RESNET
RESIDENTIAL ENERGY SERVICES NETWORK

Setting the **Standards** for
Home Energy Efficiency

Interpretation: Aext Infiltration Clarification

Designation IR 301-2019-052, 301-2022-007 and 301-2025-026

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Request from:

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Reference: This request for interpretation refers to the requirements presented in Standard:

ANSI/RESNET/ICC 301-2019
ANSI/RESNET/ICC 301-2022
ANSI/RESNET/ICC 301-2025

Page Number(s):
Section(s):
Table(s): 4.2.2(1) and its Notes in 301-2019 and 301-2022
402.2(1) and its Notes in 301-2025
Relating to: Rated Home column at Air Exchange rate row.

Background: *Provided by the person requesting the interpretation*

The Aext 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 ft^2 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 ft^2 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 Qtot = 0.03 x CFA + 7.5 x (Nbr+1) cfm, a supplemental balanced ventilation system shall be added to the Rated Home to meet Qtot.[zz]

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 Aext 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.