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OSHA

Asbestos Exposure

Safety and Health Regulations for Construction
Standard 29 CFR Part 1926.1101

Presented by: Allied Insurance Brokers, Inc.

Asbestos Exposure: Agenda

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In today's session, you will learn about:

- ✓ What is asbestos?
- ✓ Potential dangers
- ✓ Classes of asbestos work
- ✓ Tips for safe handling

What is Asbestos?

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Asbestos is a term for a group of naturally occurring fibrous minerals with high tensile strength, flexibility and resistance to heat, chemicals and electricity.

In the construction industry, asbestos is found in installed products such as:

- Pipe insulation
- Floor tiles
- Roofing felts and shingles
- Ceiling tiles
- Fire-resistant drywall
- Acoustical products
- Spray-on fireproofing

Why Are We Concerned?

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Asbestos fibers enter the body when a person inhales or ingests airborne particles that become embedded in the tissues of the respiratory or digestive systems.

Exposure to asbestos can cause disabling and sometimes fatal diseases such as:

- Asbestosis
- Lung cancer
- Mesothelioma
- Gastrointestinal cancer

However, symptoms of these diseases generally do not appear for 20 or more years after initial exposure.

Exposure Potential

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In the construction industry, OSHA regulates asbestos exposure for these activities:

- Demolishing or salvaging structures where asbestos is present.
- Removing or encapsulating asbestos-containing material (ACM).
- Constructing, altering, repairing, maintaining or renovating asbestos-containing structures or substrates.
- Installing asbestos-containing products.
- Cleaning up asbestos spills/emergencies.
- Transporting, disposing, storing, containing and housekeeping involving asbestos or asbestos-containing products on a construction site.

Classes of Work

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OSHA breaks down the types of asbestos work into four different classes based on their potential hazards and chances for exposure. For each class, specific guidelines have been set to ensure worker safety.

Class I asbestos work is the most potentially hazardous class of asbestos jobs. This work involves the removal of asbestos-containing thermal system insulation and sprayed-on or troweled-on surfacing materials. Employers must presume that thermal system insulation and surfacing material found in pre-1981 construction is ACM.

- Thermal system insulation includes ACM applied to pipes, boilers, tanks, ducts, or other structural components to prevent heat loss or gain.
- Surfacing materials include decorative plaster on ceilings and walls; acoustical materials on decking, walls, and ceilings; and fireproofing on structural members.

Classes of Work

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Class II work includes the removal of other types of ACM that are not thermal system insulation, such as resilient flooring and roofing materials. Class II work includes removal of asbestos-containing floor or ceiling tiles, siding, roofing, or transite panels.

Class III asbestos work includes repair and maintenance operations where ACM or presumed ACM (PACM) are disturbed.

Class IV work includes custodial activities where employees clean up asbestos-containing waste and debris produced by construction, maintenance, or repair activities. This work involves cleaning dust-contaminated surfaces, vacuuming contaminated carpets, mopping floors, and cleaning up ACM or PACM from thermal system insulation or surfacing material.

Initial Exposure Assessment

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Before the start of any asbestos-related work, an initial exposure assessment must be preformed to determine the expected exposures.

Permissible exposure limits (PEL)

The proper control methods must be used to ensure that employees are not exposed to:

- an airborne concentration of asbestos in excess of 0.1 f/cc as an 8-hour time-weighted average(TWA).
- an airborne concentration of asbestos in excess of 1 f/cc as averaged over a sampling period of 30 minutes.

Safe Clean-Up

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Regulated Areas

For Class I, II and III work, or any other work where the PEL exceeds the regulated limit, establish a regulated area to reduce the spread of any asbestos disturbed during the project.

Regulated areas should be marked off with plastic sheeting or negative pressure enclosures to reduce exposure to other employees working nearby.

Signage should be posted at all entrances to note the existence of the regulated area and the hazard it presents.

Safe Clean-Up

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HEPA Filters

High-efficiency particulate air [HEPA] filters are capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

HEPA filters should be used on all vacuums and local exhaust equipment used in a restricted area to keep from recirculating any asbestos particles.

Safe Clean-Up

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Respirators and Protective Clothing

Required for all Class I jobs and most Class II, III and IV jobs, respirators and protective clothing are always a good idea when working with asbestos.

Different levels of respirators are needed for higher exposure levels, so be sure to check with the assigned “competent person” to make sure you are using the proper protective equipment.

Safe Clean-Up

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Removal

No matter what form ACM takes, there are some standard procedures that can limit the amount of asbestos that is released into the air.

Always try to keep ACM as intact as possible during removal. Make as few cuts as possible, and avoid unnecessary breakage of ACMs like flooring tiles and roofing shingles.

Bag or wrap ACM immediately after it is removed, and store in leak-proof containers.

Safe Clean-Up

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Wet Methods

To control your exposure, use wet methods whenever possible. Keeping ACM wet during removal reduces the amount of fibers and dust released into the air.

The only time wet methods should not be used is when they would prove to be a safety hazard given the work environment (e.g., due to the creation of electrical hazards, equipment malfunction and slipping hazards).

Safe Clean-Up

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The following work practices are *prohibited* for all asbestos-related work:

- High-speed abrasive disc saws not equipped with a point-of-cut ventilator or enclosure with HEPA-filtered exhaust air.
- Compressed air to remove asbestos or ACM, unless the compressed air is used with an enclosed ventilation system.
- Dry sweeping, shoveling or other dry cleanup of dust and debris.
- Employee rotation to reduce exposure.

Conclusion

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If not handled correctly, asbestos has the possibility to be very harmful. To ensure your safety and the safety of those around you, make sure you always follow the established guidelines for dealing with asbestos. If you are unsure if something contains asbestos or are not certain what procedures need to be followed, don't hesitate to talk to your supervisor.

For More Information

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For more information regarding asbestos exposure or other safety issues, please contact:

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