealed combustion and power-vented appliances) fails a combustion safety test, the owner must correct the problem.
 4. **Reporting.** The holder of the rental license must submit a properly completed *City of Minneapolis Rental Property Air Sealing Standard Form* indicating compliance with this standard.