AEROBARRIER®
Breakthrough Envelope Sealing Technology

Residential, Multi-Family, &
Commercial Air Sealing with

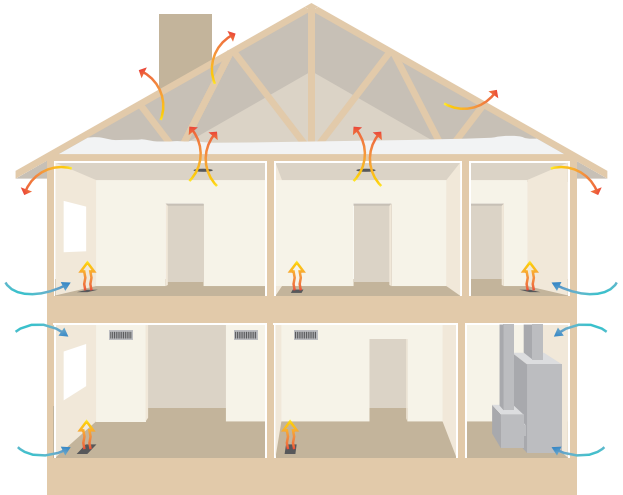
VERIFIED RESULTS

LEAKY HOMES ARE
Inefficient, Uncomfortable & Unhealthy

Air-sealing is vital to an efficient, durable, healthy home, and arguably is more important than most other energy-efficiency measures. Air leakage, or infiltration, occurs when outside air enters a house uncontrollably through cracks, gaps, and openings. Homes with higher air leakage are significantly less energy-efficient than well-sealed homes. They also require larger HVAC systems to keep the home comfortable. These larger systems must run more frequently to keep up with the temperature changes as the outside air leaks into the house.

The airtightness issue goes beyond how well a building's HVAC system performs. Uncontrolled air leakage can also provide a vehicle for unwanted moisture to enter a building assembly, which can become the reason for a building to fail, leading to costly building repairs. Because moisture is transferred predominantly by air currents — accounting for up to 98% of all water vapor movement in buildings — air sealing your home is essential. Leaky houses also allow dust, allergens, pollutants and other airborne particulates to enter the home, leading to poor indoor air quality.

Reducing the amount of air that leaks in and out of your home is a cost-effective way to cut heating and cooling costs, improve durability, increase overall comfort, and create a healthier indoor environment.



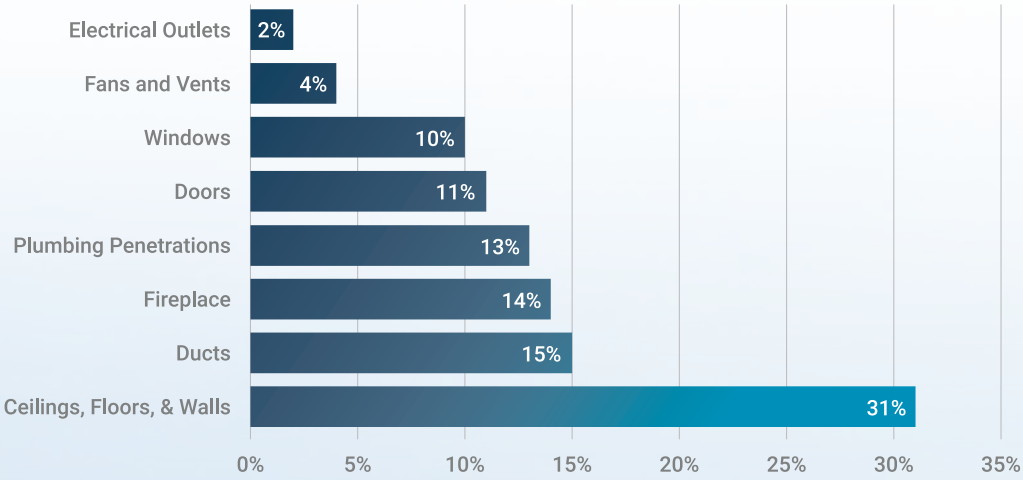
Typical Leaky Home with Poor Air Barrier System

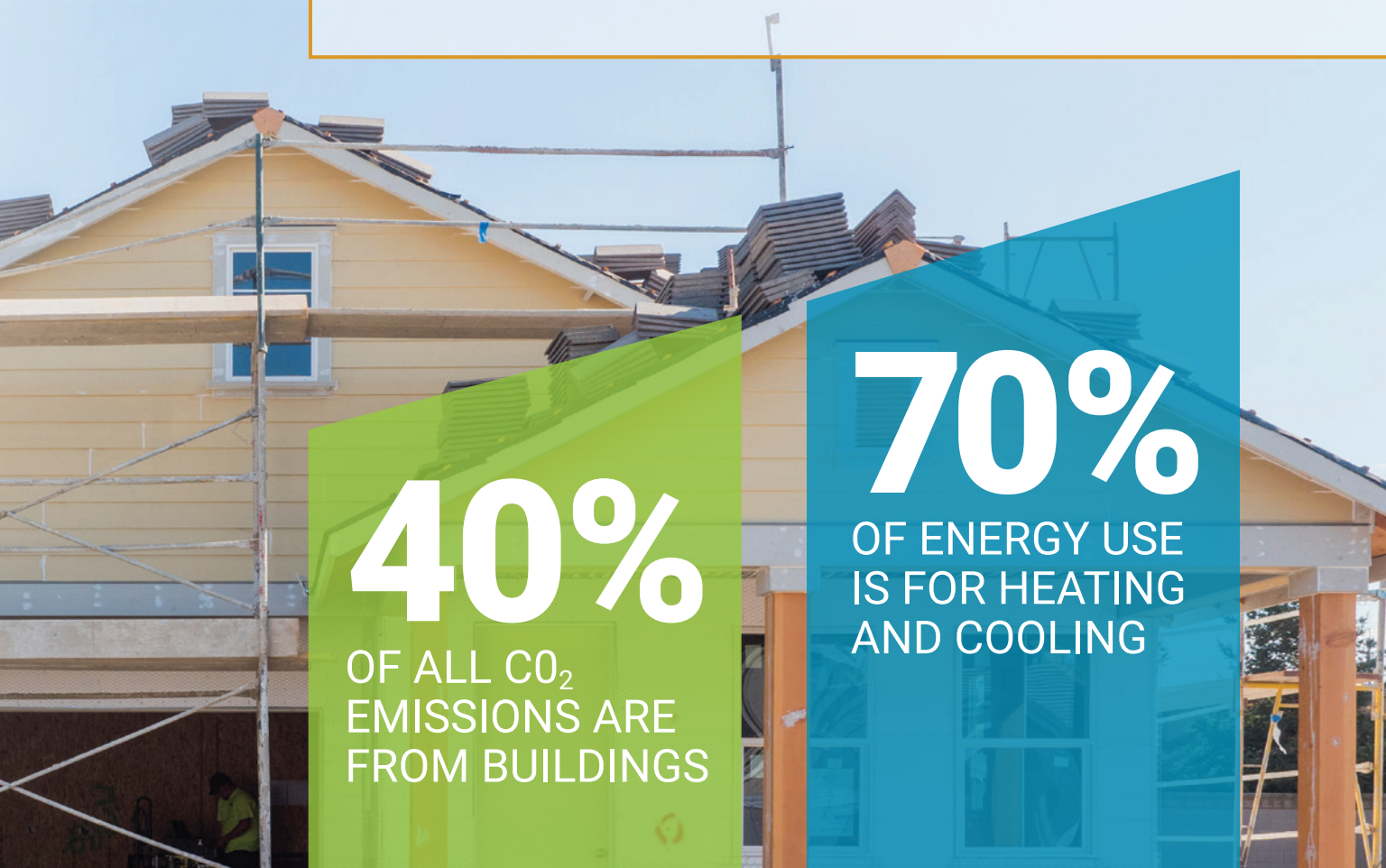
Why does that matter? Because air leakage...

1. Is typically the largest driver of energy use in the home, comprising 30% - 70% of energy wasted on heating and cooling
2. It is usually the biggest contributing factor for drafts, hot/cold spots, and other comfort issues in a home
3. Often the largest contributor to moisture problems, especially mold and mildew

Where Does Air Leakage Occur?

(Based on an Average American Home)





40%

OF ALL CO_2 EMISSIONS ARE FROM BUILDINGS

70%

OF ENERGY USE IS FOR HEATING AND COOLING

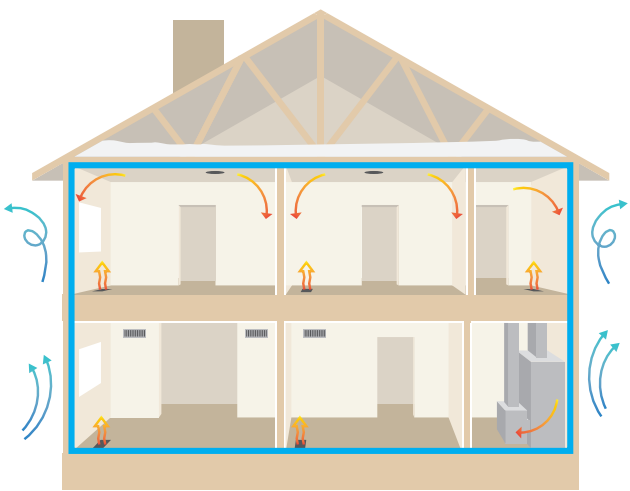
SEALING THE ENVELOPE
Has Never Been Easier

Never fail another blower door test. GUARANTEED.

AeroBarrier, a new and innovative envelope sealing technology is transforming the way residential, multifamily, and commercial builders seal the building envelope. AeroBarrier is an air sealing technology that simultaneously measures and seals building envelope leaks allowing builders to "dial in" the precise level of leakage and performance quickly and easily.

AeroBarrier is made for builders, because it makes it easy and economical for them to improve the performance of their homes and meet codes more consistently and more importantly, more cost-effectively than traditional envelope sealing methods. As more and more states adopt stricter energy codes and consumers expect new homes to be comfortable and energy-efficient, builders will be forced to reevaluate the way they build their homes. AeroBarrier provides an easy, one-step solution to meet your needs now and into the future.

AeroBarrier is also instrumental in single and multi-family projects targeting the performance requirements of LEED, ZERH, Passive House, and the 2015 IECC or better. These projects leave little room for error when it comes to sealing the building envelope and AeroBarrier is the only solution that can guarantee any level of envelope tightness, from 3 ACH50 all the way to the Passive House standard of 0.6 ACH50.



A Tightly-Sealed Home with AeroBarrier

Meet Any ENERGY STAR®, LEED, Passive House or Net Zero Requirement Consistently

EXPERIENCE THE
Benefits of AeroBarrier

Measurable Results

As AeroBarrier is applied, the results are displayed in real time. By incorporating a blower door, the AeroBarrier system is able to dial in your desired leakage. It's that easy and verified upon completion.

Fast & Easy to Apply

From start to finish, the sealing process takes 60-90 minutes. In new construction applications, prep and clean up time is minimal – typically taking less than an hour. Once set up, the AeroBarrier machine takes over and manages the sealing process through completion.

Cost-Effective

No more caulking needed to weatherize a space pre-drywall. Meet and verify air tightness requirements in real time, avoid sealing guesswork, and save on time, material and labor.

Durable

Sealant achieves durability performance in 3 key areas: flexing, aging and compatibility in tests simulating 50 years of service.

Safe

GreenGuard Gold certified with Ultra-low VOC content and no off-gassing. Work can resume in the home within 30 minutes.

What The Industry Says

"AeroBarrier may be the most important innovation to hit the building community in years. We were seeking a tighter building envelope and AeroBarrier answered the call. The technology is easily deployable in the field, delivers results immediately which is invaluable, and works well in a fast paced production environment. You may be able to overcome the inefficiencies of manual sealing by repeating the process over and over, but it would require more expensive labor hours and still no guarantee. AeroBarrier is fast and you know the results before you are even finished."

Geoff Ferrell – Chief Technology Officer
Mandalay Homes

"It was blowing people's minds – mostly because monitoring compartmentalization in a multi-family building under construction is typically a very difficult, time consuming task. The level of coordination and commitment you need to get from all contractors on the job is as critical as it is nearly impossible to achieve. With AeroBarrier, it's simply not a problem."

Chris Benedict, R.A
CBRA

"AeroBarrier could very well be the end game in our industry's search for a comprehensive, cost-effective way to control leaks through building enclosures. Properly sealing a home or building to precise levels can be time consuming, stressful to site staff and expensive. With ever increasing expectations of homeowners and changing building codes, homes will be expected to be more air tight than ever. There isn't a more important technology in our industry today."

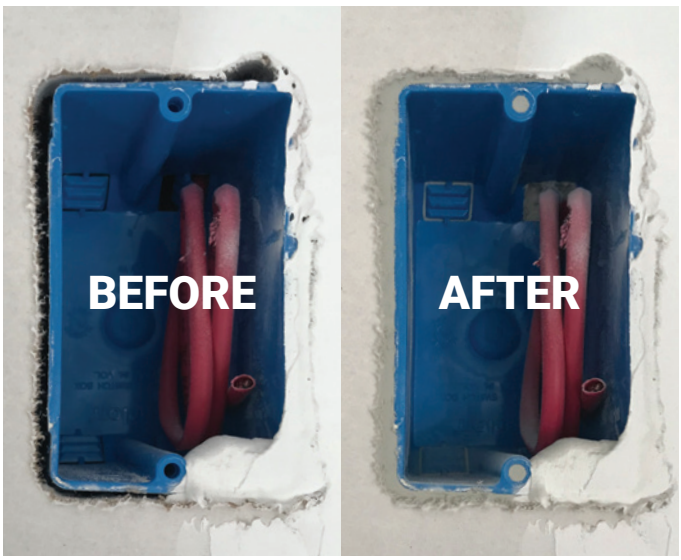
Gord Cooke – Partner
Construction Instruction

HOW It Works

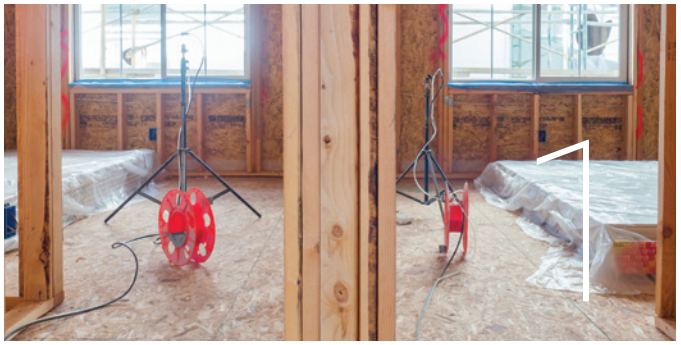
AeroBarrier is an interior applied air sealing system that seals all building envelope leaks up to 1/2". The waterborne acrylic sealant is applied by pressuring a targeted building area, then spraying the aerosolized sealant into the pressurized space.

The sealant is self-guided to the edges of visible and invisible leaks creating a seal, not by packing the gap, but by accumulating across the surface of leaks. The sealant is applied within 60-90 minutes and dries before system clean up is complete allowing construction to resume shortly after the process is complete with little to no impact on standard construction schedules.

The system measures the envelope leakage in real time, enabling the system to dial in specific requirements for air leakage and guarantee the results.



4 STEPS to Advanced Envelope Air Sealing



STEP 1
Prep & Setup

Prep the area by covering any openings that won't be sealed. This includes taping or covering any designed openings or finished horizontal surfaces within the space. Emitters are then set up throughout the area to be sealed.

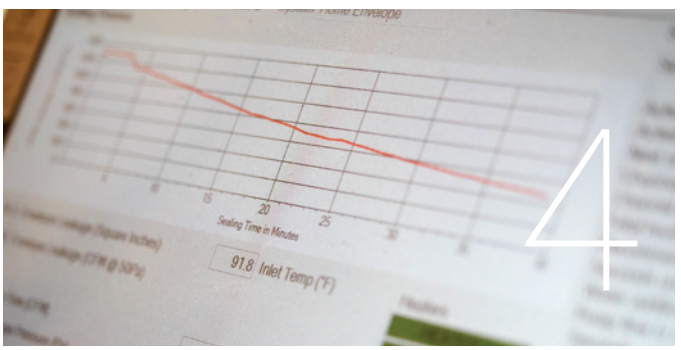
The equipment is then set up. This includes blower door, emitters, hoses, and the AeroBarrier machine.

STEP 2
Pressurize & Apply

Using a blower door, the space is pressurized. After that, a computer controls the entire process including controlling the temperature, pressure, humidity, and distribution of sealant within the space during the process.

STEP 3
Seal & Monitor

With the AeroBarrier process you see results in real time. You have complete control over your desired level of air tightness and can achieve any level of tightness required. At the end of the process, a final blower door test is run to verify the sealing results. AeroBarrier then provides a Certificate of Completion that shows pre and post seal leakage.



STEP 4
Clean Up

After the sealing is complete, work can resume in the space within 30 minutes. At that time, clean up of all equipment and removal of all tape and coverings can occur.

SINGLE FAMILY
BUILDINGS

Affordable Airtightness

In residential applications, reduced envelope leakage means increased durability, reduced mechanical loads, improved energy efficiency, and more economical renewable energy options. More importantly, a tighter building envelope can help increase the comfort of a home and improve the overall indoor air quality within the home, leading to a better living environment for the homeowner.

MULTI-FAMILY
BUILDINGS

Code Compliance Made Easy

AeroBarrier is a perfect solution for compartmentalization and multi-family applications. Not only will a tighter building envelope help save energy, but it will also help stop moisture drive and reduce stack effect in the entire building. It will also help control sound and smell transfer, improve overall occupant comfort, and help mitigate pest movement which helps to enhance the environment in each unit.

COMMERCIAL &
MUNICIPAL BUILDINGS

Fastest Path to Energy Savings

AeroBarrier is not only for residential applications. Aerosol sealing is proven to be extremely effective at sealing commercial spaces too. In commercial projects, AeroBarrier is able to reduce up to 80% of the building leakage and more importantly, it is able to bring the buildings within the USACE specification for envelope leakage. Using AeroBarrier in new or retrofit commercial applications improves the sealing effectiveness, reduces labor costs, and improves the consistency of installation.

Frequently Asked Questions

When can it be applied?

AeroBarrier can be applied at any time after the space can be pressurized. Different construction methods and climate zones will determine the proper time to apply AeroBarrier. Rough-in or early stages of drywall is the most economical for application, but it can be applied to completely finished spaces.

What size hole will AeroBarrier seal?

AeroBarrier seals holes as large as ½", and as tiny as a human hair. Aerosol sealing is extremely effective at sealing narrow gaps and extremely small holes that are typically not cost-effective or are missed during manual sealing.

What is the sealant made of?

The AeroBarrier X1 sealant is a waterborne acrylic. The sealant is GreenGuard Gold certified and has been tested according to various ASTM standards and NFPA 285, for fire spread, smoke production, adhesion, antifungal properties, and tensile strength. The sealant is ultra-low VOC and has no off-gassing.

Is it safe to breathe the sealant during application?

No. During application, if a technician must enter the space while it is being sealed, they wear personal protective equipment (PPE). After the sealing is complete, the area is safe to enter without protective gear within 20 to 30 minutes.

How is leakage measured?

The AeroBarrier system uses a standard, single-point blower door test to measure envelope leakage throughout the process. The blower door is calibrated to meet ASTM Standard E779, E1554, CGSB-149.10-M86, EN 13829, ATTMA Technical Standard 1, NFPA 2001, RESNET and USACE.

How long does it take to apply AeroBarrier?

Application time depends on what the target ACH is for the house. Typical applications take between 90 and 120 minutes.

How long after the sealing process can you work in the house?

The space needs to be aired out for 30 minutes after sealing. This is done by opening windows and running the fan. Work in the space can continue as soon as the sealing equipment is removed.

What surfaces need to be protected?

If AeroBarrier is applied at rough-in or right after drywall is installed, there is very minimal preparation required. Vertical surfaces like walls and windows do not need to be covered. All designed openings, such as ducts, vents, electrical and plumbing penetrations, need to be covered prior to sealing. All finished horizontal surfaces need to be covered.

How much will this tighten the house?

AeroBarrier can meet whatever tightness requirements the space is designed to handle. The AeroBarrier technology provides real-time air tightness readings allowing air tightness to be specified and achieved every time. AeroBarrier can seal houses just tight enough to meet any IECC code requirement or it can seal to levels below the Passive House standard of 0.6 ACH50.

Can the sealing be performed in cold weather?

Although the sealing equipment can heat the air as it seals, there are practical limits to aerosol sealing when it comes to weather conditions. Ideal outdoor temperature is 40˚F or higher. Sealing can be done when the temperature is below 40˚F, but additional steps may be required.

Have More Questions?

EMAIL info@aerobarrier.net
CALL (937) 428-9300
VISIT www.aerobarrier.net

CASE STUDY

Zero Energy Ready Homes

AeroBarrier Key to Success of New Award-Winning, Zero Energy Ready Homes

PROJECT OVERVIEW

PROJECT
DOE Challenge Home

BUILDER
Mandalay Homes

LOCATION
Prescott, Arizona

RESULTS
Pre-leakage: 3.1 ACH50

Post-Leakage: 0.4 ACH50

Reduction: 86.4%

Sealing Time: 2.5 hours

Every home built by Arizona-based Mandalay Homes meets building performance criteria that goes well beyond typical industry standards. All of its homes are ENERGY STAR® certified, Indoor AirPLUS certified, and DOE Zero Energy Ready. Every home has a HERS rating of 50 or less. That means that every Mandalay home promises extraordinary energy efficiency, indoor air quality, comfort, and durability. And to stay on the cutting edge of this kind of home performance, Mandalay Homes is always testing and evaluating the very latest innovations in building technologies.

So when Mandalay's chief technology officer first learned about a new innovation in envelope sealing that promises a fast, affordable means to extremely tight building envelopes, he had to try it out for himself. He knows that a tight building envelope is the foundation that makes every other feature of a high-performance home work -- the tighter the envelope, the better the home performs.

Mandalay first tested AeroBarrier on a new 2,200 sqft, 3-bedroom house being built in Prescott, Arizona. The house was first sealed using a traditional spray foam sealing method, which after a full day of application, resulted in a tightness level of 2.0 ACH50. AeroBarrier was then applied in a simple process that took just a few hours to complete. The final results showed a post-AeroBarrier leakage rate of just 0.64 ACH50 - well below even the tightest industry standard for energy-efficient homes.

With the success of this initial project, Mandalay Homes now uses AeroBarrier on each and every home they build. Before its use, an average Mandalay Home boasted an envelope tightness of 1.5 ACH50. Now the average envelope tightness of a house built by Mandalay Homes is 0.50 ACH50.

CASE STUDY

Compartmentalization

AeroBarrier Allows Engineers to Easily Attain Desired Tightness for Energy Efficiency, Comfort, and Livability

PROJECT OVERVIEW

PROJECT
153rd St Apartments

BUILDER
Synapse Development Group

ARCHITECT
Chris Benedict, R.A.

LOCATION
Upper West Side, Manhattan

RESULTS
Post-manual sealing, AeroBarrier reduced unit leakage by an additional 47%, providing overall compartmentalization levels well within calculated passive house parameters.

For New York-based architect Chris Benedict, compartmentalization is the holy grail of apartment building design. As a recognized pioneer in energy-efficient building, she understands that effectively sealing the envelope that exists between apartments is not only critical for maximum energy efficiency, but it's also key to ensuring high indoor air quality and limiting the migration of bugs, smoke, noise and other common tenant discomforts that can travel from one unit to another.

For this reason, Benedict was not happy to learn that her latest project, a newly constructed 6-story apartment building on Manhattan's upper west did not meet the passive house-levels of compartmental tightness targeted by her design. While the manual caulking applied by contractors got them close, it did not meet the industry's highest standard. Now with plumbing, electrical and sheet rock installation finished, the building was nearing completion and further manual sealing was deemed impractical.

Fortunately, Benedict had heard colleagues talk about an innovative new envelope sealing technology developed at the University of California, Davis that could be applied after construction was completed. AeroBarrier was not only highly effective, she was told, but also the single-step computerized process could be dialed in to reach specific desired results. After AeroBarrier proved successful at sealing a test unit, contractors were given the thumbs up to seal the remaining apartments within the building.

It took the AeroBarrier team just 8 days to compartmentally seal all 34 units to well below levels of tightness required for passive house certification. Blower door tests conducted after the application of the sealing technology confirmed the results – AeroBarrier was a project-saving success.


AEROBARRIER
Breakthrough Envelope Sealing Technology

DEFEAT THE BLOWER DOOR

Revolutionary air sealing technology.

***Guaranteed* results.**

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Home Innovation NGBS GREEN PARTNER

U.S. GREEN BUILDING COUNCIL MEMBER