



Company Name: _____ Job Site Location: _____

Date: _____ Start Time: _____ Finish Time: _____ Foreman/Supervisor: _____

Topic 174: Asbestos (Part A)

Introduction: "Asbestos" is the name of a class of magnesium-silicate minerals that occur in fibrous form. Minerals that are included in this group are chrysotile, crocidolite, amosite, anthophyllite asbestos, tremolite asbestos, and actinolite asbestos. Asbestos is used in the manufacture of heat-resistant clothing, automotive brake and clutch linings, and a variety of building materials including floor tiles, roofing felts, ceiling tiles, asbestos-cement pipe and sheet, and fire-resistant drywall. Asbestos is also present in pipe and boiler insulation materials, and in sprayed-on materials located on beams, in crawlspaces, and between walls.



The potential for an asbestos-containing product to release breathable fibers depends on its degree of friability. Friable means that the material can be crumbled with hand pressure and is therefore likely to emit fibers. The fibrous or fluffy sprayed-on materials used for fireproofing, insulation, or sound proofing are considered to be friable, and they readily release airborne fibers if disturbed. Materials such as vinyl-asbestos floor tile or roofing felts are considered non-friable and generally do not emit airborne fibers unless subjected to sanding or sawing operations. Asbestos-cement pipe or sheet can emit airborne fibers if the materials are cut or sawed, or if they are broken.

Since 1970, very few asbestos-containing products have been or are being installed. Consequently, most worker exposures occur during the removal of asbestos and the renovation and maintenance of buildings and structures containing asbestos. Asbestos fibers enter the body by inhalation or ingestion of air-borne particles and become embedded in the tissues of the respiratory or digestive systems. 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 body organs), and gastrointestinal cancer. The symptoms of these diseases generally do not appear for 20 years or more after exposure.

Work classification — OSHA's standard establishes a classification system for asbestos construction work that clearly spells out work practices that reduce worker exposures. The following 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 thermal insulation and sprayed-on or troweled-on surfacing. Thermal insulation includes asbestos-containing materials applied to pipes, boilers, tanks, ducts, or other structural components to prevent heat loss or gain.
- **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.
- **Class III** asbestos work includes repair and maintenance operations where asbestos-containing materials are disturbed.
- **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.



The asbestos standard for the construction industry regulates asbestos exposure for the following activities:

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

OSHA has established strict exposure limits and requirements for exposure assessment, medical surveillance, recordkeeping, "competent persons," regulated areas, and hazard communication. Employers must assess and monitor all asbestos operations for the potential to generate air-borne fibers.

Permissible Exposure Limit (PEL) — Exposure to airborne asbestos fibers may not exceed 0.1 fibers per cubic centimeter of air (0.1 f/cc) averaged over the 8-hour workday (Please refer to OSHA 1926.1101 for complete chart of PEL variations).



Conclusion: It is important to understand the best ways to carefully work near asbestos so as to prevent disturbing or damaging the material. Review the work practices that are currently in place on your jobsite. Discuss why proper use of PPE and engineering controls are important in controlling employee exposure to asbestos. This is Part A of an overview of the OSHA requirements for demolition/renovation work where asbestos is encountered. If you are involved in demolition or renovation work, you need to be trained and familiar with not only the OSHA rules regarding asbestos, but also the EPA requirements. Follow these guidelines for safe asbestos handling techniques (See Asbestos Part B).

Work Site Review

Work-Site Hazards and Safety Suggestions: _____

Personnel Safety Violations: _____

Employee Signatures: _____
 (My signature attests and verifies my understanding of and agreement to comply with, all company safety policies and regulations, and that I have not suffered, experienced, or sustained any recent job-related injury or illness.)

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Foreman/Supervisor's Signature: _____

These guidelines do not supersede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.