

CALBARRIER

Premier Air Sealing Guide

TABLE OF CONTENTS



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What is air sealing?

03

HVAC Sizing

05

Our Process

02

Indoor Air Quality

04

Potential Savings

WHAT IS AIR SEALING?

Air sealing refers to the process of identifying and sealing any unintended gaps, cracks, holes, or openings in a building's structure to prevent the uncontrolled exchange of indoor and outdoor air. The primary goal of air sealing is to create a more airtight building envelope.

The building envelope typically includes walls, roofs, foundations, doors, windows, and other structural elements that separate the indoor living space from the outdoor environment.

The primary goal of an airtight building envelope is to help improve energy efficiency, enhance indoor comfort, and maintain consistent indoor temperatures. This practice is essential for reducing energy waste and increasing the overall sustainability of a building.

Here are some common air sealing practices

- Caulking: Caulk is a flexible sealant used to seal gaps and cracks around windows, doors, baseboards, and other stationary building components.
- Sealant and Foam: Spray foam insulation and sealant are used to fill larger gaps and voids.
- Sheathing Tape: Zip System tape is a durable and weather-resistant adhesive tape used in construction to seal joints and seams providing waterproofing, airtightness, and protection.



INDOOR AIR QUALITY

Indoor air quality (IAQ) refers to the condition of the air within a building or enclosed space, such as a home, office, or school, concerning the presence of various pollutants, contaminants, and factors that can affect the health and comfort of the occupants. Good indoor air quality implies that the air is clean, free from harmful substances, and conducive to a healthy and comfortable living or working environment.

Key Contributors

Airborne Pollutants: These include particles like dust, allergens, pollen, mold spores, and fine particulate matter. Gaseous pollutants such as volatile organic compounds (VOCs), radon, carbon monoxide, and various chemicals from cleaning products can also impact IAQ.

Ventilation: Adequate ventilation, which involves the exchange of indoor air with outdoor air, is crucial for maintaining good IAQ. Proper ventilation helps dilute and remove indoor pollutants and ensures a supply of fresh outdoor air. Building Materials and Furnishings: Certain building materials, paints, finishes, and furnishings can release VOCs or other harmful chemicals into the indoor air. Choosing low-emission materials can help improve IAQ.

Humidity Levels: Maintaining an appropriate indoor humidity level is essential. High humidity can promote mold and mildew growth, while low humidity can lead to discomfort and respiratory issues.

Why Does Indoor Air Quality Matter?

Maintaining good indoor air quality is essential for the health and well-being of occupants. Poor IAQ can lead to various health issues, including allergies, respiratory problems, headaches, and fatigue. Therefore, measures to improve indoor air quality may include regular cleaning, proper ventilation, use of air purifiers, avoidance of smoking indoors, and selecting low-emission building materials. Monitoring and addressing IAQ issues is critical for creating a comfortable and healthy indoor environment.



HVAC SIZING





What is HVAC Sizing?

HVAC sizing, also known as heating, ventilation, and air conditioning sizing, refers to the process of determining the appropriate capacity and specifications for HVAC equipment (such as furnaces, air conditioners, and ventilation systems) to adequately heat, cool, and ventilate a building or space. Proper HVAC sizing is crucial for maintaining indoor comfort, energy efficiency, and system performance.

How Does Air Sealing Impact Sizing?

Air sealing can have a significant impact on HVAC sizing by influencing the heating and cooling loads of a building. Proper air sealing can reduce air infiltration and exfiltration, which affects the amount of conditioned air that needs to be supplied or removed by the HVAC system. Here's how air sealing impacts HVAC sizing:

- Reduced Heat Loss and Gain: Air sealing helps create a more airtight building envelope, which reduces the amount of outdoor air entering the building and conditioned indoor air escaping.
- Improved Energy Efficiency: When air sealing is effectively implemented, the HVAC system doesn't have to work as hard to maintain the desired indoor temperature.
- Right-Sized HVAC System: With reduced heating and cooling loads due to air sealing, it may be possible to install a smaller, more appropriately sized HVAC system.

Potential Savings

01

REDUCED ENERGY CONSUMPTION

When you seal gaps, cracks, and openings in your building envelope, you prevent the uncontrolled exchange of indoor and outdoor air. This means that your heating and cooling systems don't have to work as hard to maintain a comfortable indoor temperature. As a result, you use less energy for heating in the winter and cooling in the summer, which leads to lower utility bills.

02

MINIMIZED MAINTENANCE EXPENSES

A well-sealed building is less prone to moisture infiltration, which can lead to mold and structural damage. By preventing these issues through air sealing, you'll reduce the need for costly maintenance and repairs.

03

GOVERNMENT INCENTIVES AND REBATES

In many regions, there are government incentives and utility company rebate programs that reward homeowners and businesses for improving energy efficiency. Air sealing is often a qualifying improvement, allowing you to recoup some of your expenses through these programs.



Our Process



Preperation

Preparation for Aerobarrier involves initial inspections, temporary sealing of openings(such as windows, doors, HVAC vents, etc.), setting up equipment, safety measures, and monitoring during the application of a sealant to achieve an airtight building envelope, resulting in improved energy efficiency and comfort.

Aerobarrier application

Once the program and equipment are set up, the home begin to be pressurized up to 100 pascals of pressure. At this point, the system will begin to inject the sealant into the space. From here the self guiding sealant will find gaps and cracks until the desired tightness is reached.

Certification

Once the seal has completed, a graph that has been charting the tightness changes for the entire seal will auto populate along side a certificate. On the certificate you will be able to view the tightness the building started at and where the seal tightness finished.



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GET IN TOUCH

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