

Technical Bulletin 09-017

Mold Containment

It is highly recommended that AFDs be cleaned and inspected for proper performance before being placed at the job site. The performance of a unit can be evaluated with a sub-micron laser particle counter or other appropriate method. If unexpected pressure drops occur, it is highly recommended that all units and containment barriers be inspected and re-secured as necessary. If pressure has been lost, it is highly recommended that the area be contained and all work cease until the appropriate pressure differential is reestablished. It is highly recommended that AFD operation be inspected before starting work, before breaks and before leaving work each day. It is recommended that local and full containment systems in critical areas be monitored at all times, including days when work is not being performed.

Non-ducted AFDs can be placed inside a containment area to act as air scrubbers. In this application, they work as large portable air filters to reduce airborne dust and spore loads during cleaning processes. It is highly recommended that care be taken to ensure that using an AFD as a scrubber does not cause loss of control of the containment, thereby releasing contaminants into unaffected parts of the building. Air scrubber performance limitations may increase airborne particulate levels, due to the equipment's limited capture zone, stratification of air, dead air spaces, and stirring up particles from reservoirs or during demolition. It is recommended that particle counters be used to monitor the environment when AFDs are used as air scrubbers.

When the AFD is inside the containment work area, it is highly recommended that the pre- and secondary filter changes be performed with the unit operating. This prevents releasing contaminants from filters into the workspace. It is highly recommended that HEPA filters be changed, while taking precautionary measures, with the unit turned off and removed from the job site to an area that would not be adversely impacted by a release of contaminants.

Equipment manufacturers use a variety of methods to determine when to change filters. These may include indicator lights, pressure gauges or other devices. The frequency for changing filters is determined by the work activity, the amount of dust created and captured, and filter element capacity.

It is highly recommended that the air intake side of an AFD be sealed before turning it off to avoid releasing contaminants. It is highly recommended that the intake side of an AFD that may contain accumulated mold spores and fragments remain sealed when not in operation and while being transported or stored. After use, it is highly recommended that the AFD be cleaned, dried and stored in a dry environment. Under humid work and storage conditions, trapped mold spores may colonize on moist HEPA paper filter elements, thereby necessitating earlier filter replacement.

It is highly recommended that exhausting air from HEPA AFDs be vented outdoors. If circumstances prevent exhausting the AFD outside, then, using redundant HEPA AFDs in series and/or particle monitoring when discharging into occupied portions of a building is recommended.

Containments

On mold remediation projects, containments generally are separated into three basic types:

1. source containment;
2. local ("mini") containment; and
3. full-scale containment.

Expanding containments may be necessary when fungal conditions become worse than expected.

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Source Containment

Source containment may be used to address relatively small areas of mold growth, or in combination with other engineering controls to reduce the amount of spore release and dust generation. Source containment may be used alone when fungal growth is limited to small visible controllable areas where no hidden mold growth is anticipated. In areas where there is limited visible mold, and hidden mold growth is anticipated, a more extensive containment is highly recommended. Source containment methods may also be used within areas of more extensive mold growth in conjunction with other forms of containment.

Examples of source containment methods include:

- Taping polyethylene sheeting or using self-adhering plastic short-term on a moldy surface or material before removing; and
- Wrapping, bagging, and securely enclosing moldy contents or materials in 6-mil poly or comparable packaging.

It is highly recommended that workers avoid crushing materials and other actions that would cause dust generation and dispersal of fungal spores and fragments. It is highly recommended that techniques that limit dust aerosolization be used in conjunction with HEPA vacuuming to control and remove dust immediately. Remediators must wear appropriate PPE.

Local Containment

Local or "Mini" containments may be used when "moderate levels" of fungal growth are visible or suspected. A structural enclosure can be built to contain a work area and separate it from the unaffected section of the room or structure. PVC pipe, wood framing, or spring-loaded expansion poles can be used to build an enclosure, which then is covered with appropriate poly material. However, constructing structural support is not always necessary if the isolation barrier can be securely attached to wall and ceiling surfaces. Staples, cardboard reinforcements and duct tape can be used to secure these barriers. One or two layers of poly may be used to cover the enclosure or to erect isolation barriers.

HEPA-filtered AFDs/NAMs are installed to create negative pressure differential in relation to surrounding areas. In very small local containments, a HEPA vacuum cleaner can be substituted, if it is able to create the necessary pressure differential. However, this works only if the vacuum canister is adequately sized and located outside the containment area.

Full-Scale Containment

Full-scale containments normally are used when significant and/or extensive mold growth is present or suspected, and cannot be effectively controlled and remediated with source or local containment methods.

In a full-scale containment, the entire room or building section is designated as the work/containment area. Critical barriers are established to separate unaffected areas from affected areas. Walls, ceilings, floors, cabinets, fixtures or other surfaces that cannot be cleaned effectively must be sealed off with poly barriers.

Reference: IICRC Reference guide for Professional Mold Remediation (IICRC S520) pg 73-74

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