ADDENDA

ANSI/ASHRAE Addendum v to
ANSI/ASHRAE Standard 62.1-2016

Ventilation for Acceptable Indoor Air Quality

Approved by the ASHRAE Standards Committee on June 23, 2018; by the ASHRAE Board of Directors on June 27, 2018; and by the American National Standards Institute on July 25, 2018.

This addendum was approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. The change submittal form, instructions, and deadlines may be obtained in electronic form from the ASHRAE website (www.ashrae.org) or in paper form from the Senior Manager of Standards.

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b. participation in the next review of the Standard,
c. offering constructive criticism for improving the Standard, or
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FOREWORD

This addendum adds requirements for alternate calculation methods (current Section B2[c]) but does not describe or prescribe a method.

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

Addendum v to Standard 62.1-2016

Modify Normative Appendix B as shown. The remainder of Normative Appendix B is unchanged.

[…]

B2. DETERMINING DISTANCE *L*

The minimum separation distance (L) shall be determined using one of the following three approaches:

~~a.~~ **B2.1 Simple Method.** A value of L in Table B2-1 shall be used.

~~b.~~ **B2.2 Velocity Method.** The value of L shall be determined using Equation B2-1 or B2-2.

$$L = 0.09 \times \sqrt{Q} \times (\sqrt{\text{DF}} - U/400) \text{ in feet} \quad \text{(I-P)} \quad \text{(B2-1)}$$

$$L = 0.04 \times \sqrt{Q} \times (\sqrt{\text{DF}} - U/2) \text{ in metres} \quad \text{(SI)} \quad \text{(B2-2)}$$

where

Q = exhaust airflow rate, cfm (L/s). For gravity vents, such as plumbing vents, use an exhaust rate of 150 cfm (75 L/s). For flue vents from fuel-burning appliances, assume a value of 250 cfm per million Btu/h (0.43 L/s per kW) of combustion input (or obtain actual rates from the combustion appliance manufacturer.

U = exhaust air discharge velocity, fpm (m/s). As shown in Figure B2-1, U shall be determined using Table B2-3.

DF = dilution factor, which is the ratio of outdoor airflow to entrained exhaust airflow in the outdoor air intake. The minimum dilution factor shall be determined as a function of exhaust air class in Table B2-2.

For exhaust air composed of more than one class of air, the dilution factor shall be determined by averaging the dilution factors by the volume fraction of each class using Equation B2-3:

$$\text{DF} = \sum(\text{DF}_i \times Q_i)/\sum Q_i \quad \text{(B2-3)}$$

TABLE B2-1 Minimum Separation Distance

Exhaust Air Class (See Section 5.16)	Separation Distance, *L*, ft (m)
Significant contaminant or odor intensity (Class 3)	15 (5)
Noxious or dangerous particles (Class 4)	30 (10)

TABLE B2-2 Minimum Dilution Factors

Exhaust Air Class (See Section 5.16)	Dilution Factor (DF)
Significant contaminant or odor intensity (Class 3)	15
Noxious or dangerous particles (Class 4)	50*

*Does not apply to fume hood exhaust. See Section B1.1.

where

DF_i = dilution factor from Table B2-2 for class i air.

Q_i = volumetric flow rate of class i air in the exhaust airstream.

~~c. When the above options do not represent the proposed design, then an exceptional calculation method shall be used to calculate the value of L if approved by the authority having jurisdiction. It must be shown that the proposed design will result in dilution factors that are not less than those specified in Table B2-2.~~

B2.3 Concentration Method. Determine the acceptable concentration for health (C_{health}) and odor (C_{odor}) for each emitted chemical, compound, or mixture. At a minimum, evaluate compounds of common interest and corresponding mixtures listed in Tables 6.2.3.1 and 6.2.3.2.

Design the exhaust and intake systems such that the maximum concentration at the intake (C_{max}) is less than the acceptable concentrations of all evaluated compounds and mixtures.

$$C_{max} < C_{health} \quad \text{(B.2.3.1)}$$

$$C_{max} < C_{odor} \quad \text{(B.2.3.2)}$$

At a minimum, determination of C_{max} shall consider wind speed, wind direction, exhaust exit velocity and momentum, geometry of building and adjacent structures, and architectural screens. Wind tunnel modeling is an acceptable design method.

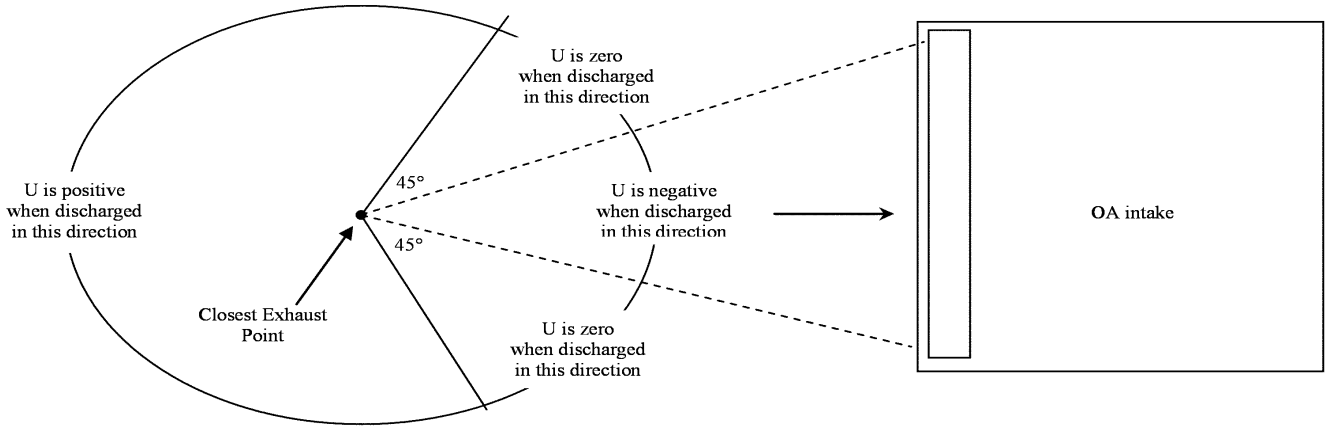

FIGURE B2-1 Exhaust air discharge velocity (*U*).

TABLE B2-3 Exhaust Air Discharge Velocity

Exhaust Direction/Configuration	Exhaust Air Discharge Velocity (*U*) Modifier
Exhaust is directed away from the outdoor air intake at an angle that is greater than 45 degrees from the direction of a line drawn from the closest exhaust point to the edge of the intake	*U* given a positive value
Exhaust is directed toward the intake bounded by lines drawn from the closest exhaust point to the edge of the intake	*U* given a negative value
Exhaust is directed at an angle between the two above cases	*U* is zero
Vents from gravity (atmospheric) fuel-fired appliances, plumbing vents, and other nonpowered exhausts, or if the exhaust discharge is covered by a cap or other device that dissipates the exhaust airstream	*U* is zero
Hot gas exhausts such as combustion products if the exhaust stream is aimed directly upward and unimpeded by devices such as flue caps or louvers	Add 500 fpm (2.5 m/s) upward velocity to ***U***

POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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