

≡ CASE STUDY ≡

HYUNDAI'S NEW U.S. CORPORATE HEADQUARTERS OPENS ON SCHEDULE WITH PROJECT-SAVING HELP FROM AEROSEAL

Faced With A Crippling Delay And Budget Overruns Due To Unacceptable Shaft Leakage, Project Engineers Are Rescued By New Duct Sealing Technology

Hyundai's new U.S. corporate headquarters was scheduled to open for business in just a few weeks. Furniture was arriving and the finishing touches were being made to the interior of the 6-story 500,000 sq. ft. building in Fountain Valley, California. So no one was happy to learn that building engineers could not get official sign off for the project because of excessive leaks in the structure's four smoke evacuation shafts and the outside air shaft.

In Brief

Building: Hyundai US. Headquarters
Location: Fountain Valley, California
Engineer of Record: Glumac
Aero seal Provider: Aero seal West Coast
Goal: Meet code requirements for duct leakage. Stay on schedule.
Before Aero seal: 14,861 CFM of leakage
After Aero seal: 808 CFM of leakage
Results: Code required 5% or less leakage. Aero seal reduced leakage from 20% to 1.1% (a 95% reduction). The building opened on schedule.



Options for reducing the leakage and getting the shafts to pass code were examined. A top contender involved constructing scaffolding inside each of the 8' x 6' shafts and using a spray foam to seal the visible leaks in the drywall interiors. Calculations determined this would take months to accomplish and cost as much as \$1,000,000 to complete. Still, there would be no guarantee that this would sufficiently reduce leakage. Then an engineer at Glumac mentioned a new technology called Aero seal that seals leaks from the inside of pressurized ductwork. Glumac had used Aero seal's patented technology for a similar project in Las Vegas with successful results.

Hyundai engineers had never heard of Aero seal. Skeptics thought it just seemed too good to be true. But with few alternatives and time running out, they decided to conduct a trial. At its conclusion, the computer printout of the results (created as part of the Aero seal process) proved that it worked.

It took Aero seal West Coast a couple of weeks to complete all five shafts. Leakage rates were reduced from 20% to 1.1% – well below maximum code requirements. The cost was just a fraction of the next lowest cost alternative. Best of all, the work was completed in time and Hyundai's new U.S. corporate headquarters opened on schedule.

Quotes

“I was more than skeptical. It sounded like one of those miracle products that slices and dices. The difference is that this actually worked perfectly. All the shafts were quickly sealed to levels well within the code requirements. Since it is a pressurized delivery system, it will find and seal all the leaks. It was a real project saver and I would definitely use Aero seal again.”

Bob Evans
Senior Project Manager
Hyundai U.S.

“Fixing those leaks and getting signoff on the project meant nothing short of tearing into the newly constructed vents and starting over. This scenario would have the unacceptable consequence of delaying the building’s opening and running up costs. Then we learned about Aero seal and it literally proved to be the project saver. With Aero seal, we were able to effectively seal the leaks in just a matter of days. The entire cost of aero sealing was about equal to the cost of the scaffolding alone that we would have needed for the alternative option.”

Brian Berg
Engineer of Record
Glumac

Aero seal – The Technology

- Developed at Lawrence Berkeley National Laboratory in 1994.
- Research for Aero seal was partially funded by the U.S. Department of Energy.
- Aero seal 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.
- Aero seal has proven to be 95% effective at sealing air duct leaks.

For more information on the Hyundai Building sealing project or about Aero seal in general, contact Aero seal at (937) 428-9300. You can also visit the Aero seal website at www.aeroseal.com.

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