

ANSI/ASHRAE Addendum a to
ANSI/ASHRAE Standard 62.2-2003



ASHRAE[®] STANDARD

Ventilation and Acceptable Indoor Air Quality in Low-Rise Buildings

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by the ASHRAE Board of Directors on July 1, 2004; and by the
American National Standards Institute on July 1, 2004.

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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.

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(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.)

FOREWORD TO ADDENDUM a

The combustion appliance backdrafting test in Appendix A of Standard 62.2-2003 was developed from the Canadian and Minnesota code requirements, but it has been a compromise from the beginning. It was based on the best industry-accepted method found in the National Fuel Gas Code, but it has always raised questions about how to apply it to solid fuel-burning appliances. It also had the problem of not being possible to perform until the home was completed, opening the potential for having to perform remedial balancing at a difficult stage of construction and sale. To minimize these difficulties, the committee accepted 15 cfm/100 square feet as the upper limit for minimizing backdrafting potential in Standard 62.2-2003.

Addendum A eliminates the test in Appendix A and uses the already approved 15 cfm/100 ft² of habitable space as the actual upper limit for net exhaust rates if atmospheric combustion appliances are present. It requires the designer or installer to address the level of depressurization at a stage where problems can easily be fixed. It removes the perceived conflict with ANSI with regard to what standard addresses combustion air and venting of combustion appliances. The change also clarifies that the section applies to solid fuel-burning appliances.

In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions).

Addendum a to Standard 62.2-2003

[Revise Section 6.4 as follows.]

6.4 Combustion and Solid-Fuel Burning Appliances

Combustion and solid-fuel burning appliances must be provided with adequate combustion and ventilation air and vented in accordance with manufacturer's installation instructions, NFPA 54-2002/ANSI Z223.1-2002, *National Fuel Gas Code*,⁶ NFPA 31-2001, *Standard for the Installation of Oil-Burning Equipment*,⁵ or NFPA 211-2000, *Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances*,⁷ or other equivalent code acceptable to the building official. ~~Vented combustion appliances must be vented in accordance with manufacturer's installation instructions, NFPA 211-2000, Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances,⁷ or other equivalent code acceptable to the building official.~~ When ~~Where~~ atmospherically vented combustion appliances or solid-fuel burning appliances are located inside the pressure boundary, the total net exhaust flow of the two largest exhaust fans (not including a summer cooling fan intended to be operated only when windows or other air inlets are open) shall not exceed is greater than 15 cfm/100 ft² (75 lps/100 m²) of occupiable space when in operation at full capacity. If the designed total net flow

~~exceeds this limit, the net exhaust flow must be reduced (by reducing the exhaust flow or providing compensating outdoor airflow,) or atmospherically vented combustion appliances located inside the pressure boundary must be evaluated under the conditions prescribed in Appendix A. Atmospherically vented combustion appliances do not include direct-vent appliances, and power-vented, pellet-fuel appliances.~~

~~[Delete Appendix A in its entirety and revise the designations of Appendix B and Appendix C to Appendix A and Appendix B, respectively, unless a new Appendix A is created prior to the next publication of the standard.]~~

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

APPENDIX A

CHECKING THE VENTING OF COMBUSTION APPLIANCES

A1 SUMMARY

~~Use this appendix if testing is required by Section 6.4. Combustion appliances are operated under closed house conditions and checked to see that the combustion products are going up the appliance venting system. Gas and oil fueled appliances shall be tested in accordance with Section A2. Solid fuel burning appliances, including hand fed, wood-burning fireplaces, shall be tested in accordance with Section A3. If when conducting this procedure it is determined that combustion products may be escaping from the relief opening of the combustion appliance, the appliance shall not be operated until the test has been passed. This requires reduction of flow from large exhaust fans, installation of a compensating supply fan, provision of additional combustion air openings, modification of the appliance vent system, or other measures.~~

A2 PROCEDURE FOR GAS AND OIL FUEL APPLIANCES

~~Testing shall follow the protocol established in Appendix H of ANSI Z223.1 2002/NFPA 54^{A-1}, *National Fuel Gas Code*. The test from NFPA 54 shall include performance of the procedures in paragraphs (7) and (8), testing for spillage at the draft hood relief opening or barometric relief damper after 5 minutes of main burner operation by passing a lighted match or smoke pencil around the edge of the relief opening, and performance of the procedures in paragraphs (12) and (14). The requirements of paragraphs (9), (10), (11) and (13) are not required. If the appliance being tested is a fireplace, the dampers must be opened. If multiple appliances are installed in the same room, the test must be performed on each appliance individually and with all other appliances operating.~~

A3 PROCEDURE FOR SOLID FUEL BURNING APPLIANCES

~~Any suitable procedure may be used to determine if the appliance will vent properly. One acceptable procedure is as follows: Testing shall follow the protocol established in UL 127, *Standard for Factory-Built Fireplaces*^{A-2} (for solid fuel-type fireplaces) or UL 1482, *Standard for Solid Fuel Type Room Heaters*^{A-3} (for solid fuel-type room heaters) once a fire is established in the appliance, except that (i) the burn will take~~

place in an appliance in the residence, not under laboratory conditions, and (ii) wood samples need not be brands but should have the same mass as the brands described in Section 13 of UL 127^{A4} or Section 11 of UL 1482^{A5}. A solid fuel type fireplace or room heater will pass the test if there is no evidence of spillage as described in Section 13.8 of UL 127^{A4} or Sections 9.13 and 9.14 of UL 1482^{A5}. Repeat the procedure for each solid fuel burning appliance.

A4 REFERENCES

- A-1. NEPA 54 2002/ANSI Z223.1 2002. *National Fuel Gas Code*. National Fire Protection Association and American Gas Association, Quincy, MA and Washington D.C.
- A-2. UL 127. 1996. *Standard for Factory-Built Fireplaces*, Underwriters Laboratories, Northbrook, IL.
- A-3. UL 1482. 1996. *Standard for Solid Fuel Type Room Heaters*, Underwriters Laboratories, Northbrook, IL.

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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.