

≡ CASE STUDY ≡

**AEROSEAL CUTS HEATING AND COOLING  
ENERGY USAGE IN HALF FOR VIRGINIA TOWNHOUSE**

**Aerosol-based Duct Sealing Technology Plays Key Role In Helping Turn 40 Year Old  
“Eyesore” Into Neighborhood Model Of Comfort And Energy Efficiency**

A townhouse in Herndon, Virginia had been neglected for nearly twenty years. When Roger Lin, a principal at Southern Exposure Homes, bought the investment property, he knew from the start that he wanted to do more than simply make minimal fixes before putting it back on the rental market. He was on a mission to prove that even older, ill repaired homes could be economically transformed into models of efficiency and performance. He also knew that the single most significant energy waste in most homes today is caused by leaks in the property’s air duct system. So one of the first items on his renovation “To Do” list was to have the ducts sealed with Aroseal.

**In Brief**

**Property Owners:** Southern Exposure Homes  
**HVAC:** TLC Heating, Air Conditioning  
**Type:** 2-story townhouse. 1,280 sq ft. Forced air.  
**Goal:** Significantly improve energy performance  
**Before Aroseal:** 245 CFM\* of leakage  
**After Aroseal:** 13 CFM of leakage  
**Results:** Reduced average leakage by 95%

*\*Cubic feet per minute*



Lin represents a growing legion of building renovators that are passionate about home energy performance and engineered comfort.

Turning a dilapidated townhouse into a model of energy efficiency.

He can’t just retrofit a house – he is driven to make his properties as efficient as practical. Aiming to have the Herndon townhouse officially receive a low HERS rating (signifying high energy efficiency), he implemented a number of energy-saving upgrades – from insulating the roof, walls and floors, to using special sheeting material to help get the house air tight. When he first heard about Aroseal duct sealing, he dug deep into the research and found that the duct sealing technology could have a dramatic impact on indoor air quality, comfort and energy savings. The research showed that effective duct sealing is typically the single most effective thing a homeowner can do to reduce home energy usage. He also learned that it was one of the least expensive energy retrofit options there is in terms of cost vs. BTUs saved.

Aroseal reduced the townhouse duct leaks by 95% which had a dramatic impact on lowering the property’s heating and cooling costs, improving indoor air quality and increasing overall comfort throughout the home.

## Quotes

“I figured that if we can turn this eyesore into the best house in the neighborhood, others may be interested in what can be economically done to their own home. It’s not just about good looks but also comfort, air quality and energy efficiency and aereosealing the ductwork had a major impact on improving all three of these concerns.”

*Roger Lin, property owner*

“Whether we’re talking about comfort, indoor air quality or energy savings, once our customers understand the problem and how Aereoseal works to fix that problem, more often than not, they want to have their home aereosealed.”

*Dean Perez, production manager, TLC Heating, AC, Plumbing and Electrical*

“Our HVAC system was rated at 600 CFM but the initial leakage was nearly half that at 245 CFM. That meant that nearly half the air being cooled by the AC or heated by the furnace was being lost. After Aereoseal, we were getting nearly 100% of the efficiency that the system was designed to provide.”

*Roger Lin, property owner*

### Aereoseal – The Technology

- Developed at Lawrence Berkeley National Laboratory in 1994.
- Research for Aereoseal was partially funded by the U.S. Department of Energy.
- Aereoseal is the only duct sealant technology that is applied from the inside of the duct system. It is delivered as a non-toxic aerosol mist that seeks out and plugs leaks.
- Aereoseal has proven to be 95% effective at sealing air duct leaks.
- The Department of Energy proclaimed aereoseal technology to be one of the top 23 most important energy conservation technologies for consumers to come out since the department was first established.
- Aereoseal has won several prestigious awards including DOE energy 100 Award, Popular Science – Best of What’s New, This Old House – new technologies and 2012 EBie award for use on an existing building retrofit project.

For more information on the Herndon Townhouse or about Aereoseal in general, contact Brad Brenner at (503) 736-0610 or email [brad@brennerassociates.com](mailto:brad@brennerassociates.com). You can also visit the Aereoseal website at [www.aereoseal.com](http://www.aereoseal.com).