STANDARD

ANSI/ASHRAE Standard 62.2-2013
(Supersedes ANSI/ASHRAE Standard 62.2-2010)
Includes ANSI/ASHRAE addenda listed in Appendix C

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

See Appendix C for approval dates by the ASHRAE Standards Committee, the ASHRAE Board of Directors, and the American National Standards Institute.

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 website (www.ashrae.org) or in paper form from the Manager of Standards. The latest edition of an ASHRAE Standard may be purchased from the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: 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). For reprint permission, go to www.ashrae.org/permissions.

 ISSN 1041-2336

Approved American National Standard
ANSI
www.ansi.org

SPECIAL NOTE

This American National Standard (ANS) is a national voluntary consensus standard developed under the auspices of 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.

CONTENTS

ANSI/ASHRAE Standard 62.2-2013, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings

NOTE

Approved addenda, errata, or interpretations for this standard can be downloaded free of charge from the ASHRAE Web site at www.ashrae.org/technology.

(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

Standard 62.2 was first published in 2003 as the first national ventilation and indoor air quality (IAQ) standard developed specifically for low-rise residential buildings via the ANSI process. It has been maintained since then using the ANSI and ASHRAE continuous maintenance procedures. Users of the standard are encouraged to use these procedures to propose changes to the standard. The committee will consider and take formal action on every proposal received. Forms and procedures for submitting change proposals may be found on ASHRAE's Web site at www.ashrae.org. When proposed addenda are available for public review and when approved addenda are published, notices will be published on ASHRAE's Web site. The standard is now published in its entirety every third year and includes all approved addenda and errata. This procedure allows users to have certainty about when the new editions will be published. This 2013 edition incorporates the contents of 17 addenda into the 2010 edition, which were processed by the committee and approved by ASHRAE and ANSI. For brief descriptions of the addenda to ANSI/ASHRAE Standard 62.2-2010, see Informative Appendix C.

When this standard was published in 2004 and 2007, relatively few changes were made to the original 2003 edition. However, since 2003, extensive experience has been gained in the application of this standard due to its adoption by various building codes and use in numerous building programs. As such, many clarifications and improvements have been identified and incorporated through the approved addenda for the 2010 edition and again in the 2013 edition. The standard follows the same overall approach as before; however, the mechanical ventilation rates have been increased to reflect the elimination of the default assumption of a leakage rate of 2 cfm per 100 ft^2. Houses and apartments are being built tighter for both energy and code reasons. Therefore, the 2013 standard assumes that there is no reasonable expectation of leakage in multifamily buildings and that single-family homes must be measured for leakage with a blower door to estimate the amount of leakage that can be deducted from the calculated mechanical ventilation rate. The base assumption is now 7.5 cfm per person plus 0.03 cfm per square foot. Other significant new changes include the removal of the climate limitations on pressurization and depressurization (Addendum g), a requirement for carbon monoxide alarms in all dwelling units (Addendum l), and new calculations and weather data for estimating annual leakage based on a blower door test (Addendum n).

As in the previous editions of this standard, there are three primary sets of requirements and a number of secondary ones. The three primary sets involve whole-building ventilation, local demand-controlled exhaust, and source control. Whole-building ventilation is intended to dilute the unavoidable contaminant emissions from people, from materials, and from background processes. Local demand-controlled exhaust is intended to remove contaminants from those specific rooms that, because of their design function, are expected to contain sources of contaminants (e.g., kitchens and bathrooms). Other source control measures are included to deal with those sources that can be reasonably anticipated to be found in a residence. The standard's secondary requirements focus on properties of specific items that are needed to achieve the main objectives of the standard. Examples of this include sound and flow ratings for fans and labeling requirements.

This standard does not address specific pollutant concentration levels. It also does not address certain potential pollutant sources such as unvented combustion space heaters and contamination from outdoor sources or from episodic occupant-controlled events such as painting, smoking, cleaning, or other high-polluting events. For information on residential ventilation and IAQ beyond the minimum requirements contained in this standard, users may wish to consult the companion guideline, which was also developed by ASHRAE Technical Committee 4.3. ASHRAE Guideline 24-2008, Ventilation and Indoor Air Quality in Low-Rise Residential Buildings, *provides explanatory and educational material not appropriate for a code-intended standard and addresses IAQ and ventilation issues where consensus could not be achieved for inclusion in the standard.*

1. PURPOSE

This standard defines the roles of and minimum requirements for mechanical and natural ventilation systems and the building envelope intended to provide acceptable indoor air quality (IAQ) in low-rise residential buildings.

2. SCOPE

This standard applies to spaces intended for human occupancy within single-family houses and multi-family structures of three stories or fewer above grade, including manufactured and modular houses. This standard does not apply to transient housing such as hotels, motels, nursing homes, dormitories, or jails.

2.1 This standard considers chemical, physical, and biological contaminants that can affect air quality. Thermal comfort requirements are not included in this standard (see *ANSI/ASHRAE Standard 55-2010, Thermal Environmental Conditions for Human Occupancy*).

2.2 While acceptable IAQ is the goal of this standard, it will not necessarily be achieved even if all requirements are met

a. because of the diversity of sources and contaminants in indoor air and the range of susceptibility in the population;
b. because of the many other factors that may affect occupant perception and acceptance of IAQ, such as air tem-