

== CASE STUDY ==

## **BUILDING ENGINEERS AT MT. ZION HOSPITAL FIND AEROSEAL THE ANSWER TO PROJECT-HALTING HVAC PROBLEM**

**Renovation To UC San Francisco Hospital Pharmacy Comes To A Two-Month Standstill While Engineers Work To Solve Exhaust Leakage Issue. 40 minutes Of AeroSeal Gets The Job Done**

The Mt. Zion Hospital Pharmacy's two new ventilating hoods require sufficient exhaust or else a fail-safe system will register a malfunction and equipment will automatically shut off. This is where chemo chemicals are prepared so it is critical that all air borne particles be exhausted from inside the hoods via connecting ductwork that leads outside the building. Even after meticulous construction that included manual sealing of all 300 feet of twisting ductwork, the exhaust system was simply not providing enough pull to meet code or to keep the system running properly.

### **In Brief**

**Building:** UCSF Medical Center at Mt. Zion  
**Location:** San Francisco, California  
**Engineer of Record:** TCB Builders  
**AeroSeal Provider:** Coast Environmental  
**Goal:** Reduce duct leakage related to Pharmacy ventilation hoods  
**Before AeroSeal:** 580 CFM of leakage  
**After AeroSeal:** 23 CFM of leakage  
**Results:** 96% leak reduction and proper functioning of the ventilation hoods, and Pharmacy certification.



Over a two-month period, the best and brightest tried solving the mysterious exhaust malfunction. The ventilation unit was examined for faulty readings. The ductwork, covered in fire insulation, was unwrapped and manually resealed and rewrapped. With the building's scheduled opening fast approaching, hospital engineers were at a loss for an explanation or a solution. Then someone suggested trying a new duct sealing technology they heard about called AeroSeal.

With no time left for a test run, hospital administrators, with fingers crossed, gave Coast Environmental, a duct and IAQ specialist, the green light to clean and seal the duct system using AeroSeal. The aeroSeal sealing process itself took just forty minutes to complete – 20 minutes for each of the two sections of ductwork being sealed. Since this was a 24/7 hospital, the entire process was conducted without interruption to the hospital's regular operations.

The engineers could actually watch as holes and cracks were getting sealed. A computer-generated chart showed a plunging line on a graph representing the real-time decrease in leakage. After two months of puzzling over the problem and then 40 minutes of AeroSeal, the engineers had their solution...and the new pharmacy opened on schedule.

## Quotes

“We were hesitant to use Aero seal. We didn’t know if it would work or not. We weren’t even sure that leaks were the issue. All we knew was that the new ventilation hoods weren’t functioning properly and we were running out of time. So we proceeded on the advice of a trusted consultant familiar with the technology...and it worked beautifully. It quickly sealed the leaks and fixed the problem. Knowing what I know now, I’m confident in saying it was the only real solution to our problem short of a complete laboratory redesign.”

Robert Gaderlund  
Project Manager  
UCSF Medical Center at Mt. Zion

“We tried adjusting the fans, resealing the ductwork and various other solutions. The HEPA filters at the bottom of each unit really exacerbated the effects of the leaks and kept us from getting sign-off on the project. In the end, it took twenty minutes to seal the outside ductwork and another twenty minutes to do the rest. Aero seal worked. It was a real project saver.”

Rick Schaffel  
General Contractor  
TCB Builders, San Francisco, CA

“It turned out to be a perfect solution to finding and easily sealing all of the holes and leaks throughout the entire duct system. I love how you can actually see the progress and know it’s working.”

Adrian Welsh  
Duct Specialist  
Coast Environmental, Carlsbad, CA

### 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 UCSF Medical Center 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](http://www.aeroseal.com).