

CASE STUDY

Avalon Elementary School

Maryland Elementary School Fixes HVAC Issues With Aeroseal

High Performance Equipment Not Delivering Results Due to Duct Leakage

When the new \$60 million dollar elementary school first opened its doors, everyone was excited and pleased. The modern classrooms and energy-efficient building were sources of pride and joy for the Maryland-area school district. However, it wasn't far into the first winter season that school administrators recognized there was a significant HVAC problem.

"The new building was designed with an energy-efficient heating system that wasn't delivering [air] as it should," said Ted Thornton, project manager at Coakley & Williams Construction. "We did some testing, and it turned out that the advanced 15,000 CFM [HVAC] system was losing nearly 25% of the treated air through leaks in the ductwork. In essence we had a Lamborghini-quality HVAC system riding around with used hubcaps, as far as the ductwork was concerned." Long story short, the school administration decided to seal the ductwork with Aeroseal, and it was a tremendous success!

Prior to duct sealing, the school's administrative offices and many of its classrooms were simply too cold for comfort during the winter no matter how high the thermostat was set.

When Coakley & Williams went back to the subcontractors that did the initial ductwork, they found the company was no longer in business. That put the burden of fixing the problem squarely back in their own court. They needed to find a solution that worked – and one that didn't break the bank.

"The more I researched, the more I learned about other public buildings that had successfully used Aeroseal to solve similar [HVAC] issues," said Thornton. "These included prestigious hospitals, laboratories and other education facilities, so I knew it had to be safe as well."

A quick Google search led Thornton to Air Duct Maids of Northern Virginia, a licensed Aeroseal dealer. A few days later, this team of Aeroseal pros began sealing the elementary school's main duct system.

"There was a time crunch issue, and one of the advantages of Aeroseal was that the process is fast and could be done without disrupting normal



PROJECT OVERVIEW

BUILDING

Avalon Elementary School

LOCATION

Fort Washington, Maryland

GENERAL CONTRACTOR

Coakley & Williams

AEROSEAL CONTRACTORS

Air Duct Maids

GOAL

Fix heating issues in the school building during winter; Recover treated air leaking out of air ducts

before it reaches intended spaces

BEFORE AEROSEAL

3,731 CFM of leakage

AFTER AEROSEAL

385 CFM of leakage

RESULTS

Improved the building's heating system performance during the cold winter by sealing the air ducts with Aeroseal and achieved 90% reduction of leakage

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school operations,” said Air Duct Maids’ Jesse Watkins. “We began work at 3:00pm, right after school let out. We planned for a five-day project but were able to knock it out in only three.”

In the end, Watkins and his team were able to reduce duct leakage from 3,731 CFM to around 385 CFM – a 90% reduction and well below the 10% leakage rate required by the heating system.

“The entire process went smoothly and we look forward to seeing its effect on [HVAC] performance this winter,” said Thornton.

“No matter how you look at it, it was a success,” said Watkins. “We were able to get the geothermal (HVAC) system working efficiently, and it will



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

now deliver heat to every room and office in the school building. Once more people find out about AeroSeal, it’s going to become more than just a mistake fixer – it’s going to become the standard for sealing,” said Watkins. “The bottom line... AeroSeal is the way of the future.”



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 sealing the air ducts with AeroSeal will result in a significant reduction in their energy bill as well.

Jesse Watkins
Operations Director
Air Duct Maids



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