4.2.2. Residence Specifications. The Energy Rating Reference Home and Rated Home shall be configured and analyzed as specified by Table 4.2.2(1).

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

Building Component	Energy Rating Reference Home	Rated Home
Above-grade walls	Type: wood frame Gross Area: same as Rated Home U-Factor: from Table 4.2.2(2) Solar Absorptance = 0.75 Emittance = 0.90	Same as Rated Home Same as Rated Home Same as Rated Home Same as Rated Home Same as Rated Home
Conditioned basement walls	Type: same as Rated Home Gross Area: same as Rated Home U-Factor: from Table 4.2.2(2) with the insulation layer on the interior side of walls	Same as Rated Home Same as Rated Home Same as Rated Home
Floors over Unconditioned Space Volume, Non-Freezing Space or outdoor environment	Type: wood frame Gross Area: same as Rated Home U-Factor: from Table 4.2.2(2)	Same as Rated Home Same as Rated Home Same as Rated Home
Ceilings	Type: wood frame Gross Area: same as Rated Home U-Factor: from Table 4.2.2(2)	Same as Rated Home Same as Rated Home Same as Rated Home
Roofs	Type: composition shingle on wood sheathing Gross Area: same as Rated Home Solar Absorptance = 0.75 Emittance = 0.90	Same as Rated Home Same as Rated Home Values from Table 4.2.2(4) shall be used to determine Solar Absorptance except where test data are provided for roof surface in accordance with ANSI/CRRC S100. Emittance values provided by the roofing manufacturer in accordance with ANSI/CRRC S100 shall be used when available. In cases where the appropriate data are not known, same as the Reference Home.
Attics	Type: vented with aperture = 1ft^2 per 300 ft^2 ceiling area	Same as Rated Home
Foundations	Type: same as Rated Home Gross Area: same as Rated Home U-Factor / R-Value: from Table 4.2.2(2)	Same as Rated Home Same as Rated Home Same as Rated Home

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

Building Component	Energy Rating Reference Home	Rated Home
Crawlspaces	Type: vented with net free vent aperture = 1ft^2 per 150 ft^2 of crawlspace floor area. Crawlspace walls shall be uninsulated, while the floor above the crawlspace shall be insulated according to Table 4.2.2(2) as a "Floor over Unconditioned Space Volume" [(a)]. U-Factor: from Table 4.2.2(2) for floors over Unconditioned Space Volume or outdoor environment.	Same as the Rated Home, but not less net free Ventilation area than the Reference Home unless an Approved ground cover in accordance with IRC 408.3.1 is used, in which case, the same net free Ventilation area as the Rated Home down to a minimum net free vent area of 1ft^2 per 1,500 ft^2 of crawlspace floor area. Same as Rated Home
Doors	Area: 40 ft^2 for one- and two-family Dwellings and Townhouses; 20 ft^2 for all others Orientation: For exterior doors: North For all other doors, in adiabatic wall U-Factor: same as Fenestration from Table 4.2.2(2)	Same as Rated Home Same as Rated Home Same as Rated Home
Glazing [(b)]	Total area [(c)] =18% of CFA Orientation: equally distributed to four (4) cardinal compass orientations (N,E,S,&W) U-Factor: from Table 4.2.2(2) SHGC: from Table 4.2.2(2) Interior shade coefficient: Summer = 0.70 Winter = 0.85 External shading: none	Same as Rated Home Same as Rated Home Same as Rated Home Same as Rated Home Same as Energy Rating Reference Home [(d)] Same as Rated Home [(e)]
Skylights	None	Same as Rated Home
Thermally isolated sunrooms	None	Same as Rated Home
Air exchange rate	Specific Leakage Area (SLA) [(f)] = 0.00036 assuming no energy recovery, supplemented as necessary to achieve the	In accordance with Standard ANSI/RESNET/ICC 380, obtain airtightness test results for:

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

Building Component	Energy Rating Reference Home	Rated Home
	required Dwelling-Unit total air exchange rate (Qtot).[g], [h]	• Building enclosure (for Detached Dwelling Units) • Compartmentalization Boundary (for Attached Dwelling Units). 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, 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 as determined above, but not less than 0.30 ACH. For residences with Dwelling-Unit Mechanical Ventilation Systems, the total air exchange rate shall be the Infiltration rate [j] as determined above, in combination [h] with the time-averaged Dwelling-Unit Mechanical Ventilation System rate,[g], [k] which shall be the value measured in accordance

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

Building Component	Energy Rating Reference Home	Rated Home
		with Standard ANSI/RESNET/ICC 380. The Dwelling-Unit Mechanical Ventilation System rate shall be increased as needed to ensure that the total air exchange rate is no less than Qtot = 0.03 x CFA + 7.5 x (Nbr+1) cfm
Dwelling-Unit Mechanical Ventilation System fan energy	None, except where a mechanical Ventilation system is specified by the Rated Home, in which case: Where Rated Home has supply-only or exhaust-only Dwelling-Unit Mechanical Ventilation System: 0.35*fanCFM*8.76 kWh/y Where Rated Home has balanced Dwelling-Unit Mechanical Ventilation System without energy recovery or a combination of Supply and Exhaust Systems: 0.70* fanCFM*8.76 kWh/y Where Rated Home has balanced Dwelling-Unit Mechanical Ventilation System with energy recovery: 1.00*fanCFM*8.76 kWh/y And where fanCFM is the minimum continuous Dwelling Unit Mechanical Ventilation System fan flow rate[(g)] for the Rated Home[(l)].	Same as Rated Home [(m), (n)]
Internal Gain	As specified by Table 4.2.2(3)	Same as Energy Rating Reference Home, except as provided by Section 4.2.2.5.2
Internal mass	An internal mass for furniture and contents of 8 pounds per square foot of floor area	Same as Energy Rating Reference Home, plus any additional mass specifically designed as a Thermal

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

Building Component	Energy Rating Reference Home	Rated Home
		Storage Element [o] but not integral to the building envelope or structure
Structural mass	For masonry floor slabs, 80% of floor area covered by R-2 carpet and pad, and 20% of floor directly exposed to room air	Same as Rated Home
	For masonry basement walls, same as Rated Home, but with insulation required by Table 4.2.2(2) located on the interior side of the walls	Same as Rated Home
	For other walls, for ceilings, floors, and interior walls, wood frame construction	Same as Rated Home
Heating systems [p], [q]	Fuel type: same as Rated Home	Same as Rated Home [q]
	Efficiencies:	
	Electric: Air Source Heat Pump in accordance with Table 4.2.2(1a)	Same as Rated Home
	Non-electric furnaces: natural gas furnace in accordance with Table 4.2.2(1a)	Same as Rated Home
	Non-electric boilers: natural gas boiler in accordance with Table 4.2.2(1a)	Same as Rated Home
	Capacity: sized in accordance with Section 4.4.3.1.	Same as Rated Home [r]
Cooling systems [p], [s]	Fuel type: Electric	Same as Rated Home [s]
	Efficiency: in accordance with Table 4.2.2(1a)	Same as Rated Home
	Capacity: sized in accordance with Section 4.4.3.1.	Same as Rated Home [r]
Service water heating systems [p], [t], [u],[v]	Fuel type: same as Rated Home	Same as Rated Home [t]
	Efficiency:	
	Electric: EF = 0.97 - (0.00132 * store gal)	Same as Rated Home
	Fossil fuel: EF = 0.67 - (0.0019 * store gal)	Same as Rated Home
	Use (gal/day): Determined in accordance with Section 4.2.2.5.1.4	Determined in accordance with Section 4.2.2.5.2.11
	Tank temperature: 125 ^{o}F	Same as Energy Rating Reference Home

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 duct leakage to outside tests[w] shall be conducted and documented by an Approved Tester in accordance with requirements of Standard ANSI/RESNET/ICC 380 with the air handler installed, and the energy impacts calculated with the ducts located and insulated as in the Rated Home. For ductless distribution systems: DSE=1.00 For hydronic distribution systems: DSE=1.00
Thermostat	Type: manual Temperature setpoints: cooling temperature setpoint = 78 ºF; heating temperature set point = 68ºF	Type: Same as Rated Home Temperature setpoints: same as the Energy Rating Reference Home, except as required by Section 4.4.1

Table 4.2.2(1) Notes:

(a) This applies to the Reference Home crawlspace, regardless of the crawlspace type or insulation location in the Rated Home crawlspace.

(b) Glazing shall be defined as sunlight-transmitting Fenestration, including the area of sash, curbing or other framing elements, that enclose Conditioned Space Volume. Glazing includes the area of sunlight-transmitting Fenestration assemblies in walls bounding conditioned basements. For doors where the sunlight-transmitting opening is less than 50% of the door area, the Glazing area of the sunlight transmitting opening area shall be used. For all other doors, the Glazing area is the rough frame opening area for the door, including the door and the frame.

(c) The following formula shall be used to determine total window area:

AG = 0.18 x CFA x FA x F

where:
AG = Total Glazing area
CFA = Total Conditioned Floor Area

FA = (gross above-grade thermal boundary wall area) / (gross above-grade thermal boundary wall area + 0.5*gross below-grade thermal boundary wall area)

F = 1- 0.44* (gross common wall area) / (gross above-grade thermal boundary wall area + gross common wall area)

and where:

Thermal boundary wall is any wall that separates Conditioned Space Volume from Unconditioned Space Volume, outdoor environment or the surrounding soil.

Above-grade thermal boundary wall is any portion of a thermal boundary wall not in contact with soil.

Below-grade thermal boundary wall is any portion of a thermal boundary wall in soil contact.

Common wall is the total wall area of walls adjacent to Unrated Conditioned Space, not including foundation walls.

AG + exterior door area shall not exceed the exterior wall area, and the Energy Rating Reference Home door area shall be reduced as necessary to ensure this.

(d) For Fenestrations facing within 15 degrees of true south that are directly coupled to thermal storage mass, the winter interior shade coefficient shall be permitted to increase to 0.95 in the Rated Home.

(e) The term External Shading refers only to permanent, fixed shading devices attached to the building such as fins and overhangs. Window screens, movable awnings, roller shades, safety bars, balcony railings, and shade from adjacent buildings, trees and shrubs shall not be included in the analysis of the Rated Home energy usage.

(f) SLA = ELA / CFA where ELA = 0.054863*cfm50 and where CFA is in square inches.

(g) The required Dwelling-Unit Mechanical Ventilation System airflow rate (Qfan) shall be determined in accordance with the following equation.[22] Where this requires the Rated Home mechanical Ventilation rate to be adjusted in the simulation, and where the Ventilation air is pre-conditioned as part of a shared Ventilation system shared by multiple Dwelling Units, the software shall make corresponding adjustments to the shared preconditioning equipment energy consumption assigned to the Rated Home.

$$Q_{fan} = Q_{tot} - \Phi\,(Q_{inf} \times A_{ext})$$

where

Q_{fan} = required mechanical Ventilation rate, cfm

Q_{tot} = total required Ventilation rate, cfm

Q_{inf} = Infiltration, cfm calculated using Shelter Class 4

A_{ext} = 1 for Detached Dwelling Units, or the ratio of exterior enclosure surface area that is not attached to garages or other Dwelling Units to Compartmentalization Boundary for Attached Dwelling Units

[22] (Informative Note) Equation taken from Addendum s to ASHRAE Standard 62.2-2016.

Φ=1 for Balanced Ventilation Systems and Q_{inf} / Q_{tot} otherwise

and where
Qtot = 0.03*CFA + 7.5*(Nbr+1), AND
Qinf = 0.0521*cfm50*wsf*(H/Hr)^0.4
OR
Qinf = (NL · wsf · CFA) / 7.3

where
NL = normalized leakage = 1000 · (ELA / CFA) · [H / Hr]^0.4 (where both *ELA* and *CFA* are in square inches)
wsf = weather and shielding factor from Appendix B, ASHRAE Standard 62.2
ELA = cfm50*0.054863 (in^2)
H = vertical distance between lowest and highest above-grade points within the pressure boundary (ft.)
Hr = reference height = 8.202 ft.

(h) Either hourly calculations using the following equation[23] or calculations yielding equivalent results shall be used to determine the combined air exchange rate resulting from Infiltration in combination with Dwelling-Unit Mechanical Ventilation Systems.

$Q_i = Q_{fan,i} + \Phi\, Q_{inf,i}$

where
Φ=1 for Balanced Ventilation Systems and otherwise
$\Phi = Q_{inf,i} /(Q_{inf,i} + Q_{fan,i})$
Q_i = combined air exchange rate for the time step 'i', cfm
$Q_{inf,i}$ = Infiltration airflow rate for the time step 'i', cfm calculated using Shelter Class 4
$Q_{fan,i}$ = mechanical Ventilation airflow rate for the time step 'i', cfm

(i) Reduction factor A_{ext} (used only for Attached Dwelling Units) shall be the ratio of exterior envelope surface area[24] to Compartmentalization Boundary.

(j) Envelope (for Detached Dwelling Units) or Compartmentalization Boundary (for Attached Dwelling Units) leakage shall be tested and documented in accordance with requirements of Standard ANSI/RESNET/ICC 380 by an Approved Tester.

(k) Where a shared mechanical Ventilation system serving more than one Dwelling Unit provides any Dwelling-Unit Mechanical Ventilation, the following shall be used to determine the Ventilation airflows in the Rated Home.
1. Where shared Ventilation supply systems provide a mix of recirculated and outdoor air, the supply Ventilation airflow shall be adjusted to reflect the percentage of air that is from outside.

[23] (Informative Note) Equation taken from ASHRAE Standard 62.2-2016, Normative Appendix C, equations (C7) and (C8).
[24] (Informative Note) Does not include the area where attached to garages or other Dwelling Units.

2. Where the Dwelling-Unit Mechanical Ventilation System is a Supply System or an Exhaust System, and not a Balanced System nor a combination of systems, the Ventilation rate shall be the value measured in the Rated Home or adjusted in accordance with the previous step.
3. Where the Dwelling-Unit Mechanical Ventilation System is a Balanced System or a combination of systems, the system airflows shall be analyzed separately, in accordance with the previous steps. For software that does not explicitly model multiple, separate Supply and Exhaust Systems, the Dwelling-Unit Mechanical Ventilation System shall be modeled as a Balanced System, where the Ventilation rate of the Rated Home is the sum of either the exhaust airflows measured in the Dwelling Unit or the sum of the supply airflows measured in the unit, whichever is greater.

(l) Where Rating software allows for modeling of multiple or hybrid Ventilation system types, the Reference Home mechanical Ventilation fan energy shall be calculated proportionally using the Ventilation system types employed in the Rated Home. The fan CFM contribution of each system type shall be proportional to the product of the airflow and the runtime of each Ventilation system type.

(m) Dwelling-Unit Mechanical Ventilation System fan watts shall be the value observed in the Rated Home for the highest airflow setting. Where not available, fan watts shall be based on Table 4.2.2(1b) for the given system. For systems other than Central Fan Integrated Supply (CFIS), where the airflow cannot be measured, the cfm used to determine fan watts shall be assumed to be equal to Qfan, as determined in accordance with endnote (g) of Table 4.2.2 (1). For CFIS systems, the cfm used to determine fan watts shall be the larger of 400 cfm per 12 kBtu/h cooling capacity or 240 cfm per 12 kBtu/h heating capacity.

Table 4.2.2(1b). Default Ventilation System Fan Power for Rated Home

Equipment Type	**Watts/ cfm**
Exhaust Ventilation fans	0.35
Supply Ventilation fans	0.35
Balanced Ventilation fans	0.70
HRV/ERV fans	1.00
CFIS fans	0.50
Range hoods	0.70

(n) Where the Ventilation system is designed to serve the Ventilation needs of more than one Dwelling Unit, the Rated Home kWh/y fan energy shall be calculated as a proportion of the entire system fan energy, using the system airflow, Ventilation type, fan run time and the rated fan power[25] of the shared system. The Rated Home Ventilation fan energy shall be calculated as the fan power of the entire system[26] multiplied by the ratio of

[25] (Normative Note) Fan motors rated in horsepower shall be converted to Watts by multiplying by 746 and dividing by fan motor efficiency. Where fan motor efficiency is unknown, use 0.65 for single-phase and 0.75 for 3-phase motors.
[26] (Normative Note) For Balanced Systems or combinations of Supply and Exhaust Systems, the system fan power must include all associated fans.

Dwelling Unit airflow to the system airflow. Where the system fan power cannot be determined, 1 Watt/cfm shall be used. Where the Dwelling Unit airflow cannot be measured, the Rated Home shall use Qfan, as determined in accordance with endnote (g) of Table 4.2.2 (1) when calculating fan energy.

(o) Thermal storage element shall mean a component not normally part of the floors, walls, or ceilings that is part of a passive solar system, and that provides thermal storage.[27] A thermal storage element must be in the same room as Fenestration that faces within 15 degrees of true south, or must be connected to such a room with pipes or ducts that allow the element to be actively charged.

(p) For a Rated Home with multiple heating, cooling, or water heating systems using different fuel types, the applicable system capacities and fuel types shall be weighted in accordance with the loads distribution (as calculated by accepted engineering practice for that equipment and fuel type) of the subject multiple systems. For the Energy Rating Reference Home, the minimum efficiencies given in Table 4.2.2(1a) below will be assumed for:

1) A type of device not covered by NAECA in the Rated Home;

2) A Rated Home heated by electricity using a device other than an air-source Heat Pump; or

3) A Rated Home that does not contain one or more of the required HVAC equipment systems.

Table 4.2.2(1a). Energy Rating Reference Home Heating and Cooling Equipment Efficiencies

Rated Home Fuel	Function	Reference Home Device
Electric	Heating	7.7 HSPF Air Source Heat Pump
Non-electric warm air furnace or space heater	Heating	78% AFUE gas furnace
Non-electric boiler	Heating	80% AFUE gas boiler
Any type	Cooling	13 SEER electric air conditioner
Biomass System [(a)]	Heating	63% Efficiency
Notes: (a) Biomass Fuel systems shall be included in Ratings only when a permanent heating system sized to meet the load of the Dwelling Unit does not exist. Where installed to supplement a permanent heating system that cannot meet the load of the Dwelling Unit, the biomass system shall be assigned only that part of the load that cannot be met by the permanent heating system.		

(q) For a Rated Home without a heating system, a gas heating system with the efficiency provided in Table 4.2.2(1a) shall be assumed for both the Energy Rating Reference Home and Rated Home. For a Rated Home that has no access to natural gas or fossil fuel

[27] (Informative Note) Such as enclosed water columns, rock beds, or phase change containers.

delivery, an Air Source Heat Pump with the efficiency provided in Table 4.2.2(1a) shall be assumed for both the Energy Rating Reference Home and Rated Home.

(r) When the Rated Home is in a building with multiple Dwelling Units, and where Dwelling-Unit Mechanical Ventilation System supply air is pre-conditioned by a shared system[28] before delivery[29] to the Dwelling Unit, that shared pre-conditioning system shall be represented in the Rated Home simulation as a separate HVAC system, in addition to the primary space conditioning system serving the Dwelling Unit. The supply airflow delivered to the Rated Home is the only conditioning load that shall be assigned to that shared equipment, and shall be determined as described in Table 4.2.2(1), endnote (k). Accordingly, the capacity of the simulated pre-conditioning equipment shall be the actual capacity pro-rated by the ratio of Rated Home supply airflow divided by total airflow through the actual shared pre-conditioning equipment.

(s) For a Rated Home without a cooling system, an electric air conditioner with the efficiency provided in Table 4.2.2(1a) shall be assumed for both the Energy Rating Reference Home and the Rated Home.

(t) For a Rated Home with a non-storage-type water heater or where a shared water heater provides service hot water to the Rated Home, a 40-gallon storage-type water heater of the same fuel as the proposed water heater shall be assumed for the Energy Rating Reference Home. For tankless water heaters with an Energy Factor, EF shall be multiplied by 0.92 for Rated Home calculations. For tankless water heaters with a Uniform Energy Factor, UEF shall be multiplied by 0.94 for Rated Home calculations. For a Rated Home without a proposed water heater, a 40-gallon storage-type water heater of the same fuel as the predominant fuel type used for the heating system(s) shall be assumed for both the Rated and Energy Rating Reference Homes. In both cases the Energy Factor of the water heater shall be as prescribed for the Energy Rating Reference Home water heater by Table 4.2.2(1).

(u) The Uniform Energy Factor (UEF) or Energy Factor (EF) shall be obtained for residential hot water equipment, or the Thermal Efficiency (TE) and Standby loss (SL) shall be obtained for commercial hot water equipment, from manufacturer's literature or from AHRI directory for equipment being used, where available. For commercial water heaters, where EF or UEF is not available, an Approved commercial hot water system calculator shall be used to determine the EF or UEF.

Where a manufacturer provided or AHRI published EF or UEF is not available for the residential hot water equipment, the guidance provided in i shall be used to determine the effective EF of the water heater. Where a manufacturer provided or AHRI published TE or SL is not available for commercial hot water equipment, the guidance provided in ii shall be used to determine the effective TE and SL of the water heater.

[28] (Informative Note) For example, a rooftop make-up air unit (MAU), dedicated outdoor air system (DOAS), or shared Energy Recovery Ventilator (ERV), with heating and/or cooling capability.

[29] (Normative Note) "Delivery" includes supply air ducted into the Dwelling Unit, or ducted into the Dwelling Unit's air distribution system, or indirectly through the door undercut or other intentional opening. Where the supply airflow cannot be measured, it shall be equal to the measured exhaust airflow or fanCFM, whichever is greater.

i. For residential oil, gas and electric water heaters or Heat Pumps, default EF values provided in Table 4.5.2(3) for age-based efficiency or Table 4.5.2(4) for non-age-based efficiency shall be used.
ii. For commercial water heaters, values provided in Table C404.2 Minimum Performance of Water-Heating Equipment in the IECC shall be used.

(v) The heat sources and sinks associated with the Service Hot Water System shall be included in the energy balance for the space in which the Service Hot Water System is located.

(w) 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.