

# Guide to Home Ventilation

Ventilation refers to the exchange of indoor and outdoor air. Without proper ventilation, an otherwise insulated and airtight house will seal in harmful pollutants, such as carbon monoxide, and moisture that can damage a house. Proper ventilation helps keep a home energy-efficient, safe and healthy.

## Why Ventilate?

Gases from combustion appliances, like stoves and fireplaces, can accumulate in a poorly ventilated home and threaten your health and safety. Excessive moisture in the home can also threaten your health and can lead to mold growth, insulation deterioration and structural damage. Additionally, elevated levels of humidity can make cooling equipment work harder, leading to more costly energy bills.

Ventilating a home combines the physical aspects of the house with solutions you can complete after the construction phase. For example, ductwork and exhaust fans can remove combustion gases from a home. Additionally, there are many ways you can prevent moisture from entering and accumulating in your home.



## Three types of home ventilation:

- ① **Natural ventilation** is uncontrolled air movement from windows, doors or cracks in the home. This used to be the most common ventilation method of allowing fresh outdoor air to replace indoor air in a home and is still found in most older homes.
- ② **Spot ventilation** controls air movement by using localized exhaust fans to quickly remove pollutants and moisture at the source. Common household examples include range hoods over stoves and bathroom exhaust fans. Spot ventilation is typically used in conjunction with one of the other strategies and can be used to improve the effectiveness of natural ventilation. If both spot and natural ventilation together do not meet your home's ventilation needs, then you should consider a whole-house ventilation strategy.
- ③ **Whole-house ventilation** entails using one or more fans and duct systems to exhaust stale air and/or supply fresh air into the house. Whole-house ventilation systems provide controlled, uniform ventilation throughout the house. They may be exhaust-only (relying on leakage into the building for fresh air), supply-only (relying on air leakage from the building to exhaust stale air) or balanced systems that include both exhaust and fresh air intake components.

! Be sure to talk with your Program Ally contractor about the ventilation strategy that is right for your home!

# ASHRAE 62.2 Fact Sheet



## What is ASHRAE?

The American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) is a global society advancing human well-being through sustainable technology for the built environment. It was founded in 1894 and focuses on building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the industry. Through research, standards writing, publishing and continuing education, ASHRAE helps to shape the construction industry.

## What does this mean for my home?

The U.S. Department of Energy (DOE) started requiring compliance with ASHRAE 62.2 in 2012. As such, all homes weatherized using DOE funding must:

- » Be evaluated and meet ASHRAE 62.2 ventilation requirements.
- » Have existing fans and air distribution systems evaluated for compliance.
- » Understand moisture sources and control in a weatherized house to help minimize the potential for mold and durability concerns.

## How does ASHRAE 62.2 benefit me?

Improper ventilation in a home can cause mold and reduce the home's indoor air quality. Historically, residential ventilation was not considered a major concern because it was believed operable windows and envelope leakage provided enough outside air in homes, but new construction and home weatherization building envelopes have gotten increasingly tighter. Additionally, people are understanding more about the importance of good indoor air quality. An Environmental Protection Agency (EPA) study shows indoor levels of pollutants can be two to five times greater compared to outdoor levels. In fact, improper ventilation in a home can cause mold and reduce the home's indoor air quality. With people spending nearly 90% of their time indoors, it's increasingly important to ensure the home is properly ventilated and sealed.

## ASHRAE Standard 62.2 Disclaimer

Weatherizing a home nearly always involves "tightening up" a home to reduce the loss of heated and/or cooled air to the outside. However, in the past, determining how tight a house should be without negatively impacting indoor air quality (IAQ) has been part of the challenge of weatherization. Implementing ASHRAE 62.2 provides a standard for calculating the required air movement based on both floor space and number of occupants. ASHRAE 62.2 also looks at the capacity to remove contaminants (including moisture) from the bath, kitchen and other areas of the home, taking into account accidental ventilation from infiltration. However, implementation of the ASHRAE 62.2 Standard does not account for high-polluting sources or guarantee indoor air quality.