



Shaping Tomorrow's Global  
Built Environment Today

## ASHRAE Standards Summary

### Standards Relating to Energy Efficiency and Sustainability

- **Standard 90.1-2022, *Energy Standard for Sites and Buildings Except Low-Rise Residential Buildings*:**  
This standard provides the minimum requirements for the energy-efficient design of sites and buildings except low-rise residential buildings. This standard is the basis for commercial and mid- to high-rise residential energy codes in the U.S.
- **Standard 90.2-2024, *High-Performance Energy Design of Residential Buildings*:**  
The purpose of this standard is to establish whole-building design requirements that enable high levels of energy and greenhouse gas emissions performance for residential buildings.
- **Standard 90.4-2022, *Energy Standards for Data Centers*:**  
This standard provides the minimum energy efficiency requirements for the design and operation of data centers.
- **Standard 100-2024, *Energy and Emissions Building Performance Standard for Existing Buildings*:**  
This standard establishes greenhouse gas emissions and energy consumption performance levels for existing buildings. The standard provides compliance requirements to improve energy efficiency and reduce the GHG emissions of existing buildings.
- **Standard 189.1-2023/2024 IgCC, *Standard for the Design of High-Performance Green Buildings Except Low Rise Residential Buildings*:**  
This standard provides total sustainability guidance for designing, building, renovating, and operating high-performance green buildings, and is the complete technical content of the International Green Construction Code.

### Standards Relating to Refrigeration

- **Standard 15-2024, *Safety Standard for Refrigeration Systems*:**
- **Standard 15.2-2024, *Safety Standard for Refrigeration Systems in Residential Applications; and***
- **Standard 34-2024, *Designation and Safety Classification of Refrigerants***  
Standards 15 and 34, which are intended to be used together, 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. Standard 15.2 is the low-rise residential companion to Standard 15.

## Standards Relating to Indoor Air Quality and Thermal Comfort

- **Standard 55-2023, *Thermal Environmental Conditions for Human Occupancy*:**  
This standard specifies the combinations of indoor thermal environmental factors and personal factors that will produce acceptable thermal environmental conditions for a substantial majority (80%) of occupants within a space.
- **Standard 62.1-2022, *Ventilation and Acceptable Indoor Air Quality*:**  
This standard specifies minimum ventilation rates and other measures intended to provide indoor air quality that is acceptable to human occupants and minimizes adverse health effects, such as breathing difficulties and sick building syndrome due to poor indoor air quality.
- **Standard 62.2-2025, *Ventilation and Acceptable Indoor Air Quality in Residential Buildings*:**  
This standard defines the minimum requirements for mechanical and natural ventilation systems and the building envelope intended to provide acceptable indoor air quality (IAQ) in residential buildings.
- **Standard 154-2022, *Ventilation for Commercial Cooking Operations*:**  
This standard establishes minimum requirements for the design, construction, installation, and operation of commercial kitchen ventilation systems.
- **Standard 241-2023, *Control of Infectious Aerosols*:**  
This standard establishes the minimum requirements for control of infectious aerosols to reduce risk of disease transmission in new and existing buildings, and major renovations to existing buildings, including requirements for both outdoor air system and air cleaning system design, installation, commissioning, operation, and maintenance.
- **Guideline 44-2024, *Protecting Building Occupants from Smoke During Wildfire and Prescribed Burn Events*:**  
This guideline provides a comprehensive set of recommendations to safeguard indoor air quality (IAQ) during wildfire and prescribed burn events.

## Standards Relating to Water System Safety

- **Guideline 12-2023, *Managing the Risk of Legionellosis Associated With Building Water Systems*:**  
This guideline provides information and guidance to assist in control of legionellosis associated with building water systems.
- **Standard 188-2021, *Legionellosis: Risk Management for Building Water Systems*:**  
This standard establishes minimum legionellosis risk management requirements for building water systems. It is written with enforceable language to facilitate code and regulatory adoption of the standard.
- **Standard 514-2023, *Risk Management for Building Water Systems: Physical, Chemical, and Microbial Hazards*:**  
This standard provides minimum practices to manage overall risk from microbial, physical, and chemical hazards that are associated with both potable and non-potable water systems in buildings.

## Standards for Health Care Facilities

- **Standard 170-2021, *Ventilation of Health Care Facilities*:**  
This standard defines ventilation system design requirements that provide environmental control in health care facilities.
- **Standard 189.3-2025, *Design, Construction, and Operation of Sustainable High-Performance Health Care Facilities*:**  
This standard provides minimum requirements for the siting, design, construction, and operation of high-performance, sustainable healthcare facilities to reduce emissions, enhance occupant health, and enhance resilience.

## Standards Relating to Building Operations and Grid-Building Intersection

- **Guideline 13-2024, *Specifying Building Automation Systems:***  
This standard provides guidelines for preparing specifications for building automation systems and outlines how to clearly define system requirements, integration needs, and performance expectations.
- **Guideline 36-2024, *High-Performance Sequences of Operation for HVAC Systems:***  
This standard defines standardized, energy-efficient control sequences for HVAC equipment to improve system performance, reduce energy use, and ensure consistent operation.
- **Standard 135-2024, *BACnet – A Data Communication Protocol for Building Automation and Control Networks:***  
This standard defines how building automation and control devices communicate and share information and provides a standardized protocol for ensuring interoperability between equipment.
- **Standard 180-2018, *Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems:***  
This standard provides a standard practice for inspecting and maintaining commercial HVAC systems to achieve acceptable thermal comfort, energy efficiency, and indoor air quality in new and existing commercial buildings.
- **Standard 211-2018 (RA 2023), *Standard for Commercial Building Energy Audits:***  
This standard establishes consistent practices for conducting and reporting energy audits for commercial buildings, and defines the procedures required to perform Energy Audit Levels 1, 2, and 3.

## Standards Relating to Carbon Emissions

- **Standard 228-2023, *Standard Method of Evaluating Zero Net Energy and Zero Net Carbon Building Performance:***  
This standard can be used to determine whether a site has achieved zero net energy or zero net carbon, meaning that the source energy or carbon flows coming into a site are less than or equal to those flowing outward during building/site operation and any allowed offsets.
- **Standard 240P, *Quantification of Life Cycle Greenhouse Gas Emissions of Buildings:***  
This proposed standard will provide a methodology to quantify the embodied and operational GHG emissions associated with buildings and their sites. The standard will also provide minimum requirements for documentation of life cycle GHG emissions.
- **Standard 242P, *Standard Methods for Quantifying Greenhouse Gas Emissions Factors for Building Operations***  
This proposed standard will provide a single reference and methodologies for evaluating both historical and projected GHG emissions associated with a building, site, or region.
- **Standard 244P, *Sustainability Assessment for Mechanical, Electrical, and Plumbing Products:***  
This proposed standard will specify the process for developing a lifecycle assessment-based product claim for Mechanical, Electrical, and Plumbing assemblies.