

Real Estate

YOUR HOME

Cleaning Dust From Air Ducts

By JAY ROMANO

Responsible homeowners are generally diligent about cleaning their homes and apartments to eliminate dust and dirt from floors and furniture. And good property managers are equally attuned to similar conditions in lobbies and hallways of buildings they manage.

But hidden deep within the bowels of some buildings, indoor air quality experts say, lie the seeds of potential problems in the form of dust, mold, pollen, germs, fungi and other microbes and materials that may have accumulated inside heating and air-conditioning ducts and building-wide ventilation systems. And that, the experts say, combined with heightened concerns about the general air quality in some parts of the city in the aftermath of the World Trade Center attack, has resulted in a sharp increase in the calls they are getting for air duct and ventilation system testing and cleaning services.

"I've been getting calls nonstop," said Joshua Sarett, president of ALC Environmental, an environmental testing and remediation company in Manhattan.

Mr. Sarett said that while most of the calls he had received were from building owners and residents in the area surrounding the World Trade Center site, he had also been hearing from homeowners, apartment owners and building managers in other parts of the city and its suburbs.

"Most of the calls we're getting are about 'nuisance dust,'" he said, referring to the dust that has seemingly seeped into every nook and cranny of

about every building in the immediate vicinity of ground zero. "And what we've found in the World Trade Center area is that people who had their air-conditioners on or their windows open ended up with a lot of dust and debris in their apartments."

Damon Gersh, president of Maxons Restorations, a Manhattan company that specializes in restoring damaged property, said his company had been receiving up to 200 calls a day from property owners and residents in southern Manhattan who are worried about conditions in their buildings and apartments. And in most cases, he said, what workers are finding — even in buildings and apartments that have already been cleaned — is a fine powderlike material clinging to walls, floors, furniture and other furnishings.

What is particularly troubling, Mr. Gersh said, is that, in some cases, the heating, ventilation and air-conditioning systems in some buildings are acting like dust-delivery systems, contaminating and re-contaminating apartments and hallways throughout the building.

"The stuff is so fine, its particles ride on the air wherever the air goes," he said, explaining that because of the way some heating, air-conditioning and ventilation systems were designed, dust outside the

Since the Sept. 11 attack, some ventilation units are acting like dust-delivery systems, an expert says.

building could be drawn into the building's mechanical system through exterior vents.

"And the filters installed in most systems are not meant to handle this type of material," Mr. Gersh said, adding that when his company is first called into building with a dust problem it installs layers of high-efficiency filters at the air intake to prevent additional dust from entering the system.

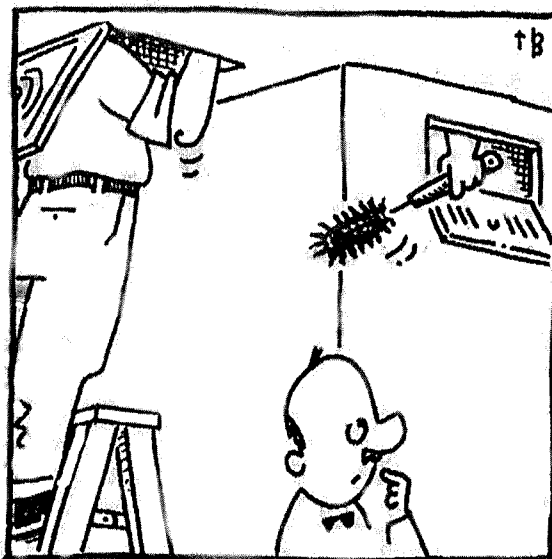
Once that has been done, Mr. Gersh said, workers clean the various parts of the system, including the fan, the coil, the unit housing and the ductwork. The tools they use include a high-efficiency particulate air cleaner, referred to as a HEPA vacuum.

"The first thing we're doing is removing and cleaning all the registers and then brushing and HEPA-vacuuming the transition from the register to the ductwork," Mr. Gersh said, referring to the process of cleaning the grill-like intake and exhaust

grates mounted in walls, floors or ceilings. Once that is done, he said, it is then necessary to brush out and vacuum the interior of the ducts themselves — a project that can sometimes mean cutting temporary access holes in the ductwork.

"The key to doing this kind of work is that you have to make sure you clean every part of the system," he said, explaining that if one part of a building-wide heating or ventilation system is not cleaned, that component will eventually recontaminate the rest of the system. As a result, Mr. Gersh said, it is generally advisable to coordinate the cleaning of individual apartments.

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the ventilation system is not cleaned, that component will eventually recontaminate the rest of the system. As a result, Mr. Gersh said, it is generally advisable to coordinate the cleaning of the heating, ventilation and air-conditioning system with the cleaning of individual apartments.

"If you clean an apartment before the ventilation system is cleaned, you're probably going to end up with more dust entering that apartment," he said.

Steven Wolfson, president of Environmental Cleaning Systems, an environmental remediation company in Valley Stream, N.Y., said that even buildings without a centralized heating and air-conditioning system could have dust problems because of the presence of building-wide ventilation system.

Mr. Wolfson explained that in many multistory buildings, instead of installing exterior windows in bathrooms and kitchens to provide for necessary ventilation, builders instead installed ventilation shafts that run from the ground level to the roof, thereby providing mechanically assisted ventilation for rooms abutting the shaft.

With a properly working system, he said, air is drawn through the shaft and from each kitchen and bath connected to it, by fan installed on the roof. It is not uncommon, however, for ventilation shafts to become clogged, thereby making it possible for any material present in the shaft to find its way into apartments in the building.

"You could have a 20-story building with a clog on Floor 3, but Floors 4 through 20 will be fine," Mr. Wolfson said, adding that the simplest way to test a vent in a kitchen or bathroom is to hold a piece of paper up to the vent and see if air pressure holds it there.

"There should always be air being sucked through the vent," he said.

When his company is hired to clean a ventilation system, Mr. Wolfson said, workers work from the top floor down, one floor at a time. They first remove and clean all vent grates in the apartments on the floors they are working on. Then, using the vent openings, they insert a rotating brush connected to a high-powered HEPA vacuum into the shaft to dislodge or remove debris.

Once the shaft has been cleaned, Mr. Wolfson said, a disinfectant is sprayed onto the interior walls to kill any bacteria that may remain.

Joel Greenberg, the owner of 1-800-Chute-Me, a duct-cleaning company based in Fairfield, N.J., said his company used a somewhat different technique, working on vents on five or six floors at a time.

"We inflate a zone barrier in the shaft at the bottom of the section we're working on," Mr. Greenberg said, explaining that the barrier was basically a balloonlike device that was inflated inside the shaft, thereby keeping material dislodged in the five or six floors above from falling farther down the shaft. "Then we use forced-air blowers, whips, wands and brushes to agitate and dislodge dust, dirt,

fungi, pollen, mold spores, plant spores, dust mites, bacteria, animal dander and smoke residue from the walls of the shaft." The dislodged material is then vacuumed out of the shaft using a HEPA vacuum.

Like Mr. Wolfson, Mr. Greenberg uses a disinfectant to sanitize the interior surface of the shaft. "That kills about 99 percent of anything that's left in the shaft," he said, adding that the remaining 1 percent is dealt with through the application of a water-based encapsulant that is sprayed onto the interior surface of the entire shaft.

"The encapsulant penetrates any remaining surface deposits and bonds them to the walls of the shaft," he said, adding that the encapsulation material also provides a slick surface that retards additional accumulation of dust and debris.

Mr. Greenberg pointed out, however, that thoroughly cleaning the ductwork or ventilation system in a large building could be expensive. To completely clean all the chutes, ducts, vents and air handlers in a 200-unit, 30-story building could cost as much as \$75,000, he said. "That sounds like a lot, but that's what it costs to do the job right," he added.

Additional information about duct cleaning is available on the Web site of the United States Environmental Protection Agency, www.epa.gov, and on the Web site of the National Air Duct Cleaners Associate at www.nadca.com.

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