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≡ CASE STUDY ≡

ONE OF THE WORLD'S MOST EXCLUSIVE SKYSCRAPERS LOOKS TO AEROSEAL FOR POST-CONSTRUCTION DUCT SEALING

Engineers Working On Buildings By Daman At The Dubai International Financial Center Knew Sealing Leaks Was Key To Energy Savings, HVAC Performance And IAQ

Two overlapping towers; one 20 stories tall, filled with offices and hotel amenities. The second, 65 floors of deluxe apartments and an ultra-luxury hotel. 950,000 ft² in all, The Buildings by Daman is a shining star architectural achievement that lies at the heart of the Dubai International Financial Center, in the United Arab Emirates. The beauty of the building's intertwining towers is matched only by the complexity of the massive duct system servicing the interconnected structure. When building engineers found that a high rate of duct leakage threatened to compromise the HVAC performance and energy efficiency of the skyscraper, they knew that finding and accessing the leaks using traditional duct sealing methods would simply be an impossible task. It would take an innovative approach to duct sealing to fix the problem.

In Brief

Building: Buildings By Daman. 950,000 ft²
Location: Dubai International Financial Center, UAE
General Contractor: The Habtoor Leighton Group
Aeroseal Contractors: Firestop Middle East
Goal: Reduce duct leakage, improve energy efficiency
Before Aeroseal: Average 1000 CFM of leakage/duct
After Aeroseal: average 50 CFM of leakage/duct
Results: reduced leakage by approximately 95%

Firestop Middle East, duct sealing experts headquartered in Dubai, were called in to demonstrate Aeroseal, a new technology that works from the inside of the duct system to seal leaks. This inside-out approach alleviates the need to manually locate and seal individual leaks.

In just a single afternoon, Firestop was able to seal the first leaky shaft – one that spanned 18 floors of the tower, reducing leakage from 900 cfm down to 63 cfm – a reduction of 93%.

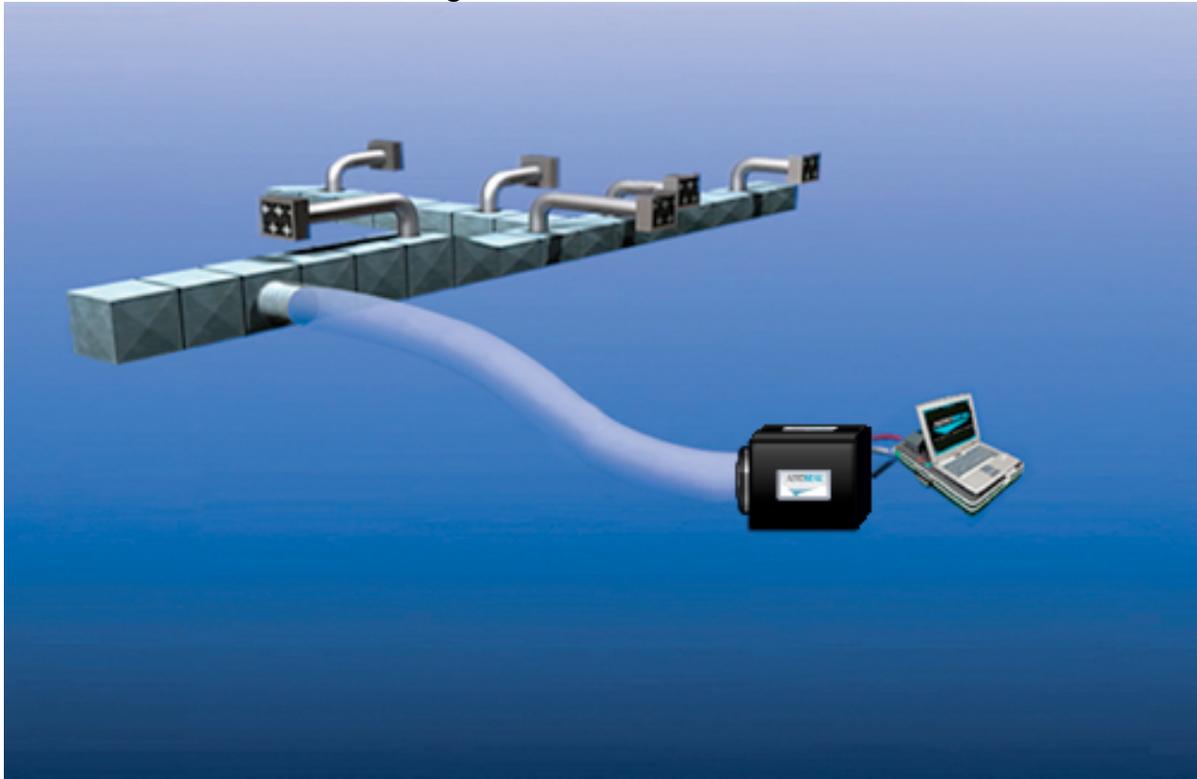
With such great success, Firestop was given the ok to seal the ducts in four more shafts and similar results were achieved. The specialists have since sealed 19 ducts over a fast two-week period. In every case leakage was reduced from around 30% to 5% or less. With duct leaks sealed, Buildings By Daman is proving to be a model of energy efficiency and performance as well as architectural stature.



"I found the Firestop team to be very knowledgeable on current product and it's applicable within this market. Their professional and prompt execution was also completed without fault."

Robert Marinelli, Project Director
Al Habtoor Leighton Group

The Aeroseal Process: Duct Sealing From The Inside



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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