



TIP OF THE MONTH



HVAC AIR DUCT CLEANING (Pros, Cons, Proactive Tips)

Surface dust inside HVAC ductwork is present even in new construction and gradually builds up over time. The extent of build up is a function of the efficiency of air filtration provided at the fresh air intakes, the extent of interior duct transitions and re-entrainment of airborne dust in return air. In general, surface dust adheres to the duct surface and does not get re-entrained into the air moving through the ductwork into occupied space. The EPA reports duct cleaning has not been shown to prevent health problems or demonstrate significant reduction in airborne dust levels in occupied space once completed. AET's experience with airborne dust levels in commercial buildings indicates levels normally less than 1/100th of OSHA's PEL Standard.

Conditions where duct cleaning may be required:

- ✓ **Visible mold is confirmed** (by sampling) inside sheet metal ducts or on interior HVAC components. Do not clean internally-lined or insulated ductwork; replacement maybe the better option.
- ✓ **Dust/debris discharge or release** from your HVAC supply registers during system operation. It is normal for dust to adhere to the return air registers (clean periodically). Have your environmental consultant sample the dust released by your system for any hazardous components.
- ✓ **Duct infestation** from rodents, insects, etc.
- ✓ **Toxic or hazardous components** are confirmed in the surface dust due to past uses/operations performed within the facility as well as outside air conditions from industrial neighbors.
- ✓ **Aesthetic or operational reasons** as duct cleaning can be viewed as a proactive first step in HVAC maintenance especially during property conversion. Research also indicates that duct cleaning may improve the efficiency of the HVAC system, resulting in a longer operating life as well as some energy and maintenance cost savings.

Essential Steps to be Completed before/after Duct Cleaning:

- ✓ **Have the HVAC system inspected** by an independent environmental consultant (**such as AET**) to determine any hazardous materials which may be associated with the interior and exterior components of the HVAC system (including asbestos). For industrial clients this inspection should include hazardous metals or organic chemicals which may have been deposited in the system as a result of plant operations.
- ✓ **Clean the entire system** (ductwork, cooling coils, fans, heat exchangers, etc.); Failure to clean any component of the HVAC system can result in re-contamination of the entire system.
- ✓ **Verify the extent of cleaning** by remote photography (before/after conditions). Remember only a small percentage of the interior HVAC system are accessible for visual inspection. A well defined project specific cleaning protocol including final clearance is critical.

AET Experience: Our professional opinion is duct cleaning contractors should not apply chemical biocides or sealants inside ducts. Clean is clean; proactive measures must be implemented after cleaning to prevent dust and moisture from re-entering the system and causing future problems (click here for Proactive Tip). Duct cleaning of internally-lined ductwork is also not recommended by AET. Where performed, the protocols/procedures developed by the North American Insulation Manufacturers Associations (NAIMA) should be followed to ensure the best possible chance of success.

About our organization: AET has 29 years of environmental contracting/consulting experience assisting our clients in facility planning, design, construction, renovation and maintenance issues. Real life solutions and cost savings recommendations including prevention of future complaints is AET's objective in every IAQ investigation. Make AET your first point of contact for your environmental consulting/contracting needs. Call us now at 610-891-0114 or 1-800-9696-AET.

Want to learn more Proactive Controls!!! Email Alan Sutherland, CIH, CHMM at a.sutherland@aetinc.biz. We provide nationwide services; phone consultations are free. Check out the full range of environmental contracting/consulting services we provide at our website at www.aetinc.biz.