

Asbestos Awareness

Background:

Asbestos is the generic term for a group of naturally occurring fibrous minerals with high tensile strength, flexibility, and resistance to thermal, chemical, and electrical conditions. Exposure to asbestos can cause disabling or fatal diseases such as asbestosis, an emphysema-like condition; lung cancer; mesothelioma, a cancerous tumor that spreads rapidly in the cells of membranes covering the lungs and other organs; and gastrointestinal cancer. The symptoms of these diseases generally do not appear for 20 years or more after exposure.

Asbestos fibers enter the body by inhalation or ingestion of airborne particles that become embedded in the tissues of the respiratory or digestive systems. Most worker exposures occur during the removal of asbestos and the renovation and maintenance of buildings and structures that contain asbestos.

Many products commonly found to contain asbestos include boiler, pipe and pipe wrapping, furnace, and water heater insulation, fire-resistant drywall, ceiling and wall texture “popcorn” and “orange peel,” taping mud compound, skim coat, acoustical tiles, sprayed-on insulation and fire proofing, vinyl floor tile, sheet vinyl and linoleum, mastics and glues, cement asbestos board and pipe, Niccolite paper under wood roofing shingles, built-up roofing, roof felt and patch, paints, including silver roof paint, stucco and texture, vermiculite and blown-in building insulation, soundproofing, door and cover gaskets, window putty, insulation boards behind and under wood stoves, insulation within older dishwashers and ranges, older electrical wire, black tar coating on the underside of sinks, stove top pads, and ironing board covers. Also, heat resistant clothing and automotive brake and clutch pads are made up of asbestos.

A common misconception is that all products that contain asbestos are banned for use in the U.S. The only products that are banned from use are fireproofing and insulating products, spray-applied surfacing materials, thermal system insulation (TSI), wet-applied and preformed pipe insulation, pre-formed block insulation for boilers and hot water tanks, corrugated paper, rollboard, commercial paper, specialty paper, flooring felt, and any new use of asbestos.

OSHA Regulations:

The federal Occupational Safety and Health Administration (OSHA) began regulating workplace asbestos exposure in 1970, adopting a permissible exposure limit (PEL) to regulate worker exposures. Over the years, more information on the adverse health effects of asbestos exposure has become available, prompting the agency to revise the asbestos standard to better protect workers.

In 1994, OSHA issued a revised final standard regulating asbestos exposure in all industries. The revised standard for the construction industry lowers the PEL from 0.2 fibers per cubic centimeter (f/cc) of air to 0.1 f/cc. Approximately 3.2 million workers in new construction, building renovation, and maintenance and custodial work are affected by the new standard. OSHA estimates that adherence to the new standard will prevent at least 42 cancer deaths a year.

Pagoda Electrical, Inc. policy presumes that building products installed before 1995 will contain asbestos, and are defined as presumed asbestos-containing materials (PACM). Pagoda Electrical, Inc. and all employees will treat these materials as though they contain asbestos unless they have been sampled by an appropriately trained inspector and shown not to contain asbestos.

Worksite Discovery:

When Pagoda Electrical, Inc. employees are working on multi-contractor worksites, all Pagoda Electrical, Inc. employees will be protected from asbestos exposure. On those occasions when ACM (asbestos-containing materials) and/or PACM is discovered at a job site, a regulated area will be established, for others to conduct asbestos work, before Pagoda Electrical, Inc. will continue to work adjacent to this work site. Pagoda Electrical, Inc. will have an Initial Exposure Assessment made, pursuant to OSHA's regulation 29 CFR 1926.1101(f). If employees working immediately adjacent to a Class I asbestos job (any activity involving the removal of thermal system insulation and surfacing ACM and/or PACM, or other asbestos related work) or are exposed to asbestos due to the inadequate containment of such a job, Pagoda Electrical, Inc. shall remove the employees from the area until the ACM/PACM is repaired or removed. Pagoda Electrical, Inc. competent person will inspect and ensure that the regulated area is effective in protecting our employees from asbestos exposure on a daily basis.

General:

Pagoda Electrical, Inc. **does not** employ any personnel trained to or perform asbestos abatement, or cleans, removes, encapsulates, encloses, hauls or disposes of friable asbestos material. Pagoda Electrical, Inc. **is not licensed** to perform asbestos abatement, or clean, remove,



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encapsulate, enclose, haul or dispose of friable asbestos material

Pagoda Electrical, Inc. employees **are not** authorized to conduct work in or perform asbestos abatement or clean, remove, encapsulate, enclose, haul or dispose of friable asbestos material. **Pagoda Electrical, Inc. only hires professional and licensed contractors and firms to deal with asbestos if it becomes a work issue.**

Communication of hazards:

Notification requirements— The communication of asbestos hazards is vital to prevent further overexposure. Most asbestos-related construction involves previously installed building materials. Building owners are often the only or best source of information concerning these materials. Building owners and the Employer of potentially exposed employees have specific duties under the standard.

Before beginning work, building owners must identify all ACM (asbestos containing materials) and PACM (presumed asbestos-containing materials), including thermal insulation, sprayed or troweled-on surfacing materials, and resilient flooring material.

Building owners must notify the following in writing about the possible presence, locations, and quantity of asbestos-containing materials:

- Prospective Employers applying or bidding for work in or adjacent to areas containing asbestos
- All workers in or adjacent to these areas
- Tenants who may occupy the areas containing asbestos

All Employers discovering asbestos-containing materials (ACM) on a worksite must notify the building owner and other Employers on site within 24 hours. They must inform building owners of the presence, location, and quantity of the asbestos-containing materials. Employers also must inform building owners and employees working in nearby areas of the precautions taken to confine airborne asbestos. Within 10 days of project completion, Employers must inform building owners and other Employers on site of the location and quantity of remaining asbestos-containing materials and any final monitoring results.

At any time, Employers or building owners may demonstrate that a material does not contain asbestos by inspecting the material according to the requirements of the Asbestos Hazard Response Act (40 CFR 763, Subpart E), performing tests to prove asbestos is not present, and obtaining approval from State DEQ in writing.

However, OSHA rules do not allow for “composite” sampling to show a product

does not contain asbestos. Each layer must be sampled and analyzed individually to determine asbestos content.

Employers do not have to inform employees that building materials do not contain asbestos; however, Pagoda Electrical, Inc. must retain the information, data, and analysis supporting the determination.

Signs— At entrances to rooms or areas containing asbestos thermal insulation and surfacing materials, the building owner must post signs identifying the material, its location, and work practices that ensure it is not disturbed. Pagoda Electrical, Inc. must post signs in regulated areas to inform employees of the dangers and precautions. Pagoda Electrical, Inc. shall ensure that employees working in and adjacent to regulated areas comprehend the warning signs.

At no time will an employee of Pagoda Electric disturb asbestos containing materials. Pagoda Electric employees will abide by all warning signs and labels as posted.

Labels—Pagoda Electrical, Inc. must attach warning labels to all products and containers of asbestos, including waste containers, and all installed asbestos products, when possible. Labels must be printed in large, bold letters on a contrasting background and used in accordance with OSHA’s Hazard Communication Standard (29 CFR 1910.1200). All labels must contain a statement warning against breathing asbestos fibers and contain the following:

**DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**

Labels are not required when asbestos concentration is less than 1 percent by weight or when a bonding agent, coating, or binder has altered asbestos fibers, prohibiting the release of airborne asbestos over the PEL or STEL during reasonable use, handling, storage, disposal, processing, or transportation.

State DEQ require labels on asbestos waste-disposal packages only. When building owners or Pagoda Electrical, Inc. identify previously installed possible asbestos-containing materials, labels or signs must be attached or posted to inform employees which materials contain asbestos. Attached labels must be clearly noticeable and readable.

Work Classification:

OSHA's standard establishes a classification system for asbestos construction work that clearly spells out work practices that reduce worker exposures. Four classes of construction activity are matched with control requirements.

Class I asbestos work, the **most hazardous** class of asbestos jobs, involves the removal of asbestos-containing or presumed asbestos-containing thermal insulation and sprayed-on or troweled-on surfacing material.

Thermal insulation includes asbestos-containing materials applied to pipes, boilers, tanks, ducts, or other structural components to prevent heat loss or gain. Surfacing materials may include decorative plaster on ceilings, acoustical materials on decking, or fireproofing on structural members.

Class II work includes the removal of other types of asbestos-containing materials that are not thermal insulation, such as flooring and roofing materials. Removing intact incidental roofing materials such as cements, mastics, coatings, and flashings is not regulated as Class II. Examples of Class II work include removal of floor or ceiling tiles, siding, roofing, or transite panels.

When a designated competent person deems roofing material being removed as intact, the roofing contractor may make a negative exposure assessment and avoid initial monitoring if both the following conditions are met:

1. Employees have been trained.
2. The work practices described in the rule are strictly followed.

Class III asbestos work includes repair and maintenance operations where asbestos-containing or presumed asbestos-containing materials are disturbed. The primary purpose of the work is not to remove or disturb asbestos, although some removal or disturbance may occur. Examples of Class III work include repairing broken pipes that have asbestos wrapping, installing floor anchors in an area with asbestos floor tile, or installing electrical conduit through walls with asbestos insulation.

Class IV operations include maintenance and custodial activities in which employees contact but do not disturb asbestos-containing materials. These activities must be related to the construction project, usually resulting from Class I, II, or III activities. Custodial work that is not related to a construction project or to Class I, II, or III work is covered by the general industry asbestos rule, 29 CFR 1910.1001.

Different government agencies (OSHA, EPA, different States, etc.) approach asbestos exposure in a different manner. Recognizing that public exposures may not be as easily definable, it is a common ruling that there is no safe level of exposure, and the



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different agencies have crafted rules expressly to prevent or eliminate exposures to the public and the environment. To that end, different asbestos handling rules require specific work practices for those removing asbestos and require licensing for all contractors who remove friable asbestos. Workers must be trained and certified to remove friable asbestos.

Generally, asbestos handling rules require determining whether a material is friable or nonfriable, and are to be handled appropriately.

Friable asbestos: The “worst kind” of asbestos! Any asbestos-containing material that hand pressure can crumble, pulverize, or reduce to powder when dry and readily release airborne fibers if disturbed. Friable asbestos materials must be removed by licensed contractors licensed by a government or regulatory agency. These contractors must use workers trained and certified through a government or regulatory agency training program.

Persons trained to the supervisory level of the government or regulatory agency certification program also meet OSHA’s competent-person requirements. Friable asbestos disposal requires specific packaging and labeling and must take place at a landfill authorized to receive asbestos waste.

Nonfriable asbestos: Asbestos-containing material that hand pressure cannot crumble, pulverize, or reduce to powder when dry. (Note: The use of power tools, shattering, or the forces normally placed on nonfriable material during the course of demolition, i.e., sawing, sanding or breaking will render the nonfriable material friable.) Generally, nonfriable asbestos materials may be removed by contractors not licensed, and worker certification is not required. However, Pagoda Electrical, Inc. will require a competent person to be available for nonfriable removal projects. Asbestos disposal must take place at a landfill authorized to receive asbestos waste.

Employee information and training: Employees will be trained that any time they discover asbestos or suspect that they have discovered asbestos, they will cease work, leave the area and notify a Member of Management. Management will then arrange to remove other employees from the area and determine if asbestos is present. Pagoda Electrical, Inc. must provide Asbestos Awareness Training for all employees who work in areas that contain or may contain asbestos. Training will be provided at no cost and before beginning these jobs and at least annually thereafter. All training will be documented.

Training courses must be easily understandable to employees and must inform them of the following, as a minimum:



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- Ways to recognize asbestos
- Know what asbestos-containing materials (ACM) or presumed asbestos-containing materials (PACM) are and examples of each
- Adverse health effects of asbestos exposure
- The relationship between smoking and asbestos in causing lung cancer
- Operations that could result in asbestos exposure and the importance of protective controls to minimize exposure
- That employees work activities may put the employee in contact near/with ACM and PACM and that the employee shall use caution not to disturb the ACM or PACM
- The purpose, proper use, fitting instruction, and limitations of respirators
- The appropriate work practices for performing asbestos jobs
- Medical surveillance program requirements
- The contents of the asbestos standard and this Pagoda Electrical, Inc. policy
- The names, addresses, and phone numbers of public health organizations that provide information and materials or conduct smoking-cessation programs
- Required signs and labels and their meanings
- Abide by and understand warning signs and labels

Respiratory protection:

Respirators must be used for the following:

- Class I asbestos jobs
- Class II work where an asbestos-containing material is not removed substantially intact
- Class II and III work not using wet methods
- Class II and III work without a negative exposure assessment
- Class III jobs where asbestos-containing or presumed asbestos-containing thermal insulation or surfacing material is cut, abraded, or broken
- Class IV work within a regulated area where respirators are required
- Work during which employees are exposed above the PEL or STEL and in emergencies

Pagoda Electrical, Inc. must provide respirators at no cost to employees, selecting the appropriate type from among those approved by NIOSH.

Housekeeping:

Asbestos waste, scrap, debris, bags, containers, equipment, and contaminated clothing consigned for disposal must be collected and disposed of in sealed, labeled, impermeable bags or other closed, labeled impermeable containers. Employees must use HEPA-filtered vacuuming equipment and must empty it so as to minimize asbestos reentry into the



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workplace. All vinyl and asphalt flooring material must remain intact unless the building owner demonstrates that the flooring does not contain asbestos. Sanding flooring material is prohibited. Employees stripping finishes must use wet methods and low abrasion pads at speeds lower than 300 revolutions per minute. Burnishing or dry buffing may be done only on flooring with enough finish that the pad cannot contact the flooring material.

Employees must not dust, sweep, or vacuum without a HEPA filter in an area containing thermal insulation or surfacing material or visibly deteriorated asbestos-containing materials. Employees must promptly clean and dispose of dust and debris in leak-tight containers.