ADDENDA

ANSI/ASHRAE Addendum e to
ANSI/ASHRAE Standard 15-2022

Safety Standard for Refrigeration Systems

Approved by ASHRAE and the American National Standards Institute on September 29, 2023.

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. Instructions for how to submit a change can be found on the ASHRAE® website (www.ashrae.org/continuous-maintenance).

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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.

The Senior 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.

(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

Addendum e removes the terms "human comfort" and "other than human comfort" from the standard, as these terms are both undefined and do not adequately describe the types of systems intended to be covered. Sections 7.5, 7.6, 7.7, and 7.8 are rewritten to clarify the specific application types that they pertain to and to be more consistent in their approach. Informative notes are also added to provide more context on the product safety standards and equipment types in question.

Informative 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 e to Standard 15-2022

Modify Section 7 as shown. The remainder of Section 7 remains unchanged.

7. RESTRICTIONS ON REFRIGERANT USE

[. . .]

7.5.2 Application Restrictions by Refrigerant Safety Group

~~**7.5.2.1 Refrigeration Systems for Human Comfort.** Group A2, A3, B1, B2L, B2, and B3 *refrigerants shall not* be used in *high-probability systems* for human comfort. Use of Group A2L *refrigerants shall* be in accordance with Section 7.6.~~

7.5.2.1 High-Probability Air Conditioners, Heat Pumps, and Dehumidifiers. Air conditioners, *heat pumps*, or dehumidifiers classified as a *high-probability system shall* comply with the following:

a. Group A2, A3, B1, B2L, B2, and B3 *refrigerants shall not* be used.
b. Group A2L *refrigerants shall* be in accordance with Section 7.6.

[. . .]

~~**7.5.2.2 Refrigeration Systems Other Than Human Comfort.** *High probability systems* for other than human comfort applications *shall not* use Class B *refrigerants*. Use of Group A2L *refrigerants shall* be in accordance with Section 7.7. Use of Group A2 *refrigerants shall* be in accordance with Section 7.8. Use of Group A3 *refrigerants shall* be in accordance with Section 7.5.3.~~

7.5.2.2 High-Probability Systems Other Than Air Conditioners, Heat Pumps, and Dehumidifiers. *High-probability systems* other than air conditioners, *heat pumps*, and dehumidifiers *shall* comply with the following:

a. Group B1, B2L, B2, and B3 *refrigerants shall not* be used.
b. Group A2L *refrigerants* for commercial refrigeration *shall* be in accordance with Section 7.7.
c. Group A2 *refrigerants* for commercial refrigeration *shall* be in accordance with Section 7.8.
d. Group A3 *refrigerants shall* be in accordance with Section 7.5.3.

[. . .]

7.6* High-Probability Air Conditioners, Heat Pumps, and Dehumidifiers Using Group A2L Refrigerants ~~for Human Comfort~~. Air conditioners, *heat pumps*, or dehumidifiers classified as a *high-probability systems*, ~~*High- probability systems*~~ and within the scope of UL 484[11] or UL 60335-2-40[5]/CSA C22.2 No. 60335-2-40[6], *shall* comply with this section.

[. . .]

7.6.1.1* Refrigeration Systems with Air Circulation. Where ~~a *high-probability system* for human comfort~~ an air conditioner, *heat pump*, or dehumidifier classified as a *high-probability system* and using Group A2L *refrigerants* has either

a. *air circulation* initiated by a ~~*refrigerant detector*~~ *refrigerant detection system* in compliance with Section 7.6.2.4 or
b. continuous *air circulation*,

the *refrigerant* charge quantity *shall* be limited per Equation 7-8.

[. . .]

7.7* High-Probability Commercial Refrigeration Systems using Group A2L Refrigerants ~~for Refrigeration Systems Other Than Human Comfort~~. *High-probability systems* using Group A2L *refrigerants* for ~~other than human comfort~~ commercial refrigeration applications within the scope of UL 60335-2-89[7]/CSA C22.2 No. 60335-2-89[8] *shall* comply with this section ~~Sections 7.7.1 through 7.7.5~~.

[. . .]

7.8* High-Probability Commercial Refrigeration Systems using Group A2 Refrigerants ~~for Refrigeration Systems Other Than Human Comfort~~. *High-probability systems* using Group A2 *refrigerants* for ~~other than human comfort~~ commercial refrigeration applications within the scope of UL 60335-2-89[7]/CSA C22.2 No. 60335-2-89[8] *shall* comply with this section. *Refrigeration systems* using Group A2 *refrigerants shall* be limited to *listed self-contained systems* containing no more than 0.459 × *LFL* (lb), where *LFL* is in lb/1000 ft^3 (13 × *LFL* [kg], where *LFL* is in kg/m^3), provided that the system is installed in accordance with the listing and the *manufacturer*'s installation instructions. *Refrigeration systems* containing more than 0.141 × *LFL* (lb) (4 × *LFL* [kg]) in an *independent circuit shall not* be installed within 20 ft (6 m) of an open flame.

[. . .]

7.8.1 Listing and Installation Requirements. *Refrigeration systems shall* be *listed* to UL 60335-2-89[7]/CSA C22.2 No. 60335-2-89[8] and *shall* be installed in accordance with the listing and the *manufacturer*'s instructions.

Exception to 7.8.1: These requirements do not apply to *industrial occupancies*.

[. . .]

Modify Section 8 as shown. The remainder of Section 8 remains unchanged.

8. INSTALLATION RESTRICTIONS

[. . .]

8.7 Air Duct Installation. *Air duct* systems of air conditioners, *heat pumps*, or dehumidifiers classified as a *high-probability system* and ~~air-conditioning equipment for human comfort~~ using mechanical refrigeration *shall* be installed in accordance with *approved* safety standards, the requirements of the AHJ, and the requirements of Section 8.9.7.

[. . .]

Modify Informative Appendix A as shown. The remainder of Informative Appendix A remains unchanged.

INFORMATIVE APPENDIX A EXPLANATORY MATERIAL

Sections of the standard with associated explanatory information in this appendix are marked with an asterisk "*" after the section number.

[. . .]

Section 7.6

This section is intended to address *high-probability systems listed* to UL 484[11] or UL 60335-2-40 [5]/CSA C22.2 No. 60335-2-40 [6], where *refrigerant* could leak from a system into an indoor space other than a *machinery room*. Appliances incorporating *heat pumps*, such as water heaters, pool heaters, or spa heaters may also be covered under the scope of this section, as would chillers installed indoors but not in a *machinery room*.

Section 7.7

This section is intended to address *high-probability systems listed* to UL 60335-2-89[7]/CSA C22.2 No. 60335-2-89 [8], where *refrigerant* could leak from a system into an indoor space other than a *machinery room*. Industrial *refrigeration systems* used in all *occupancies* other than *industrial occupancies* would also be covered by this section.

Section 7.8

This section is intended to address *high-probability systems listed* to UL 60335-2-89[7]/CSA C22.2 No. 60335-2-89 [8], where *refrigerant* could leak from a system into an indoor space other than a *machinery room*. Industrial *refrigeration systems* used in all *occupancies* other than *industrial occupancies* would also be covered by this section. [. . .]

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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As an industry leader in research, standards writing, publishing, certification, and continuing education, ASHRAE and its members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries.

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