

CASE STUDY

Arzanah Medical Center

International Medical Center Improves HVAC Airflow With Aeroseal

The multi-billion-dollar Arzanah Medical Center in Abu Dhabi was nearing completion and was ready to be the latest shining example of the United Arab Emirates' architectural leadership. So it was with deep concern that engineers reviewed traverse readings taken from several of the structure's HVAC risers that indicated leaks were robbing the facilities of half of the air traveling through the ductwork. Not only was this unacceptable from a building code perspective, but it also created significant concerns regarding indoor air quality, building performance, and energy costs.

When the leakage was first discovered, walls of the two five-story building structures were already constructed around the ductwork, making the leaks seemingly impossible to access without significant demolition. Engineers had even tried lowering workers down the risers in an effort to find and manually seal the multitude of leaks, but this proved to be hazardous and ineffective.

An Internet search for a better solution led the engineering team to Aeroseal – a duct sealing technology that works from the inside to seal leaks. After the technology passed rigorous safety criteria, an Aeroseal team was brought in from the U.S. to demonstrate the technology on several leaking risers. Test results were so impressive that the building engineers decided to use Aeroseal throughout the complex, including the HVAC exhaust, the HVAC supply, the HVAC return, the lab exhaust, the kitchen exhaust, and the structure's entire smoke extract system – a 127,000 CFM system in all. Work was completed in two weeks.



I thought the Aeroseal technology was fantastic. 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.

Kevin Waite
Test & Balancing Technician
Trent Technical Services

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PROJECT OVERVIEW

BUILDING
Arzanah Medical Complex

LOCATION
Abu Dhabi, UAE

AEROSEAL CONTRACTORS
Trent Technical Services

CONTRACT ENGINEER
Habtoor Leighton Group

GOAL
Meet 8% leakage specifications

BEFORE AEROSEAL
Up to 50% or more of leakage

AFTER AEROSEAL
5% or less leakage

RESULTS
Eliminated duct leakage in a 127,000 CFM system including all HVAC, exhaust and smoke extract systems



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

Gus Heber
Construction Director
Habtoor Leighton Group