Case Study
Cambridge Housing Authority

Cambridge Housing Authority Meets LEED Certification Using Aeroseal

Duct sealing reduced exhaust fan while increasing air exchange rate

Excessive duct leakage was preventing LEED certification for the Cambridge Housing Authority (CHA). To be LEED certified, the ductwork used to ventilate 40 bathrooms in the newly constructed five-story building had to demonstrate a total leakage rate below 250 CFM.

With the first test results from hand sealing the air ducts with mastic showing 900+ CFM, CHA was not even close to LEED status. The CHA had a big problem. There were thousands of dollars in federal rebate dollars that the CHA could not receive until it achieved LEED certification.

The mechanical contractor sent in a team of hand-sealers to find and fix the leaks using traditional hand sealing methods (mastic, tape). After several costly attempts at manually sealing the ductwork, leakage rates remained too high to meet LEED requirements.

That's when the CHA decided to try Aeroseal, a computer-controlled approach to sealing air ducts. Aeroseal emits a precise amount of aerosolized sealant into pressurized ductwork.

As a result, the ductwork is sealed from the inside to simultaneously find and seal the leaks more consistently than manual sealing. The entire Aeroseal duct sealing process took only two workdays to complete (much faster than hand sealing) and was conducted while other construction work continued throughout the building.

In only a weekend, Aspen Air Duct Cleaning set up its Aeroseal equipment, prepared the ductwork for sealing, and finished the entire building. The mechanical contractors confirmed what the computer-controlled Aeroseal duct sealing technology reported upon completion of the process – sealing the ductwork with Aeroseal brought leakage down to 47 CFM – well below the LEED certification requirements.

The CHA was so pleased with the results that it continued discussions with Aspen Air Duct Cleaning regarding the possibility of future Aeroseal duct sealing projects.

> *I'm a 100% believer in Aeroseal. I wish we had it specified for the job in the beginning.*
>
> ***Don Stock** - Project Manager*
> P.J. Dionne

PROJECT OVERVIEW

Cambridge Housing Authority LEED Construction

LOCATION
Cambridge, Massachusetts

SERVICE TECHNICIAN
P.J. Dionne

AEROSEAL CONTRACTORS
Aspen Air Duct Cleaning

GOAL
Meet required duct leakage rate of 250 CFM or less in order to achieve LEED certification

BEFORE AEROSEAL
Average 900+ CFM of leakage

AFTER AEROSEAL
Average 40 CFM of leakage

RESULTS
Met LEED certification requirements; Reduced leakage by approximately 95%

*Cubic feet per minute

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Verifiable, Guaranteed Results

> *Initially, there was a lot of skepticism among the building engineers that Aeroseal would do the trick – especially when they learned that the sealant doesn't coat the entire inside of the ductwork but instead, accumulates around the individual leaks. After seeing the results, they are all now believers and big fans of the technology.*
>
> ***David Smith** - Account Executive*
> Siemens Industry Inc.

Aeroseal has four different models to calculate duct leakage and inform energy savings on your project.

Reduce Energy and Consumption Cost

Duct sealing addresses multiple sources of energy waste. For example, by reducing leaks 15%, fan requirements drop by 40% or more. This saves thousands of dollars every month.

Aeroseal increases HVAC fan efficiency and eliminates excess ventilation load to reduce energy costs. It is a verifiable and guaranteed way to offer energy savings with typical payback in three to five years.

Improve Indoor Air Quality

Leaks in the return duct allow dust and other contaminants to be sucked into the duct system and spread throughout the facility. And exhaust fans can't remove contaminated air from the building if there are leaks in the ventilation shaft.

Improve Building Ventilation

Leaky ductwork is the primary cause of ineffective building exhaust. In addition to causing problems with uneven and uncomfortable temperatures, this can lead to higher energy costs, and added maintenance costs.

Meet Code and Spec

As duct leakage specifications get tighter and tighter, Aeroseal is specified as a routine component of commercial projects. Our consistent results will take you from hoping to knowing that you'll meet code requirements – the first time.

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