CASE STUDY

AEROSEAL SOLVES LONG-STANDING AIR FLOW PROBLEMS FOR IMF BUILDING IN WASHINGTON D.C.

Duct Sealing Experts Help Facility Management Realize $100,000+ Annual Energy Savings While Also Making Dramatic Improvements To IAQ And Thermal Comfort

Even before Sodexo took over facility management responsibilities for the new International Monetary Fund (IMF) building, the 12-story, 935,000 sq ft structure exhibited signs of anemic airflow. The mechanical system was producing lots of treated air but only 50% of it was reaching the offices and other endpoints. Testing clearly indicated that duct leakage was likely the primary cause of the problem, however, the costs and logistics associated with finding and sealing all the leaks that ran throughout the building's two vertical risers and thousands of feet of hidden ductwork were simply too daunting for building management to consider. So the problem remained untreated for years.

When Sodexo's Guy Kosmin joined the facility management team, he was determined to fix the problem. Since his company receives bonuses for measured operating cost reductions, he knew it would be a real boon if he could show a significant energy cost savings as a result of fixing the problem. More importantly, he had recently learned about aeroseal technology, a new approach to sealing ductwork.

In Brief

Building: International Monetary Fund (IMF), HQ2
Location: Washington D.C.
Facility Management: Sodexo
Duct Experts: Aeroseal LLC
Goal: Proper air flow, energy savings
Before Aeroseal LLC: 8,692 CFM of total leakage
After Aeroseal LLC: 1,471 CFM (83% reduction)
Results: 28% air flow improvement; $102k/year savings
Estimated ROI: 1.5 years
Bonus: Improved IAQ. Improved thermal comfort.

He called in Aeroseal LLC to meet with IMF administrators and talk about how their technology works from the inside of ducts to automatically seek out and seal leaks. Aeroseal shared MSDS data that showed that the sealant was completely safe for tenants and they explained how the entire sealing process could be done with minimal disruption to normal operations.

With administrative approval, the Aeroseal team began a preliminary project of sealing the building's two risers. While preparing the ducts for sealing, they came across something unexpected – a huge blockage of loose insulation stuck on the turning vanes. Aeroseal removed the obstruction and then sealed the target ducts.

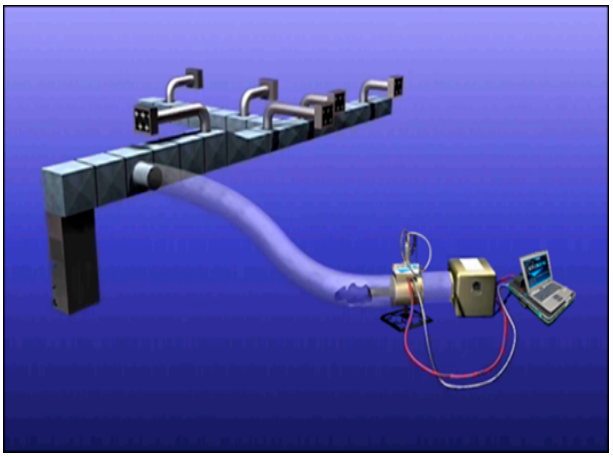
When all was said and done, the Aeroseal team was able to reduce leakage by 7,221 CFM – an 83% reduction in leakage that resulted in a calculated annual energy savings of $102,000/year. Air samples also showed that the sealing provided a 92% reduction in airborne spores. As an added bonus, tenants continue to thank Guy for delivering warm air to places that never seemed to have had it before.

"If not for the Aeroseal team we would never have found the duct blockage – the main cause of our air flow issue. Without the aeroseal duct sealing technology we would never have realized the total amount of energy savings, the dramatic increase in indoor air quality or the improvement in thermal comfort. I am recommending that IMF take a serious look at aerosealing more of the building's ductwork."

Guy Kosmin, PMP, CEM, LEED AP O+M
Facility Manager – International Monetary Fund
Sodexo

"With an ROI estimated at around 15 months, it just doesn't get any better than that. The process itself was straightforward and non-intrusive. IMF personnel are particularly adverse to any interruptions to their daily operations and we were able to implement the aerosealing without disruption. I can see using the technology across a broad spectrum of the buildings we manage."

John Harrington, PE, CEM
Energy Management Services
Sodexo



Aeroseal – The Technology

In the aeroseal process, an aerosol mist of sealant is blown throughout the interior of the ductwork. The microscopic particles of sealant remain suspended in air until they reach a leak. Here they cling to the edge of the hole and then to other sealant particles until the leak is completely sealed.

- Developed at Lawrence Berkeley National Laboratory in 1994.
- Research for aeroseal technology was partially funded by the U.S. Department of Energy.
- Aeroseal 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.

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