



Shaping Tomorrow's
Built Environment Today

Guideline 24

Ventilation and Indoor Air Quality In Low-Rise Residential Buildings.

Purpose

To provide information on ventilation and indoor air quality (IAQ) in residential buildings.

Significance

Guideline 24 is an IAQ and ventilation resource for homeowners, builders, code enforcement officials, and policy makers. Guideline 24 addresses critical information that is beyond the scope of ASHRAE ventilation standards, allowing for a more thorough understanding of IAQ and ventilation.

Scope

- Provides information on achieving good indoor air quality (IAQ) that may go beyond minimum requirements of ASHRAE 62.2.
- Provides information on ventilation and IAQ as it relates to envelope and system design, material selection, commissioning and installation, and operation and maintenance.
- Primarily applies to residential buildings up to three stories above grade, but also includes detached homes, multifamily dwellings, and manufactured and modular houses.

Additional Benefits/Facts

- Discusses the fundamentals of airflow in residential buildings along with the pros and cons of natural ventilation and the best methods of achieving acceptable IAQ.
- Identifies and evaluates types of mechanical ventilation systems and control techniques and provides information for verifying equipment performance.
- Recommends operation and maintenance schedules and documentation for mechanical ventilation systems and their controls.



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- Overviews indoor and outdoor contaminants including identification of the contaminant, possible sources, and regulatory concentration limits.
- Discusses methods to mitigate contaminants including filtration, ventilation, and air cleaners.
- Discusses the potential hazards of the byproducts of combustion for both vented and vent-free combustion appliances.
- Analyzes the common problem of moisture in residences, which can lead to mold growth, deterioration of building materials, and respiratory distress.
- Includes a reference section with 120 items related to IAQ and ventilation.

Other ASHRAE standards related to IAQ include Standard 62.1, *Ventilation and Acceptable Indoor Air Quality*, Standard 62.2, *Ventilation and Acceptable Indoor Air Quality in Residential Buildings*, and Standard 170, *Ventilation of Health Care Facilities*. Also, see the ASHRAE book *Residential Indoor Air Quality Guide: Best Practices for Acquisition, Design, Construction, Maintenance and Operation, 2018*.