

## **Aeroseal Helps New Medical Complex in Abu Dhabi Attain LEED Gold**



Good news travels fast...and far. Especially when that news is about an effective solution to a seemingly unsolvable problem. It travels even farther when that problem is holding up a multi-million dollar project where health and energy conservation are of critical concern.

So it is no surprise that news about Aeroseal duct sealing reached engineers half way around the globe, who were completing construction on new state-of-the-art medical facilities in Abu Dhabi.

From the beginning, the Arzanah Medical Complex was to be another shining example of the global leadership emanating from the United Arab Emirates. The two five-story structures that make up the medical complex include a 223,000 square foot hospital and a 97,000 square foot clinic. As a testament to quality engineering, the complex was designed to be LEED Gold certified – a leading example of modern-day energy efficiency.

Just weeks before the facility was to open to the public, however, traverse readings taken from several of the structure's HVAC risers indicated that leaks were robbing the facilities of as much as half the air traveling through the ductwork. Not only was this unacceptable for LEED certification, it also created significant concerns regarding indoor air quality, building performance and energy costs. Clearly, something had to be done.



But what? The interior walls of the structure were already in place, eliminating direct access to the ductwork and making traditional sealing methods impossible without first demolishing the newly built walls. Engineers tried lowering workers down the risers in an effort to find and manually seal the multitude of leaks, but this proved both hazardous and ineffective.

But as we said, good news travels far. With the help of the Internet, engineers desperately hoping to find a viable solution, learned about Aeroseal, a duct sealing technology that works from the inside of the duct system to seal leaks. They found that Aeroseal had been used to seal duct leaks at other medical facilities such as the Ottawa Heart Institute and Nemours Children's Hospital. If this process could truly seal the leaks from the inside, then the finished construction wouldn't have to be disturbed.

Calls were made, information was exchanged, and the technology was scrutinized to pass rigorous health and safety criteria. Soon, an Aeroseal team was flown the 7,000+ miles to the work site in order to demonstrate the technology on several leaking risers.

"Aeroseal passed all our criteria," said Gus Heber, construction director, Habtoor Leighton Group. "First, it proved safe for use, even in a hospital environment. It then proved highly effective at sealing the system leaks. In fact, Aeroseal was so effective at eliminating leaks in the initial 15 risers we targeted for sealing, that we decided to expand the project to include the building's entire HVAC system, then its lab exhaust system, kitchen exhaust system and smoke extract system – a 127,000 CFM project in total."

Working into the night, the Aeroseal team completed the entire sealing project in less than two weeks. When work was completed, a post-sealing test showed that there was less than 5% leakage in the entire system – well below the LEED Gold certification requirements.

"I thought the Aeroseal technology was fantastic," said Kevin Waite, Test & Balancing Technician, Trent Technical Services. "I was expecting to find the entire inside of the ductwork coated with sealant. In fact, it just gathered around the holes to seal the leaks and left most of the internal ductwork free from sealant."

The Arzanah Medical Complex represents the first use of Aeroseal in the United Arab Emirates – but not the last. Word about the technology and how it saved this project has begun to spread. Talk about its use in future projects in the region is already in the works.