# ANSI/RESNET/ICC 301-2014 Addendum L-2018
# Exception to Duct Leakage to Outside Testing

## ANSI Approved Date December 3, 2018
## Effective Date January 2, 2019
## Transition Period End Date July 1, 2019

***Add definitions and acronyms as follows:***

***Attached Dwelling Unit*** – A Dwelling Unit sharing demising walls, floors, ceilings, or common corridors with another Dwelling Unit or Occupiable Space.

***Detached Dwelling Unit*** – A Dwelling Unit that does not meet the definition of Attached Dwelling Unit.

***Dwelling*** – Any building that contains one or two Dwelling Units used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that are occupied for living purposes.

***Occupiable Space*** - A room or enclosed space designed for human occupancy in which individuals congregate for amusement, educational or similar purposes or in which occupants are engaged at labor, and which is equipped with means of egress and light and ventilation facilities meeting the requirements of this standard.

***Townhouse*** - A single-family Dwelling Unit constructed in a group of three or more attached units in which each unit extends from the foundation to roof and with open space on at least two sides.

*3.3* **Acronyms**

***ACH50*** – Air Changes per Hour at 50 Pascals

***Revise Table 4.2.2(1) as follows:***

**Table 4.2.2(1) Specifications for the Energy Rating Reference and Rated Homes**

| Building Component | Energy Rating Reference Home | Rated Home |
|---|---|---|
| Thermal distribution systems: | Thermal distribution system efficiency (DSE) of 0.80 shall be applied to both the heating and cooling system efficiencies. | Forced air distribution systems: ~~Tested~~duct leakage to outside tests [(m)] shall be conducted and documented by an |

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| | cooling system efficiencies. | and documented by an Approved Tester in accordance with requirements of Standard ANSI/RESNET/ICC 380-~~2016 or equivalent~~[m], ~~with~~ with the air handler installed, and ~~then~~the energy impacts either calculated through hourly simulation or calculated in accordance with ASHRAE Standard 152 with the ducts located and insulated as in the Rated Home.<br>For ductless distribution systems: DSE=1.00<br>For hydronic distribution systems: DSE=1.00 |

***Revise Table 4.2.2(1) endnote (m) as follows:***

(m) ~~Duct leakage shall be tested by an Approved Tester in accordance with requirements of Standard ANSI/RESNET/ICC 380-2016 or equivalent.~~

~~Exception: The requirement to test for duct leakage to the outside shall be waived, and the ducts shall be assigned 0 (zero) leakage to the outside, if both of the following conditions are visually verified by an Approved Tester at the final stage of construction:~~

i. ~~All ductwork and the air handler unit are completely within the Infiltration Volume of the home.~~
ii. ~~All ductwork is visible~~

When both of the following conditions are met and documented, duct leakage testing is not required.

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 Conditioned Space Volume. At a final stage of construction, ductwork that is visible and the air handler shall again be verified to be contained in the Conditioned Space 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.

To calculate the energy impacts on the Rated Home, a DSE of 0.88 shall be applied to both the heating and cooling system efficiencies.

Alternatively, for Dwellings and Townhouses only, when all of the following conditions are met and documented, total duct leakage testing is permitted to be conducted in lieu of duct leakage to outside testing and half of the measured total leakage shall be assigned duct leakage to outside. At a final stage of construction, if visible ductwork or the air handler is observed outside the Infiltration Volume or ductwork is no longer 100% fully ducted, duct leakage to outside testing is required:

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. 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.

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 Standard ANSI/RESNET/ICC 380 Total Duct Leakage Test (Section 4.4.1). The total leakage shall be less than or equal to the greater of: 4 cfm per 100 $ft^2$ of Conditioned Floor Area served by the duct system being tested, or 40 cfm. For duct systems with 3 or more returns, the total leakage shall be less than or equal to the greater of: 6 cfm per 100 $ft^2$ of Conditioned Floor Area served by the duct system being tested, or 60 cfm.

4. Airtightness of the Rated Home shall be tested in accordance with requirements of Standard ANSI/RESNET/ICC 380 and shall be less than or equal to 3 ACH50.

Alternatively, for Attached Dwelling Units, excluding Dwellings and Townhouses, total duct leakage testing, at either pre-drywall or final stage of construction, is permitted to be conducted in lieu of duct leakage to outside testing. 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.