

ANSI/ASHRAE Addendum a to  
ANSI/ASHRAE Standard 15-2001



# ASHRAE<sup>®</sup> STANDARD

## Safety Standard for Refrigeration Systems

Approved by the ASHRAE Standards Committee on April 28, 2004; by the ASHRAE Board of Directors on July 1, 2004; and by the American National Standards Institute on July 1, 2004.

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 are given at the back of this document and may be obtained in electronic form from ASHRAE's Internet Home Page, <http://www.ashrae.org>, or in paper form from the Manager of Standards. The latest edition of an ASHRAE Standard and printed copies of a public review draft 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 U.S. and Canada).

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REFRIGERATING AND  
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**TC 9.1, Large Building Air-Conditioning Systems**  
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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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- 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,
- d. permission to reprint portions of the Standard.

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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.)*

## FOREWORD

Changes in this addendum to ANSI/ASHRAE 15-2001 correct an omission that occurred when republishing the standard in 2001 and clarify wording in selected sections, as suggested in continuous maintenance submissions. This addendum also updates the information contained in references (informative and normative). The changes in this addendum include:

- Add A2 and A3 refrigerants to 7.5.2 to correct an omission in the 2001 reprint.
- Add a new Section 7.5.3 for higher flammability refrigerants to correct an omission in the 2001 reprint.
- Clarify the wording of Section 9.7.2.3 and combine Section 9.7.2.4 into Section 9.7.2.3.
- Update reference information in Appendix D and Appendix E.

Note: In this addendum, text to be added to the current standard is shown by underlining; text to be deleted is shown by strikethrough.

## Addendum a to ANSI/ASHRAE Standard 15-2001

*(Revise Section 7.5.2 as follows.)*

**7.5.2 Applications for Human Comfort.** Group A2, A3, B1, B2, and B3 refrigerants shall not be used in high-probability systems for human comfort.

### Exceptions:

1. ~~Subsection 7.5.2~~ does not apply to sealed absorption and unit systems having refrigerant quantities less than or equal to those indicated in Table 2.
2. ~~Subsection 7.5.2~~ does not apply to industrial occupancies.

*(Add new Section 7.5.3 as follows.)*

**7.5.3 Higher Flammability Refrigerants.** Group A3 and B3 refrigerants shall not be used except where approved by the authority having jurisdiction.

### Exceptions:

1. 7.5.3 does not apply to laboratories with more than 100 ft<sup>2</sup> (9.3 m<sup>2</sup>) of space per person.
2. 7.5.3 does not apply to industrial occupancies.

*(Revise Section 9.7.2.3 and delete Section 9.7.2.4 as follows.)*

**9.7.2.3** Pressure vessels of 10 ft<sup>3</sup> (0.285 m<sup>3</sup>) or more internal gross volume shall use ~~a single one or more~~ rupture member(s) or dual pressure-relief valves when discharging to the atmosphere. Dual pressure-relief valves shall be installed with a three-way valve to allow testing or repair. When dual relief valves are used, each valve must meet the requirements of 9.7.5.

Exception: A single relief valve is permitted on pressure vessels of 10 ft<sup>3</sup> (0.285 m<sup>3</sup>) or more internal gross volume when all of the following conditions are met:

- (a) the relief valves are located on the low side of the system, and
- (b) the vessel is provided with shutoff valves designed to allow pumpdown of the refrigerant charge of the pressure vessel, and
- (c) other pressure vessels in the system are separately protected in accordance with 9.7.2.

~~9.7.2.4~~ One or more relief valves shall be used on pressure vessels of 10 ft<sup>3</sup> (0.285 m<sup>3</sup>) or more internal gross volume if:

- ~~(a) the relief valves are located on the low side of the system,~~
- ~~(b) shut-off valves are installed to isolate the vessels from the rest of the refrigerating system, and~~
- ~~(c) the system is designed to allow pumpdown of the refrigerant charge of the pressure vessel.~~

*(Revise Appendix D informative references as follows.)*

3. ~~UL 1995-1995 Heating and Cooling Equipment, Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062 Underwriters Laboratories Inc., Northbrook IL 60062.~~
12. ~~IIAR Bulletin 114-1991, 9/91, Guidelines for Identification of Ammonia Refrigeration Piping and System Components, International Institute of Ammonia Refrigeration, 1110 North Glebe Road, Suite 250, Arlington, VA 22201 1101 Connecticut Ave, N.W., Washington, DC 20036.~~

*(Change Appendix E normative references as follows.)*

2. ~~ANSI/ARI 700-1999/1995, Specifications for Fluorocarbon and Other Refrigerants and ARI Standard 700c-1999, Appendix C to ARI Standard 700-99, Air-Conditioning and Refrigeration Institute, 4100/4301 North Fairfax Drive, Arlington, VA 22203.~~
3. ~~UL 1995-1995 Heating and Cooling Equipment, Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062.~~
4. ~~ANSI/NFPA 70-2002/1990, National Electrical Code®, National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02269-9101.~~
5. ~~ANSI/ASME Boiler and Pressure Vessel Code, Section VIII, Rules for Construction of Pressure Vessels, Division 1, 2001/1992, American Society of Mechanical Engineers (ASME), 3 Park Avenue, New York, NY 10017/10016-5990.~~

Note: Reference 5 is mandatory for designers, manufacturers, and producers of refrigeration equipment. For all other users, this reference is informative.

6. ~~ANSI/ASME/ASME B31.5-2001/1987, Refrigeration Piping and Heat Transfer Components, and Addendum B31.5A-1989, American Society of Mechanical Engineers (ASME), 3 Park Avenue, New York, NY 10017/10016-5990.~~

*Note: Reference 6 is mandatory for designers, manufacturers, and producers of refrigeration equipment. For all other users, this reference is informative.*

7. *ANSI/ASTM B88 -~~99e196~~, Standard Specification for Seamless Copper Water Tube*, American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA 19428.
8. *ANSI/ASTM B280-~~99e1944~~, Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service*, American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA 19428.
9. *ANSI/ASTM B68-~~9995~~, Standard Specification for Seamless Copper Tube, Bright Annealed*, American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA 19428.
10. *ANSI/ASTM B75-~~99954~~, Standard Specification for Seamless Copper Tube*, American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA 19428.
11. *ANSI/ASME A13.1-~~199681 (R1985)~~, Scheme for the Identification of Piping Systems*, American Society of Mechanical Engineers (ASME), 3 Park Avenue, New York, NY ~~40047~~10016-5990.

## **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.