

Job Story:

PROBLEM:

In keeping with its commitment to better Indoor Air Quality (IAQ), LEED registered school seeks fiber-free alternative for duct lining.

SOLUTION:

Super flexible AP Coiflex with Microban antimicrobial protection provides insulation, IAQ protection and noise attenuation – all at a life cycle cost that makes sense for a school.

Project:
Rosa Parks Elementary School
Location:
Mankato, Minnesota
Mechanical Contractor:
Dolejs Associates, Inc.



Acoustic Ductliner Addresses Green Initiatives for LEED Registered Rosa Parks Elementary School

Like the civil rights activist for which it is named, Rosa Parks Elementary School in Mankato, Minnesota represents many breaks with tradition. The school district's first new elementary school in almost 50 years, Rosa Parks Elementary has been designed and built to a whole new environmental and community standard.

When it opens its doors for the 2010-2011 school year, Rosa Parks is expected to have earned LEED certification from the U.S. Green Building Council. The architects and engineers hope to achieve a return on the school district's \$21 million investment by minimizing operating costs and designing a school that is more durable and long lasting. Part of this strategy included the selection of patent pending AP Coiflex Acoustic Duct Liner, a fiber-free alternative to other duct liners, most notably fiberglass.

The LEED process behooves architects, engineers, and contractors to evaluate products from many perspectives, including energy efficiency, durability, indoor air quality, acoustical performance and even mold prevention. AP Coiflex duct liner is an all-in-one solution that has a positive impact on all of these areas of performance.

Mike Dolejs, owner of Dolejs Associates, Inc., the mechanical engineering firm, especially appreciated the fact that the product provides durability, thermal insulation, and sound attenuation, all in one package. He liked the fact that he could insulate the duct from the inside, which is better for sound attenuation, without the risk of adding fiber to the air stream. He also liked the product's long-term durability.



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“Over the years we’ve seen that if [fiberglass] is not installed appropriately, there tends to be issues with frayed edges,” said Dolejs. “In this project, the client was very conscious of IAQ so we thought [Coilflex] would be a good option.”



Unlike fragile fibrous duct liners, AP Coilflex requires no encapsulation or expensive double wall duct to prevent the erosion and dispersion of fibers into the air stream. Even without these expensive add-ons, Coilflex’s smooth, cleanable surface maintains its integrity despite the air velocities within the duct. It also doesn’t trap dirt that can become food for mold. In addition, AP Coilflex is made with EPA-registered Microban® antimicrobial treatment which provides a higher level of protection for facilities seeking to reduce their risks for mold. Finally, AP Coilflex has been certified by the GREENGUARD Environmental Institute to meet the stringent indoor air quality requirements of GREENGUARD Children & SchoolsSM. This particular GREENGUARD certification verifies that the product meets strict emissions limits for formaldehyde, phthalates, fine respirable particles and other volatile organic compounds (VOCs).

Dolejs expects that the Coilflex duct liner will last a very long time. This is a great benefit to schools that often wait many years for bond approval to pave the way for much needed repairs. Unfortunately, not all school districts take the lifecycle cost of insulation into account, even though it can impact a school’s vulnerability to mold, air borne particulates, and even noise pollution.

“What school districts have to realize is that HVAC insulation represents only about one-half of 1% of the total construction cost of a new school,” said Kartik Patel, Global HVAC Market Manager of Armacell. “These costs pale in comparison to a costly mold remediation.”

A Sound Alternative

Noise was another concern for Rosa Park’s engineering team. As with any building, mechanical equipment is primary source for noise. Sheet metal ductwork (if left unlined) does a notoriously superb job of transferring this noise and vibration from one classroom to the next. Wrapping the exterior of the duct with fiberglass does *not* address this problem. In fact, fibrous duct wrap has little or no acoustical impact and is only useful as a thermal insulator. AP Coilflex does *both*. With a sound absorption of NRC 0.60 and a sound transmission value of Class 25 when applied to sheet metal, Coilflex actually has superior sound performance to fiberglass duct liner. Thermal efficiency and condensation protection are all part of the package.

These benefits, along with the longevity of the product, make it a value-added alternative to fiberglass duct liner — especially since many schools, colleges, and hospitals now prohibit the use of fibrous duct liners.

AP Coilflex duct liner is but one of many green building strategies selected for Rosa Parks Elementary, but perhaps the only one that impacts energy efficiency, IAQ, mold prevention, the learning environment, and long-term sustainability.



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