

# Hurricane Facility Maintenance

Detroit • Ann Arbor • Jackson • Auburn Hills • And Growing

---

## What is Asbestos?

Asbestos refers to a group of six types of naturally occurring minerals. Asbestos minerals are made up of fine, durable fibers and are resistant to heat, fire and many chemicals. Once called the “miracle mineral” for such properties, asbestos was used in a slew of everyday products, from building materials to fireproof protective gear. For nearly 100 years, it was one of the most commonly used materials in industries such as construction, shipbuilding and manufacturing.

It wasn't until the mid-20th century that researchers officially established the connection between asbestos exposure and serious respiratory conditions (although evidence was presented as early as the 1920s). But by then, millions of workers had already been exposed in the workplace and in other locations. While federal asbestos exposure limits were imposed in 1972, an estimated 10,000 people in the United States continue to pass away each year from related illnesses.

Asbestos exposure has been linked to the development of serious respiratory diseases and cancers, including mesothelioma, lung cancer, asbestosis, and other conditions. Asbestos exposure is most commonly related to occupational, environmental and secondhand factors.

## Where can I find Asbestos?

Because of its fiber strength and heat resistance asbestos has been used in a variety of building construction materials for insulation and as a fire retardant. Asbestos has also been used in a wide range of manufactured goods, mostly in building materials (roofing shingles, ceiling and floor tiles, paper products, and asbestos cement products), friction products (automobile clutch, brake, and transmission parts), heat-resistant fabrics, packaging, gaskets, and coatings.

Where asbestos may be found:

- Attic and wall insulation produced containing vermiculite
- Vinyl floor tiles and the backing on vinyl sheet flooring and adhesives
- Roofing and siding shingles
- Textured paint and patching compounds used on wall and ceilings

# Hurricane Facility Maintenance

---

Detroit • Ann Arbor • Jackson • Auburn Hills • And Growing

- Walls and floors around wood-burning stoves protected with asbestos paper, millboard, or cement sheets
- Hot water and steam pipes coated with asbestos material or covered with an asbestos blanket or tape
- Oil and coal furnaces and door gaskets with asbestos insulation
- Heat-resistant fabrics
- Automobile clutches and brakes

## Banned products and uses

Under the Toxic Substances Control Act (TSCA): Banned Manufacture, Importation, Processing and Distribution in Commerce of Certain Asbestos-containing Products

- Corrugated paper
- Roll board
- Commercial paper
- Specialty paper
- Flooring felt

In addition, the regulation continues to ban the use of asbestos in products that have not historically contained asbestos, otherwise referred to as “new uses” of asbestos.

## When is Asbestos Dangerous?

The most common way for asbestos fibers to enter the body is through breathing. In fact, asbestos containing material is not generally considered to be harmful unless it is releasing dust or fibers into the air where they can be inhaled or ingested. Many of the fibers will become trapped in the mucous membranes of the nose and throat where they can then be removed, but some may pass deep into the lungs, or, if swallowed, into the digestive tract. Once they are trapped in the body, the fibers can cause health problems.

Asbestos is most hazardous when it is **friable**. The term "friable" means that the asbestos is easily crumbled by hand, releasing fibers into the air. Sprayed on asbestos insulation is highly friable. Asbestos floor tile is not.

Asbestos-containing ceiling tiles, floor tiles, undamaged laboratory cabinet tops, shingles, fire doors, siding shingles, etc. **will not release asbestos fibers** unless they are disturbed or damaged in some way. If an asbestos ceiling tile is drilled

# Hurricane Facility Maintenance

---

Detroit • Ann Arbor • Jackson • Auburn Hills • And Growing  
or broken, for example, it may release fibers into the air. If it is left alone and not disturbed, it will not.

Damage and deterioration will increase the friability of asbestos-containing materials. Water damage, continual vibration, aging, and physical impact such as drilling, grinding, buffing, cutting, sawing, or striking can break the materials down making fiber release more likely.

## Respiratory Protection

Respirators must be selected, provided, and used in the following circumstances:

- While feasible engineering and work practice controls are being installed or implemented;
- During maintenance and repair activities, or other activities where engineering and work practice controls are not feasible;
- In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the PEL and/or EL; and
- In emergencies.

Respirators must be selected from among those jointly approved by the Mine Safety and Health Administration (MSHA) and NIOSH under the provisions of Title 30, CFR Part 11. The employer also must provide a powered, air-purifying respirator in lieu of any negative-pressure respirator when the employee chooses it and when the respirator provides adequate protection. And, where respiratory protection is required, the employer must develop a respiratory program in accordance with 29 CFR 1910.134 (b),(d),(e), and (f). The respirators and the respiratory protection program must be provided to employees free of charge.

Employees who use a filter respirator must use a high-efficiency filter and must change filters whenever an increase in breathing resistance is detected. Employees who wear respirators must be allowed to wash their faces and respirator face pieces whenever necessary to prevent skin irritation associated with respirator use. An employee must not be assigned to tasks requiring the use of respirators if a physician determines that the employee is unable to function normally wearing a respirator or that the employee's safety and health or that of others would be affected by the employee's use of a respirator.

# Hurricane Facility Maintenance

Detroit • Ann Arbor • Jackson • Auburn Hills • And Growing

---

## **Protective Clothing**

For any employee exposed to airborne concentrations of asbestos that exceed the PEL and/or EL, employer must provide at no cost to the employee, and require the use of, protective clothing, such as coveralls or similar full-body clothing, head coverings, gloves, and foot coverings. In addition, wherever the possibility of eye irritation exists, face shields, vented goggles, or other appropriate protective equipment must be provided and worn. Asbestos-contaminated work clothing must be removed in change rooms and placed and stored in closed, labeled containers that prevent dispersion of the asbestos into the ambient environment. Protective clothing and equipment must be cleaned, laundered, repaired, or replaced to maintain effectiveness.

The employer must provide clean protective clothing and equipment at least weekly to each affected employee. The employer must inform any person who launders or cleans asbestos contaminated clothing or equipment of the potentially harmful effects of exposure to asbestos. In addition, the employer must be certain that the person doing the cleaning or laundering has been properly instructed on how to effectively prevent the release of airborne fibers in excess of the permissible exposure limits. For example, asbestos must never be removed from protective clothing by means of blowing or shaking.

Contaminated clothing and equipment taken out of change rooms or the workplace for cleaning, must be transported in sealed impermeable bags, or other closed impermeable containers and must be appropriately labeled.

## **Hygiene Facilities and Practices**

Employees who are required to work in regulated areas must be provided with clean change rooms, shower facilities, and lunch rooms. Change rooms must have two separate lockers or storage facilities -- one for contaminated clothing, the other for street clothing.

They must be far enough apart to prevent accidental contamination of the employee's street clothes. Employees must shower at the end of the shift and cannot leave the workplace wearing any clothing or equipment worn during the work shift. Lunchroom facilities must have a positive-pressure filtered air supply and must be readily accessible to employees.

# Hurricane Facility Maintenance

---

Detroit • Ann Arbor • Jackson • Auburn Hills • And Growing

The employer must ensure that employees do not enter lunch room facilities with protective work clothing or equipment unless surface asbestos fibers have been removed by vacuuming or some other method that removes dust without causing the asbestos to become airborne. The employer also must ensure that employees wash their hands prior to eating, drinking, or smoking. Smoking is prohibited in regulated areas.

## Housekeeping

All surfaces must be maintained as free as possible of accumulations of waste containing asbestos and/or asbestos dust. The preferred methods of cleanup are wet cleaning and/or vacuuming with HEPA filtered vacuuming equipment. Compressed air may not be used to clean surfaces contaminated by asbestos at any time. Whichever cleanup method is chosen, the equipment shall be used and emptied in a manner that minimizes the reentry of asbestos into the workplace.

The employer also must ensure that all spills and sudden releases of asbestos-containing materials are immediately cleaned up, that sanding asbestos-containing floors is prohibited; and that low abrasion pads at speeds lower than 300 rpm and wet methods are used. If floor has sufficient finish, brushing or dry buffing is permissible. If workers are required to buff or wax asbestos containing resilient floors, building and facility owners must identify the installed material and inform employees and employers of employees doing such housekeeping work.

Asbestos waste, scrap, debris, bags, containers, equipment, and asbestos-contaminated clothing consigned for disposal must be collected and disposed of in sealed, labeled, impermeable bags or other closed, labeled impermeable containers.

## Operations that could result in exposure and protective measures and their use, as applicable

1. Those which are unlikely to involve any direct contact with ACM  
Could involve routine cleaning of shelves and counter tops or other surfaces in a building (Provided ACM debris is not present)
2. Those which may cause accidental disturbance of ACM  
The second type of project could include maintenance work above a suspended ceiling in an area that may have surfacing ACM overhead.

# Hurricane Facility Maintenance

---

Detroit • Ann Arbor • Jackson • Auburn Hills • And Growing

## 3. Those which involve relatively small disturbances of ACM

The third type of project— small-scale, short-duration maintenance, repair, or installation projects involving minor disturbances of ACM – includes activities such as installation of new light fixtures on or in an ACM ceiling.

### **Appropriate work practices for the job**

Vacuum using HEPA-filtered equipment, used and emptied in a manner that minimized reentry of asbestos into the workplace

Wet methods or wetting agents during handling, mixing, removal, cutting, application and cleanup, unless infeasible due to creation of other hazards, i.e. roofing exceptions

Asbestos waste and contaminated articles consigned for disposal

Collected and disposed of in sealed, labeled, impermeable bags or other containers

Prompt cleanup and disposal of wastes and debris in leak-tight containers

Dust and debris in areas containing accessible TSI or surfacing ACM/PACM or visibly deteriorated ACM

No dry sweeping or vacuuming without HEPA filters

Prompt cleanup and disposal in leak-tight containers

Engineering controls and work practices required to achieve the PELs

Local exhaust ventilation with HEPA filter dust collection system

Enclosure or isolation of processes producing asbestos dust

### **DO NOT do/use while caring for asbestos-containing material**

High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA-filtered exhaust air

Compressed air to remove asbestos or ACM except in conjunction with an enclosed ventilation system

Dry sweeping, shoveling, or other cleanup of ACM or PACM dust and debris