

CASE STUDY

KAFD Towers (5.07 and 5.08)

Multi-Use Towers in KAFD Reach LEED Goals with Aroseal

Duct Sealing Eliminates Airflow Issues, Ending Costly Construction Shutdown

An estimated 68 percent of Saudi Arabia's electricity goes to air conditioning. Ensuring a building's HVAC system provides proper airflow is critical due to the country's extreme heat. To meet this demand, in-country construction companies are experts in energy-efficient buildings.

Saudi Constructioners Contracting Company (SAUDICO) is one of these leaders.

The company provides engineering, management and contracting services in a wide range of fields, including architectural, civil, and electromechanical engineering. SAUDICO also blends nearly 50 years of experience with state-of-the-art LEED and high performance building practices to handle some of the most distinguished design and build projects, including several in the King Abdullah Financial District (KAFD).

When airflow issues stopped construction at one of SAUDICO's KAFD projects, it was urgent to find a fast and thorough solution.

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"Project delays of any kind are costly," said Nidhal Al Masri, SAUDICO's MEP Project Manager. "When the project is located in one of the world's high-profile financial centers, the true cost of a delay isn't limited to just financial impact."

Smoke Exhaust System Fails Inspection

The issues were detected in three, mixed-use towers in Parcels 5.07 & 5.08. The smoke exhaust systems failed inspection when leaks were identified where ductwork connects with pressurization fans. These fans are critical to managing smoke during a fire to help occupants safely exit the building.

Based on their experience with similar issues in the KAFD, AWT Services was brought in to fix the leaks. The team knew instantly Aroseal duct sealing would quickly fix the problem.

AWT Services, the exclusive provider of Aroseal in Saudi Arabia and Bahrain, specializes in indoor air quality management and infection prevention. The company offers a wide range of testing and inspection services as well as state of the art robotic inspection services.

Aroseal is a proven technology that injects a fog of aerosolized sealant particles into pressurized



PROJECT OVERVIEW

BUILDING

Four, Mixed-Use Towers – Parcels 5.07 & 5.08 in the King Abdullah Financial District-KAFD

LOCATION

Riyadh, Saudi Arabia

GENERAL CONTRACTOR

Saudi Constructioners Contracting Company

SEALING CONSULTANT

AWT Services

GOAL

Reduce duct leakage to meet building code and deliver the project

BEFORE AROSEAL

9,141 CFM total leakage

AFTER AROSEAL

310 CFM total leakage

RESULTS

96.6% average leakage reduction and all buildings meet code, allowing SAUDICO to deliver the project.



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ductwork to seal air leaks from the inside. Its software continuously measures airflow and leakage throughout the sealing process.

Sealant particles accumulate only where the leaks are located, gradually closing the leak. The system records results in real-time, stopping when the desired levels have been reached.

Duct Sealing from the Inside Eliminates Issues

AWT Services isolated the leaks and studied each building's mechanical drawings to ensure the most efficient and thorough approach to blocking off every duct return to pressurize the smoke exhaust system.



“The airflow issues were addressed meticulously and quickly by AWT Services. The Aeroseal duct sealing went smoothly and delivered real results. Based on this project, we will consider Aeroseal again to ensure our buildings always meet code from the first time.”

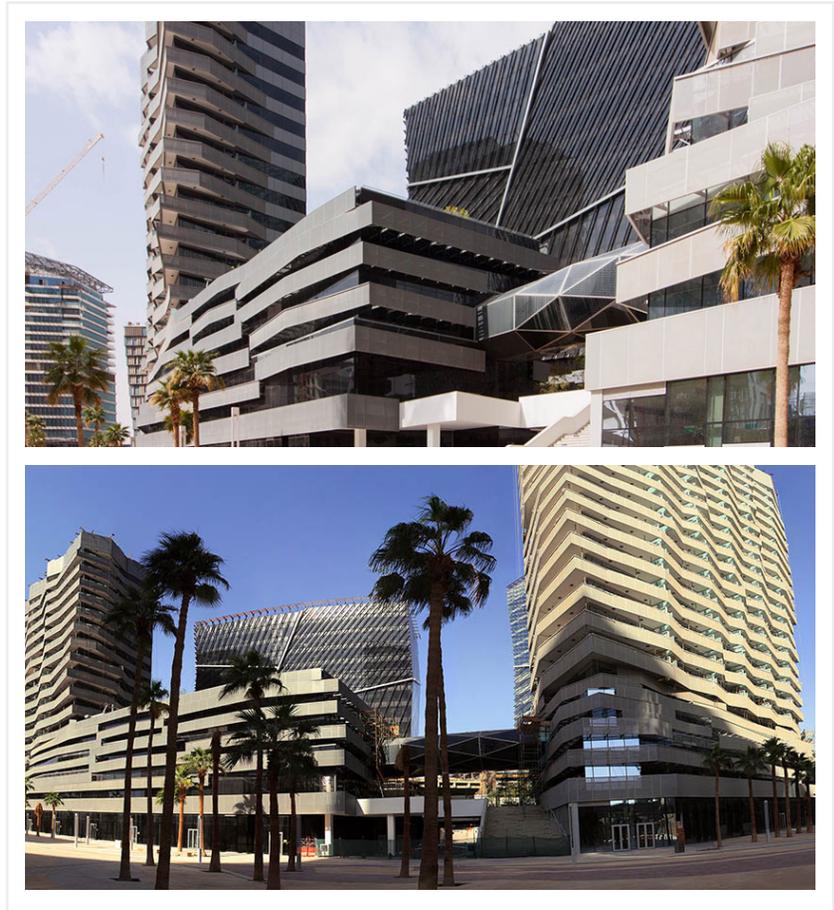
Nidhal Al Masri

Project Director

Saudi Constructioners Contracting Company

After three different applications of Aeroseal, the leaks were drastically reduced. Each segment came in under the target CFM, with an average leak reduction of 96.6 percent. This ensured every building met code, passed inspection and construction could resume.

Parcels 5.07 and 5.08 earned as high as LEED Gold accreditation. Located in the center of the KAFD, this project is designed to be one of the region's best-planned communities. And thanks to SAUDICO and AWT Services, it will also be safer and more comfortable.



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