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CASE STUDY

NAVAL BASE KITSAP FINDS AEROSEAL THE IDEAL SOLUTION FOR SOLVING PERSISTENT MOLD ISSUES / REDUCING ENERGY USE

After A Variety Of Duct Sealing Methods Were Tested, The Use Of Aeroseal Proved To Be The Fastest, Most Cost-Effective Way To Reach Proper Ventilation Specifications

During a major renovation project, NAVFAC Northwest was on a mission to solve a persistent mold and mildew problem plaguing its 4-story, 380+ room bachelors enlisted quarters at Naval Base Kitsap. Washington Patriot Construction wasn't sure that poor ventilation was the cause, but pre-testing showed that little if any of the exhaust ducts were pulling sufficient amounts of air out of the bathrooms and shower areas where the mold and mildew were most persistent.

Contractors noticed that much of the building's ductwork was snaked throughout the structure and that ducts often turned at sharp angles, impeding the flow of air. A redesign of the ducts helped add volume to the exhaust, but not enough to meet code requirements. So they then opened up part of the wall to access and manually seal as much of the exposed duct as they could. Again results improved but not nearly enough to meet system or code requirements.

In Brief
Building: 4-story, 380+ room bachelors quarters
Location: Naval Base Kitsap, Washington
General Contractor: Washington Patriot Cons.
Aeroseal Contractors: ENTEK Corporation
Goal: Reduce duct leakage, stop mold
Before Aeroseal: 7,289 CFM of leakage
After Aeroseal: 170 CFM of leakage
Results: 97% reduction of leakage

One of the engineers on the project suggested aeroseal. This would allow the contractors to easily seal the 48 shafts running throughout the 88,000 sq ft building. It would not require any demolition of existing walls and the process would automatically provide results data.

Due to the newness of the technology, initial skepticism was high. Then it was discovered that, a year prior, aeroseal was actually used successfully on another project at the same naval base. This gave administrators the data they needed to move forward with confidence.

It took ENTEK Corporation (Washington) a little over three weeks to seal all shafts. When they were done, every single shaft performed well within specification. Leakage rates, originally 30% to 50%, were now down between 3% and 7%. With the ducts sealed, the renovated facility is getting the ventilation it needs to eliminate mold and mildew. The exhaust fans now run at half their earlier speeds, providing a substantial decrease in energy use.

"This technology makes sense for any building renovation in which you have issues with mold and mildew or getting moisture out of a building. I wouldn't want to have to tear into walls and manually seal all the ductwork by hand. This was clearly a faster, more economical solution."

Mark Zygmontowicz , Senior Project Manager
Washington Patriot Construction, Gig Harbor, WA

"When you have masses amount of ductwork – even if it is all accessible, it would be prohibitive to seal by hand. The replacement costs, the labor costs and just finding all the leaks would make a manual approach indefensible. Aeroseal proved to be the best solution."

Scott Blair, Contract Specialist
Naval Facilities Northwest, Bremerton, WA

Aeroseal – The Technology

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

For more information on this sealing project or about Aeroseal in general, contact Aeroseal at (937) 428-9300. You can also visit the Aeroseal website at www.aeroseal.com.

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