



# Case Study

## Arthur Street Building

### Australian Luxury High-Rise Uses Aerosol

When it opened for occupancy in 2008, the Arthur Street luxury office high rise in North Sydney, Australia was designed to be high-performance.

Unfortunately, the building never came close to meeting expectations. Tenants were never happy with the AC, and energy costs were well beyond initial design levels. So when it was time to sell the iconic building, its owners knew they had to resolve the problem.

#### The Problem

Consulting engineers told the owners that without sealing leaks in the ductwork, the building's state-of-the-art chilled beam system would never operate efficiently.

However, the owners were told that manual duct sealing would cost \$3 million and include a year of disruptive work — and so they put off the project until the impending sale required an immediate fix

#### The Solution

It was then that the engineers learned about Aerosol duct sealing technology. By sealing from the inside of the duct system, workers avoided the usual disruptions that come from the demolition typically required to access and re-seal ducts.

After a highly successful trial project, the Aerosol team at Clean-Air was given the green light to seal the ducts throughout the entire building. Clean-Air mapped out the project and coordinated efforts to minimize tenant disruption.

They had two months to seal the ductwork that served 23 different air handling units – including 20 vertical shafts and hundreds of square feet of horizontal ducts branching to individual offices.

Working on weekends only, the Clean-Air team partitioned off the entire duct system into more than fifty individual sections. Each section was sealed using Aerosol — showing results as they were happening.

#### The Results

It took Clean-Air three weekends – a total of about 9 days to effectively seal the entire duct system. The final cost was about 10% of the estimated cost for manual sealing. When finished, the building surpassed all code requirements for top ratings.

By eliminating virtually all leakage, the engineers were able, for the first time, to turn down A/C power while increasing the comfort of the entire building. By calculating the cost of conditioning the “lost air” engineers estimated an ROI of fewer than two years.



### PROJECT OVERVIEW

#### Arthur Street Building

**LOCATION**

North Sydney, Australia

**AEROSEAL CONTRACTORS**

Clean-Air Australia Pty Ltd.

**CONTRACTOR ENGINEER**

Seed Engineering

**GOAL**

Reduce energy costs,  
Improve AC effectiveness

**BEFORE AEROSEAL**

427 CFM\* of leakage

**AFTER AEROSEAL**

15 CFM of leakage

**RESULTS**

Certified 5-Star rated for building performance; 10% the cost of manual sealing. 18 month estimated ROI

\*Cubic feet per minute



225 Byers Road, Suite 1 | Miamisburg, OH 45342

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Verifiable,  
Guaranteed Results



*The Aeroseal technology allowed us to seal the entire 23-story duct system in a matter of days, without disrupting the existing tenants. We estimated that a job that was once cost-prohibitive would now pay for itself in less than two years. We now recommend Aeroseal to most of our clients. We have yet to find a building that meets today's standards for duct leaks and, in most cases, Aeroseal is the only sensible, cost-effective means of fixing the problem.*

**Rob Lord - Managing Director**  
Seed Engineering

*Aeroseal has four different models to calculate duct leakage and inform energy savings models on your project.*



### Reduce Energy and Consumption Cost

Duct sealing addresses multiple sources of energy waste. For example, by reducing leaks 15%, fan requirements drop by 40% or more. This saves thousands of dollars every month.

Aeroseal increases HVAC fan efficiency and eliminates excess ventilation load to reduce energy costs. It is a verifiable and guaranteed way to offer energy savings with typical payback in three to five years.



### Improve Indoor Air Quality

Leaks in the return duct allow dust and other contaminants to be sucked into the duct system and spread throughout the facility. And exhaust fans can't remove contaminated air from the building if there are leaks in the ventilation shaft.



### Improve Building Ventilation

Leaky ductwork is the primary cause of ineffective building exhaust. In addition to causing problems with uneven and uncomfortable temperatures, this can lead to higher energy costs, and added maintenance costs.



### Meet Code and Spec

As duct leakage specifications get tighter and tighter, Aeroseal is specified as a routine component of commercial projects. Our consistent results will take you from hoping to knowing that you'll meet code requirements – the first time.



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