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## ≡ CASE STUDY ≡

### **AEROSEAL PROVIDES DRAMATIC IMPROVEMENT IN INDOOR COMFORT FOR CINCINNATI-AREA HOMEOWNER**

#### **Breakthrough Duct Sealing Technology Reduces Duct Leakage By 90% AFTER Professional Manual Sealing Was First Attempted**

Tim was frustrated with his HVAC system. No matter how high he turned up his air conditioner during hot summer days, the upstairs rooms in his Cincinnati, Ohio-area home remained about ten degrees hotter than those downstairs. To solve the problem, he first tried replacing his old air conditioner with a new high efficiency unit “guaranteed to solve uneven temperature problems.” When that didn’t work, he called in his HVAC specialist who showed him that the problem was due to excessive duct leakage. The specialist recommended using Aroseal to seal the leaks. But Tim, a home repair contractor by trade, opted to spend several days manually sealing the ductwork himself. When all that hard work didn’t solve the problem, he finally decided to try Aroseal...and he was glad he did. Leakage was reduced by more than 90%. More importantly, the upstairs of his home is now as comfortable as the rest of the house.

#### **In Brief**

**House:** 2600 Sq. Ft / 4-bedroom / 2002  
**HVAC:** Hader Heating & Cooling, Cincinnati  
**Goal:** Improve indoor comfort and reduce dust  
**After manual sealing:** 31% leakage remained  
**After Aroseal:** 1.4% leakage remained  
**Results:** Temperature differential between upstairs and downstairs room = ½ degree. Dusting reduced from 1x/per week to 1x/per 3 weeks. Estimated energy savings = \$46/month.



Keeping It Cool In Liberty Township, Ohio

This recent real-life example of Aroseal at work not only illustrates the effective advantage of Aroseal over traditional methods of duct sealing but also highlights the significant difference that effective duct sealing can have on indoor comfort, air quality and energy bills. After manually sealing the ductwork, leakage measured 200 CFM (supply) and 700 CFM (return). After aroseealing the ductwork, leakage measured only 22 CFM (supply) and 20 CFM (return). As a result, cooled air now reaches all intended destinations throughout the house, leaving less than 1 degree difference in temperature from room to room. The need to dust was also reduced from one time per week to one time every three weeks. As an added bonus, the homeowner saw his energy bill go down about \$46 a month.

## Quotes

“I went around with a smoke torch and showed the homeowner how the leaks were blowing the smoke around in the basement. We then took some measurements at his upstairs return grills and showed him how the suction was too weak to even hold up a piece of tissue paper. That was enough to convince him that something needed to be done to seal the leaks in his ductwork.”

*Doug Hader, Manager, Hader Heating And Cooling*

“I know how to manually seal ductwork. I got up in the attic and sealed what I could – around where the boots meet the wood, around the header in the basement, and I took down and reinforced them. I spent about 23 hours of my own time really getting at every nook and cranny that I could by hand. So you can imagine I was disappointed to see it had little effect. Then Aeroseal came in and it took less than a day to really fix the problem.”

*Tim, Homeowner*

“About a month or so after we completed the aerosealing job, I got a call from Tim. It was a particularly hot day and he told me he wanted to tell me something. He said he just measured the temperature in his house and there was only a degree difference between upstairs and downstairs. He just wanted to thank me very much!”

*Doug Hader, Manager, Hader Heating And Cooling*

### Aeroseal – The Technology

- Developed at Lawrence Berkeley National Laboratory in 1994.
- Research for Aeroseal was partially funded by the U.S. Department of Energy.
- Aeroseal 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.
- Aeroseal has proven to be 95% effective at sealing air duct leaks.
- The Department of Energy proclaimed aeroseal technology to be one of the top 23 most important energy conservation technologies for consumers to come out since the department was first established.
- Aeroseal 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 Veterans House project or about Aeroseal in general, contact Brad Brenner at (503) 736-0610 or email [brad@brennerassociates.com](mailto:brad@brennerassociates.com). You can also visit the Aeroseal website at [www.aeroseal.com](http://www.aeroseal.com).