ADDENDA

**ANSI/ASHRAE Addendum p to**
**ANSI/ASHRAE Standard 15-2022**

# Safety Standard for Refrigeration Systems

Approved by ASHRAE and by the American National Standards Institute on July 31, 2024.

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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## 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 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 p updates both the normative and informative references in ANSI/ASHRAE Standard 15-2022.*

***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 p to Standard 15-2022

***Modify Section 13 as follows. The remainder of Section 13 remains unchanged.***

### 13. NORMATIVE REFERENCES

This section contains a complete list of normative references. A complete list of references that are solely informative is included in Informative Appendix B. References in this standard are numbered in the order in which they appear in the document, so the numbers for the informative references are shown for the convenience of the user.

1. See *Informative Appendix* B, "Informative References."
2. ASHRAE. 2024~~2022~~. ANSI/ASHRAE Standard 15.2, *Safety Standard for Refrigeration Systems in Residential Applications*. Peachtree Corners, GA: ASHRAE.
3. ASHRAE. 2024~~2019~~. ANSI/ASHRAE Standard 34, *Designation and Safety Classification of Refrigerants*. Peachtree Corners, GA: ASHRAE.
4. NFPA. 2023~~2020~~. NFPA 80, *National Electric Code*®. Quincy, MA: National Fire Protection Association.
5. UL. 2022~~2019~~. ANSI/UL 60335-2-40, Edition 4. ~~*Standard for*~~ *Household and Similar Electrical Appliances—Safety—Part 2-40: Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers.* Northbrook, IL: UL, LLC.
6. CSA. 2022~~2019~~. CAN/CSA C22.2 No. 60335-2-40, Edition 4. *Household and Similar Electrical Appliances—Safety—Part 2-40: Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers.* Toronto, Canada: CSA Group.

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9. ASME. 2023~~2015~~. ANSI/ASME A13.1, *Scheme for the Identification of Piping Systems*. New York, NY: American Society of Mechanical Engineers.
10. AHRI. 2019~~2016~~. AHRI 700-2019~~2016,~~ *Specifications for Refrigerants*, and AHRI Standard 700C-2014, Appendix C to AHRI Standard 700–*Analytical Procedures for AHRI Standard 700-2014.* Arlington, VA: Air-Conditioning, Heating and Refrigeration Institute.

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15. ASME. 2023~~2019~~. *Boiler and Pressure Vessel Code*. New York, NY: American Society of Mechanical Engineers.
16. See *Informative Appendix* B, "Informative References."
17. ASME. 2022~~2016~~. ANSI/ASME B31.5, *Refrigeration Piping and Heat Transfer Components*. New York, NY: American Society of Mechanical Engineers.
18. ASTM. 2022~~2018~~. ASTM A53/A53M, *Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless*. West Conshohocken, PA: American Society for Testing and Materials.
19. UL. 2022~~2014~~. UL 207, *Standard for Refrigerant-Containing Components and Accessories, Nonelectrical–Ninth~~Eighth~~ Edition*. Northbrook, IL: UL, LLC.

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22. ASTM. 2019. ASTM B210/B210M (Rev A), *Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes*. West Conshohocken, PA: American Society for Testing and Materials.
23. ASTM. 2023~~2015~~. ASTM B491/B491M, *Standard Specification for Aluminum and Aluminum-Alloy Extruded Round Tubes for General-Purpose Applications*. West Conshohocken, PA: American Society for Testing and Materials.

24. ASTM. 2020~~2015~~. ASTM B43, *Standard Specification for Seamless Red Brass Pipe, Standard Sizes*. West Conshohocken, PA: American Society for Testing and Materials.
25. ASTM. 2020~~2015~~. ASTM B42~~ (Rev A)~~, *Standard Specification for Seamless Copper Pipe, Standard Sizes*. West Conshohocken, PA: American Society for Testing and Materials.

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28. ASTM. 2020~~2013~~. ANSI/ASTM B75/B75M, *Standard Specification for Seamless Copper Tube*. West Conshohocken, PA: American Society for Testing and Materials.
29. ASTM. 2022~~2016~~. ANSI/ASTM B88, *Standard Specification for Seamless Copper Water Tube*. West Conshohocken, PA: American Society for Testing and Materials.
30. ASTM. 2023~~2018~~. ANSI/ASTM B280, *Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service*. West Conshohocken, PA: American Society for Testing and Materials.
31. ASTM. 2019~~2018~~. ASTM B819, *Standard Specification for Seamless Copper Tube for Medical Gas Systems*. West Conshohocken, PA: American Society for Testing and Materials.
32. ASTM. 2023~~2016~~. ASTM B1003, *Standard Specification for Seamless Copper Tube for Linesets*. West Conshohocken, PA: American Society for Testing and Materials.
33. ASTM. 2022~~2018~~. ASTM A312/A312M (Rev A), *Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes*. West Conshohocken, PA: American Society for Testing and Materials.
34. ASTM. 2022~~2015~~. ASTM A269/A269M ~~(Rev A)~~, *Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service*. West Conshohocken, PA: American Society for Testing and Materials.
35. ASTM. 2019~~2014~~. ASTM A632 ~~(Rev A)~~, *Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing (Small-Diameter) for General Service*. West Conshohocken, PA: American Society for Testing and Materials.
36. ASTM. 2019. ASTM A106/A106M (Rev A), *Standard Specification for Seamless Caron Steel Pipe for High-Temperature Service*. West Conshohocken, PA: American Society for Testing and Materials.

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38. ASTM. 2019~~2012~~. ASTM A254/A254M, *Standard Specification for Copper Brazed Steel Tubing*. West Conshohocken, PA: American Society for Testing and Materials.
39. ASTM. 2021~~2016~~. ASTM A334/A334M (Rev A), *Standard Specification for Seamless and Welded Carbon and Alloy-Steel Tubes for Low-Temperature Service*. West Conshohocken, PA: American Society for Testing and Materials.

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43. ASME. 2021~~2016~~. ANSI/ASME B16.24, *Cast Copper Alloy Pipe Flanges, Flanged Fittings, and Valves: Classes 150, 300, 600, 900, 1500 and 2500*. New York, NY: American Society of Mechanical Engineers.
44. ASME. 2021~~2018~~. ANSI/ASME B16.18, *Cast Copper Alloy Solder Joint Pressure Fittings*. New York, NY: American Society of Mechanical Engineers.
45. ASME. 2021~~2018~~. ANSI/ASME B16.22, *Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings*. New York, NY: American Society of Mechanical Engineers.

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47. ASME. 2021~~2013~~. ANSI/ASME B16.50, *Wrought Copper and Copper Alloy Brazed-Joint Pressure Fittings*. New York, NY: American Society of Mechanical Engineers.
48. ASTM. 2022~~2019~~. ASTM A403/A403M (Rev B), *Standard Specification for Wrought Austenitic Stainless Steel Piping Fittings*. West Conshohocken, PA: American Society for Testing and Materials.
49. ASME. 2021~~2016~~. ANSI/ASME B16.11, *Forged Fittings, Socket-Welding and Threaded*. New York, NY: American Society of Mechanical Engineers.
50. ASTM. 2023~~2018~~. ASTM A105/A105M, *Standard Specification for Carbon Steel Forgings for Piping Applications*. West Conshohocken, PA: American Society for Testing and Materials.
51. ASTM. 2023~~2014~~. ASTM A181/A181M, *Standard Specification for Carbon Steel Forgings, for General-Purpose Piping*. West Conshohocken, PA: American Society for Testing and Materials.
52. ASTM. 2023~~2017~~. ASTM A193/A193M, *Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications*. West Conshohocken, PA: American Society for Testing and Materials.

53. ASTM. 2023~~2018~~. ASTM A234/A234M (Rev A), *Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service*. West Conshohocken, PA: American Society for Testing and Materials.
54. ASTM. 2022~~2016~~. ASTM A420/A420M ~~(Rev A)~~, *Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Low-Temperature Service*. West Conshohocken, PA: American Society for Testing and Materials.
55. ASTM. 2019. ASTM A707/A707M ~~(Rev A)~~, *Standard Specification for Forged Carbon and Alloy Steel Flanges for Low-Temperature Service*. West Conshohocken, PA: American Society for Testing and Materials.
56. AWS. 2019~~2012~~. A5.8M/A5.8, *Specification for Filler Metals for Brazing and Braze Welding—11th ~~10th~~ Edition, ~~Amendment 1~~*. Doral, FL: American Welding Society.

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58. ASTM. 2020~~2014R~~. ASTM B32, *Standard Specification for Solder Metals*. West Conshohocken, PA: American Society for Testing and Materials.

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60. ASME. 1976. ANSI/ASME B1.20.3 (R2023~~R2018~~), *Dryseal Pipe Threads, Inch*. New York, NY: American Society of Mechanical Engineers.
61. ASME. 2005. ANSI/ASME B1.13M (R2020~~R2015~~), *Metric Screw Threads: M Profile*. New York, NY: American Society of Mechanical Engineers.
62. ASME. 2019~~2005~~. ANSI/ASME B1.1 ~~(R2018)~~, *Unified Inch Screw Threads, (UN and UNR Thread Form)*. New York, NY: American Society of Mechanical Engineers.

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***Modify Informative Appendix B as follows. The remainder of Informative Appendix B remains unchanged.***

## INFORMATIVE APPENDIX B
## INFORMATIVE REFERENCES

This appendix contains a full list of informative references. A full list of normative references is included in Section 13, "Normative References." References in this standard are numbered in the order in which they appear in the document, so the numbers for the normative references are shown for the convenience of the user.

1. IIAR. 2021~~2019~~. ANSI/IIAR 2-2021~~2014 with addendum A~~, *American National Standard for Safe Design of Closed-Circuit Ammonia Refrigeration Systems*. Alexandria, VA: International Institute of Ammonia Refrigeration.

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16. ASHRAE. 2021~~2017~~. *ASHRAE Handbook—Fundamentals.* Peachtree Corners, GA: ASHRAE.

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~~67. IUPAC. 2013. Atomic Weights of the Elements 2013 (IUPAC Technical Report). International Union of Pure and Applied Chemistry, Research Triangle Park, NC.~~

# 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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## About ASHRAE

Founded in 1894, ASHRAE is a global professional society committed to serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration, and their allied fields.

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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