

**BUILDINGENERGY**

**NYC**

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Conference + Trade Show of the Northeast Sustainable Energy Association



# Aeroseal Duct Sealing & Aerobarrier Envelope Sealing

Presented by:

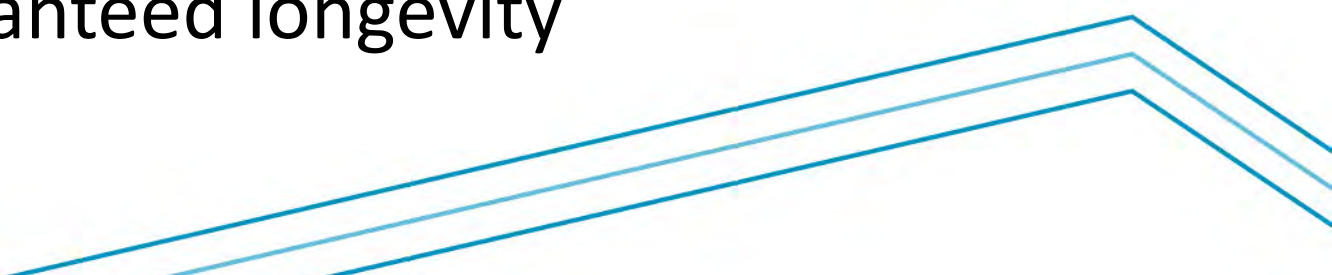
Matthew Pappalardo, Vice President

B&L Testing and Balancing

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Testing and Balancing

# What is AeroSeal?

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- Proven, patented technology
  - Seals HVAC ducts from the inside
    - Uses a safe polymer sealant
    - Reduces 90% of leakage
  - Overcomes conventional limitations
    - No-access situations
    - Finds and seals virtually all leaks
  - Payback usually two to seven years
  - Verifiable & guaranteed longevity
- 

# Simple Setup



# Sealing Certificate

## Certificate of Completion

Duct Sealing Performed for:  
Licking Heights W Elem Sup Sec B-1  
1490 Climbing Fig Rd  
Blacklick, OH 43004  
(614)334-9000

### Overall Sealing Results

When we arrived,  
YOUR DUCTS HAD:

**3317 CFM** of Leakage, equivalent to a  
**124 Square Inch Hole**

After we finished,  
YOUR DUCTS HAVE:

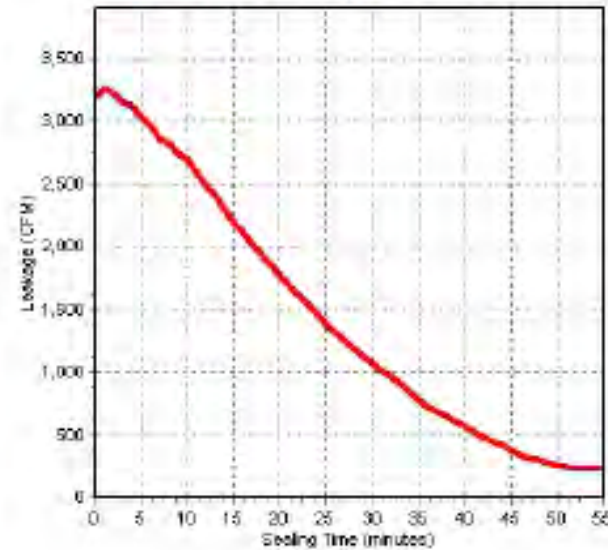
**178 CFM** of Leakage, equivalent to a  
**7 Square Inch Hole**

This corresponds to a **95%**  
**Reduction** in Duct Leakage

Note: Duct leakage results are calculated in cubic feet per minute (CFM) measured at your reported duct OPERATING PRESSURE of 375 Pa.

**AEROSEAL**

### Aerosol Sealing Profile



The flow capacity improvement for  
this duct system was  
**314%**  
of fan flow based upon measured  
leakage and operating pressure.

Aerosel Technician: Tyler Smith  
Aerosel Equipment Serial #: 2153  
Saturday, December 21, 2013

# Application FAQs

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- Does not coat the ductwork
- Only sticks to the holes
- Will span hole up to 5/8" in diameter or a seam 5/8" wide

**Before**



**After**



# Top 10 Mechanical System Faults by Cost

	Annual Cost
Duct Leakage	\$2.9B
HVAC left on when unoccupied	\$1.9
Lights left on when unoccupied	\$1.7
Airflow not balanced	\$0.7
Improper refrigerant charge	\$0.7
Dampers not working properly	\$0.5
Insufficient evaporator airflow	\$0.3
Improper controls set up	\$0.2
Control component failure	\$0.2
Software programming errors	\$0.1

Source: Building Commissioning: A Golden Case For Reducing Energy Costs , E Mills, 7/09

# Commercial Building Duct Leakage

## ...Pervasive...

- 74% of contractors find that most U.S. buildings have significant duct leakage (BCA)
- 75% of commercial buildings do not meet the latest standards for proper ventilation (ASHRAE / EPA)
- On average, 10%-30% of air provided by HVAC supply systems does not reach the intended occupied space (LBNL)



## ...Consequential...

- Duct leakage is typically the single biggest factor in building energy waste (McKinsey Study 2009)
- The U.S. loses about \$25 billion dollars annually in wasted energy lost through duct leakage (DOE)
- Aeresal Duct Sealing – 3rd Best HVAC Energy Savings Measure (FEMP Matrix)
- Duct Sealing - #1 Energy Savings Opportunity (DOE)



# Awards / Certifications / Recognition

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Product of the Year



2002 100 most beneficial technologies in 23 years



2014



Certified



Approved energy savings



Recognized in 2005



Certified



Certified



Task force approved measure



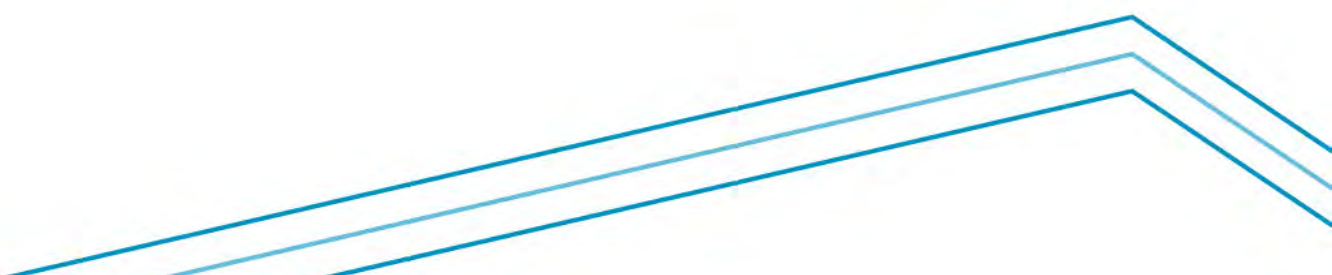
2011 EBie award

# Why Aeroseal Ducts?

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1. Energy conservation
2. Indoor air quality
3. Comfort
4. Avoid cost of replacing ducts
5. Eliminate unsightly mastic on architectural ducts

## Familiar Issues:

- High energy costs: 20-40% loss
  - Cold room at the end of the hall
  - Complaints about odors and illnesses
  - Renovation: need to buy new ducts
  - Building ventilation does not meet spec
  - Airborne contaminants – close building?
  - High fan speeds due to poor air flow
  - New air handler due to poor air flow
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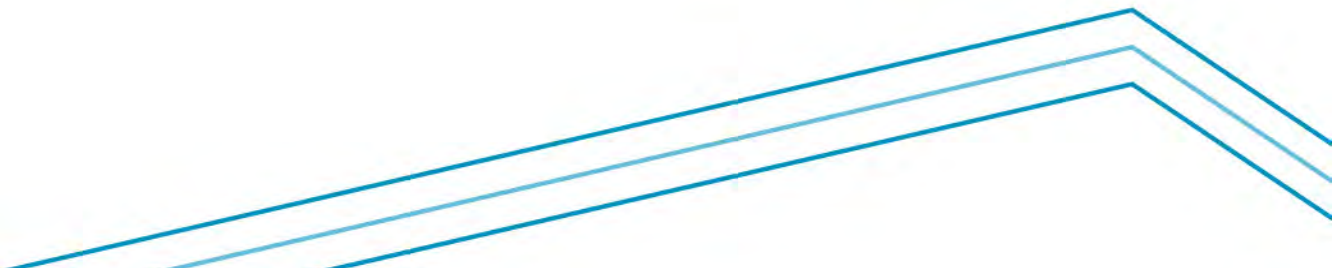
**From Ducts to Building Envelopes, AeroSeal Technologies Ensure That Air Travels Only Where It's Supposed To**



# What is AeroBarrier?

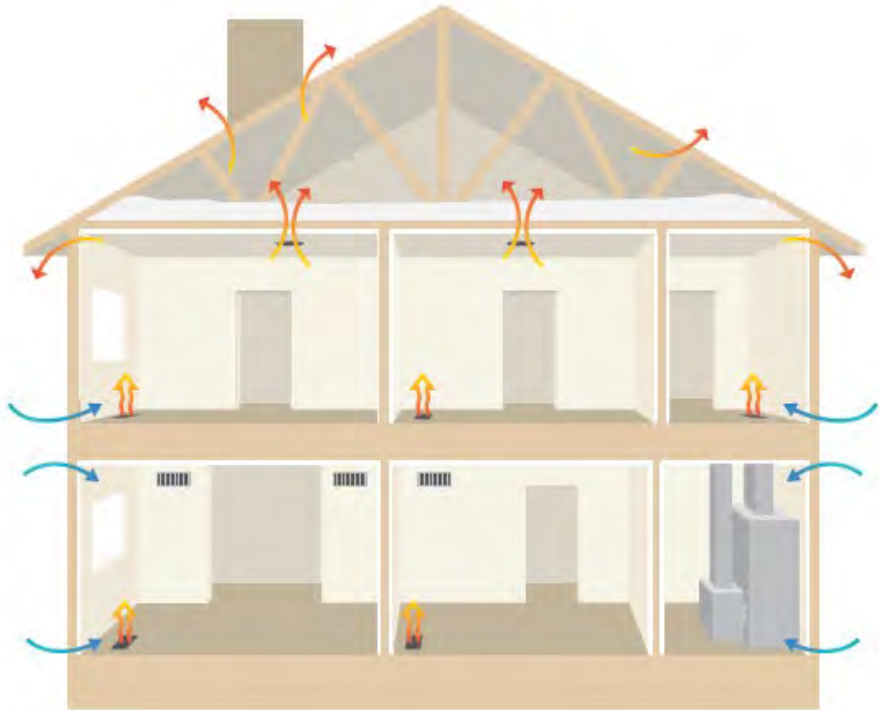
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## A Game Changing Technology that Seals the Envelopes of Homes and Buildings

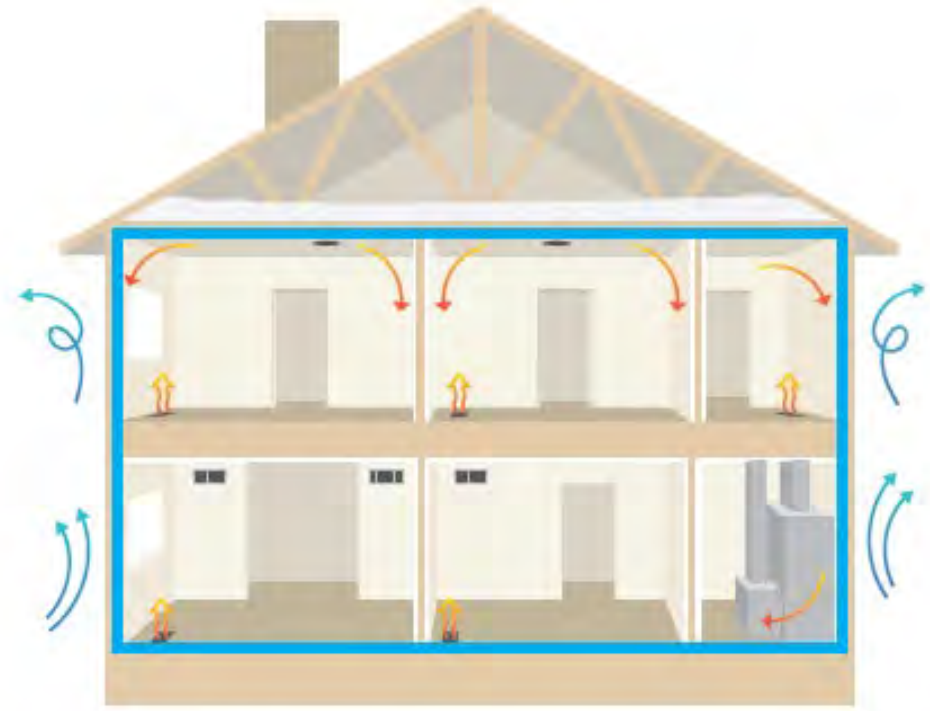
- Consistently meet ACH requirements
  - Easy, four step process
  - Time saving
  - Ultra-Low VOC waterborne acrylic
  - Verified and documented results
- 

# What is AeroBarrier?

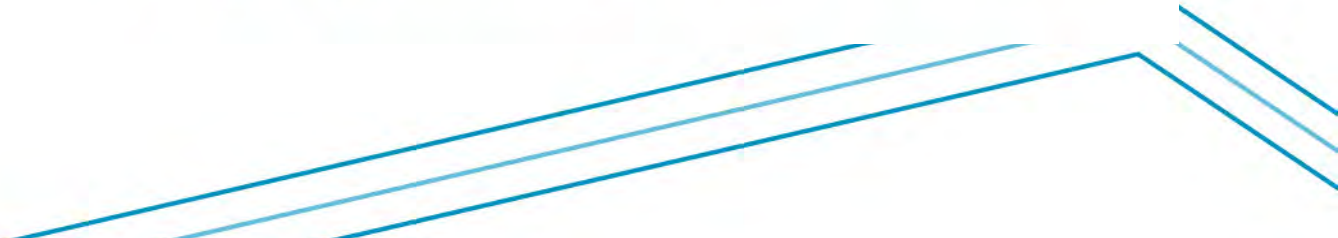
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**Typical Leaky Home with  
Poor Air Barrier System**



**A Tightly-Sealed Home with AeroBarrier**



# What is AeroBarrier?

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# EXPERIENCE THE Benefits of AeroBarrier



## 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.



## 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.

Meet Any ENERGY  
STAR<sup>®</sup>, LEED, Passive  
House or Net Zero  
Requirement Consistently



# THANK YOU!

Contact Info:

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917-359-3810

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