



BBS MEMO #404

Ohio Board of Building Standards

May 15, 2020

6606 Tussing Road, P.O. Box 4009, Reynoldsburg, Ohio 43068-9009

ENERGY EFFICIENCY – AIR LEAKAGE TESTING - 2019 RESIDENTIAL CODE OF OHIO (RCO)

With the adoption of the 2019 RCO, the energy efficiency requirements for air leakage (blower door) and duct tightness (duct blaster) testing have changed. Air leakage testing is addressed here. Duct tightness testing is addressed in BBS Memo Energy Efficiency – Duct Tightness (#405.)

Except for additions, alterations or repairs to existing dwellings, air leakage testing is a mandatory requirement under all compliance paths available to the owner (or the owner’s representative) to demonstrate energy efficiency in new construction. RCO Chapter 11, Section 1101.2 states the following:

1101.2.1 Compliance paths. Compliance shall be demonstrated by meeting the requirements of one of the following options:

1. Sections 1101.14 through 1104 of this chapter, or
2. Section 1105 (the Simulated Performance approach) and the provisions of Sections 1101.14 through 1104 indicated as "Mandatory," or
3. Section 1106 (the Energy Rating Index (ERI) approach) and the provisions of Sections 1101.14 through 1104 indicated as "Mandatory," and Section 1103.5.3, or
4. Section 1112 ("The Ohio Home Builder's Association (OHBA) Alternative Energy Code Option"), or
5. The "International Energy Conservation Code."

The owner, not the building department, decides which compliance path to use and must communicate this choice to the building department.

Before reviewing the air leakage testing requirements, users of the RCO must recognize that the OHBA Alternative Energy Code Option (RCO Section 1112) can only be selected for new home construction and was not designed or developed to be able to handle additions or alterations. Section 1112.1.1 Scope, states that “This section provides an alternative set of requirements for regulating the energy efficiency for the design and construction of new buildings regulated by this code.” Existing dwellings must comply with applicable provisions of RCO Section 1107 through 1111 or the International Energy Conservation Code (IECC) Chapter 5[RE].

Within each of the above compliance options, a complete set of energy efficiency requirements are indicated. Compliance paths #4 and #5 each have additional options or choices that need to be made and identified. The code offers these many options to allow the owner (or the owner’s representative) maximum flexibility in the design and building of a new home. An air leakage test is confirmation that the required air barrier is sufficiently sealing the building’s thermal barrier. The following table summarizes when air leakage testing is required and at what rate:

AIR LEAKAGE (BLOWER DOOR) TESTING REQUIREMENTS				
Compliance path chosen		Air Leakage Testing	Allowable tested air leakage	Code reference
#	(RCO 1101.2.1)			
1	RCO Sections 1101-1104 Prescriptive	Mandatory	Less than or equal to 5ACH@50Pa	2019 RCO Section 1102.4.1.2
2	RCO Sections 1105 Simulated Performance	Mandatory	Less than or equal to 5ACH@50Pa	2019 RCO Section 1105.2 and 1102.4.1.2
3	RCO Sections 1106 Energy Rating Index (ERI)	Mandatory	Less than or equal to 5ACH@50Pa	2019 RCO Section 1106.2 and 1102.4.1.2
4	RCO Section 1112 OHBA - Compliance path #1 or #2	Mandatory	Less than or equal to 5ACH@50Pa	2019 RCO Section 1112.2.4.2.1
5	2018 IECC (Any path per IECC 401.2 Compliance.)	Mandatory	Less than or equal to 3ACH@50Pa	2018 IECC Section 402.4.1.2
E	RCO Sections 1107 through 1111 Existing Building	Not Required	Testing is not required; however, air barrier requirements must be met to the extent of the addition/alteration.	2019 RCO Section 1102.4.1.2 Exception: Existing Buildings complying with 1107

For those who conduct the air leakage test, RCO Section 1102.4.1.2 requires the test be performed in accordance with RESNET/ICC 380, ASTM E779 or ASTM E1827 and that a written report of the results be signed by the party conducting the test and provided to the building official. *The RCO does not require certification of the person or the company performing the test nor that the test be performed by a third party.* Air leakage testing may be performed by insulation contractors, HVAC contractors, builders, or any other person who knows how to use the equipment. The RCO Section 108.8 does not require that the inspector witness the test; but, does require that the inspector be given the option to witness the test. If the inspector is not able to witness the test, the inspector may accept the written air leakage testing report.



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If you have further questions regarding the application of these requirements, please call the Board's office at 614-644-2613 or send an E-mail to bbs@com.state.oh.us.