BSR/ASHRAE Addendum h
to ANSI/ASHRAE Standard 62.2-2019

Public Review Draft

Proposed Addendum h to Standard 62.2-2019, Ventilation and Acceptable Indoor Air Quality in Residential Buildings

First Public Review (July 2021)
(Draft shows Proposed Changes to Current Standard)

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ASHRAE, 180 Technology Parkway NW, Peachtree Corners, GA 30092

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FOREWORD

This proposed addendum is intended to make the standard more consistent in the language used in the text and to more appropriately arrange and organize several sections of the standard. In addition, several changes have been made to better accommodate multi-family applications of the standard, such as the inclusion of a definition of "corridor" and consistent use of the term "dwelling unit". The heating degree day definition has been removed as it is no longer used in the standard.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

Addendum h to 62.2-2019

Revise Section 3 as shown below. The remainder of Section 3 is unchanged.

3. DEFINITIONS

Certain terms, abbreviations, and acronyms are defined in this section for the purposes of this standard. When the tense or plurality of the term is different than the defined term, the definition still applies. These definitions are applicable to all sections of this standard. Terms that are not defined shall have their ordinarily accepted meanings within the context in which they are used. Ordinarily accepted meanings shall be based on American standard English language usage as documented in an unabridged dictionary accepted by the adopting authority.

[…]
corridor**:** a space adjacent to but not within dwelling units that defines and provides a path of egress.

[…]
dwelling unit, attached: a dwelling unit sharing demising walls, floors, or ceilings, ~~or common corridors~~ with another dwelling unit, ~~or~~ occupiable space, public garages, or commercial space.

[…]
envelope area, dwelling-unit: the sum of the areas of the ceilings, floors, and walls that separate the conditioned space of a dwelling unit from the exterior and from adjacent interior spaces.

exhaust ~~flow~~ airflow, net: ~~flow~~ *airflow* through an exhaust system minus the compensating outdoor airflow through any supply system that is interlocked to the exhaust system.

[…]
floor area, dwelling-unit: all above- and below-grade finished areas as defined in ANSI Standard Z765, except that unfinished below-grade, occupiable spaces ~~areas~~ inside the dwelling-unit pressure boundary shall be included as floor area.

habitable space: ~~building~~ any enclosed space within a building intended for continuous~~al~~ human occupancy; such space ~~generally~~ includes areas used for living, sleeping, ~~dining~~ eating, or~~and~~ cooking but does not ~~generally~~ include bathrooms, toilet rooms, closets, hallways, storage areas, ~~closets,~~ or utility rooms.

~~***heating degree-day:*** the difference in temperature between the outdoor mean temperature over a 24 h period and a given base temperature of a building space; that is, for heating degree-day base 65°F (18°C), for any one day, when the mean temperature is less than 65°F (18°C), there are as many heating degree-days as degrees Fahrenheit (Celsius) temperature difference between the mean temperature for the day and 65°F (18°C). Annual heating degree-days are the sum of the heating degree-days over a calendar year.~~

[…]
mechanical ventilation, balanced: ventilation provided where the total supply fan ~~flow~~ airflow is within 20% of the total exhaust fan ~~flow~~ airflow and provided simultaneously.

[…]
occupiable space: any enclosed space within a building ~~inside the pressure boundary and~~ intended for human ~~activities~~occupancy, including but not limited to all habitable spaces, bathrooms, toilet rooms, closets, hallways, storage areas, and utility rooms~~areas, and laundry areas~~.

[…]
t~~T~~oilet room: a room~~space~~ containing a toilet, water closet, urinal, or similar sanitary plumbing fixture~~device~~ and, frequently, a lavatory, but not a bathtub, shower, spa or similar source of moisture.

utility room: laundry~~, lavatory,~~ or other ~~utility~~ room, that is not a toilet room or bathroom, containing sinks or washing equipment.

ventilation: the process of supplying outdoor air to or removing indoor air from a dwelling unit by natural or mechanical means. Such air may or may not have been conditioned.

Revise Section 4.1.2 as shown below.

4.1.2 Infiltration Credit. If a blower door test has been performed, then a credit for estimated infiltration may be taken for detached dwelling units using either the procedure in Section 4.1.2.1 or 4.1.2.2. Attached dwelling units other than horizontally attached shall not be permitted to take an infiltration credit. Horizontally attached dwelling units shall be permitted to use a blower door test result to take this credit, subject to the reduction factor *Aext* in Equation 4-2. If this credit is taken, then the Required Mechanical Ventilation Rate (*Qfan*) shall be calculated using Equation 4-2:

$$Qfan = Qtot - \Phi(Qinf \times Aext) \qquad (4\text{-}2)$$

where
Qfan = required mechanical ventilation rate, cfm (L/s)
Qtot = total required ventilation rate, cfm (L/s)
Qinf = infiltration, cfm (L/s)
Aext = 1 for detached dwelling units; otherwise, for horizontally attached dwelling units, the ratio of exterior dwelling-unit envelope ~~surface~~ area that is not attached to garages or other dwelling units to total dwelling-unit envelope ~~surface~~ area
Φ = 1 for balanced mechanical ventilation systems, and *Qinf* /*Qtot* otherwise

(see Normative Appendix A for exceptions for existing buildings)

Exception to 4.1.2: Where *Qfan*, calculated for unbalanced mechanical ventilation, is less than or equal to 15 cfm (7 L/s), a dwelling-unit ventilation system is not required.

Table 4-1a (I-P) Ventilation Air Requirements, cfm

Dwelling-Unit Floor Area, ft^2	Bedrooms				
	1	2	3	4	5
<500	30	38	45	53	60
501 to 1000	45	53	60	68	75
1001 to 1500	60	68	75	83	90
1501 to 2000	75	83	90	98	105
2001 to 2500	90	98	105	113	120
2501 to 3000	105	113	120	128	135
3001 to 3500	120	128	135	143	150
3501 to 4000	135	143	150	158	165
4001 to 4500	150	158	165	173	180
4501 to 5000	165	173	180	188	195

Table 4-1b (SI) Ventilation Air Requirements, L/s

Dwelling-Unit Floor Area, m^2	Bedrooms				
	1	2	3	4	5
<47	14	18	21	25	28
47 to 93	21	24	28	31	35
94 to 139	28	31	35	38	42
140 to 186	35	38	42	45	49
187 to 232	42	45	49	52	56
233 to 279	49	52	56	59	63
280 to 325	56	59	63	66	70
326 to 372	63	66	70	73	77
373 to 418	70	73	77	80	84
419 to 465	77	80	84	87	91

4.1.2.1 Effective Annual Average Infiltration Rate (*Qinf*) Using a Single-Point Envelope Leakage Test. Effective Annual Average Infiltration Rate (*Qinf*) shall be calculated using a single-point test at 50 Pa from ASTM E1827 or ANSI/RESNET/ICC Standard 380.

The Effective Annual Average Infiltration Rate (*Qinf*) shall be calculated using Equation 4-3:

$$Qinf = 0.052 \times Q50 \times \text{wsf} \times (H/Hr)z \qquad (4\text{-}3)$$

where
Qinf = estimated infiltration rate, cfm (L/s)
Q50 = leakage rate at 50 Pa depressurization or pressurization, cfm (L/s)
wsf = weather and shielding factor from Normative Appendix B

H = vertical distance between the lowest and highest above-grade points within the dwelling-unit pressure boundary, ft (m)
Hr = reference height, 8.2 ft (2.5 m)
z = 0.4 for the purpose of calculating the Effective Annual Average Infiltration Rate

4.1.2.2 Effective Annual Average Infiltration Rate (*Qinf*) Using a Multipoint Envelope Leakage Test. Effective Annual Average Infiltration Rate (*Qinf*) shall be calculated using the normalized leakage calculated from measurements of dwelling-unit envelope leakage using a multipoint test from either ASTM E779 or CGSB 149.10.

ASTM Procedure. To calculate the effective leak area (ELA) from ASTM E779, the leakage area for pressurization and depressurization (using a 4 Pa reference pressure) shall be averaged using Equation 4-4:

$$ELA = (Lpress + Ldepress)/2 \quad (4\text{-}4)$$

where
ELA = effective leakage area, ft^2 (m^2)
Lpress = leakage area from pressurization, ft^2 (m^2)
Ldepress = leakage area from depressurization, ft^2 (m^2)

CGSB Procedure. To calculate the ELA from CGSB 149.10, the following modifications to the test procedure must be made.

a. All vents and intentional openings must be in the same configuration as specified in ASTM E779 (i.e., HVAC dampers and registers should be in the normal operating position; fireplace and other dampers should be closed unless they are required for test operation).
b. Height and dwelling-unit floor area must be reported consistently with the definitions of this standard.
c. The leakage area as calculated from the CGSB procedure must be converted using Equation 4-5:

$$ELA = 0.61 \times (0.4)^{n-0.5} \times Lcgsb \quad (4\text{-}5)$$

where
n = exponent measured from the CGSB 149.10
Lcgsb = CGSB leakage area as modified above, ft^2 (m^2)

Normalized Leakage. Normalized leakage shall be calculated using Equation 4-6:

$$NL = 1000 \times \frac{ELA}{A_{floor}} \times \left[\frac{H}{H_r}\right]^z \quad (4\text{-}6)$$

where
NL = normalized leakage
ELA = effective leakage area, ft^2 (m^2)
Afloor = dwelling-unit floor area ~~of residence~~, ft^2 (m^2)
H = vertical distance between the lowest and highest above-grade points within the dwelling-unit pressure boundary, ft (m)
Hr = reference height, 8.2 ft (2.5 m)
z = 0.4 for the purpose of calculating the Effective Annual Infiltration Rate

Effective Annual Average Infiltration Rate (*Qinf*). Effective Annual Average Infiltration Rate (*Qinf*) shall be calculated using Equation 4-7a (I-P) or 4-7b (SI):

$$Q_{inf}(\text{cfm}) = \frac{\text{NL} \times \text{wsf} \times A_{floor}}{7.3} \quad (4\text{-}7a)$$

where
NL = normalized leakage
wsf = weather and shielding factor from Normative Appendix B
Afloor = dwelling-unit floor area ~~of residence~~, ft^2

$$Q_{inf}(\text{L/s}) = \frac{\text{NL} \times \text{wsf} \times A_{floor}}{1.44} \quad (4\text{-}7b)$$

where
NL = normalized leakage
wsf = weather and shielding factor from Normative Appendix B
Afloor = dwelling-unit floor area ~~of residence~~, m^2

Revise Section 4.1.4.3 as shown below.

4.1.4.3 Airflow Rate. The minimum airflow rate passing through the filter is shown in Equation 4-9:

$$Q_{fr} = f_{fr} Q_{tot} \quad (4\text{-}9)$$

where *Qfr* is the time average ~~flow~~ airflow rate of filtered, recirculated air delivered by the air-handling system. The period of time for averaging the ~~flow~~ airflow shall not exceed one day. If the period exceeds 12 hours, controls shall be provided to ensure that the system also provides at least 10% of *Qfr* every 12-hour period.

Revise Section 4.3 as shown below.

4.3 Airflow Measurement. The airflow required by this section is the quantity of outdoor ~~ventilation~~ air supplied to the dwelling unit ~~and/~~or indoor air exhausted by the mechanical ventilation system as installed and shall be measured according to the ventilation equipment manufacturer installation instructions, or by using a flow hood, flow grid, or other airflow measuring device at the mechanical ventilation ~~fan's~~ system's ~~inlet~~ terminals/grilles, ~~outlet terminals/grilles,~~ or in the connected ventilation ducts. Balanced mechanical ventilation system airflow shall be the average of the supply fan and exhaust fan ~~flow~~ airflows. Ventilation airflow of systems with multiple operating modes shall be tested in all modes designed to meet this section.

Revise Section 5.4 as shown below. The remainder of Section 5.4 is unchanged.

5.4 Airflow Measurement. The airflow required by this section is the quantity of indoor air exhausted by the ventilation system as installed and shall be measured according to the ventilation equipment manufacturer's instructions, or by using a flow hood, flow grid, or other airflow measuring device at the mechanical ventilation ~~fan's~~ system's ~~inlet~~ terminals/grilles, ~~outlet terminals,~~ or in the connected ventilation ducts.

Exception to 5.4: Manufacturer design criteria or the prescriptive requirements of Table 5-3 shall be permitted in place of a measurement. When using Table 5-3, the airflow rating according to Section 7.1 shall meet or exceed a static pressure of 0.25 in. of water (62.5 Pa). Use of Table 5-3 is limited to duct systems not exceeding 25 ft (8 m) in length, duct systems with no more than three (3) elbows, and duct systems with exterior termination fittings having a hydraulic diameter greater than or equal to the minimum duct diameter and not less than the hydraulic diameter of the fan outlet.

Table 5-1 Demand-Controlled Local ~~Ventilation~~ Exhaust Airflow Rates

Application	Airflow
Enclosed kitchen	• Vented range hood (including appliance-range hood combinations): 100 cfm (50 L/s) • Other kitchen exhaust fans, including downdraft: 300 cfm (150 L/s) or a capacity of 5 ach
Nonenclosed kitchen	• Vented range hood (including appliance-range hood combinations): 100 cfm (50 L/s) • Other kitchen exhaust fans, including downdraft: 300 cfm (150 L/s)
Bathroom	50 cfm (25 L/s)

Table 5-2 Continuous Local ~~Ventilation~~ Exhaust Airflow Rates

Application	Airflow
Enclosed kitchen	5 ach, based on kitchen volume
Bathroom	20 cfm (10 L/s)

[…]

Revise Section 6 as shown below.

6. OTHER REQUIREMENTS

6.1 Airtightness Requirements~~Adjacent Spaces and Transfer Air~~.

6.1.1 Dwelling Units. Measures shall be taken to minimize air movement across dwelling-unit envelope components to dwelling units from adjacent spaces, such as garages, unconditioned crawlspaces, unconditioned attics, corridors, and other dwelling units. ~~Pressure boundary wall, ceiling, and floor~~ Dwelling-unit envelope penetrations shall be sealed, as shall any vertical chases adjacent to dwelling-units. Doors between dwelling-units and ~~common hallways~~ corridors shall be gasketed or made substantially airtight.

Supply and balanced mechanical ventilation systems shall be designed and constructed to provide ventilation air directly from the outdoors. ~~Balanced mechanical ventilation system airflow shall be the average of the supply fan and exhaust fan flows.~~

6.1.1~~2~~2 ~~Compliance for~~ Attached Dwelling Units. Attached dwelling units, except existing units as described in Normative Appendix A, Section A6, shall demonstrate compliance with Section 6.1.1 by verifying a leakage rate less than or equal to 0.3 cfm per ft^2 (150 L/s per 100 m^2) of the dwelling-unit envelope area by means of a blower door test at a test pressure of 50 Pa. Testing shall be conducted in accordance with ANSI/RESNET/ICC Standard 380. For horizontally attached ~~single-family~~ dwelling units that are being evaluated for the infiltration credit in Section 4.1.2, the procedure specified in Section 4.1.2 shall be an alternative to the procedure of this section.

Relocate and revise Sections 6.5.1 and 6.5.2 and renumber as 6.1.3 and 6.1.4 as shown below.

6.~~5~~.1.3 Garages. When an occupiable space adjoins a garage, the design must prevent migration of contaminants to the adjoining occupiable space. Air seal the walls, ceilings, and floors that separate garages from occupiable space. To be considered air sealed, all joints, seams, penetrations, openings between door assemblies and their respective jambs and framing, and other sources of air leakage through wall and ceiling assemblies separating the garage from the residence and its attic area shall be caulked, gasketed, weather stripped, wrapped, or otherwise

sealed to limit air movement. Doors between garages and occupiable spaces shall be gasketed or made substantially airtight with weather stripping.

6.1.4~~5.2~~ Space-Conditioning System Ducts. All air distribution joints located outside the pressure boundary shall be sealed. HVAC systems that serve occupiable space shall not be designed to supply air to or return air from the garage. HVAC systems that include air handlers or ducts located outside the pressure boundary shall have total air leakage of no more than 6% of total fan ~~flow~~airflow when measured at 0.1 in. of water (25 Pa) using California Title 24 or equivalent. Method D of ASTM E1554 may be used to meet this requirement. If the air handler, ducts, or both are located in the garage, the garage door shall be open to the outside when the duct leakage is tested.

6.2 Instructions and Labeling. Information on the ventilation design and/or ventilation systems installed, instructions on their proper operation to meet the requirements of this standard, and instructions detailing any required maintenance (similar to that provided for HVAC systems) shall be provided to the owner and the occupant of the dwelling unit. Controls shall be labeled as to their function (unless that function is obvious, such as toilet exhaust fan switches). See ASHRAE Guideline 24, Section 13, for information on instructions and labeling.

6.3 Clothes Dryers. Clothes dryers shall be exhausted directly to the outdoors.

Exception to 6.3: Condensing dryers plumbed to a drain.

6.4 Combustion and Solid-Fuel-Burning Appliances

6.4.1 Combustion and solid-fuel-burning appliances must be provided with adequate combustion and ventilation air and installed in accordance with manufacturer installation instructions, NFPA 31, NFPA 54/ANSI Z223.1, NFPA 211, or other equivalent code acceptable to the building official.

6.4.2 Where atmospherically vented combustion appliances or solid-fuel-burning appliances are located inside the dwelling-unit pressure boundary, the total net exhaust ~~flow~~ airflow of the two largest exhaust fans (not including a summer cooling fan intended to be operated ~~only when~~in conjunction with windows or other ~~air inlets are~~ openings) shall not exceed 15 cfm per 100 ft^2 (75 L/s per 100 m^2) of occupiable space when in operation at full capacity. If the designed total net ~~flow~~ airflow exceeds this limit, the net exhaust ~~flow~~ airflow must be reduced by reducing the exhaust ~~flow~~ airflow or providing compensating outdoor air. Gravity or barometric dampers in nonpowered exhaust makeup air systems shall not be used to provide compensating outdoor air. Atmospherically vented combustion appliances do not include direct-vent appliances. Combustion appliances that pass safety testing performed according to ANSI/BPI-1200 shall be deemed as complying with Section 6.4.2.

Delete Section 6.5 as shown below. Sections 6.5.1 and 6.5.2 were relocated and renumbered as 6.1.3 and 6.1.4.

~~**6.5 Airtightness Requirements**~~

Revise Sections 6.6.1 and 6.6.2 as shown below.

6.6 Ventilation Opening Area. Spaces shall have ventilation openings as listed in the following subsections. Such openings shall meet the requirements of Section 6.8.

Exception to 6.6: Attached dwelling units and spaces that meet the local ventilation requirements set for bathrooms in Section 5.

6.6.1 Habitable Spaces. Each habitable space shall be provided with ventilation openings with an openable area not less than 4% of the habitable space floor area or less than 5 ft^2 (0.5 m^2).

6.6.2 Toilet Rooms and Utility Rooms. Toilets rooms and utility rooms shall be provided with natural ventilation openings with an openable area not less than 4% of the room floor area or less than 1.5 ft^2 (0.15 m^2).

Exceptions to 6.6.2:
1. Utility rooms with a dryer exhaust duct.
2. Toilet roomscompartments in bathrooms.

Renumber Section 6.8 as 6.7 as shown below. The current Section 6.7 and 6.7.1 have been relocated and renumbered as Section 6.9 and 6.9.1.

6.87 Air Inlets. Air inlets that are part of the ventilation design shall be located a minimum of 10 ft (3 m) from known sources of contamination such as a stack, vent, exhaust hood, or vehicle exhaust. The intake shall be placed so that entering air is not obstructed by snow, plantings, or other material. Forced air inlets shall be provided with rodent/insect screens (mesh not larger than 1/2 in. [13 mm]).

Exceptions to 6.87:
1. Ventilation openings in the wall may be as close as a stretched-string distance of 3 ft (1 m) from sources of contamination exiting through the roof or dryer exhausts.
2. No minimum separation distance shall be required between windows and local exhaust outlets in kitchens and bathrooms.
3. Vent terminations covered by and meeting the requirements of the *National Fuel Gas Code* (NFPA 54/ANSI Z223.1) or equivalent.
4. Where a combined exhaust/intake termination is used to separate intake air from exhaust air originating in a living space other than kitchens, no minimum separation distance between these two openings is required. For these combined terminations, the exhaust air concentration within the intake airflow shall not exceed 10% as established by the manufacturer.

6.8.1 Ventilation Openings. Operable windows, skylights, through-the-wall inlets, window air inlets, or similar devices shall be readily accessible to occupants. Where openings are covered with louvers or otherwise obstructed, openable area shall be based on the free, unobstructed area through the opening.

6.7 6.9 Minimum Filtration. Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 ft (3 m) in length and through a thermal conditioning component, except evaporative coolers, shall be provided with a filter having a designated minimum efficiency of MERV 6 or better when tested in accordance with ANSI/ASHRAE Standard 52.2, or a minimum particle size efficiency of 50% in the 3.0 to 10 μm range in accordance with AHRI Standard 680. The system shall be designed such that all recirculated and mechanically supplied outdoor air is filtered before passing through the thermal conditioning components. The filter shall be located and installed in such a manner as to facilitate access and regular service by the owner.

6.7.1 6.9.1 Filter Pressure Drop. New mechanical and distribution systems covered by Section 6.7 shall be designed to accommodate the clean-filter pressure drop as rated using AHRI Standard 680 for the system design flow airflow. The filter locations shall be labeled with the design airflow and maximum allowable clean-filter pressure drop. The label shall be visible to a person replacing the filter.

6.109 Carbon Monoxide Alarms. A carbon monoxide alarm shall be installed in each dwelling unit in accordance with NFPA 720, and shall be consistent with requirements of applicable laws, codes, and standards.

Revise Section 7.3.2 as shown below.

7.3.2 Single Exhaust Fan Ducted to Multiple Exhaust Inlets. Where exhaust inlets are commonly ducted across multiple dwelling units, one or more exhaust fans located downstream of the exhaust inlets shall be designed and intended to run continuously, or a system of one or more backdraft dampers shall be installed to isolate each dwelling unit from the common duct when the fan is not running.

Revise Normative Appendix A as shown below. The remainder of Normative Appendix A is unchanged.

(This is a normative appendix and is part of the standard.)

NORMATIVE APPENDIX A
EXISTING BUILDINGS

[…]
A2. DWELLING-UNIT MECHANICAL VENTILATION RATE

The required mechanical ventilation rate (*Qfan*) shall be the rate *Qtot* in Section 4.1.1 plus the required additional airflow calculated in accordance with Section A3. If the airtightness of the ~~building~~ dwelling-unit envelope has been measured, the required mechanical ventilation rate may be reduced as described in Section 4.1.2. In these cases, Section A3 shall be applied before Section 4.1.2 when determining the final mechanical ventilation rate.

[…]
A4.2.2 Existing fans intended for local exhaust only shall be measured consistent with the requirements of Section 5.4.

Exception to A4.2.2: If the fan ~~flow~~ airflow rate cannot be measured and fan airflow ratings at 0.25 in. of water (62.5 Pa) are not available, but fan airflow ratings are available for 0.1 in. of water (25 Pa) and the duct sizing requirements of Table 5-3 can be verified, those ratings may be used, provided they are reduced by 25%.

A5. DWELLING-UNIT AIR SEALING

Dwelling units that are undergoing alterations where between 15% and 80% of the dwelling-unit envelope wall area is altered shall comply with Section 6.1.1 or with Sections A5.1 through A5.4. Dwelling units where at least 80% of the dwelling-unit envelope wall area is altered shall comply with Section 6.1.1.

A5.1 The spaces around readily accessible penetrations through the dwelling-unit air barrier, including but not limited to the following, shall be sealed:

a. Vent and pipe penetrations, including those from water piping, drain waste and vent piping, HVAC piping, and sprinkler heads
b. Electrical penetrations, including those for receptacles, lighting, communications wiring, and smoke alarms
c. HVAC penetrations, including those for fans and ~~for exhaust, supply, transfer, and return air~~ ducts
[…]

Revise Normative Appendix C as shown below. The remainder of Normative Appendix C is unchanged.

(This is a normative appendix and is part of the standard.)

NORMATIVE APPENDIX C
RELATIVE EXPOSURE

[…]

C2.2.2.1 Wind-Driven ~~Flow~~ Airflow. The wind speed shall be converted to site wind speed using the wind speed multiplier (*G*) from Table C-1 and Equation C-3.

$$U = GUmet \quad \text{(C-3)}$$

The wind-driven ~~flow~~ airflow shall be calculated using Equation C-4:

$$Qw = C \times Cw(sU)^{2n} \quad \text{(C-4)}$$

where shelter factor *s* is taken from Table C-2, and the wind coefficient (*Cw*) is taken from Table C-3a (I-P) or C-3b (SI).

The values for a flue shall be used whenever there is an open fireplace or combustion device that takes its combustion air from conditioned space (e.g., furnace, water heater or woodstove).

C2.2.2.2 Stack-Driven ~~Flow~~ Airflow. The stack-driven ~~flow~~ airflow shall be calculated using Equation C-5:

$$Q_s = CC_s(|T_{in} - T_{out}|)^n \quad \text{(C-5)}$$

where the stack coefficient *Cs* is taken from Table C-4a (I-P) or C-4b (SI), and *Tin* is assumed to be 68°F (20°C).

C2.2.2.3 Total Infiltration ~~Flow~~ Airflow. The total infiltration ~~flow~~ airflow shall be calculated using Equation C-6:

$$Q_{inf,i} = \sqrt{Q_w^2 + Q_s^2} \quad \text{(C-6)}$$

[…]