

≡ CASE STUDY ≡

**UNIVERSITY OF MIAMI SCIENCE LABORATORIES USE
AEROSEAL TO GET FUME HOODS UP TO SAFETY CODE**

**Sealing Exhaust Vents “From The Inside” Proves To Be A Fast And Economical
Solution To Repairing 20 Fume Hoods Located Throughout Science Building**

The University of Miami’s Cox science building was undergoing partial renovation. After testing dozens of fume hoods located in laboratories throughout the four-story building, the school’s environmental health and safety group found that many of the hoods were not providing sufficient exhaust. The reason: leaks in the connecting ducts and ventilation shafts.

Traditional duct sealing methods would have required a near demolition of the 50-year-old building. Instead, the duct sealing crew at AirMax Service Corporation used aerosol duct sealing to successfully seal all nine targeted duct systems in less than two weeks. No demolition. No interruptions. 100% code compliance

In Brief

Building: Cox Science Building
Location: University of Miami, Coral Gables
Mechanical: SmartAir Systems
Aerosol Contractors: AirMax Service Corp.
Goal: Reduce duct leakage – get all laboratory fume hoods operating under code compliance.
Before Aerosol: 1,000+ CFM of leakage
After Aerosol: 215 CFM of leakage
Results: With 80% reduction of leakage, all twenty fume hoods were retested and successfully met safety requirements.



The complex intertwining of internal duct systems and surrounding construction made locating and accessing leaks specific to targeted hoods impossible for traditional duct sealing methods. Short of demolition and rebuilding, the only viable option was an innovative new approach to duct sealing that uses an aerosol mist of sealant that finds and seals leaks from the inside of the duct.

The twenty target fume hoods were connected to rooftop exhaust fans via nine separate duct and ventilation shaft systems. One at a time, each duct system was blocked on both ends so that incoming air could only escape through leaks in the duct walls. The computerized aerosol system was attached to each shaft and then a mist of microscopic particles of sealant was blown into the ducts’ interiors. Under pressure, the sealant is drawn to the individual leaks, where they bond around the holes until the leaks are completely sealed. A retesting by a third party TAB company confirmed what the aerosol system indicated: all nine shafts properly and effectively sealed.

“There were few options available for fixing the problem. We could have completely demolished and replaced the existing duct system... or used aroeseal. The choice was a no-brainer. In the end, Aroeseal proved to be a highly effective – and cost effective – means of sealing the leaks and getting the fume hoods under safety compliance.”

Michael Lorion, president, AirMax

“Research showed that aroeseal has been successfully used at a number of other universities, science laboratories and hospitals. But the bottom line is that there really was no other viable option for fixing this problem. I’m fascinated with new technologies like this so I was around for the actual application. It was great to watch the computer monitor as it tracked the sealing process. You can actually see the graph go down as the leaks are being filled. We were pleased with the results and I wouldn’t hesitate to recommend it to others.”

Gary Tarbe, senior project manager, University of Miami

Aroeseal – The Technology

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

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

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