



ADDENDA

**ANSI/ASHRAE Addendum b to
ANSI/ASHRAE Standard 15-2024**

Safety Standard for Refrigeration Systems

Approved by ASHRAE and the American National Standards Institute on March 31, 2026.

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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ISSN 1041-2336



ASHRAE Standing Standard Project Committee 15

Cognizant TCs: 10.1, Custom Engineered Refrigeration Systems, and 9.1, Large Building Air-Conditioning Systems

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FOREWORD

The model building codes were revised in the 1980s to remove the mandatory requirement for a pipe shaft. A pipe shaft was still permitted as an option; however, the building codes focused on the piping penetrations. At that time, Standard 15 chose to not revise similar language and has been out of harmony ever since. This was partially corrected by Addendum a to Standard 15-2024, but the committee felt this was insufficient and a more holistic approach was required.

Addendum b updates ASHRAE Standard 15-2024 to be consistent with the model building codes, where the primary requirement will be protection for all refrigerant pipe penetrations. The addendum moves language from Section 9.12.3 to Section 9.12.1.5 and lists it first as the primary protection means. Use of pipe shafts remains a design option. The proposed language further clarifies shaft ventilation requirements to mitigate flammability hazards.

Informative Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strike through~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

Addendum b to Standard 15-2024

Modify Section 9 as shown. The remainder of Section 9 remains unchanged. (Note: This addendum supersedes changes made by previously published Addendum a, which can be found online at www.ashrae.org/addenda.)

9. DESIGN AND CONSTRUCTION OF REFRIGERATION EQUIPMENT AND SYSTEMS

[...]

9.12 Refrigerant Pipe Installation

9.12.1 Piping Location.

[...]

~~9.12.3~~ 9.12.1.5 **Refrigerant Pipe Penetrations.** ~~In other than industrial occupancies, the~~ The annular space between the outside of a refrigerant pipe and the inside of a pipe sleeve or opening in a building envelope, wall, floor, or ceiling assembly penetrated by a refrigerant pipe shall be sealed in an approved manner with caulking material, foam sealant, or closed with a gasketing system. The caulking material, foam sealant, or gasketing system shall be designed for the conditions at the penetration location and shall be compatible with the pipe, sleeve, and building materials in contact with the sealing materials. Refrigerant pipes penetrating required fire-resistance-rated assemblies or membranes of fire-resistance-rated assemblies shall be sealed or closed in accordance with the building code.

~~9.12.1.5~~ 9.12.1.5.1 **Refrigerant Pipe Shafts.** Refrigerant piping that penetrates ~~two or more~~ multiple floor/ceiling assemblies shall be permitted to be enclosed in a fire-resistance-rated shaft enclosure. The fire-resistance-rated shaft enclosure shall comply with the requirements of the building code. Other building utilities or piping systems shall be allowed in the refrigerant piping shaft.

~~9.12.1.5.1~~ **Shaft Alternative.** A shaft enclosure shall not be required for the refrigerant piping for any of the following refrigeration systems:

- a. Systems using R-718 (water) refrigerant
- b. Piping in a high-probability system where the refrigerant concentration does not exceed the amounts shown in ASHRAE Standard 34,³ Table 4-1 or 4-2, for the smallest occupied space through which the piping passes
- c. Piping located on the exterior of the building where vented to the outdoors
- d. Continuous refrigerant pipe or tube, including joints and connections, that have been tested in accordance with Section 9.13.

[...]

9.12.2 Installation Requirements for Flammable Refrigerants.

[...]

9.12.2.2 Shaft Ventilation. *Refrigerant pipe installed within a fire-resistance-rated shafts enclosure with refrigeration systems using only Group A2L or B2L refrigerants shall be naturally or mechanically ventilated. Refrigerant pipe installed within a fire-resistance-rated shafts enclosure with one or more refrigeration systems using any Group A2, A3, B2, or B3 refrigerant shall be continuously mechanically ventilated and shall include a refrigerant detector. The shaft ventilation exhaust outlet shall comply with the discharge location requirement specified in Section 9.7.8.2.*

- a. Naturally ventilated shafts shall have a minimum of a 4.0 in. (102 mm) diameter pipe, duct, or conduit that connects at the lowest point of the shaft and connects to the outdoors. The pipe, duct, or conduit shall be level or pitched down to the outdoors. A makeup air opening shall be provided at the top of the shaft.
- b. When active, mechanically ventilated shafts shall have a minimum air velocity in accordance with Table 9-12. Makeup air shall be provided at the inlet to the shaft for mechanically ventilated shafts. The mechanical ventilation shall either be continuously operated or, for pipe shafts containing only refrigeration systems using Group A2L or B2L refrigerants, activated by a refrigerant detector. Refrigerant pipe shafts utilizing a refrigerant detector shall have a set point not exceeding the occupational exposure limit (OEL) of the refrigerant. The detector, or a sampling tube that draws air to the detector, shall be located in an area where refrigerant from a leak will concentrate.
- c. The shaft shall not be required to be ventilated for double-wall refrigerant pipe where the interstitial space of the double-wall pipe is vented to the outdoors in accordance with the discharge location requirements specified in Section 9.7.8.2.
- d. The shaft shall not be required to be ventilated where all the refrigerant pipe or tube is continuous and has been tested in accordance with Section 9.13.
- e. The shaft shall not be required to be ventilated for systems using only Group A2L or B2L refrigerants where there are no hot surfaces exceeding 1290°F (700°C) in the shaft and the pipes, tubes, joints, or connections have been tested in accordance with Section 9.13.

~~9.12.4~~9.12.3 Stress and Strain. [...]

[...]

~~9.12.5~~9.12.4 Stop Valves.

[...]

~~9.12.5.1~~9.12.4.1 Refrigeration Systems Containing More than 6.6 lb (3.0 kg) of Refrigerant.

[...]

~~9.12.5.2~~9.12.4.2 Refrigeration Systems Containing More than 110 lb (50 kg) of Refrigerant.

[...]

~~9.12.5.3~~9.12.4.3 Identification.

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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.

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ASHRAE · 180 Technology Parkway · Peachtree Corners, GA 30092 · www.ashrae.org

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