ENERGY STAR Single-Family New Homes
ENERGY STAR Multifamily New Construction
Duct Leakage to Outdoors Test Exemptions

Guidance on Item 6.5 of the National Rater Field Checklist

The following language is included in Footnote 45 of the Single-Family New Homes National Rater Field Checklist, v3 / 3.1 / 3.2 (Rev. 13), and Footnote 57 of the Multifamily New Construction National Rater Field Checklist, v1 / 1.1 / 1.2 (Rev. 04):

"Testing of duct leakage to the outdoors can be waived in accordance with the 2nd or 3rd alternative of ANSI / RESNET / ICC 301, Table 4.2.2 (1), footnote (w). Alternatively, testing of duct leakage to outdoors can be waived in accordance with Section 5.5.2 of ANSI / RESNET / ICC 380 if total duct leakage, at rough-in or final, is ≤ 4 CFM25 per 100 sq. ft. of conditioned floor area or 40 CFM25, whichever is larger."

For convenience, the Exhibits below summarize the referenced exemptions within ANSI / RESNET / ICC 301 and 380.

Exhibit 1: ENERGY STAR Exemption Aligned with Std. 301, Table 4.2.2 (1), Fn. w, 2nd Exception	
Applicable House Types:	Dwellings and Townhouses
Duct Test Required:	Total duct leakage test at pre-drywall or final
Duct Test Exemption:	No leakage to outside duct test required
Prerequisites:	1) At a pre-drywall stage of construction, 100% of the ductwork and air handler shall be visible and visually verified to be contained inside the Infiltration Volume. 2) At a pre-drywall stage of construction, the ductwork shall be visually verified to be 100% fully ducted, with no building cavities used as supply or return ducts. 3) At either a pre-drywall stage of construction or a final stage of construction, airtightness of the duct system shall be tested in accordance with requirements of the ANSI / RESNET / ICC 380 Total Duct Leakage Test (Section 4.4.1). The total leakage shall be: **# Returns** / **Leakage Limit** < 3 — Larger of 4 CFM per 100 sq. ft. of CFA or 40 CFM ≥ 3 — Larger of 6 CFM per 100 sq. ft. of CFA or 60 CFM 4) At a final stage of construction, ductwork that is visible and the air handler shall again be verified to be contained in the Infiltration Volume. 5) At a final stage of construction, airtightness of the Rated Home shall be tested in accordance with requirements of ANSI / RESNET / ICC 380 and shall be ≤ 3 ACH50.
Modeling Impact:	Leakage to outside shall be assigned 1/2 of the measured total duct leakage

Exhibit 2: ENERGY STAR Exemption Aligned with Std. 301, Table 4.2.2 (1), Fn. w, 3rd Exception	
Applicable House Types:	Attached Dwelling Units, excluding Dwellings and Townhouses
Duct Test Required:	Total duct leakage test at pre-drywall or final
Duct Test Exemption:	No leakage to outside duct test required
Prerequisites:	None
Modeling Impact:	Software shall calculate the energy impact using the total duct leakage results and prorating based on the percent of duct surface area that is not in Rated Home Conditioned Space Volume, plus a contribution from the associated air handler if located outside the Rated Home Conditioned Space Volume. The air handler contribution shall be a minimum of 2.5% of the supply airflow, where supply airflow is calculated as 400 cfm per 12,000 Btu/h of output capacity of the heating or cooling equipment. The sum of the duct leakage associated with duct surface area outside the Conditioned Space Volume and the air handler leakage shall not exceed the measured duct leakage from the entire duct system.

Exhibit 3: ENERGY STAR Exemption Aligned with Std. 380, Section 5.5.2	
Applicable House Types:	All Dwellings and Dwelling Units
Duct Test Required:	Total duct leakage test at pre-drywall or final
Duct Test Exemption:	No leakage to outside duct test required
Prerequisites:	None from ANSI / RESNET / ICC 380, but ENERGY STAR requires that the total duct leakage be ≤ 4 CFM25 per 100 sq. ft. of conditioned floor area or 40 CFM25, whichever is larger.
Modeling Impact:	Leakage to outside shall be equal to the measured total duct leakage