

≡ CASE STUDY ≡

CONNECTICUT FAMILY ENJOYS LOWER ENERGY BILLS / IMPROVED COMFORT AFTER AEROSEALING THEIR DUCTWORK

Fast And Simple Process Proves To Be Best Financial Investment For Homeowners

Dennis K had heard that effectively sealing the ductwork of his home could reduce his home energy bill but he had no idea that it would turn out to be the best financial investment he made in years.

Dennis called the AeroSeal experts at ECS Connecticut, hoping to reduce the amount of energy used to heat and cool his 2,600 ft² home. He was also hoping that duct sealing would improve the comfort of the house, getting adequate heat and air conditioned air to all the rooms, both upstairs and down.

The home energy pros at ECS tested the home's ductwork for leaks. The duct system was divided into two zones: one that serviced the first floor and another dedicated to the second floor. The two systems together were designed to handle a total output of 1,400 cubic feet per minute (CFM).

In Brief

Building: 2,600 ft² home; Beacon Falls, CT.

AeroSeal Company: ECS of Connecticut

Goal: Reduce energy usage – improve evenness of home's room to room temperatures.

Before AeroSeal: 441 CFM of leakage

After AeroSeal: 16 CFM of leakage

Results: Before aeroSealing the furnace cycled 11 times in a 24 hour period. After aeroSeal, the furnace cycled only 7 times and reduced its overall run time by 4 hours over a similar (weather conditions) 24-hour period. Estimated \$600 annual savings.



A simple duct test showed that leaks throughout the ductwork were responsible for a leakage rate of 441 CFM. That meant that nearly 1/3 or the air being heated by the furnace or cooled by the air conditioner was being lost through holes in the duct system. This was not only an enormous waste of energy but most assuredly was also responsible for the uneven temperatures throughout the home.

Using, aeroSeal, an innovative approach to duct sealing that works from the inside of the ducts to seal leaks, the ECS team was able to correct the problem in a single afternoon. After aeroSealing was completed, post-seal testing showed that leakage was reduced to 16 CFM or just 1% of total output – a 97% reduction in leakage. The homeowners observed that while their house was warmer than ever before, their furnace was turning on far less often and for much shorter periods of time. They estimate that they have reduced the cost of heating and cooling their home by \$600 annually.

“Given the data collected from my programmable thermostats, you can visually see that the furnace is NOT cycling on and off as frequently anymore. The change is quite dramatic. My wife – an eternal skeptic – has noted that the house has felt warmer and more consistent in temperature and of course more heat is coming through the vents. This is real tangible evidence that the process works.”

Dennis K, homeowner

“We find that, in most every home we’ve tested, leakage rates easily run 20% to 30% or more. Since most of the ductwork is hidden behind walls or other impossible to reach places, the inside – out approach to duct sealing is really the only viable means of effectively sealing those leaks.”

Bill Hene, owner ECS Connecticut

Aeroseal – The Technology

- Developed at Lawrence Berkeley National Laboratory in 1994.
- Research for aeroseal technology 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.

For more information on this sealing project or about Aeroseal in general, contact Aeroseal at (937) 428-9300. You can also visit the Aeroseal website at www.aeroseal.com.

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