

Standards 15 & 34-2024



Standard 15-2024, *Safety Standard for Refrigeration Systems*

Standard 34-2024, *Designation and Safety Classification of Refrigerants*

Purpose

Standards 15 and 34 are the key standards guiding refrigerant identification and usage, which have been recently revised to address a wider range of refrigerants including those with low global warming potential, as well as to achieve improved performance. The need to reduce global warming potential (GWP) has led to the use of A2L-class refrigerants under ASHRAE Standard 34, which further emphasizes the importance of having a consistent and reliable safety standard for refrigerants. Standards 15 and 34 provide this essential guidance to manufacturers, design engineers and operators who need to stay current with new air conditioning and refrigerating requirements.

Significance

Standard 34 describes a shorthand way of naming refrigerants and assigns safety classifications based on toxicity and flammability data, while Standard 15 establishes procedures for the safe design, construction, installation, and operation of refrigeration systems.

Standards 15 and 34 should be used in conjunction with one another. Standard 15 establishes rules for the safe application of refrigeration equipment and systems; Standard 34 specifies refrigerant properties and a refrigerant classification system.

Scope

Standard 15 specifies safe design, construction, installation, and operation of refrigeration systems. It is the basis for the criteria on refrigeration safety in the International Code Council's (ICC) International Mechanical Code and the International Association of Plumbing and Mechanical Officials' (IAPMO) Uniform Plumbing Code as well as most federal, state and local building safety regulations pertaining to refrigeration systems.

Standard 34 establishes a means of referring to common refrigerants using a numeric and lettering system instead of more complicated chemical names, common names, or trade names. It establishes a uniform system for assigning reference numbers, safety classifications, and refrigerant concentration limits.

Highlights

- The U.S. Environmental Protection Agency (EPA) references ASHRAE refrigerant designations and safety classifications in its Significant New Alternatives Policy (SNAP) to transition to low-GWP refrigerants.
- In 2022, New York State adopted the 2019 editions of Standards 15 and 34, as part of the state's "Advanced Building Codes, Appliance and Equipment Efficiency Standards Act of 2021."
- In 2022, California committed to adopting the 2019 editions of Standards 15 and 34 by 2024, as part of Assembly Bill 209, "Energy and Climate Change."
- In 2022, Pennsylvania adopted Standards 15 and 34 in House Bill 2079, "Amendments to the Pennsylvania Construction Code Act."

Changes and Improvements from Standards 15-2022 and 34-2022:

- The 2024 edition of Standard 15 permits the use of ventilation airflow rate and also includes revisions to better align with model codes.
- Updates also provide consistency throughout Standard 15 to further harmonize with Standard 34.
- The 2024 edition of Standard 34 adds safety designations for 28 new refrigerants and modernizes the application requirements for new refrigerants, as well as adding burning velocity data to Table 4-1 and Table 4-2.