



Setting the **Standards** for
Home Energy Efficiency

Interpretation: Aext Infiltration Clarification

Designation IR 301-2022-007

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Reference: This request for interpretation refers to the requirements presented in
Standard: Std 301-2022

Page Number(s): _____
Section(s): _____
Table(s): 4.2.2(1) and its Notes.
Relating to: Rated Home column at Air Exchange rate row.

Background: Provided by the person requesting the interpretation

The A_{ext} language in the Rated Home cell at the Air Exchange row of Table 4.2.2(1) has been interpreted inconsistently by software vendors. The problematic two paragraphs from Std 301-2022 as amended by Addendum C follow:

For Attached Dwelling Units with airtightness test results ≤ 0.30 cfm50 per ft² of Compartmentalization Boundary, the test results shall be multiplied by reduction factor A_{ext}ⁱ to determine the Infiltration rate. For Attached Dwelling Units with airtightness test results > 0.30 cfm50 per ft² of Compartmentalization Boundary, the test results shall be modeled as the Infiltration rate.

For residences without Dwelling Unit Mechanical Ventilation Systems^m, or without measured airflow, or where A_{ext}ⁱ < 0.5 and the Mechanical Ventilation System is solely an Exhaust System, the Infiltration rate^j shall be determined by the airtightness test results described above, but not less than 0.30 ACH (at 4 Pa). Where the resulting dwelling unit total air exchange rate is less than $Q_{tot} = 0.03 \times CFA + 7.5 \times (Nbr+1)$ cfm, a supplemental balanced ventilation system shall be added to the Rated Home to meet Q_{tot} .^z

This interpretation (which reflects the original intent of the Multifamily Subcommittee) is important for apartment dwelling units when the home lacks mechanical ventilation, or the mechanical ventilation has not been measured, or when it is exhaust-only ventilation. It impacts whether the A_{ext} reduction factor is applied after the airtightness of the home has been constrained to 0.30 ACH natural.

Interpretation: *Provided by the person requesting the interpretation*

The A_{ext} infiltration multiplier, which applies to attached dwelling units, shall be applied as a multiplication factor to either the measured or to the default infiltration rate of all applicable attached dwelling units.

Question: Is this Interpretation correct?

SDC Answer: Yes

SDC Comments: This interpretation needs to be implemented by software developers, if it is not consistent with the current interpretation of the software. It will not affect all software tools.