



Aeroseal Submittal: Specifications / White Paper:

Benefits:

Aeroseal duct sealing is a patented technology for sealing visible, invisible, and hidden duct work in commercial applications. Sealant is injected into the ductwork to seal leaks and works from the “inside out”. Commercial application benefits save energy and costs associated with heating, cooling, and fan operation depending on building type. The Aeroseal sealant is designed to minimize air leakage from air ducts and exhaust shafts. The sealant shall be supplied by Aeroseal in 1 US Gal containers for field application as a vapor through an Aeroseal aerosolized sealant injection machine.

Applications:

Key Factors for sealing ductwork should be a standard energy conservation measure evaluated during design, construction, major renovation, or other HVAC projects. This includes commercial duct work (supply & return sides of system) and exhaust shafts. The sealant shall be supplied by Aeroseal in 1 US Gal containers for field application as a vapor through an Aeroseal aerosolized sealant injection machine.

Specifications of Sealant Material

Internal installation of spray sealant shall be applied in a manner that meets manufacturer specifications, manufacturer installation instructions, as well as UL 1381, UL 181M, UL 723 (ASTM E84), NFPA 90A and NFPA 90B.

Material: Vinyl Acetate Polymer (VAP) and 2-ethyl-1 hexanol (2E1H) are the primary active chemicals in the sealant. The main chemical remaining after curing is VAP, a non-volatile form of vinyl acetate monomer (VAM). 2E1H is a common industrial solvent not considered toxic by OSHA.

Energy Savings:

Energy savings varies based on weather occupants behavior patterns. However, based on actual results and utilizing energy management software, the following assumptions can be determined:

- ✓ Commercial Exhaust: 1-3 year ROI
- ✓ Commercial Supply/Return: 7-10 year ROI

Product Application

Repair all major leakage sites (larger than ½ inch across) using mastic and fiberglass mesh tape. Assure the structural integrity of all mechanical joints of existing ductwork using mastic and fiberglass mesh tape. Protect air-moving equipment, air inlets and outlets and other devices and appurtenances as recommended by the manufacturers.

Protect occupied spaces from aerosol particles using manufacturer procedures.

Seal existing ductwork from the inside using automated aerosolize sealant injection. Any injection ports in duct board shall be made and repaired using pumpkin-cuts. Any insulation (internal and external) shall be replaced on the patching plate. Seal all injection openings with duct access doors.

Physical Properties of Sealant

Viscosity	1.0 centistokes @ 68F
VOC Emissions	<ul style="list-style-type: none">□ Emits no known carcinogens or toxic substances either when in liquid form, or after drying to solid seal form.• VOC Content of dried sealant: 10.7 g/L
Erosion	No visual deterioration or dislodged particles when submitted to the erosion test within UL Standard 181
Longevity	No visible deterioration when submitted to a minimum of 50,000 simultaneous sinusoidal temperature and pressure cycles of at least 6 minutes per cycle, where the pressure differential across the seals shall vary between 150 Pa and 0 Pa, and the temperature of the air within the duct section is varied between 65F and 200F
Flame and Smoke Spread	Conforms to the temperature test within UL Standard 723
Mold Growth	No visible mold growth when submitted to the mold and humidity test within UL Standard 181.

Limitations

Warming of the product in cold weather is necessary before application.

Precautions

Do not allow any ignition sources (i.e. smoking, welding, etc.) in the working area. Allow for proper ventilation, because there is a solvent odor.

Injection of sealant should be stopped to avoid breathing aerosolized sealant if there is sealant is visible in occupied space. Fiber masks or cartridge respirators should be worn at all times when in spaces with high aerosol concentrations. Skin protection is recommended when using with the sealant solvent

Pregnant women should not be present during the injection process.