

Asbestos Exposure Safety Program

OSHA

Effective Date:
Revision #:

Reference Standard

Safety and Health Regulations for Construction:
29 CFR 1926.1101, Subpart Z Asbestos

Purpose

This program establishes minimum requirements and guidelines for employee interaction with materials in the workplace that contain asbestos in order to minimize harmful exposure.

Scope

This procedure applies to all company employees, contractors and vendors performing work on company property and all other individuals who are visiting or have business with .

Responsibilities

Management is responsible for the development and periodic review of this program as well as appropriate employee training.

Management and supervisors are responsible for enforcement of this program.

Employees must comply with all procedures outlined in this policy.

Contractors and vendors must comply with all procedures outlined in this policy.

Definitions

Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos and any of these minerals that has been chemically treated and/or altered. For purposes of this standard, asbestos also includes PACM, as defined below.

Asbestos-containing material (ACM) means any material containing more than 1 percent asbestos.

Aggressive method means removal or disturbance of building material by sanding, abrading, grinding or other method that breaks, crumbles or disintegrates intact ACM.

Competent person is one who is capable of identifying existing asbestos hazards in the workplace, selecting the appropriate control strategy for asbestos exposure and who has the authority to take prompt corrective measures to eliminate them.

Class I asbestos work means activities involving the removal of TSI and surfacing ACM and PACM.

Class II asbestos work means activities involving the removal of ACM that is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile, sheeting, roofing, siding shingles and construction mastics.

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Class III asbestos work means repair and maintenance operations where ACM, including TSI and surfacing ACM and PACM, is likely to be disturbed.

Class IV asbestos work means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM as well as activities to clean up dust, waste and debris resulting from Class I, II and III activities.

Disturbance means activities that disrupt the matrix of ACM/PACM, crumble or pulverize ACM/PACM or generate visible debris from ACM/PACM. Disturbance includes cutting away small amounts of ACM and PACM, no greater than the amount which can be contained in one standard-sized glove bag or waste bag in order to access a building component. In no event may the amount of disturbed ACM or PACM exceed that which can be contained in one glove bag or waste bag, which may not exceed 60 inches in length and width.

Excursion limit requires that the employer ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of 30 minutes.

Glovebag means not more than a 60 x 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

Presumed Asbestos Containing Material (PACM) means thermal system insulation and surfacing material found in buildings constructed no later than 1980.

Regulated area is an area established by the employer where Class I, II and III asbestos work is conducted as well as any adjoining area where debris and waste from such asbestos work accumulate. Also includes a work area within which airborne concentrations of asbestos exceed, or may be reasonably expected to exceed, the permissible exposure limit.

Surfacing material means material that is sprayed, troweled-on or otherwise applied to surfaces, including acoustical plaster on ceilings and fireproofing materials on structural members or other materials on surfaces for acoustical, fireproofing and other purposes.

Surfacing ACM means surfacing material that contains more than 1 percent asbestos.

Time-weighted average limit (TWA) requires that the employer ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an 8-hour time-weighted average (TWA).

Thermal system insulation (TSI) means ACM applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain.

Thermal system insulation ACM is thermal system insulation that contains more than 1 percent asbestos.

Program Application

This program will be applicable to all incidences in which employees interact with asbestos in any form, except when it is contained in asphalt roof coatings, cements and mastics.

Procedure

Initial Exposure Assessment

Before the start of any operation that will entail dealing with asbestos, will ensure that a **competent person** conducts an exposure assessment to ascertain expected exposures levels. The assessment must be completed in time to comply with the requirements that are triggered by exposure data and to provide information necessary to assure that all control systems planned are appropriate for that

operation and will work properly. Representative eight-hour TWA employee exposure must be determined on the basis of one or more samples representing full-shift exposure for employees in each work area. Representative 30-minute short-term employee exposures must be determined on the basis of one or more samples representing 30-minute exposures associated with operations that are most likely to produce exposures above the excursion limit for employees in each work area.

Periodic Monitoring

During Class I or II operations, will monitor daily the exposure levels of each employee who is assigned to work in a regulated area. will then provide the results to each affected employee within five days, either individually in writing or by posting the results in an appropriate location accessible to employees. The only exception to this daily monitoring standard is if employees are equipped every day with supplied-air respirators operated in the pressure demand mode or other positive pressure mode respirators.

Methods of Compliance

Regardless of the level of exposure, when dealing with asbestos, the following engineering controls and work practices must be used:

- Vacuum cleaners equipped with HEPA filters to collect all debris and dust containing ACM and PACM;
- Wet methods, or wetting agents, to control employee exposures during asbestos handling, mixing, removal, cutting, application and cleanup, except where employers demonstrate that the use of wet methods is infeasible due to, for example, the creation of electrical hazards, equipment malfunction and in roofing operations; and
- Prompt clean-up and disposal of wastes and debris contaminated with asbestos in leak-tight containers.

The following control methods must be used to keep the TWA at a permissible limit:

- Local exhaust ventilation equipped with HEPA filter dust collection systems;
- Enclosure or isolation of processes producing asbestos dust; and
- Ventilation of the regulated area to move contaminated air away from the breathing zone of employees and toward a filtration or collection device equipped with a HEPA filter.

Prohibited Methods

The following work practices may never be used in asbestos-related work:

- High-speed, abrasive disc saws that are not equipped with point-of-cut ventilator or enclosures with HEPA-filtered exhaust air;
- Compressed air used to remove asbestos, or materials containing asbestos, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air;
- Dry sweeping, shoveling or other dry clean-up of dust and debris containing ACM or PACM; or
- Employee rotation as a means of reducing employee exposure to asbestos.

Class I Requirements

In addition to the aforementioned methods of compliance, while doing Class I

asbestos work, the following guidelines must be followed:

- All Class I work, including the installation and operation of the control system, must be supervised by a **competent person**;
- For all Class I jobs involving the removal of more than 25 linear or 10 square feet of thermal system insulation or surfacing material, or when employees are working in areas adjacent to the regulated area while the Class I work is being performed, the employer must use one of the following methods to ensure that airborne asbestos does not migrate from the regulated area:
 - Critical barriers placed over all the openings to the regulated area, except where activities are performed outdoors; and
 - Another barrier or isolation method that prevents the migration of airborne asbestos from the regulated area, as verified by perimeter-area surveillance during each work shift at each boundary of the regulated area, that shows no visible asbestos dust;
- HVAC systems must be isolated in the regulated area by sealing them with a double layer of six mil plastic or the equivalent;
- Impermeable drop cloths must be placed on surfaces beneath all removal activity;
- All objects within the regulated area must be covered with impermeable drop cloths or plastic sheeting that is secured by duct tape or an equivalent;
- Where cannot produce a negative exposure assessment, or where exposure monitoring shows that a PEL is exceeded, the regulated area will be ventilated to move contaminated air away from the breathing zone of employees and toward a HEPA filtration or collection device; and
- In addition, Class I asbestos work will be performed using one or more of the following control methods pursuant to the limitations stated below:
 - Negative Pressure Enclosure (NPE) systems: NPE systems may be used where the configuration of the work area does not make the erection of the enclosure infeasible;
 - Glove bag systems may be used to remove PACM and/or ACM from straight runs of piping, elbows and other connections; and
 - A water spray process system may be used for removal of ACM and PACM from cold-line piping if employees carrying out such process have completed a 40-hour separate training course in its use in addition to training required for employees performing Class I work.

Class II Requirements

In addition to the methods of compliance mentioned above, while doing Class II asbestos work, the following guidelines will be followed:

- All Class II work, including the installation and operation of the control system, will be supervised by a **competent person**;
- For all indoor Class II jobs where changed conditions indicate there may be exposure above the PEL or where the employer does not remove the ACM in a substantially intact state, will use one of the following methods to ensure that airborne asbestos does not migrate from the regulated area:
 - Critical barriers placed over all openings to the regulated area; or
 - Another barrier or isolation method that prevents the migration of airborne asbestos from the regulated area, as verified by perimeter area monitoring or clearance monitoring;

- Impermeable drop cloths must be placed on surfaces beneath all removal activity; and
- When removing vinyl and asphalt flooring materials that contain ACM or in buildings constructed before 1980 where the employer has not verified the absence of ACM, will ensure that employees comply with the following work practices:
 - Flooring or its backing may not be sanded;
 - Vacuums equipped with HEPA filter, disposable dust bag and metal floor tool (no brush) must be used to clean floors;
 - All scraping of residual adhesive and/or backing must be performed using wet methods;
 - Cutting machines must be continuously misted during use unless a competent person determines that misting substantially decreases worker safety;
 - The material must be removed in an intact state unless demonstrates that intact removal is not possible;
 - Cutting, abrading or breaking materials is prohibited unless approved by because methods less likely to result in asbestos fiber release are not feasible; and
 - Asbestos-containing material removed must be immediately bagged, wrapped or kept wetted until transferred to a closed receptacle, but no later than the end of the work shift.

Class III Requirements

Class III asbestos work must be conducted using engineering and work practice controls that minimize the exposure of bystanders and employees performing the asbestos work.

- The work must be performed using wet methods;
- To the extent feasible, the work must be performed using local exhaust ventilation;
- Where the disturbance involves drilling, cutting, abrading, sanding, chipping, breaking or sawing of thermal system insulation or surfacing material, employees must use impermeable drop cloths and isolate the operation using mini-enclosures or glove bag systems;
- Where monitoring results show the PEL has been exceeded, will either contain the area using impermeable drop cloths and plastic barriers or their equivalent or isolate the operation using a control system; and
- Employees performing Class III jobs that involve the disturbance of thermal system insulation or surfacing material, or where monitoring results show a PEL has been exceeded, are required to wear respirators.

Class IV Requirements

Class IV asbestos jobs must be conducted by employees trained pursuant to the asbestos awareness program. These jobs must be conducted using wet methods and HEPA vacuums, followed by a prompt clean-up of debris containing ACM or PACM.

- Employees cleaning up debris and waste in a regulated area where respirators are required must wear respirators; and
- Employees who clean up waste and debris in areas where friable thermal system insulation or surfacing material is accessible must assume that such waste and debris contain asbestos and follow applicable procedures.

Respiratory Protection

Respirators must be used during:

- Class I asbestos work;
- Class II asbestos work when ACM is not removed in a substantially intact state;
- Class II and III asbestos work that is not performed using wet methods, except for removal of ACM from sloped roofs when a negative-exposure assessment has been conducted and ACM is removed in an intact state;
- Class II and III asbestos work for which a negative-exposure assessment has not been conducted;
- Class III asbestos work when TSI, surfacing ACM or PACM is being disturbed.
- Class IV asbestos work performed within regulated areas where employees who are performing other work are required to use respirators;
- Work operations for which employees are exposed above the TWA or excursion limit; and
- Emergencies.

will provide employees with:

- HEPA filters for powered- and non-powered air-purifying respirators;
- A tight-fitting, powered air-purifying respirator (PAPR) instead of a negative-pressure respirator when the employee chooses to use it and it is deemed to provide adequate protection; and
- An air-purifying half-mask respirator, other than a filtering facepiece respirator, whenever employees perform:
 - Class II or Class III asbestos work for which no negative exposure assessment is available; or
 - Class III asbestos work involving disturbance of TSI or surfacing ACM or PACM.

Protective Clothing

will provide, and require the use of, protective clothing—including coveralls and similar whole-body clothing, head coverings, gloves and foot coverings—for any employee exposed to airborne concentrations of asbestos that exceed the TWA and/or excursion limit or for any employee performing Class I operations that involve the removal of more than 25 linear or 10 square feet of TSI or surfacing ACM/PACM.

Employee Information and Training

Each employee who is likely to be exposed in excess of a PEL, and each employee who performs Class I through IV asbestos operations, will receive training prior to, or at the time of, initial assignment and at least annually thereafter. The training will be conducted at no cost to the employee. will institute, and employees will participate in, a training program that includes:

- Ways to recognize asbestos;
- Adverse health effects of asbestos exposure;
- 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;
- Purpose, proper use, fitting instruction and limitations of respirators;
- Appropriate work practices for performing asbestos jobs;
- Medical surveillance program requirements;
- Contents of the standard; and
- Sign and label requirements and the meaning of their legends.

Revision History Record:

Revision Number	Section	Revised By	Description
0	NA	NA	Original document.