

**ANSI/ASHRAE Addenda f, g, h, i to  
ANSI/ASHRAE Standard 62.2-2007**



# **ASHRAE STANDARD**

## **Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings**

Approved by the ASHRAE Standards Committee on June 20, 2009; by the ASHRAE Board of Directors on June 24, 2009; and by the American National Standards Institute on June 25, 2009.

This standard is under continuous maintenance 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 Web site, <http://www.ashrae.org>, or in paper form from the Manager of Standards. The latest edition of an ASHRAE Standard may be purchased from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: [orders@ashrae.org](mailto:orders@ashrae.org). Fax: 404-321-5478. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada).

© Copyright 2009 American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

ISSN 1041-2336



**American Society of Heating, Refrigerating  
and Air-Conditioning Engineers, Inc.**  
1791 Tullie Circle NE, Atlanta, GA 30329  
[www.ashrae.org](http://www.ashrae.org)

**ASHRAE Standing Standard Project Committee 62.2**  
**Cognizant TC: TC 4.3, Ventilation Requirements and Infiltration**  
**SPLS Liaison: Donald L. Brandt**

Steven J. Emmerich, <i>Chair*</i>	Paul Francisco*	James A. Ranfone
Don T. Stevens, <i>Vice-Chair*</i>	Marquam C. George*	Paul H. Raymer*
Erv L. Bales	Roger L. Hedrick*	Armin Rudd
Terry M. Brennan*	Thomas P. Heidel	Kenneth Sagan*
Bernardo Cardenal*	Richard John Karg*	Thomas Stroud
Roy R. Crawford*	Glenn P. Langan	John M. Talbott*
David C. Delaquila*	Joseph W. Lstiburek*	Ian S. Walker*
Lance L. DeLaura	Michael R. Lubliner	Eric D. Werling*
S. Craig Drumheller	Jane Malone	Bruce A. Wilcox*
Philip W. Fairey, III*	John P. Proctor*	Ted A. Williams*

\*Denotes members of voting status when the document was approved for publication

---

**ASHRAE STANDARDS COMMITTEE 2008–2009**

Hugh F. Crowther, <i>Chair</i>	Jay A. Kohler
Steven T. Bushby, <i>Vice-Chair</i>	Carol E. Marriott
Robert G. Baker	Merle F. McBride
Michael F. Beda	Frank Myers
Donald L. Brandt	H. Michael Newman
Paul W. Cabot	Janice C. Peterson
Kenneth W. Cooper	Douglas T. Reindl
Samuel D. Cummings, Jr.	Lawrence J. Schoen
K. William Dean	Boggarm S. Setty
Martin Dieryckx	Bodh R. Subherwal
Robert G. Doerr	William F. Walter
Allan B. Fraser	Michael W. Woodford
Nadar R. Jayaraman	David E. Knebel, <i>BOD ExO</i>
Byron W. Jones	Andrew K. Persily, <i>CO</i>

Stephanie Reiniche, *Manager of Standards*

---

**SPECIAL NOTE**

This American National Standard (ANS) is a national voluntary consensus standard developed under the auspices of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). *Consensus* is defined by the American National Standards Institute (ANSI), of which ASHRAE is a member and which has approved this standard as an ANS, as “substantial agreement reached by directly and materially affected interest categories. This signifies the concurrence of more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that an effort be made toward their resolution.” Compliance with this standard is voluntary until and unless a legal jurisdiction makes compliance mandatory through legislation.

ASHRAE obtains consensus through participation of its national and international members, associated societies, and public review.

ASHRAE Standards are prepared by a Project Committee appointed specifically for the purpose of writing the Standard. The Project Committee Chair and Vice-Chair must be members of ASHRAE; while other committee members may or may not be ASHRAE members, all must be technically qualified in the subject area of the Standard. Every effort is made to balance the concerned interests on all Project Committees.

The Manager of Standards of ASHRAE should be contacted for:

- a. interpretation of the contents of this Standard,
- b. participation in the next review of the Standard,
- c. offering constructive criticism for improving the Standard, or
- d. permission to reprint portions of the Standard.

**DISCLAIMER**

ASHRAE uses its best efforts to promulgate Standards and Guidelines for the benefit of the public in light of available information and accepted industry practices. However, ASHRAE does not guarantee, certify, or assure the safety or performance of any products, components, or systems tested, installed, or operated in accordance with ASHRAE's Standards or Guidelines or that any tests conducted under its Standards or Guidelines will be nonhazardous or free from risk.

**ASHRAE INDUSTRIAL ADVERTISING POLICY ON STANDARDS**

ASHRAE Standards and Guidelines are established to assist industry and the public by offering a uniform method of testing for rating purposes, by suggesting safe practices in designing and installing equipment, by providing proper definitions of this equipment, and by providing other information that may serve to guide the industry. The creation of ASHRAE Standards and Guidelines is determined by the need for them, and conformance to them is completely voluntary.

In referring to this Standard or Guideline and in marking of equipment and in advertising, no claim shall be made, either stated or implied, that the product has been approved by ASHRAE.

**(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)**

## FOREWORD

*The existing Table 4.2 of Standard 62.2 does not provide sufficient resolution in defining ventilation effectiveness for the 24-hour cycle time and, as such, prevented energy saving strategies like nighttime ventilation cooling by imposing an excessive penalty on systems that operate between 0.4 and 0.6 fractional on-time. The committee felt that a longer table in the standard was not warranted for these rare cases but agreed to allow linear interpolation for fractional on-times within the table as that is conservative relative to the fundamental equations on which Table 4.2 is based.*

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

### Addendum f to 62.2-2007

*Revise the text immediately following Table 4.2 as shown.*

*Note that the text shown below is relative to the current Standard 62.2-2007 with the 2008 Supplement incorporated. Addendum b to 62.2-2007 (included in the 2008 Supplement) made changes to the published standard. The 2008 Supplement is available for free download from the ASHRAE Web site at [www.ashrae.org/docLib/20081029\\_62\\_2\\_Supplement\\_FINAL.pdf](http://www.ashrae.org/docLib/20081029_62_2_Supplement_FINAL.pdf).*

~~Interpolation in Table 4.2 is not allowed.~~ For values not listed, use the next higher value for Cycle Time or the next lower value for Fractional On-Time. Linear interpolation is allowed for intermediate Fractional On-Times. The minimum allowed Fractional On-Time is 0.1 and the maximum allowed Cycle Time is 24 hours.

**(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)**

## FOREWORD

*ASHRAE Guideline 24 was published in 2008 and is a companion document to ASHRAE Standard 62.2. The new guideline provides information on achieving good IAQ that goes beyond the minimum requirements contained in Standard 62.2 by providing explanatory and educational material not included in the standard. The guideline's Chapters 10 and 13 include updated versions of the existing content of Appendices A and B of Standard 62.2. These Appendices contain no mandatory requirements and this information will be maintained in Guideline 24 in the future. Therefore, this change will remove those unneeded appendices from Standard 62.2 in their entirety to avoid duplication and potential conflicts.*

**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 g to 62.2-2007

*Delete Informative Appendices A and B in their entirety.*

*Note that Addendum b to 62.2-2007 (included in the 2008 Supplement) made changes to the Example in Section B4.1 of the published standard.*

*Change all references to Appendices A and B in the body of the standard to Chapters 13 and 10, respectively, in ASHRAE Guideline 24-2008 as shown. Note that Addendum b to 62.2-2007 (included in the 2008 Supplement) made changes to Section 4.4 of the published standard.*

*The 2008 Supplement is available for free download from the ASHRAE Web site at [www.ashrae.org/docLib/20081029\\_62\\_2\\_Supplement\\_FINAL.pdf](http://www.ashrae.org/docLib/20081029_62_2_Supplement_FINAL.pdf).*

**4.2 System Type.** The whole-house ventilation system shall consist of one or more supply or exhaust fans and associated ducts and controls. Local exhaust fans shall be permitted to be part of a mechanical exhaust system. Outdoor air ducts connected to the return side of an air handler shall be permitted as supply ventilation if manufacturers' requirements for return air temperature are met. See Chapter 10 of Guideline 24<sup>11</sup>~~Appendix B~~ for guidance on selection of methods.

**4.4 Delivered Ventilation.** The delivered ventilation rate shall be calculated as the larger of the total supply or total exhaust and shall be no less than specified in Section 4.1 during each hour of operation.

**Exception:** The effective ventilation rate of an intermittent system is the combination of its delivered capacity, fractional on-time, cycle time, and the ventilation effectiveness from Table 4.2. The fan flow rate required to achieve an effective ventilation rate that is equivalent to the continuous ventilation requirement shall be calculated from the following equation:

$$Q_f = \frac{Q_r}{\varepsilon f} \quad (4.2)$$

where

- $Q_f$  = fan flow rate during the on-cycle,
- $Q_r$  = ventilation air requirement (from Table 4.1a or Table 4.1b),
- $T_{cyc}$  = fan cycle time, defined as the total time for 1 on- and 1 off-cycle (used in Table 4.2),
- $\varepsilon$  = ventilation effectiveness (from Table 4.2), and
- $f$  = fractional on time, defined as the on-time for one cycle divided by the cycle time.

See Chapter 10 of Guideline 24<sup>11</sup>~~Appendix B~~ for an example of this calculation.

**5.3 Continuous Mechanical Exhaust.** A continuously operating mechanical exhaust system shall be installed to operate without occupant intervention. The system may be part of a balanced mechanical system. See Chapter 10 of Guideline 24<sup>11</sup>~~Appendix B~~ for guidance on selection of methods.

**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 Chapter 13 of Guideline 24<sup>11</sup>~~Appendix A~~ for information on instructions and labeling.

*Revise Section 9 as shown.*

*Note that Addendum a to 62.2-2007 (included in the 2008 Supplement) added a new reference 10.*

## 9. REFERENCES

11. ASHRAE Guideline 24-2008, Ventilation and Indoor Air Quality in Low-Rise Residential Buildings. American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., Atlanta, GA.

**(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)**

## **FOREWORD**

*This change adds an additional specific requirement on the prevention of transfer air that is only relevant to multifamily buildings. It includes an exception for the possibility of systems designed to supply ventilation air from the corridor, which may be allowed by code in some jurisdictions.*

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

## **Addendum h to 62.2-2007**

*Add a new Section 6.1.1 as shown below.*

**6.1.1 Multifamily Buildings.** All doors between dwelling units and common hallways shall be gasketed or made substantially airtight with weatherstripping except when the ventilation system design explicitly requires transfer air from corridors into units.

(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

## FOREWORD

*This change clarifies Section 6.1. The existing language is not appropriate if applying Standard 62.2 to existing buildings that have already been designed and constructed.*

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

## Addendum i to 62.2-2007

*Revise Section 6.1 as shown below.*

**6.1 Transfer Air:** Dwelling units shall be ~~designed and constructed to provide~~ provided with ventilation air directly from the outdoors and not as transfer air from adjacent dwelling units or other spaces, such as garages, unconditioned crawlspaces, or unconditioned attics. Measures shall be taken to prevent air movement across envelope components separating attached, adjacent dwelling units and between dwelling units and other spaces, both vertically and horizontally. Measures shall include sealing of common envelope components, pressure management, and use of airtight recessed lighting fixtures.

**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.

