

Job Story:

PROBLEM:

Providing a long-lasting, fiber-free duct lining solution for world's most famous building.

SOLUTION:

AP Armaflex is the all-inclusive solution, providing energy savings, IAQ protection and noise attenuation. PLUS, it is long-lasting and fiber-free, making it ideal for the ESB's new "green" initiatives.

Project:
Empire State Building

Location:
New York, New York



Armaflex Ductliner Complements Empire State Building's Green Initiatives

The Empire State Building (ESB) is soaring to new heights in sustainability. A \$20 million renovation, guided by a partnership between the Clinton Climate Initiative (CCI), Johnson Controls Inc. (JCI), Jones Lang LaSalle (JLL), and Rocky Mountain Institute is expected to deliver a 40% energy savings and earn the world's most famous skyscraper LEED Gold certification for Existing Buildings: Operation & Maintenance. Renovations include everything from triple glazed windows to occupancy sensors.

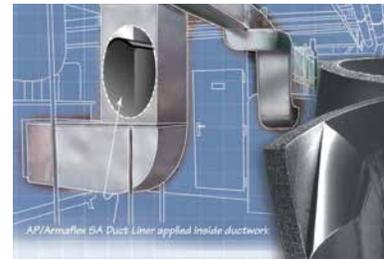
But not *everything* will change. The duct lining remains the same: patented* AP Armaflex duct liner. This has been the fiber-free duct liner of choice – an all-in-one solution for insulation, condensate control, and noise attenuation.

"AP-Armaflex self-adhering duct liner was written into the Empire State Building's specifications several years ago—without any substitution," said Bob Dizel, Northeast Sales & Market Manager for Armacell. "It remains the perfect choice because, like the Empire State Building, Armaflex is constructed to last."

Properly installed, Armaflex should last as long as the duct itself, said Dizel. The duct liner's smooth, closed-cell structure does not absorb moisture, which can cause other insulation materials to deteriorate or fall victim to mold growth. It is easily cleaned and need not be replaced even if mold is detected within the ductwork. In contrast, fiberglass duct liners must be removed and thrown away if they become wet or contaminated with mold.

Little, if anything, will compromise the performance of AP Armaflex, including cuts

*US Patent 5971034 – "Thermal Duct Lining Insulation" for lining variable air volume boxes, air handling units, and ducts for heat ventilation and air conditioning.



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and punctures. Because of its closed-cell structure, it remains unaffected by the corrosive velocities of an air delivery system. It even stands up to rough handling by installers.

Allure of Fresh, Clean Air



One thing that has always been on the mind of ESB owners and property management is tenant occupancy. These days, property management firms frequently leverage improved indoor air quality to lure tenants. Certainly this factored into the decision to implement demand-controlled ventilation into ESB office spaces. AP Armaflex is complementary to this. As a fiber-free, non-particulating material, AP Armaflex does not release unwanted fibers into the air stream. It is also made with EPA- registered Microban® antimicrobial treatment which provides a higher level of protection for facilities seeking to reduce their risks for mold on their insulation materials. Finally, AP Armaflex 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).

Quieter, More Productive Office Spaces

Tenants who care about worker productivity are also legitimately concerned with intrusive noise from a building's mechanical system. Of course, sheet metal ductwork is notorious for transferring unwanted vibration and noise from the mechanical system into occupied spaces. Fortunately, AP Armaflex does an excellent job minimizing mechanical noise. It has a sound absorption rating of NRC 0.50 and a sound transmission value of Class 25 when applied to sheet metal duct. Elastomeric foam material provides superior HVAC duct noise dampening compared to fiberglass duct liner.

The Greener Choice

Should the owners of the Empire State Building ever want to investigate the carbon footprint of its chosen duct liner, they will find that AP Armaflex saves 150 times more greenhouse gas emissions than are caused by its manufacture. This number drastically improves in "heat only" applications where Armaflex saves a whopping 270 times the energy used and approximately 500 times the CO₂ emitted during its manufacture. These figures are based on a complex life cycle assessment (per ISO14040) that tracks the impact of the product from cradle to grave, including raw material production, energy supply, manufacturing, transport use, and disposal of the product.

The Empire State Building has many challenges ahead as it moves toward its energy and carbon reduction goals. But some of the best, most sustainable materials are already in place.



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