

## Chapter 26 ASBESTOS

**General.** Employees of Sign Designs, Inc. will usually never encounter asbestos in the field. In the event that asbestos is encountered we expect our employees to back away and report the presence of asbestos to the management of Sign Designs, Inc. for further reporting to the proper authorities. However, it is important to train employees in the recognition of asbestos, and what procedures and personal protective equipment to use when encountering asbestos. Therefore, Sign Designs, Inc. instituted a training program for all employees who are exposed to airborne concentrations of asbestos at or above the PEL and/or excursion limit and ensure their participation in the program. Sign Designs expects not only its employees to follow proper procedure when encountering asbestos, but expects all contractors on-site to follow proper procedures. When an employee of Sign Designs witnesses another contractor usurping proper asbestos procedures, that employee shall immediately implement stop work authority, remove all Sign Designs employees from the site, notify that contractor's supervisor, notify the property owner, and report to the proper authorities. No Sign Designs employee shall re-enter the site until the site has been officially deemed safe.

**Purpose.** This program is intended to provide procedures to safeguard employees from possibly debilitating exposure to asbestos through the use of proper personal protective equipment.

**Training.** Training shall be provided prior to or at the time of initial assignment and at least annually thereafter. The training program shall be conducted in a manner which the employee is able to understand, and Sign Designs, Inc. shall ensure that each employee is informed of the following:

1. The health effects associated with asbestos exposure including:
  - a. Mesothelioma (a cancer of the lining of the lungs; it is always fatal and is almost exclusively caused by exposure to asbestos)
  - b. Asbestos-related lung cancer (which is almost always fatal)
  - c. Asbestosis (a scarring of the lungs which is not always fatal but can be a very debilitating disease, greatly affecting quality of life)
  - d. Diffuse pleural thickening (a thickening of the membrane surrounding the lungs which can restrict lung expansion leading to breathlessness.)
2. The relationship between smoking and exposure to asbestos producing lung cancer.
3. The quantity, location, manner of use, release, and storage of asbestos, and the specific nature of operations which could result in exposure to asbestos. (Asbestos could most likely be found in insulation in attics or in wall material in older buildings.)
4. The engineering controls and work practices associated with the employee's job assignment.
5. The specific procedures implemented to protect employees from exposure to asbestos,

such as appropriate work practices, emergency and clean-up procedures, and personal protective equipment to be used.

6. The purpose, proper use, and limitations of respirators and protective clothing, if appropriate.
7. The purpose and a description of the medical surveillance program required by paragraph by this section.

A certificate of training will be provided upon completion of training, and will be maintained in the employees' files.

**Permissible exposure limit (PELS) Time-weighted average limit (TWA).** Sign Designs, Inc. shall 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 eight (8)-hour time-weighted average (TWA) as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

**Excursion limit.** Sign Designs, Inc. shall 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 thirty (30) minutes as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

**Exposure monitoring.** Determinations of employee exposure shall be made from breathing zone air samples that are representative of the 8-hour TWA and 30-minute short-term exposures of each employee. Representative 8-hour TWA employee exposures shall be determined on the basis of one or more samples representing full-shift exposures for each shift for each employee in each job classification in each work area. Representative 30-minute short-term employee exposures shall 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 each shift for each job classification in each work area. Measurements are required for documentation.

**Establishment of Regulated Areas.** Sign Designs, Inc. shall establish regulated areas wherever airborne concentrations of asbestos and/or PACM are in excess of the TWA and/or excursion limit prescribed in this section.

Regulated areas shall be demarcated from the rest of the workplace in any manner that minimizes the number of persons who will be exposed to asbestos.

Access to regulated areas shall be limited to authorized persons.

Each person entering a regulated area shall be supplied with and required to use a respirator, selected in accordance with this section, and in accordance with the Respiratory Section of this program.

Employees must not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the regulated areas.

**Engineering controls and work practices.** Sign Designs, Inc. production facility is asbestos free. Our manufacturing processes do not utilize any asbestos containing material. All engineering controls must be in the field, and would usually involve service of signage in older facilities. Local engineering controls such as local exhaust ventilation, dust collection systems designed, constructed, installed, and maintained in accordance with good practices such as those found in the American National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, ANSI Z9.2-1979 may not exist. Asbestos could most likely be found in insulation in attics or in wall material in older buildings. Sign Designs, Inc. has determined that the most effective engineering control for those in the field is to not enter a regulated area, and do not enter an area suspected of containing asbestos.

Wherever the feasible engineering controls and work practices that can be instituted are not sufficient to reduce employee exposure to or below the TWA and/or excursion limit prescribed in this section, the employer shall use them to reduce employee exposure to the lowest levels achievable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of this section.

For the following operations, wherever feasible engineering controls and work practices that can be instituted are not sufficient to reduce the employee exposure to or below the TWA and/or excursion limit prescribed in this section, Sign Designs, Inc. shall use them to reduce employee exposure to or below 0.5 fiber per cubic centimeter of air (as an eight-hour time-weighted average) or 2.5 fibers/cc for 30 minutes (short-term exposure) and shall supplement them by the use of any combination of respiratory protection that complies with the requirements of this section, work practices and feasible engineering controls that will reduce employee exposure to or below the TWA and to or below the excursion limit permissible prescribed in this section.

**Particular tools.** All hand-operated and power-operated tools which would produce or release fibers of asbestos, such as, but not limited to, saws, scorers, abrasive wheels, and drills, shall be provided with local exhaust ventilation systems which comply with this section.

**Wet methods.** Insofar as practicable, asbestos shall be handled, mixed, applied, removed, cut, scored, or otherwise worked in a wet state sufficient to prevent the emission of airborne fibers so as to expose employees to levels in excess of the TWA and/or excursion limit, prescribed in this section, unless the usefulness of the product would be diminished thereby.

**Particular products and operations.** No asbestos cement, mortar, coating, grout, plaster, or similar material containing asbestos, shall be removed from bags, cartons, or other containers in which they are shipped, without being either wetted, or enclosed, or ventilated so as to prevent effectively the release of airborne fibers.

**Compressed air.** Compressed air shall not be used to remove asbestos or materials containing asbestos unless the compressed air is used in conjunction with a ventilation system which effectively captures the dust cloud created by the compressed air.

**Flooring.** Sanding of asbestos-containing flooring material is prohibited.

**Compliance program.** Where field work or service TWA and/or excursion limit is exceeded, Sign Designs, Inc. shall establish and implement a job specific written program to reduce employee exposure to or below the TWA and to or below the excursion limit by means of engineering and work practice controls, and by the use of respiratory protection where required or permitted under this section.

Such programs shall be reviewed and updated as necessary to reflect significant changes in the status of the compliance program. Written programs shall be submitted upon request for examination and copying to the Assistant Secretary, the Director, affected employees and designated employee representatives. Employees must NEVER use employee rotation as a means of compliance with the TWA and/or excursion limit.

**Respiratory protection.** For employees who use respirators required by this section, Sign Designs, Inc. will provide respirators at no cost to the employee that comply with the requirements of this section. Respirators must be used during:

1. Periods necessary to install or implement feasible engineering and work-practice controls.
2. Work operations, such as maintenance and repair activities, for which engineering and work-practice controls are not feasible.
3. Work operations for which feasible engineering and work- practice controls are not yet sufficient to reduce employee exposure to or below the TWA and/or excursion limit.
4. Emergencies.

**Respirator program.** Sign Designs, Inc. requires employees to comply with the Respirator section of this program. Sign Designs, Inc. will provide a tight-fitting, powered, air- purifying respirator instead of any negative-pressure respirator specified in Table 1 of this section when an employee chooses to use this type of respirator and the respirator provides adequate protection to the employee.

No employee may engage in tasks requiring the use of respirators if, based on their most recent medical examination, the examining physician determines that the employee will be unable to function normally using a respirator, or that the safety or health of the employee or other employees will be impaired by the use of a respirator. Such employees must be assigned to another job or given the opportunity to transfer to a different position, the duties of which they can perform. If such a transfer position is available, the position must be with the same employer, in the same geographical area, and with the same seniority, status, and rate of pay the employee had just prior to such transfer.

**Respirator selection.** Sign Designs, Inc. must select and provide the appropriate respirator, from the following table.

**Table 1 - Respiratory Protection for Asbestos Fibers**

Airborne Concentration of Asbestos or Condition of Use	Required Respirator
Not in excess of 1 f/cc (10 x PEL)	Half-mask air purifying respirator other than disposable respirator, equipped with high efficiency filters.
Not in excess of 5 f/cc (50 x PEL)	Full facepiece air-purifying respirator equipped with high efficiency filters
Not in excess of 10 f/cc (100 x PEL)	Any powered air-purifying respirator equipped with high efficiency filters or any supplied air respirator operated in continuous flow mode.
Not in excess of 100 f/cc (1,000 x PEL)	Full facepiece supplied air respirator operated in pressure demand mode
Greater than 100 f/cc (1,000 x PEL) or unknown concentration	Full facepiece supplied air respirator operated in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus

Respirators assigned for high environmental concentrations may be used at lower concentrations, or when required respirator use is independent of concentration.

A high efficiency filter means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers in diameter or larger.

Employees wearing negative pressure respirators shall have either quantitative or qualitative fit tests. The qualitative fit test may be used only for testing the fit of a half mask. The production supervisor is responsible to assure these tests are completed. See the Respirator section of this program for further information regarding fit testing and respirator limitations.

**Protective work clothing and equipment.** If an employee is exposed to asbestos above the TWA and/or excursion limit, or where the possibility of eye irritation exists, Sign Designs, Inc. will provide at no cost to the employee and ensure that the employee uses appropriate protective work clothing and equipment such as, but not limited to:

1. Coveralls or similar full-body work clothing.
2. Gloves, head coverings, and foot coverings.
3. Face shields, vented goggles, or other appropriate protective equipment.

**Removal and storage.** Employees must remove work clothing contaminated with asbestos only in change rooms provided. Employee may not take contaminated work clothing out of the change room, except those employees authorized to do so for the purpose of laundering, maintenance, or disposal.

**Installation and service clean-up.** Employees engaged in housekeeping activities in industrial facilities with asbestos product manufacturing operations, and in public and commercial buildings with installed

asbestos containing materials may be exposed to asbestos fibers. Most of these workers are covered by this general industry standard, with the exception of state or local governmental employees in non-state plan states. It should be noted that employees who perform housekeeping activities during and after construction activities are covered by the asbestos construction standard, 29 CFR 1926.1101, formerly 1926.58. However, housekeeping employees, regardless of industry designation, should know whether building components they maintain may expose them to asbestos. The same hazard communication provisions will protect employees who perform housekeeping operations in all three asbestos standards; general industry, construction, and shipyard employment. As noted in the construction standard, building owners are often the only and/or best source of information concerning the presence of previously installed asbestos containing building materials. Therefore they, along with employers of potentially exposed employees, are assigned specific information conveying and retention duties under this section.

**Warning signs.** Warning signs shall be provided and displayed at each regulated area. In addition, warning signs shall be posted at all approaches to regulated areas so that an employee may read the signs and take necessary protective steps before entering the area. Always abide by an asbestos warning sign. An employee should NEVER DISTURB ASBESTOS CONTAMINATED MATERIALS.

The warning signs required by this section shall bear the following information:

DANGER  
ASBESTOS  
CANCER AND LUNG DISEASE HAZARD  
AUTHORIZED PERSONNEL ONLY

In addition, where the use of respirators and protective clothing is required in the regulated area under this section, the warning signs shall include the following:

RESPIRATORS AND PROTECTIVE CLOTHING  
ARE REQUIRED IN THIS AREA

The supervisor on site must ensure that employees working in and contiguous to regulated areas comprehend the warning signs required to be posted by this section. Means to ensure employee comprehension may include the use of foreign languages, pictographs and graphics.

**Warning labels.** Warning labels shall be affixed to all raw materials, mixtures, scrap, waste, debris, and other products containing asbestos fibers, or to their containers. When a building owner or employer identifies previously installed ACM and/or PACM, labels or signs shall be affixed or posted so that employees will be notified of what materials contain ACM and/or PACM. The supervisor on site shall attach such labels in areas where they will clearly be noticed by employees who are likely to be exposed, such as at the entrance to mechanical room/areas. Signs required by this section may be posted in lieu of labels so long as they contain information required for labeling.

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The labels shall comply with the requirements of 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard, and shall include the following information:

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