

≡ CASE STUDY ≡

**NEWLY CONSTRUCTED ELEMENTARY SCHOOL
FINDS NEEDED COMFORT IN AEROSEAL DUCT SEALING**

**Leaks Throughout Building's Duct System Keeps State-of-the-Art Geo-Thermal System
From Delivering Heat – AeroSeal Seals Leaks Without Interrupting School Operations**

For the general contractors that built the new \$20 million Avalon elementary school it was all about the numbers. For students, teachers and the school's administrative staff it was more about comfort. Either way, leaks in the building's ductwork were keeping the school's state-of-the-art geo-thermal heating system from running efficiently. Until those leaks were sealed and the contractors were able to meet system specifications, their job was not complete...office and classrooms would remain unacceptably cold through the upcoming winter months.

The prospect of manually re-sealing the ductwork was daunting. The man hours required would be cost prohibitive...and results would remain unsure. Research for an alternative solution revealed AeroSeal, an innovative approach to duct sealing developed by the U.S. Department of Energy that proved to be the ideal solution.

In Brief

Building: Avalon Elementary School
Location: Fort Washington, Maryland
General Contractor: Coakley & Williams
AeroSeal Contractors: Air Duct Maids
Goal: Reduce duct leakage
Before AeroSeal: 3,731 CFM of leakage
After AeroSeal: 385 CFM of leakage
Results: 90% reduction of leakage.



It took the AeroSeal team at Air Duct Maids of Northern Virginia just three days to seal the school building's main ductwork and get the HVAC system operating to specification. Since AeroSeal seals from the inside of the ducts, finding, accessing and sealing the leaks was a simple automated process. The sealing work was accomplished in the evenings eliminating any disruption to regular school activities.

Best of all, the contractors knew that AeroSeal was working. The computerized AeroSeal system measured the leakage real-time during the quick sealing process. It then produced a final report documenting the results. Before AeroSeal, total leakage in the main duct system measured more than 3,730 CFM. After AeroSeal, that leakage rate dropped to just 385 CFM – a 90% reduction.

As a result, contractors were able to get the state-of-the-art HVAC system working as required. The students and staff are looking forward to comfortable classrooms this coming winter.

“Our research showed that Aeroseal was used in a number of high-profile projects including other schools, hospitals and laboratories where safety is of paramount concern. So we felt confident that it was entirely safe to use here as well. The process itself went smoothly and the technology met all of our expectations.”

Ted Thornton, general contractor
Coakley & Williams Constructions

“The 15,000 CFM unit was losing about 25% of the air being treated by the geo-thermal system. And while energy savings wasn’t the main focus of attention, I’m confident that by eliminating 90% of that leakage, school administrators will find that the aero-sealing will result in a significant reduction in their energy bill as well.”

Jesse Watkins, operations director
Air Duct Maids

Aero-seal – The Technology

- Developed at Lawrence Berkeley National Laboratory in 1994.
- Research for aero-seal technology was partially funded by the U.S. Department of Energy.
- Aero-seal 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.
- Aero-seal has proven to be 95% effective at sealing air duct leaks.

For more information on the Cox Science Building sealing project or about Aero-seal in general, contact Aero-seal at (937) 428-9300. You can also visit the Aero-seal website at www.aero-seal.com.

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