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**29 CFR 1926.1101**

**OSHA's Asbestos Standard  
for the Construction Industry**

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# (a) Scope and Application

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- Covers asbestos exposure in all work as defined in 1910.12(b), regardless of the type of worksite or location
- Based on nature of work operation
- Includes but is not limited to the following where asbestos is present:
  - Demolition or salvage of structures
  - Removal or encapsulation of materials
  - Construction, alteration, repair, maintenance, or renovation
  - Installation of products containing asbestos
  - Spill/emergency clean-up
  - Transportation, disposal, storage, containment and housekeeping activities on the site where construction activities are performed
- Excludes asphalt roof coatings, cements, mastics

## (b) Definitions

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- Asbestos: chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically altered; includes PACM
- ACM: “asbestos-containing material,” any material containing >1% asbestos
- PACM: “presumed asbestos-containing material”
- Surfacing Material: material that is sprayed, troweled-on, or otherwise applied to surfaces
- Thermal System Insulation (TSI): ACM applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain

## **(b) Definitions (cont'd)**

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- Class I Asbestos Work: activities involving the removal of TSI or surfacing ACM and PACM
- Class II Asbestos Work: activities involving the removal of ACM which is not TSI or surfacing material. Examples: removal of asbestos-containing wallboard, floor tile, and roofing shingles
- Class III Asbestos Work: repair and maintenance operations where ACM and/or PACM is likely to be disturbed
- Class IV Asbestos Work: maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, and III activities

## (b) Definitions (cont'd)

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- Building/Facility Owner: the legal entity, including a lessee, which exercises control over management and recordkeeping function relating to a building and/or facility in which activities covered by this standard take place
- Disturbance: activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM
- 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
- Intact: ACM that has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix

# (b) Definitions (cont'd)

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- **Competent Person**

- Complies with 1926.32(f): capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure and has the authority to take prompt corrective action to eliminate them; and
- For Class I and II work: is specially trained in a training course that meets the criteria of EPA's Model Accreditation Plan for supervisors, or its equivalent (40 CFR 763)
- For Class III and IV work: is specially trained including a course meeting EPA requirements for training of local education agency maintenance and custodial staff (40 CFR 763.92(a)(2))

# (c) Permissible Exposure Limits

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- Time-Weighted Average Limit: 0.1 fiber/cubic centimeter as an 8-hour TWA
- Excursion Limit: 1.0 fiber/cubic centimeter as averaged over 30 minutes

## **(d) Multi-Employer Worksites**

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- An employer whose work requires a regulated area shall inform other employers of
  - Nature of such work
  - Existence of and requirements pertaining to regulated areas
  - Measures taken to ensure that employees of other employers are not exposed
- Abatement shall be by the contractor who created or controls the source of contamination



# **(d) Multi-Employer Worksites (cont'd)**

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- All employers of employees exposed shall comply with applicable protective provisions
- All employers of employees working adjacent to regulated areas established by another employer, shall daily ascertain integrity of the enclosure and/or other controls
- All general contractors shall be deemed to exercise general supervisory authority over work covered by this standard and shall ascertain that the asbestos contractor is in compliance

# (e) Regulated Areas

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- Class I, II, and III asbestos work; also all other operations where PEL is or may reasonably be exceeded
- Demarcated in any effective manner; critical barriers or negative pressure enclosures may be used; signs must be provided
- Access limited to persons authorized by the employer or the OSH Act
- Respirators to be provided based on (h)(2)
- No eating, drinking, smoking, chewing tobacco or gum, or application of cosmetics
- Work within regulated areas supervised by competent person



# **(f) Exposure Assessments and Monitoring - General**

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- For each workplace or work operation where monitoring is required
- Breathing zone samples representative of 8-hour TWA and 30-minute Excursion Limit of each employee
- Excursion Limit samples for operations most likely to produce exposures above the Excursion Limit

# (f) Exposure Assessments and Monitoring - Initial Exposure Assessment

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- Assessment by a competent person before or at the initiation of an operation -- so all appropriate control systems can be applied
- Basis:
  - Exposure monitoring if feasible
  - Observations, information, or calculations which indicate employee exposure, including any previous monitoring
  - “Negative Exposure Assessment” required to conclude that exposures are likely to be consistently below the PELs
  - Exposure above the PELs is assumed for Class I work until exposure monitoring documents otherwise, or employer makes a “negative exposure assessment”

# (f) Exposure Assessments and Monitoring - Negative Exposure Assessment

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- An option only for jobs performed by employees who have been trained in compliance with the standard
- Data to demonstrate that employee exposure will be below the PELs must conform to the following types:
  - Objective data that the product, mineral, or activity cannot release airborne fibers in concentrations  $>$  PELs under the most severe conditions
  - Monitoring data obtained within prior 12 months for work operations/conditions that “closely resemble” current operations and were conducted by employees no more trained/experienced than current employees
  - Results of initial exposure monitoring of the current job

# **(f) Exposure Assessments and Monitoring - Periodic Monitoring**

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- For Class I and II work in a regulated area: daily monitoring representative of each employee's exposure unless the employer has a negative exposure assessment for the entire operation
- All other operations: periodic monitoring sufficient to document the exposure
- Exception: employees doing Class I work who are using a control listed in (g)(4)(i), (ii), or (iii) and employees doing Class II work may be equipped with supplied-air respirators operated in the positive-pressure mode in lieu of daily monitoring

# (f) Exposure Assessment and Monitoring - Other

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- If exposures are shown to be below the PELs by a statistically reliable method, monitoring may be discontinued
- Additional monitoring is required whenever a change in process, control equipment, personnel, or work practice may produce exposures above the PELs
- Employees and their designated representatives may observe monitoring
- Employers will notify affected employees of the monitoring results, in writing or by posting





# (g) Methods of Compliance

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- Engineering controls and work practices required regardless of level of exposure
  - Vacuum cleaners with HEPA filters for cleanup
  - Wet methods or wetting agents during handling, mixing, removal, cutting, application, and cleanup, unless infeasible due to creation of other hazards; see (g)(8)(ii) for roofing exceptions
  - Prompt cleanup and disposal of wastes and debris in leak-tight containers

# (g) Methods of Compliance (cont'd)

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- Engineering controls and work practices required to achieve the PELs
  - Local exhaust ventilation with HEPA filter dust collection system
  - Enclosure or isolation of processes producing asbestos dust
  - Ventilation of the regulated area to move air from the employee's breathing zone toward HEPA-filtered collection device or exhaust
  - Other controls that the Assistant Secretary can show to be feasible
  - If the above are not sufficient to reduce employee exposure to or below the PELs, they shall still be used and supplemented with respiratory protection

# (g) Methods of Compliance (cont'd)

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- Prohibitions
  - High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA-filtered exhaust air
  - Compressed air to remove asbestos or ACM except in conjunction with an enclosed ventilation system
  - Dry sweeping, shoveling, or other cleanup of ACM or PACM dust and debris
  - Employee rotation as a means of reducing employee exposure

# (g) Methods of Compliance - Class I Jobs

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- Supervision by a competent person
- Critical barriers over all openings to regulated area, or another barrier or isolation method which prevents the migration of airborne asbestos from the regulated area
  - For Class I jobs involving the removal of >25 linear or 10 square feet of TSI or surfacing material
  - For all other Class I jobs where there is no negative exposure assessment
  - For Class I jobs where employees are working in areas adjacent to the regulated area

# **(g) Methods of Compliance - Class I Jobs (cont'd)**

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- Isolation of HVAC systems in regulated area (double layer of 6 mil plastic or equivalent)
- Impermeable dropcloths on surfaces beneath removal activity
- Covering all objects within regulated area with impermeable materials
- Where employer cannot produce a negative exposure assessment, or where PEL is exceeded, ventilation of the regulated area to move air from the employee's breathing zone toward HEPA-filtered collection device

# **(g) Methods of Compliance - Class I Jobs (cont'd)**

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- One or more of the following specific control methods shall be used for Class I work:
  - Negative Pressure Enclosure (NPE) Systems, where the configuration of the work area does not make erection feasible
  - Glove Bag Systems, for removal of PACM and/or ACM from straight runs of piping, elbows, and other connections
  - Negative Pressure Glove Bag Systems, for removal of ACM or PACM from piping
  - Negative Pressure Glove Box Systems, for removal of ACM or PACM from pipe runs
  - Water Spray Process System, for removal of ACM and PACM from cold line piping, where employees have completed a separate 40-hour training course in its use

# **(g) Methods of Compliance - Class I Jobs (cont'd)**

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- A small walk-in enclosure accommodating no more than 2 persons, if the project can be completely contained in the enclosure
- Alternative control methods that comply with the following:
  - Keep airborne asbestos dust from entering the breathing zone of employees
  - Are evaluated and certified by a CIH or licensed PE (or by a competent person if the material to be removed is < or = 25 linear or 10 square feet)
  - Have the required evaluation/certification by a CIH/PE sent to the national OSHA Office of Technical Support



# (g) Methods of Compliance - Class II Jobs

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- Supervision by a competent person
- Critical barriers over all openings to regulated area, or another barrier or isolation method which prevents the migration of airborne asbestos from the regulated area
  - For all Class II jobs where there is no negative exposure assessment
  - For Class II jobs where there may be exposure above the PELs
  - For Class II jobs where the employer does not remove the ACM in a substantially intact state
- Impermeable dropcloths on surfaces beneath removal activity

# (g) Methods of Compliance - Class II Jobs (cont'd)

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- Additional specific controls are listed for various types of Class II work
  - Removal of vinyl and asphalt flooring materials which contain ACM or for which in buildings constructed no later than 1980, the employer has not verified the absence of ACM
  - Removal of roofing material which contains ACM
  - Removal of cementitious asbestos-containing siding and shingles or transite panels containing ACM
  - Removal of gaskets containing ACM
  - Performing any other Class II removal of asbestos-containing material
  - Installation, removal, or repair of intact bituminous/resinous encapsulated roof flashings and asphaltic pipeline wraps

# **(g) Methods of Compliance - Class II Jobs (cont'd)**

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- Class I methods may also be used for Class II work, except that glove bags and glove boxes are allowed if they fully enclose the Class II material to be removed
- Alternative controls may be used if they comply with the following:
  - Data representing employee exposure during the use of such controls indicate exposure will not exceed the PELs
  - A competent person evaluates and certifies such controls

# (g) Methods of Compliance - Class III Jobs

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- Performed using wet methods
- Performed using local exhaust ventilation, to the extent feasible
- Where drilling, cutting, abrading, sanding, chipping, breaking, or sawing TSI or surfacing material, performed using impermeable dropcloths and mini-enclosures or glove bag systems or another isolation method
- Where there is no negative exposure assessment or where the PELs are exceeded, performed using impermeable dropcloths and plastic barriers, or isolation using a control system specified for Class I jobs
- Where: TSI or surfacing material involved, or there is no negative exposure assessment, or PELs are exceeded, employees shall wear respiratory protection according to paragraph (h)

# **(g) Methods of Compliance - Class IV Jobs**

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- Employees performing Class IV work must be trained according to paragraph (k)(9)
- Employees cleaning up debris and waste in a regulated area where respirators are required shall wear respirators according to paragraph (h)
- Waste and debris in areas where friable TSI or surfacing material is accessible shall be assumed to contain asbestos



# (h) Respiratory Protection - General

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- Respirators shall be provided and used for
  - All Class I jobs
  - All Class II jobs where ACM is not removed in a substantially intact state
  - All Class II and III jobs not performed using wet methods; exception: sloped roofs
  - All Class II and III jobs where there is no negative exposure assessment
  - All Class III jobs where TSI or surfacing material ACM or PACM is disturbed
  - All Class IV work in regulated areas where employed performing other work are required to wear respirators
  - All work where PELs are exceeded
  - Emergencies

# (h) Respiratory Protection - Selection

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- Employers shall provide respirators as specified in (d)(3)(i)(A) of 29 CFR 1910.134
- Filtering facepiece respirators may not be used for asbestos
- HEPA filters must be used for powered and non-powered air-purifying respirators
- Tight-fitting, powered air-purifying respirators shall be provided in lieu of any negative-pressure respirator selected according to requirements of this section whenever
  - An employee chooses to use this type of respirator and
  - The respirator will provide adequate protection



# (h) Respiratory Protection - Selection (cont'd)

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- Half-mask air-purifying respirators (other than a filtering facepiece respirator) equipped with high efficiency filters, shall be provided
  - For Class II and III jobs where there is no negative exposure assessment
  - For Class III jobs where TSI or surfacing ACM or PACM is being disturbed
- Tight fitting powered air-purifying respirators or full-facepiece supplied air respirators operated in pressure-demand mode, with HEPA egress cartridges or an auxiliary positive pressure self-contained breathing apparatus, shall be used for Class I work in regulated areas where
  - A negative exposure assessment has not been produced, and
  - Exposure assessment levels are  $<$  or  $=$  1 fiber/cc for an 8-hour TWA

# **(h) Respiratory Protection - Selection (cont'd)**

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- Full-facepiece supplied air respirators operated in the pressure-demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus, shall be provided for Class I work in a regulated area where a negative exposure assessment is not available and exposure assessment levels are  $> 1$  fiber/cc for an 8-hour TWA

# **(h) Respiratory Protection - Respirator Program**

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- Must conform with 1910.134(b) through (d) [except (d)(1)(iii)] and (f) through (m)

# (h) Respiratory Protection – 29 CFR 1910.134

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- (b) Definitions
- (c) Respiratory protection program
- (d) Selection of respirators
  - Except (d)(1)(iii) Identification of respiratory hazards
- (f) Fit testing
- (g) Use of respirators
- (h) Maintenance and care of respirators
- (i) Breathing air quality and use
- (j) Identification of filters, cartridges, and canisters
- (k) Training and information
- (l) Program evaluation
- (k) Recordkeeping

# (i) Protective Clothing

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- Coveralls, head coverings, gloves, and foot coverings are required for
  - Any employee exposed above the PELs
  - Any employee doing work for which a required negative exposure assessment is not produced
  - Any employee performing Class I work involving removal of > 25 linear or 10 square feet of TSI or surfacing ACM or PACM
- Laundering of contaminated clothing must be done so as to prevent exposures > PELs
- Employers must inform launderers of the requirement to prevent release of airborne asbestos > PELs

# **(i) Protective Clothing (cont'd)**

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- Contaminated clothing must be transported in labeled, sealed impermeable bags or containers
- A competent person must examine worksuits at least once per workshift for rips or tears
- Rips/tears must be immediately mended, or the worksuit replaced

# **(j) Hygiene Facilities and Practices - Class I Jobs Involving > 25 Linear or 10 Square Feet of TSI or Surfacing ACM and PACM**

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- Decontamination area must be established adjacent and connected to the regulated area
  - Equipment room
  - Shower area ( adjacent to the equipment room and the clean room, where feasible)
  - Clean change room
- Employees must enter the regulated area through the decontamination area
  - Clean room, through Shower area, to Equipment room
- Employees must exit the regulated area through the decontamination area
  - Equipment room to Shower area to Clean room
- For all Class I work: Lunch areas must be provided in which the airborne asbestos concentration is below the PELs

# **(j) Hygiene Facilities and Practices - Other Class I Jobs, Class II Jobs, and Class III Jobs**

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- The employer must establish an equipment room or area adjacent to the regulated area for the decontamination of employees and equipment
- Employees must enter and exit the regulated area through the equipment room or area



# (j) Hygiene Facilities and Practices - Class IV Jobs

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- Hygiene facilities and practices must match those of employees performing higher classification work within the same regulated area, or
- Decontamination facilities specified for “*Other Class I Jobs, Class II Jobs, and Class III Jobs*” must be provided for employees cleaning up debris and material identified as TSI or surfacing ACM or PACM
- **For all jobs covered under this standard: smoking is not permitted where there is exposure to asbestos**

# (k) Communication of Hazards - Duties of Building and Facility Owners

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- Before work is begun, identify the presence, location, and quantity of ACM/PACM, including
  - All TSI and sprayed on/troweled-on surfacing materials in buildings or substrates constructed no later than 1980
  - All resilient flooring material installed not later than 1980
- Notify the following persons of the presence, location, and quantity of ACM/PACM
  - Prospective employers applying for/bidding for work
  - Employees of the owner who will work in or adjacent to areas containing such materials
  - All employers on multi-employer worksites whose employees will be performing work within or adjacent to areas containing such materials
  - Tenants who will occupy areas containing such materials

# **(k) Communication of Hazards - Duties of Building and Facility Owners (cont'd)**

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- Post signs at entrance to mechanical rooms/areas which employees may reasonably be expected to enter and which contain ACM and/or PACM
- Identify material present, its location, work practices to avoid disturbance
- Post signs or labels on previously installed ACM/PACM to inform employees of which materials are affected

# (k) Communication of Hazards - Duties of Employers

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- Before work, identify the presence, location, and quantity of ACM/PACM
- Before work, inform the following persons of the location and quantity of ACM/PACM and the precautions to be taken to confine airborne asbestos
  - Owners of the building/facility
  - Employees who will perform work and employers of employees who work and/or will be working in adjacent areas

# **(k) Communication of Hazards - Duties of Employers (cont'd)**

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- Within 10 days of completion, inform the building/facility owner and employers of employees who will be working in the area of
  - Current location and quantity of ACM/PACM remaining
  - Final monitoring results, if any
- Within 24 hours of discovering ACM/PACM on a worksite, convey presence, location, and quantity of such newly-discovered materials to
  - Owner
  - Other employers of employees working at the worksite
- Post signs or labels on previously installed ACM/PACM to inform employees of which materials are affected

# **(k) Communication of Hazards - Criteria to Rebut the Designation of PACM**

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- An employer or owner may demonstrate that PACM does not contain asbestos by the following:
  - Having an AHERA inspection
  - Performing tests that demonstrate that the material is not ACM
    - > Collection of bulk samples following requirements of 40 CFR 763.86
    - > Performed by an accredited inspector or CIH
    - > Analysis of samples by persons/laboratories participating in nationally-recognized testing programs or round robin testing program
    - > For flooring materials, a determination by an IH based on recognized analytical techniques
- Data and information must be maintained for as long as they are relied on to rebut the presumption

# (k) Communication of Hazards - Signs

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- Warning signs must be used to demarcate regulated areas
- Wording for signs:



- Additional wording where applicable:
  - RESPIRATORS AND PROTECTIVE CLOTHING ARE  
REQUIRED IN THIS AREA

# (k) Communication of Hazards - Labels

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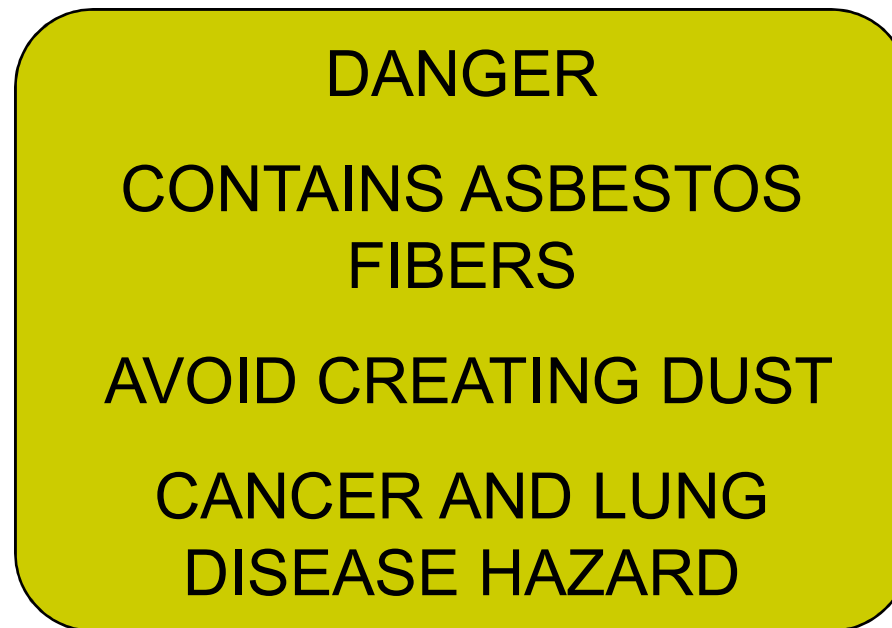
- Labels must be affixed to
  - Products containing asbestos
  - Containers containing such products, including waste containers
  - Installed asbestos products, where feasible, including previously installed material identified as ACM/PACM
- Exemptions from labeling include
  - Products where asbestos fibers have been modified by a bonding agent, coating, binder, or other material, if no concentration of fibers > PELs will be produced during any reasonably foreseeable use, handling, etc.
  - Products where asbestos is < 1.0% by weight
  - Installed materials where signs providing same information are posted



# (k) Communication of Hazards - Labels (cont'd)

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Wording on labels:



Additionally, labels must contain a warning statement against breathing asbestos fibers

# **(k) Communication of Hazards - Employee Information and Training - General**

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- Must be provided prior to or at time of initial assignment and at least annually thereafter
- Must be conducted in a manner that the employee is able to understand

# **(k) Communication of Hazards - Employee Training and Information - Basic Information**

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- All employees covered by the standard must be informed of
  - Methods of recognizing asbestos, including PACM
  - Health effects
  - Relationship between smoking and asbestos in producing lung cancer
  - Operations that could result in exposure and protective measures and their use, as applicable
  - For Class III and IV work, information equivalent to the contents of EPA 20T-2003, “Managing Asbestos In-Place”
  - Purpose, proper use, fitting instructions, and limitations of respirators

# **(k) Employee Information and Training - Basic Information (cont'd)**

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- Appropriate work practices for the job
- Medical surveillance program requirements
- Contents of the standard, including appendices
- Names, addresses, and phone numbers of public health organizations providing information/materials/programs for smoking cessation
- Requirements concerning signs and labels

# **(k) Employee Information and Training - Job Class Specific Requirements**

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- Training for Class I jobs must be equivalent to EPA Model Accreditation Plan asbestos abatement worker training
- Training for Class II work must include “hands-on” training and specific work practices and engineering controls for the category of materials as well as basic information required for all employees
- Training for Class II work with asbestos-containing roofing materials, flooring materials, siding materials, ceiling tiles, or transite panels must be at least 8 hours

# **(k) Employee Information and Training - Job Class Specific Requirements (cont'd)**

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- Training for Class III jobs must be consistent with the EPA training course for local education agency maintenance and custodial workers who will disturb ACM or PACM (40 CFR 763.92(a)(2))
- Must include “hands-on” training and take at least 16 hours
- Exception: If a competent person determines the EPA curriculum is not adequate, training must include the basic information as well as specific applicable work practices and controls and “hands-on “ training

# **(k) Employee Information and Training - Job Class Specific Requirements (cont'd)**

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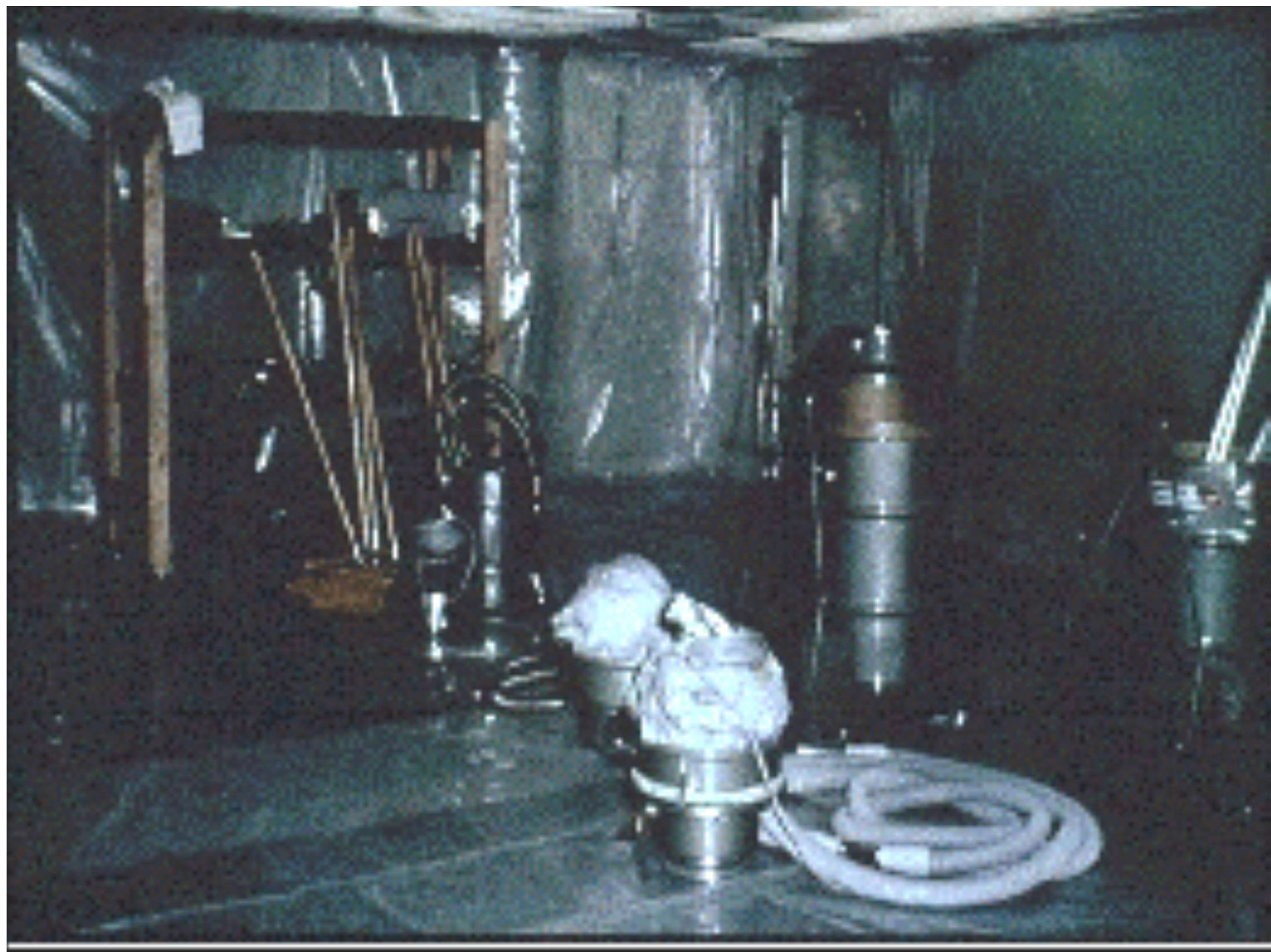
- Training for Class IV jobs must be consistent with the EPA requirements for training local education agency maintenance and custodial workers who contact but do not disturb ACM or PACM (40 CFR 763.92(a)(1))
- Must be at least 2 hours
  - Must include
    - > Location of ACM/PACM, asbestos-containing flooring material, or flooring material where absence of asbestos has not been certified
    - > Instruction in recognition of damage, deterioration, and delamination of asbestos-containing building materials

# **(k) Employee Information and Training - Access**

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- Employer must make available to employees without cost
  - Written materials relating to training program
  - Copy of the Standard
  - NIH Publication No. 89-1647 or equivalent self-help smoking cessation program material
- Employer must provide to OSHA and NIOSH upon request all information and training materials





# (I) Housekeeping

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- Vacuuming
  - HEPA-filtered equipment
  - Used and emptied in a manner that minimizes reentry of asbestos into the workplace
- Asbestos waste and contaminated articles consigned for disposal
  - Collected and disposed of in sealed, labeled, impermeable bags or other containers
- Dust and debris in areas containing accessible TSI or surfacing ACM/PACM or visibly deteriorated ACM
  - No dry sweeping or vacuuming without HEPA filters
  - Prompt cleanup and disposal in leak-tight containers

# (I) Housekeeping (cont'd)

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- Care of asbestos-containing flooring material
  - No sanding
  - Stripping of finish only with low abrasion pads, speed below 300 rpm, and wet methods
  - Burnishing or dry buffing only on flooring with sufficient finish so pad cannot contact flooring material



# (m) Medical Surveillance - General

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- Coverage
  - Employees who for a combined total of 30 or more days/year do Class I, II, and III work, or who are exposed at or above the PELs for a total of 30 days/year
  - Days of Class II or III work where the work is 1 hour or less and other work practices are required by the standard are complied with, do not count in the total Employees
  - Employees who are otherwise required to wear negative pressure respirators by this standard must have this use approved by a physician

# **(m) Medical Surveillance - General (cont'd)**

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- Conduct of examinations
  - By or under the supervision of a licensed physician
  - At no cost to the employee
  - At a reasonable time and place
  - Pulmonary function tests must be administered by a licensed physician or by a person who has completed a training course in spirometry sponsored by an appropriate academic or professional institution

# (m) Medical Examinations and Consultations - Frequency

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- Prior to an assignment to an area where negative-pressure respirators are worn
- Within 10 working days of the 30th day of exposure, within one year, for employees
  - Engaged in Class I, II, and/or III work
- At least annually thereafter
- More frequently when recommended by the physician
- Exception: no examination is required if employee has been examined within past 1-year period

# (m) Medical Examinations and Consultations - Content

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- Medical and work history, with special emphasis directed to the pulmonary, cardiovascular, and gastrointestinal systems
- Standardized questionnaires
  - Initial examination: Appendix D, Part 1
  - Annual examinations: Appendix D, Part 2
- Physical examination directed to the pulmonary and gastrointestinal systems
  - Chest X-ray, at discretion of physician
  - Pulmonary
    - > FVC
    - > FEV(1)
  - Other examinations/tests as ordered by physician



# **(m) Medical Surveillance - Information Provided to Physician**

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- Copy of the standard and Appendices D, E, and I
- Description of employee's duties as they relate to exposure
- Representative exposure level or anticipated exposure level
- Description of any personal protective and respiratory equipment used
- Information from previous medical examinations

# (m) Medical Surveillance - Physician's Written Opinion

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- Contents
  - Results of medical examination
  - Physician's opinion as to whether employee has any medical conditions that would increase risk of impairment from exposure to asbestos
  - Any recommended limitations on the employee or on the use of PPE such as respirators
  - A statement that the physician has informed the employee of the examination results and of any medical conditions that may result from asbestos exposure
  - A statement that the employee has been informed of the increased risk of lung cancer due to smoking and asbestos exposure together

# **(m) Medical Surveillance - Physician's Written Opinion (cont'd)**

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- May not include findings or diagnoses unrelated to occupational exposure to asbestos
- Must be provided by employer to employee within 30 days of receipt

# (n) Recordkeeping - Exposure Measurements

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- Record must include
  - Date of measurement
  - Operation being monitored
  - Sampling and analytical methods used and evidence of their accuracy
  - Number, duration, and results of samples
  - Type of protective devices worn
  - Name, social security number, and exposure of employees whose exposures are represented
- Record must be maintained for at least 30 years
- Employer may have records maintained by industry trade and employee associations

# (n) Recordkeeping - Objective Data

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- Record must include
  - Product qualifying for exemption
  - Source of the objective data
  - Testing protocol, results of testing, and/or analysis of material for the release of asbestos
  - Description of operation exempted and how data support exemption
  - Other data relevant to operations, materials, processing, or employee exposures covered by exemption
- Record must be maintained for duration of reliance upon the objective data

# (n) Recordkeeping - Medical Surveillance

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- Record must include
  - Name and social security number of employee
  - Copy of employee's medical examination results
  - Physician's written opinions
  - Employee medical complaints related to exposure to asbestos
  - Copy of information provided to physician
- Record must be maintained for duration of employment plus 30 years

# (n) Recordkeeping - Other Records

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- Training records
  - Must be maintained for 1 year beyond last date of employment by that employer
- Data to rebut PACM
  - Must be maintained for as long as they are relied upon to rebut presumption
- Records of required notifications
  - Must be maintained by building owner for the duration of ownership and must be transferred to successive owners

# (n) Recordkeeping - Records Availability and Transfer

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- Upon written request, all records are available to OSHA and NIOSH for examination and copying
- Upon request, exposure records are available to employees, former employees, designated representatives, and OSHA for examination and copying
- Upon request, employee medical records are available to the subject employee, anyone having the employee's written consent, and OSHA for examination and copying
- 29 CFR 1910.20(h) governs transfer of records
- When an employer ceases business without a successor employer, the employer must notify NIOSH 90 days before disposal of records and transmit them to NIOSH if requested



## **(o) Competent Person - General**

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“On all construction worksites covered by this standard, the employer shall designate a competent person, having the qualifications and authorities for ensuring worker safety and health required by Subpart C, General Safety and Health Provisions for Construction (29 CFR 1926.20 through 1926.32).”

# (o) Competent Person - Frequency of Inspections

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- Required inspections - frequent and regular inspections of job sites, materials, and equipment
- Additional inspections
  - Class I jobs
    - At least once during each work shift
    - At any time at employee request
  - Class II, III, and IV jobs
    - At intervals sufficient to assess whether conditions have changed
    - At any reasonable time at employee request

# (o) Competent Person - Duties

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- For Class I or II jobs, the competent person must perform or supervise
  - Set up of regulated area, enclosure, or other containment
  - Ensuring integrity of enclosure or containment
  - Set up of procedures to control entry to and exit from the enclosure and/or area
  - Supervision of employee exposure monitoring
  - Ensuring that employees working within enclosure and/or using glove bags wear required protective clothing and respirators

## **(o) Competent Person - Duties (cont'd)**

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- Ensuring that employees set up remove/engineering controls, and use work practices and PPE as required
- Ensuring that employees use hygiene facilities and decontamination procedures as required
- Ensuring that engineering controls are functioning properly and employees are using proper work practices
- Ensuring that notification requirements are met

# (o) Competent Person - Training

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- For Class I and II jobs
  - Comprehensive course for supervisors meeting criteria of EPA Model Accredited Plan (40 CFR 763, subpart E, Appendix C) for stringency, content, and length
  - Contents - all aspects of asbestos removal and handling
    - Abatement, installation, removal, and handling
    - Contents of the standard
    - Identification of asbestos
    - Removal procedures
    - Other practices for reducing the hazard

# (o) Competent Person - Training (cont'd)

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- For Class III and IV jobs
  - Contents - aspects of asbestos handling appropriate to the work
    - Procedures for setting up glove bags and mini-enclosures
    - Practices for reducing asbestos exposures
    - Use of wet methods
    - Contents of the standard
    - Identification of asbestos
  - Must include course equivalent in stringency, content, and length to EPA requirements for training local education agency maintenance and custodial workers (40 CFR 763.92(a)(2))

# (p) Appendices

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- **Mandatory**
  - A- OSHA Reference Method
  - C- Qualitative and Quantitative Fit Testing Procedures
  - D- Medical Questionnaires
  - E- Interpretation and Classification of Chest Roentgenograms
- **Non-mandatory**
  - B- Sampling and Analysis
  - F- Work Practices and Engineering Controls for Class I Asbestos Operations
  - H- Substance Technical Information for Asbestos
  - I- Medical Surveillance Guidelines for Asbestos
  - J- Smoking Cessation Program Information for Asbestos
  - K- Polarized Light Microscopy of Asbestos
- **Reserved**
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# (q) Dates

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- October 11, 1994: Effective date
- October 1, 1995: Last start-up date - All provisions now in effect