Job Story:

PROBLEM:
25-year old HVAC system serving operating rooms was in need of refurbishing. Internal fibrous glass insulation was deteriorating and impacting filters downstream.

SOLUTION:
Replace fibrous glass insulation with closed-cell elastomeric foam alternative to prevent future particulating issue and meet (or exceed) all applicable standards, including AIA guidelines and NFPA standards.

Project:
Caritas Good Samaritan Medical Center

Location:
Brockton, Massachusetts

Objectives:
Clean the air handlers serving operating rooms and replace deteriorating fibrous glass insulation with longer lasting closed cell foam insulation while still maintaining the guidelines and standards for HVAC system cleaning and restoration of the following organizations:

- *American Institute of Architects (AIA)*
- *National Fire Protection Association (NFPA)*
- *National Air Duct Cleaners Association (NADCA)*

Mechanical Contractor:
Cochrane Ventilation, Inc.

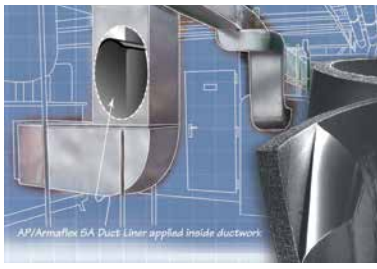
Self-Adhering AP Armaflex is the ONLY Choice for Demanding Hospital HVAC Renovation

Hospitals pose special challenges when it comes to repairing and renovating air systems. Maintaining decontaminated air streams requires extra precaution, particularly when fibrous materials are being removed from air handling equipment. Remarkably, Cochrane Ventilation, Inc. met these challenges without once interrupting normal hospital operation during a large HVAC renovation at Caritas Good Samaritan Medical Center in Boston, Massachusetts.

"Cleaning a hospital's HVAC system while it continues to operate is like changing the wheels on a car speeding down the highway," said Charles Cochrane, President of Cochrane Ventilation. According to Mr. Cochrane, the most difficult part of the renovation was cleaning and re-insulating three AHUs that serve the hospital's operating rooms, intensive care unit, and recovery room nurses' station.

Good Samaritan is responsible for regional emergency service, so it was imperative that the operating rooms could be totally on-line with just 30 minutes notice. This meant carefully staging work on the AHUs so that the cleaning operation could be curtailed and disassembled within about 20 minutes.

The project entailed a host of protocols and precautions, which includes building temporary containment walls and decontamination chambers to isolate work areas on each of the AHUs, as well as using robots equipped with video cameras to ensure the cleanliness of ducts. Because the AHUs had to be shut down to clean them, Cochrane Ventilation completed all this work during third shift while patients slept.



Out with Old, In with the New and Less Problematic

The existing fibrous glass insulation inside the AHUs was beginning to erode and break down, clogging the final filters downstream. Before the damaged insulation could be

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removed, each AHU had to be completely isolated from the other two. To do this, Cochrane's crew built temporary containment structures to isolate the work area. The work area was put under negative pressure while each unit was cleaned so that dirt, debris, and fibers were completely contained.

Removing the fiberglass insulation required special precaution. Technicians wore protective coveralls, respirators, and goggles while working on each AHU. Once removed, the damaged fibrous insulation had to be bagged, sealed, and placed in a covered cart. These carts were then placed in a decontamination chamber where they also could be cleaned before they could be safely discarded.

To replace the fiberglass, Cochrane chose AP Armaflex Self-Adhering (SA) insulation. In addition to offering many other benefits, it was far less cumbersome to install. After the AHUs were determined clean, workers simply cut the SA Armaflex to size and adhered it using the self-adhesive backing. To ensure even longer lasting adhesion, workers spot welded cup pins to the AHU panels to permanently hold the insulation in place. Because AP Armaflex is non-particulating, workers needn't wear any special protective equipment while handling it. Self-adhesive Armaflex quickly and easily bonds to cleaned surfaces so installation is fast and trouble-free.

But ease of installation was not the main reason Armaflex was chosen for the Good Samaritan project. Rather, Armaflex was selected because it meets NFPA Standard 90-A, and because it comes in sheets with a self-adhesive backing that does not emit odors typically associated with other glues. While similar products are available, many do not meet code for smoke generation and flame spread, says Charles Cochrane.

"While there are products that supposedly meet code, our experience with Armaflex and Armacell's outstanding product support makes us reluctant to try something else," said Mr. Cochrane.

Energy Efficient insulation WITHOUT the Risk of Fibers

Maintaining a fiber-free, particulate-free air stream is an important clean air strategy for healthcare facilities. In fact, the American Institute of Architects currently specifies that fibrous glass duct liner not be used in certain healthcare HVAC systems.

Closed-cell AP Armaflex is not only fiber-free, its smooth, non-particulating surface is extremely easy to clean. And unlike porous insulators, AP Armaflex does not have to be removed to prevent mold growth on the insulation. It is the only insulation made with Microban® antimicrobial product protection. It can be cleaned and sanitized like any hard surface material, potentially saving hospitals thousands of dollars in remediation.

Given the special needs of a hospital and the extreme precaution required for HVAC renovation, selecting AP Armaflex is not only a financially sound decision, it is a prudent decision in the face of ongoing hospital operations. Good Samaritan is not likely to require another renovation to these particular AHUs anywhere near the scale of that completed by Cochrane Ventilation now that the Armaflex is installed. That's good news for patients, administrators, and hospital workers.

ARMACELL LLC

TEL: 1 800 866-5638
FAX: 919 304-3847
E-MAIL: info.us@armacell.com
INTERNET: www.armacell.us

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