



Department
of Labor

WORKING FOR YOU

ASBESTOS AWARENESS

PEF H&S CONFERENCE - MAY 12, 2026

APRIL 23, 2026

TOPICS COVERED

- Properties
- Uses
- Health hazards
- Activities resulting in potential exposure
- Regulations
- Where to get help



NOT COVERED

Job specific information regarding:

- Quantities
- Location
- Manner of use
- Engineering controls
- Work practices
- Emergency procedures
- PPE



WHAT IS ASBESTOS?

Asbestos is a group of six naturally occurring, fibrous minerals. The three most used:

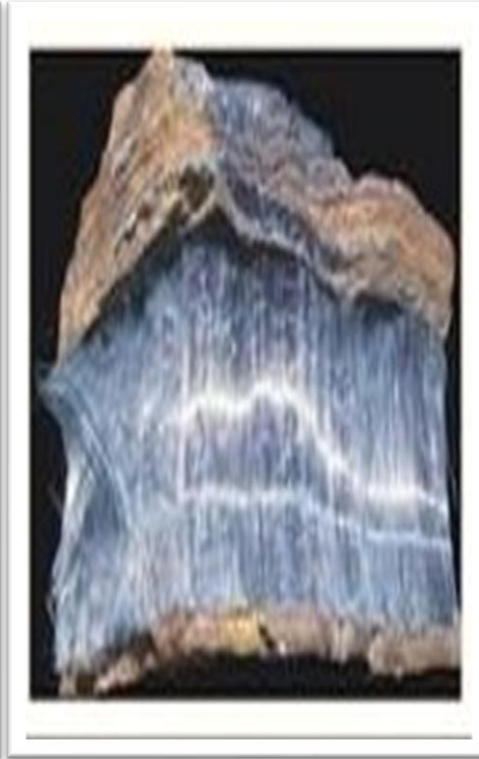
- Chrysotile – Most Common
 - “White Asbestos”
- Amosite
 - “Brown Asbestos”
- Crocidolite
 - “Blue Asbestos”



Chrysotile



Amosite



Crocidolite

PROPERTIES OF ASBESTOS

- Naturally occurring fibrous minerals
- Good tensile strength
- Flexibility
- Heat resistant
- Electrical resistance
- Good insulation
 - Heat resistance
 - Noise reduction
- Chemical resistant



Asbestos Ore



Asbestos
fibers

USES OF ASBESTOS

Asbestos has been used for centuries!

- Egyptians, Greeks & Romans
 - Wrapping Pharaohs & lamp wicks, cloths
- Middle Ages
 - Insulating armor
- Industrial Revolution
 - Insulating boilers, steam pipes, turbines
- 20th Century
 - Not commonly seen in old buildings
 - World War II + next 30 years
 - Insulating, fireproofing, sound-proofing, decorating, strengthening

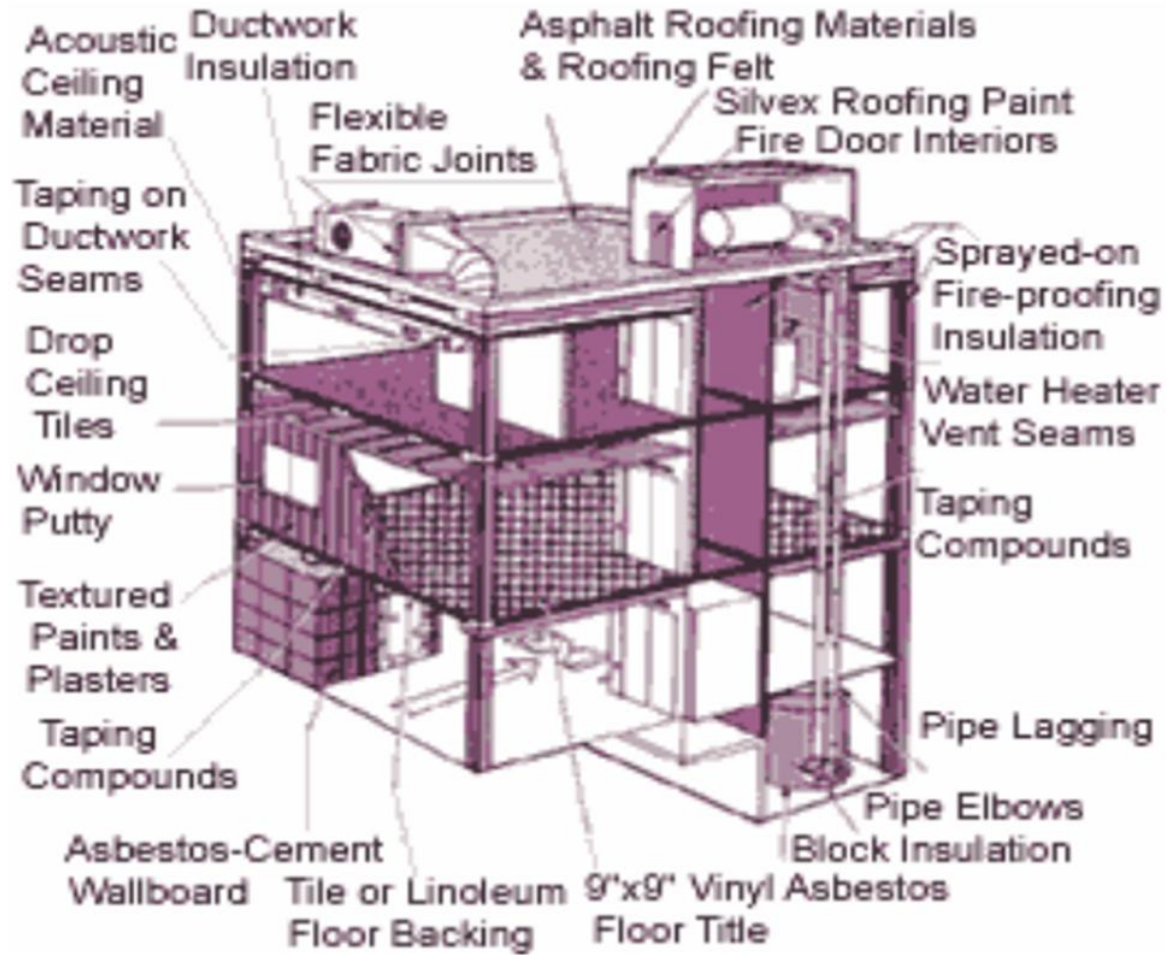


ASBESTOS CONTAINING MATERIAL (ACM)

- Material containing more than 1% asbestos
- Three Categories:
 - **Thermal System Insulation (TSI)**
 - Boiler, pipe, duct insulation
 - **Surfacing Material**
 - Spray or trowel applied materials such as fireproofing and plaster
 - **Miscellaneous Material**
 - Floor and ceiling tiles, roofing, sealants



ASBESTOS CONTAINING MATERIAL (ACM)



PRESUMED ASBESTOS CONTAINING MATERIAL (PACM)



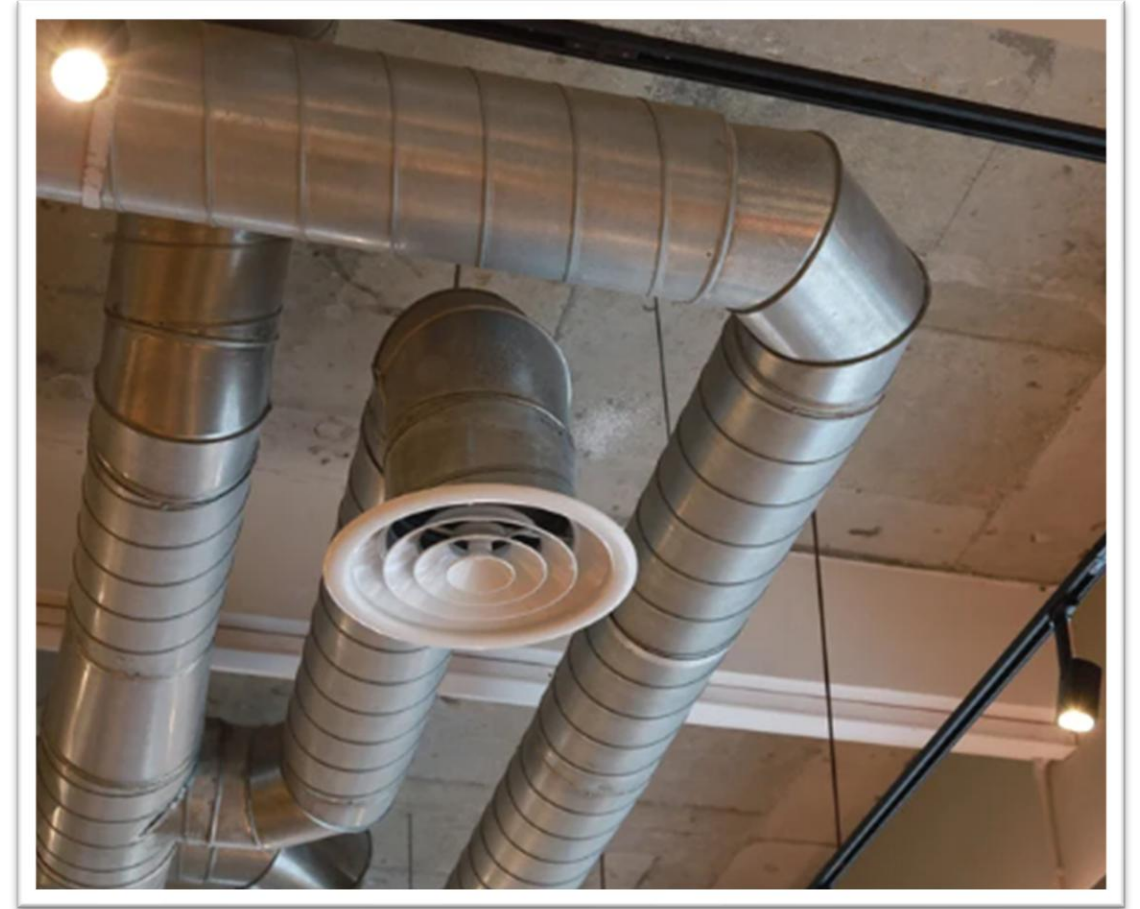
Must be handled as ACM unless proven otherwise

- Many uses of asbestos have been banned under EPA and Consumer Product Safety Commission regulations. However, some materials where asbestos fibers are generally well bound in the materials were not banned.
- Previously installed products still pose a hazard to workers. Asbestos fibers can be released during repair work, demolition, and renovation of older buildings and structures containing ACM.

THERMAL SYSTEM INSULATION



Boiler Insulation



Duct Insulation

TSI – PIPE INSULATION



Various types of lagging, coverings and mudded fittings

SURFACING MATERIAL



Hard Plaster



Sprayed-On Fireproofing



Acoustic Plaster

MISCELLANEOUS MATERIALS



Floor tile and mastic



Linoleum

CEILING TILES



Usually white and in 1' x 1', 2' x 2', or 2' x 4' sizes

DRYWALL AND JOINT COMPOUND



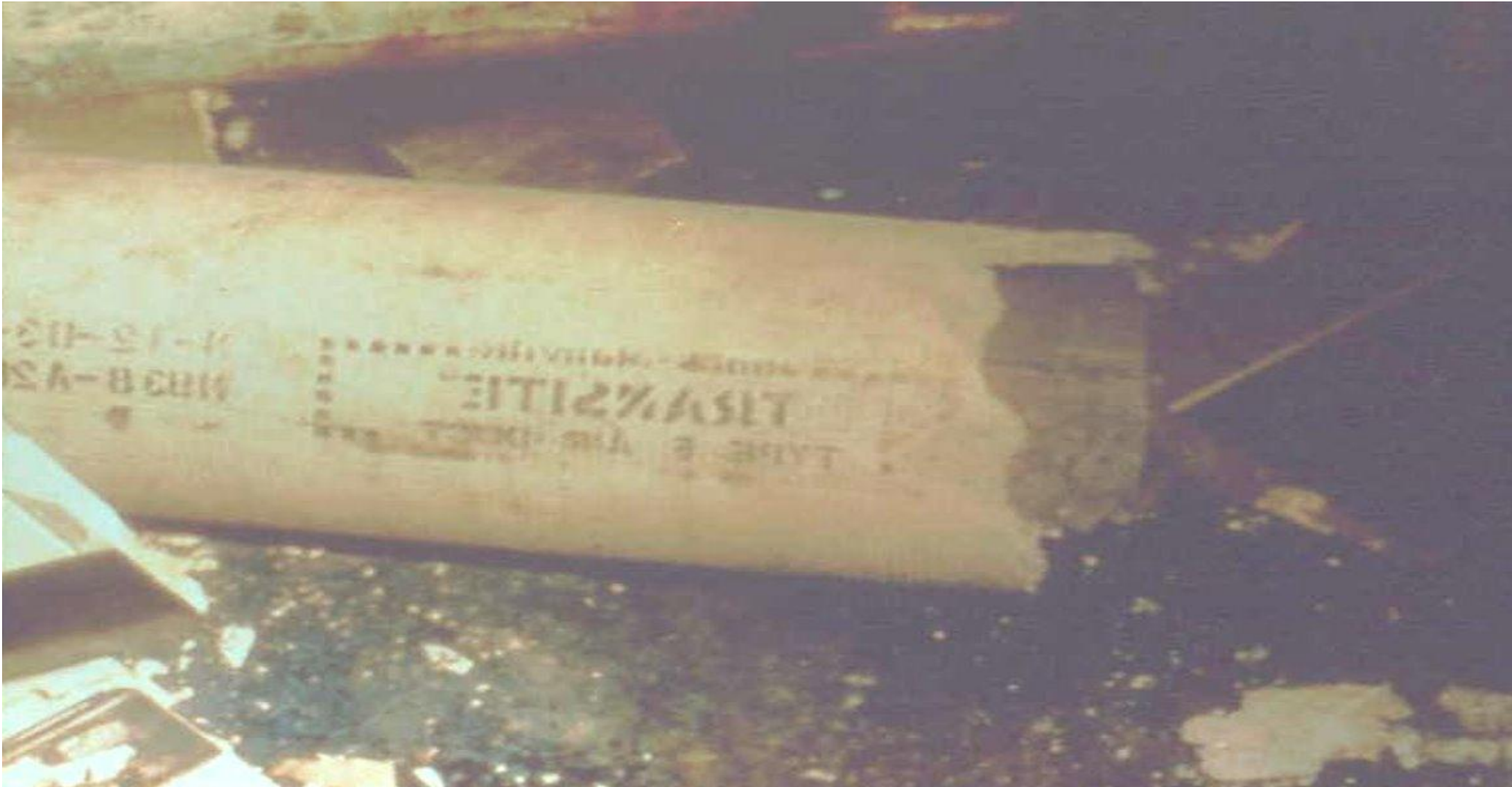
TRANSITE SIDING AND BOARD



ASBESTOS ROOFING MATERIAL



CEMENT-ASBESTOS PIPE (TRANSITE)



ASBESTOS IN GASKETS AND FABRICS



Rope Type Gasket



Flexible Duct
Connector



Damaged flange gasket

SEALANTS

- Glazing Compound
- Caulking
- Construction Adhesives



VERMICULITE – SOME PRODUCTS CONTAINED ASBESTOS



Blown-in Vermiculite insulation in attics



ABSESTOS CONTAINING MATERIALS

(This list does not include every product/material that may contain asbestos. It is intended as a general guide to show which types of materials may contain asbestos.)

- Cement Pipes – water mains
- Cement Wallboard
- Cement Siding
- Asphalt Floor Tile
- Vinyl Floor Tile
- Vinyl Sheet Flooring
- Flooring Backing
- Construction Mastics (floor tile, carpet, ceiling tile, etc.)
- Acoustical Plaster
- Decorative Plaster
- Textured Paints/Coatings
- Ceiling Tiles and Lay-in Panels
- Spray-Applied Insulation
- Blown-in Insulation
- Fireproofing Materials
- Taping Compounds (thermal)
- Packing Materials (for wall/floor penetrations)
- High Temperature Gaskets
- Laboratory Hoods/Tabletops
- Laboratory Gloves
- Fire Blankets
- Fire Curtains

ASBESTOS CONTAINING MATERIALS

- Elevator Equipment Panels
- Elevator Brake Shoes
- HVAC Duct Insulation
- Boiler Insulation
- Breaching Insulation
- Ductwork Flexible Fabric Connections
- Cooling Towers
- Pipe Insulation (corrugated air-cell, block, etc.)
- Heating and Electrical Ducts
- Electrical Panel Partitions
- Electrical Cloth
- Electric Wiring Insulation
- Chalkboards
- Roofing Shingles
- Roofing Felt
- Base Flashing
- Thermal Paper Products
- Fire Doors
- Caulking/Putties
- Adhesives
- Wallboard
- Joint Compounds
- Vinyl Wall Coverings
- Spackling Compounds

EXPOSURE OVERVIEW

- 1.3 million workers exposed in the U.S.
- Construction Industry
 - Renovation, demolition heaviest exposures

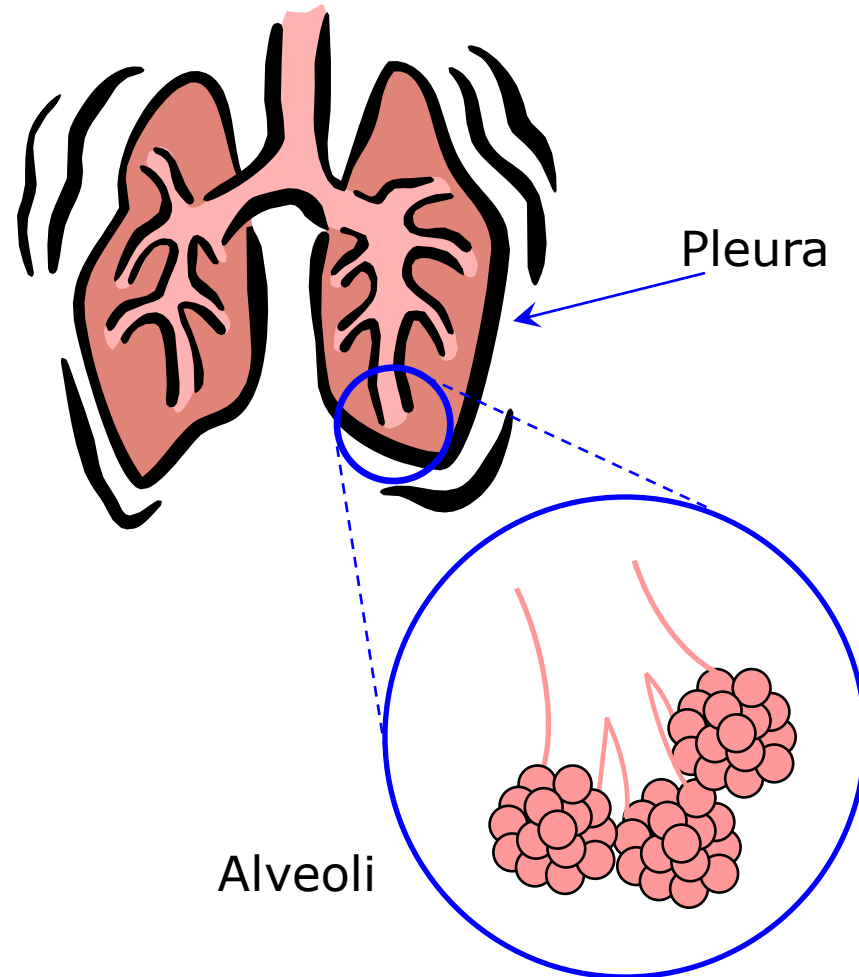


- General Industry
 - Manufacture of asbestos products
 - Automotive brake and clutch repair (now mostly on old equipment)
 - Housekeeping, custodial

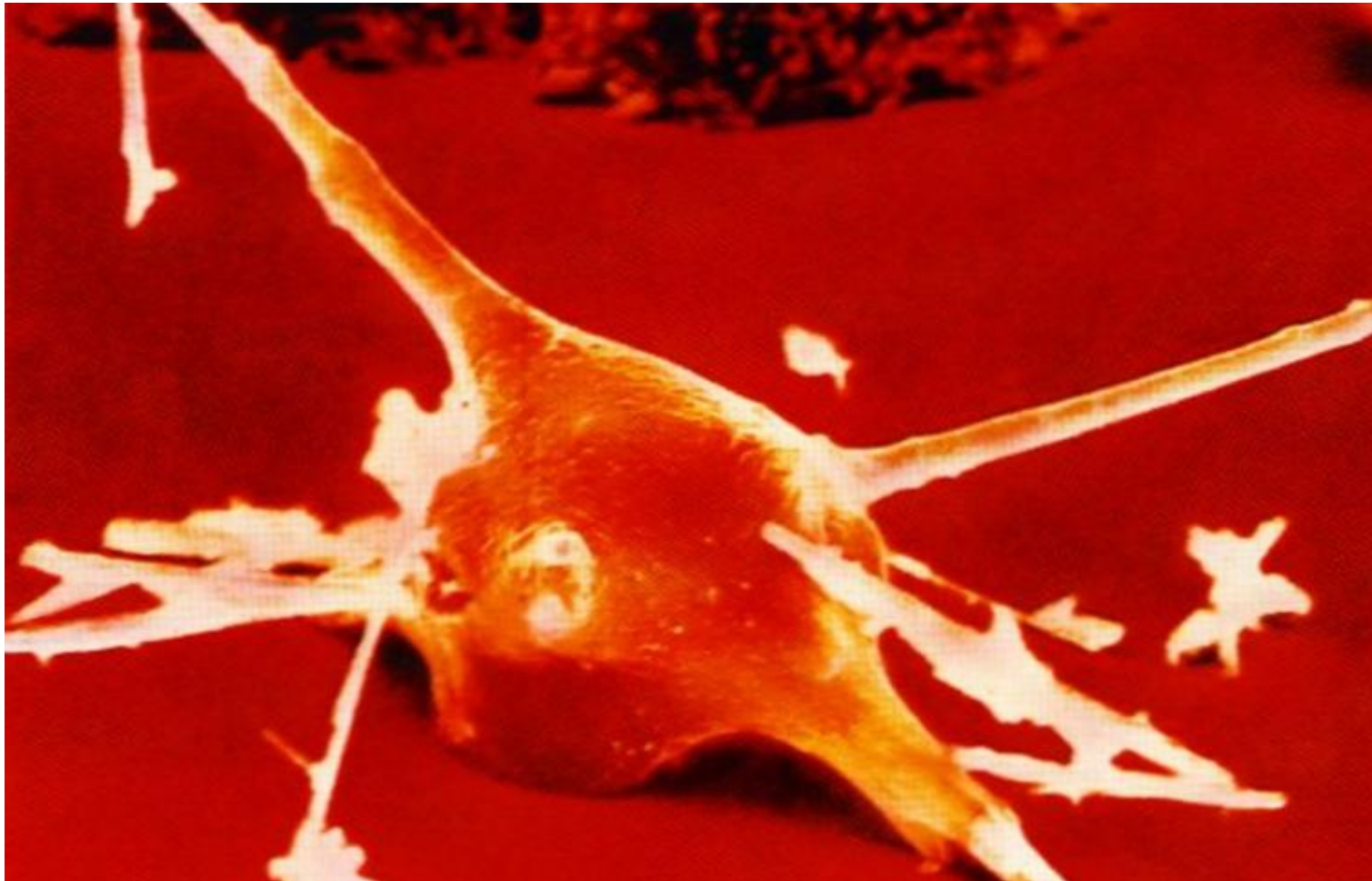
Asbestos is an Inhalation Hazard

Airborne asbestos fibers inhaled deep into the lung can cause damage. (Aspect Ratio 3:1)

- Breathable fibers are deposited in the alveoli, the ending small air sacs in the lungs.
- Body's defense mechanisms cannot break down the fibers.
- Fibers cause damage to & scarring in the respiratory system.
- Fibers may also travel to the pleura, the membrane lining the lungs.



BODY DEFENSE MECHANISMS



Asbestos fibers are engulfed by a macrophage which will probably die form is indigestible meal.

Asbestos-related Diseases

Asbestos can cause disabling respiratory disease, cancer, and eventually death.

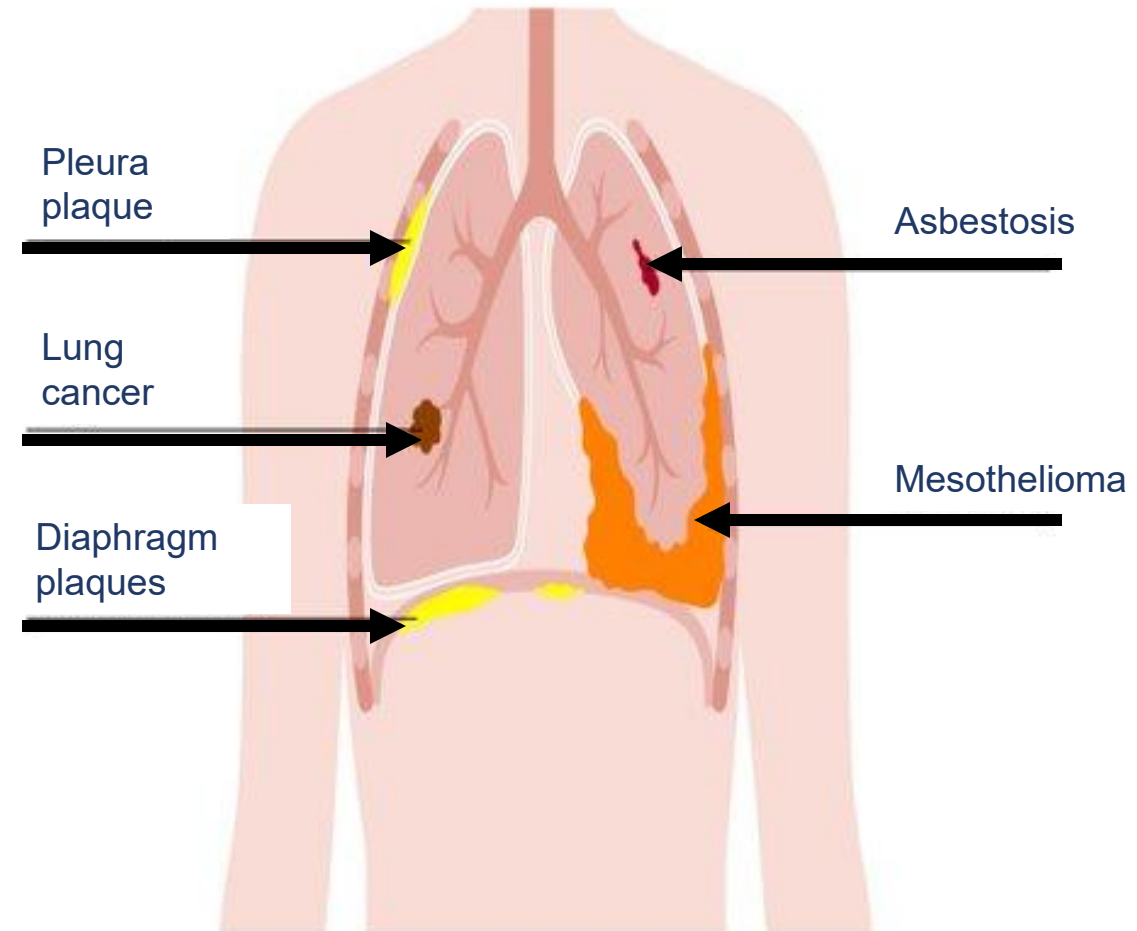
- Asbestosis
- Mesothelioma
- Lung Cancer
- Other cancers

- Usually symptoms take 15 to 30 years or more to develop.
- Health effects from asbestos exposure may continue to progress even after exposure is stopped.

ASBESTOSIS

Asbestosis is a serious chronic, progressive disease that can eventually lead to disability or death in people exposed to high amounts of asbestos over a long period. Asbestos fibers cause the lung tissues to scar; when the scarring spreads, it becomes harder and harder to breathe. Symptoms include shortness of breath, a dry crackling sound in the lungs while inhaling, coughing, and chest pain. This condition is permanent and there is no effective treatment.

Asbestosis-related diseases



ASBESTOSIS EXAMPLE



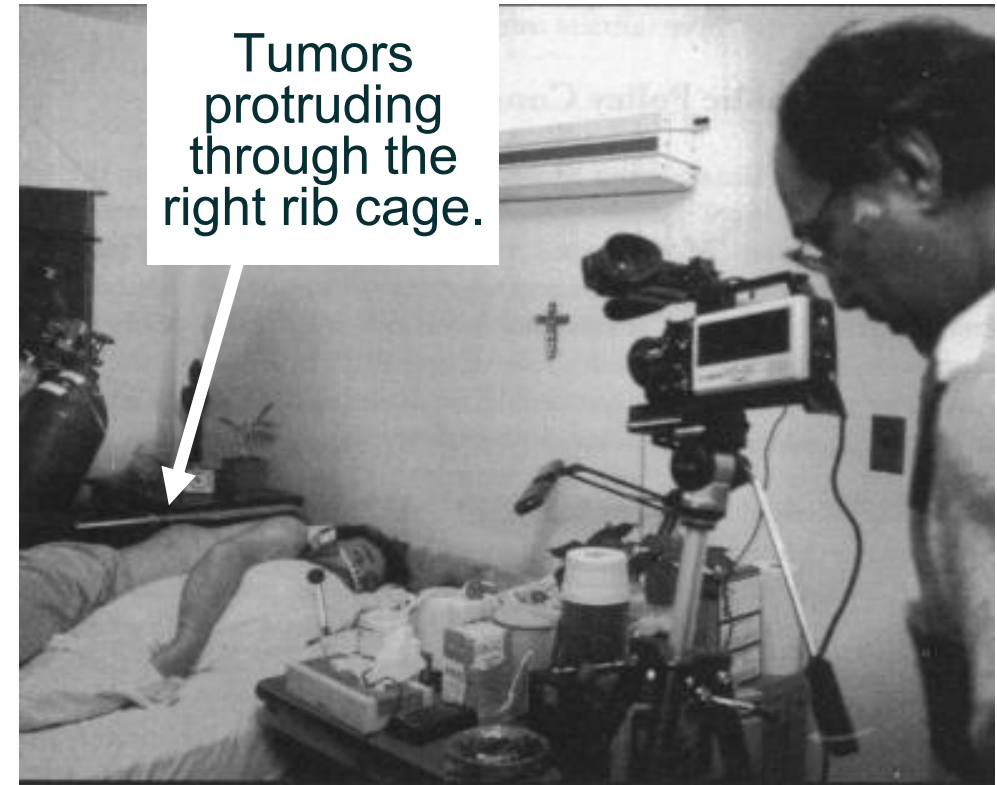
Joe Darabant, 1949, covered with chrysotile asbestos fibers. Worked for 30+ years at the Johns-Manville Plant in New Jersey, cutting asbestos shingles and making asbestos block and pipe-covering materials.



Joe, 1989. Forced to retire in 1974 at age 50 from poor health; he died from asbestosis in 1990 at age 66.

MESOTHELIOMA EXAMPLE

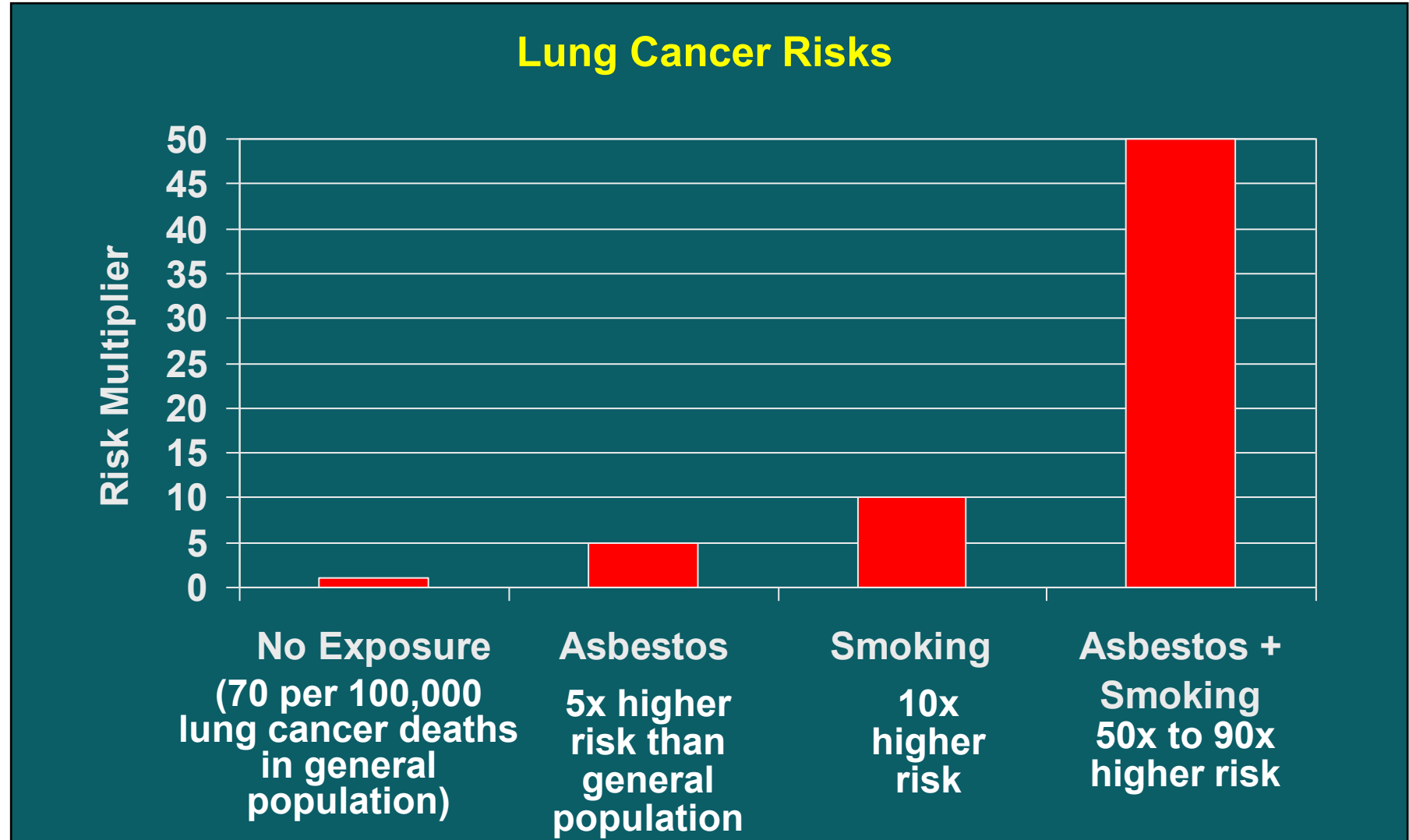
- Mesothelioma is a rare form of cancer of the pleura, the thin membrane lining the lungs. About 200 cases are diagnosed each year in the U.S. Virtually all cases are linked with asbestos exposure.
- The cancer is very invasive and spreads quickly, eventually crushing the lungs so that the patient cannot breathe. It is painful and always fatal. It can be caused by very low exposure and is not directly related to dose. May take 30-40 years to develop.



Richard Pankowski, 1986. Diagnosed in 1985 with pleural mesothelioma; died 5 months later at age 36. In college, he worked for less than a year at the Manville Plant in N.J. Father also worked at the plant 30+ years and died from asbestosis. Richard's exposure may have begun when he was a child.

LUNG CANCER

Lung cancer causes the largest number of deaths from asbestos exposure. The risk greatly increases in workers who smoke: **50:1**



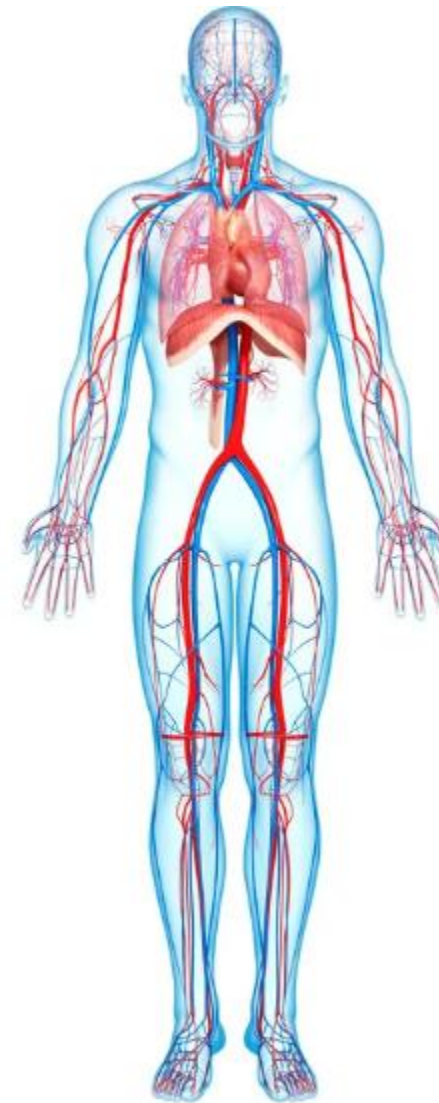
SMOKING CESSATION PROGRAMS

- Organizations that may offer programs, support, or information to help people stop smoking are:
- NYSDOH Hotline 1-866-697-8487
- National Cancer Institute (1-800-4-CANCER)
- American Heart Association (1-800-242-8721)
- American Lung Association
<http://www.lungusa.org/stop-smoking/how-to-quit/getting-help/>

OTHER CANCERS

Evidence suggests that ingesting asbestos can cause cancers in the:

- Esophagus
 - Larynx
 - Oral cavity
 - Stomach
 - Colon
 - Kidney
-
- Fibers can enter the mouth and be swallowed.
 - Poor hygiene, leaving food/drinks out in contaminated areas, and carelessness can result in the ingestion of asbestos.
 - Smoking, eating & drinking in asbestos change rooms



Inorganic Chemicals

Contaminant	MCLG ¹ (mg/L) ²	MCL or TT ¹ (mg/L) ²	Potential Health Effects from Ingestion of Water	Sources of Contaminant in Drinking Water
Antimony	0.006	0.006	Increase in blood cholesterol; decrease in blood sugar	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	0 ²	0.010 as of 01/23/06	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer	Erosion of natural deposits; runoff from orchards, runoff from glass & electronics production wastes
Asbestos (fiber >10 micrometers)	7 million fibers per liter	7 MFL	Increased risk of developing benign intestinal polyps	Decay of asbestos cement in water mains; erosion of natural deposits
Barium	2	2	Increase in blood pressure	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium	0.004	0.004	Intestinal lesions	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium	0.005	0.005	Kidney damage	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium (total)	0.1	0.1	Allergic dermatitis	Discharge from steel and pulp mills; erosion of natural deposits
Copper	1.3	TT ³ ; Action Level=1.3	Short term exposure: Gastrointestinal distress Long term exposure: Liver or kidney damage	Corrosion of household plumbing systems; erosion of natural deposits

ASBESTOS-RELATED DISEASES

The potential for asbestos–related disease depends on:

- Amount of fibers inhaled
- Length of exposure
- Whether exposed worker smokes
- Age

Don't smoke! An asbestos worker is at much greater risk of developing lung cancer if he/she smokes.



HOW DO ASBESTOS FIBERS GET IN THE AIR?

Physical disturbance of asbestos-containing materials (ACM) suspends fibers in the air.

- Friable: can be easily crumbled or crushed by hand, releasing fibers into the air
- Very small fibers stay in the air for long periods
- Damaged or deteriorated ACM increases friability

Non-friable ACM (floor and ceiling tiles, siding, fire doors, etc.) won't release fibers unless disturbed or damaged in some way.



Friable Asbestos

Asbestos is most hazardous when it is "FRIABLE".

HOW DO ASBESTOS FIBERS GET IN THE AIR?

Activities and situations that can result in workers inhaling asbestos fibers:

- Mechanical action on ACM (cutting, sawing, grinding, sanding, drilling, buffing)
- Disturbing/breaking ceiling tiles
- Removing/replacing insulation
- Disturbing sprayed-on asbestos
- Damaged/deteriorated ACM
- Asbestos abatement project
- Un-surveyed construction projects on older buildings



RECOGNITION OF DAMAGE



NYSDOL ASBESTOS REGULATIONS

- 12 NYCRR 56 – Industrial Code Rule 56
 - Licensing & certification for
 - contractors
 - workers
- PESH Asbestos General Industry 29 CFR 1910.1001
- PESH Asbestos Construction 29 CFR 1926.1101



INDUSTRIAL CODE RULE 56

- Amended 1/11/2006
- Purpose - Protection of Public Safety
- Licensing & Certification
- **Survey required prior to demolition, renovation, remodeling or repair work**
- Air Sampling, Preparation, Abatement & Clearance Procedures



CODE RULE 56 ASBESTOS SURVEY

- Responsibility of Owner or Owner's Agent
- Exemptions:
 - Agricultural buildings
 - Buildings constructed on or after 1/1/74
 - Certified structurally unsound
- Performed by certified asbestos inspector
- Includes review of plans/records, visual inspection & bulk sampling



ENVIRONMENTAL REGULATIONS (EPA)

A wooden gavel with a handle and a head, resting on a wooden block on a grassy surface. The gavel is positioned diagonally across the frame, with the head on the right and the handle extending towards the left. The background is a lush green lawn with some dry grass patches.

- **AHERA** (Asbestos Hazard Emergency Response Act)
- **NESHAPS** (National Emission Standards for Hazardous Air Pollutants)
- For more information: <http://www.epa.gov/>

AHERA COMPLIANCE

- Conduct an initial inspection to determine presence of ACM.
- Re-inspect ACM every three years.
- Develop, maintain, and update an asbestos management plan.
- Provide yearly notification to parent, teacher, and employee organizations:
 - Availability of management plan
 - Any asbestos-related actions taken or planned



ASBESTOS MANAGEMENT PLAN

- Document the recommended asbestos response actions
- Identify the location(s) of the asbestos within the school
- Any action taken to repair and remove the material
- Designated person contact info



AHERA COMPLIANCE

- Designated contact person to ensure proper implementation
- Periodic surveillance of known or suspected ACM
- Ensure that trained and licensed professionals perform inspections and take response actions
- Asbestos awareness training for custodial staff



BUILDING/FACILITY OWNER RESPONSIBILITIES: 29 CFR 1926.1101 AND 1910.1001

- Determine presence, location, and quantity of ACM/PACM
- Inform employers, employees, and others who may be impacted
- Have an inspection done before starting any bidding or construction/maintenance work
- Permit only certified individuals to perform work that may release asbestos fibers into the air

GENERAL PESH & OSHA ASBESTOS REQUIREMENTS

- Exposure Monitoring
- Regulated Areas
- Engineering Controls & Work Practices
- Respiratory Protection
- Protective Clothing
- Hygiene Facilities
- Communication of Hazards
- Housekeeping
- Medical Surveillance



NEGATIVE EXPOSURE ASSESSMENT

- Objective data for product or material
- Past monitoring for closely resembling work
- Initial monitoring of current job

DANGER ASBESTOS DUST HAZARD

PERMISSIBLE EXPOSURE LIMITS

- 8-hour Time Weighted Average (TWA) 0.1 f/cc
- 30-Minute Excursion 1 f/cc
- Representative personal air samples in breathing zone
- Initial and periodic
- (0.01 f/cc for Code Rule 56)



REGULATED AREAS

- Class I, II and III Work
- Class IV when PEL exceeded
- Demarcate
- Restrict Access
- Prohibited Activities



COMMUNICATION OF HAZARDS

- Warning Signs
 - Regulated areas
 - Visible before entering
- Warning Labels
 - Attached to all products and their containers
- Notifications



New York State Department of Labor
 Division of Safety and Health
 Asbestos Project Notification
 Building 12, Room 161B
 State Office Campus
 Albany, NY 12240
 (518) 485-9263

Asbestos Project Notification

To file an asbestos project notification

Who must provide asbestos project notification

If the asbestos removal project is:

- located within New York State
 - involves more than 260 linear feet or 160 square feet of asbestos or asbestos-containing material in a building
- you must notify the Asbestos Control Board before starting work on the removal, encapsulation, enclosure or disturbance of friable asbestos, or before handling material containing asbestos that may result in the release of asbestos fiber.

		Method of notifying		
		Written	Phone	
Type of notification	Initial	At least 10 calendar days prior to project start date	Does not apply	
	Renewal	Within the last 30 days of a project that will extend beyond 12 months	Does not apply	
	Amended	Postponed	At least 3 calendar days prior to new start date <u>and</u> at least 1 calendar day prior to initial notification start date	At least 1 calendar day prior to initial notification start date
		Cancelled	At least 1 calendar day prior to initial notification start date	At least 1 calendar day prior to initial notification start date
	Note: Amended phone notification requires written follow-up within 5 working days. You cannot change the completion date beyond one year from the start date.			
Emergency	Within 3 working days of telephone notification and approval of emergency status by the Asbestos Control Bureau	As emergency situation arises		

When to file a notification

You must send a new notification and project fee if any of the following occur:

- A different contractor becomes responsible for the project (excluding sub-contractors)
- The location of the project changes
- The completion date on the initial notification has passed and no amendment has been filed

For a postponed project with an unknown starting date, you must file an amendment within the period specified above. Once a starting date is determined, you must file another amendment at least 3 calendar days prior to that date.

If any of the information contained in the previous notification changes, you must send an amended Asbestos Project Notification form. If the amount of asbestos increases, you must send an additional fee with the amended notification.

How to file a notification

- Send the completed, signed form to:
 New York State Department of Labor
 Division of Safety and Health, Asbestos Project Notification
 Building 12, Room 161B
 State Office Campus
 Albany, NY 12240
- Keep a copy for your records
- Include a check or money order, payable to the Commissioner of Labor, for the fee due based on the project size as shown in item 19. The notification is not complete until the non-refundable fee is received by the Department of Labor.

For additional information see Part 56, Title 12 of the Official Compilation of Codes, Rules and Regulations of the State of New York (12 NYCRR Part 56). You can see a copy on line at www.labor.ny.gov.

EXPOSURE CONTROL

Asbestos exposure must be controlled by one or more of the following engineering and work practices:

- Local exhaust ventilation with HEPA filter system
- HEPA-filtered vacuums
- Enclosure, isolation
- Wet methods
- Prompt disposal
- Housekeeping



Glovebag Method



HEPA vacuum units

HEPA filter = high efficiency particulate air filter (99.97%)

ASBESTOS WORK CLASSES

- Class I - Removal of TSI and surfacing ACM and PACM.
- Class II - Removal of ACM which is not TSI or surfacing material.
- Class III - Repair and maintenance operations, where ACM is likely to be disturbed.
- Class IV - 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.

INDOOR ABATEMENT



OUTDOOR ABATEMENT



RESPIRATORY PROTECTION REQUIRED

- Class I Work
- Class II not removed substantially intact
- Class II and III not done wet
- Class II and III without NEA
- Class III when TSI or Surfacing material disturbed
- Class IV in regulated areas
- Operations where exposure exceeds PELs
- Emergencies



TABLE 1. ASSIGNED PROTECTION FACTORS⁵

Type of respirator ^{1, 2}	Quarter mask	Half mask	Full facepiece	Helmet/ hood	Loose-fitting facepiece
1. Air-Purifying Respirator	5	³ 10	50	.....	.....
2. Powered Air-Purifying Respirator (PAPR)	.....	50	1,000	⁴ 25/1,000	25
3. Supplied-Air Respirator (SAR) or Airline Respirator					
• Demand mode	.....	10	50	.....	.....
• Continuous flow mode	.....	50	1,000	⁴ 25/1,000	25
• Pressure-demand or other positive-pressure mode	.....	50	1,000	.....	.....
4. Self-Contained Breathing Apparatus (SCBA)					
• Demand mode	.....	10	50	50	.....
• Pressure-demand or other positive-pressure mode (e.g., open/closed circuit)	.....	.....	10,000	10,000	.....

1926.1101(h)(3)(i)(A) Employers must not select or use filtering facepiece respirators for use against asbestos fibers.

HYGIENE FACILITY (DECONTAMINATION UNIT)



FLOORING CONTAINING ASBESTOS

- Sanding prohibited
- Stripping
 - Low abrasion pad
 - Speed <300 rpm, and
 - Wet methods
- Burnishing/dry buffing
 - Only when sufficient finish prevents direct contact



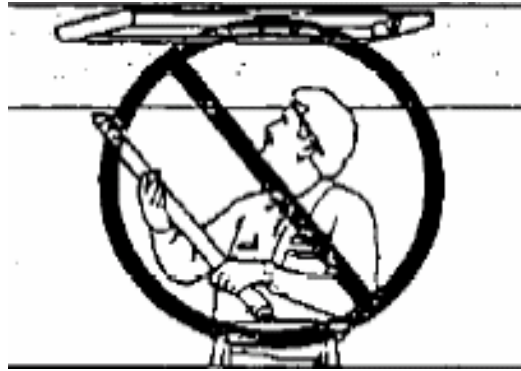
PROHIBITIONS

- High speed abrasive disc saws without point of cut ventilation
- Compressed air to remove asbestos unless dust cloud captured
- Dry sweeping, shoveling or any dry clean-up
- Employee rotation to reduce exposure



CUSTODIAL/LIGHT MAINTENANCE WORK

DO NOT:



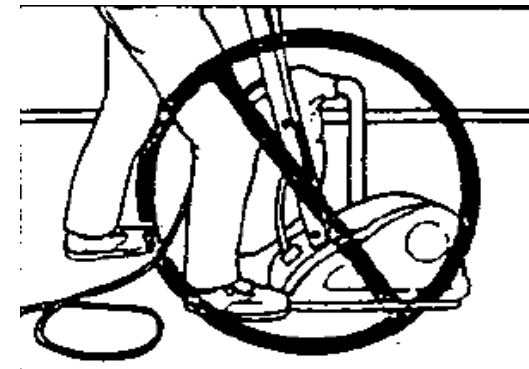
Disturb ACM when replacing light bulbs, etc.



Dry dust, sweep or use compressed air to clean ceilings, walls, or floors



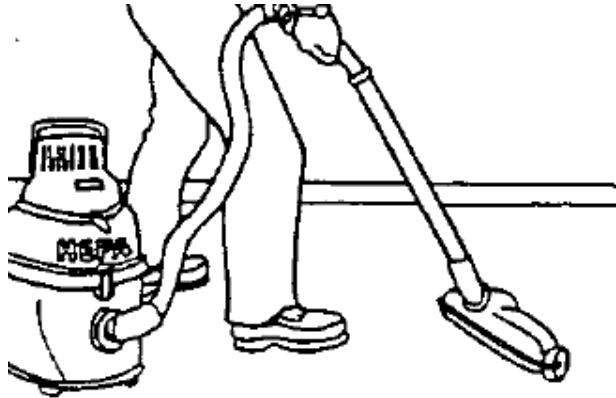
Pin or hang pictures, plants, or objects on walls or from ceilings covered with asbestos materials



Sand, grind or drill asbestos floor tiles or backing material

CUSTODIAL/LIGHT MAINTENANCE WORK

DO:



Use only a HEPA-filtered vacuum to clean up asbestos debris



Dust with a damp cloth



Wet mop floors

AUTOMOTIVE BRAKE & CLUTCH WORK

Low Pressure/Wet Cleaning Method:

- Low-pressure spray wets down the brake assembly and catches runoff in basin

Wet Wipe Method (no more than five pairs of brakes or clutches per week)

- Spray fine mist of water, or amended water (water with a detergent), at low pressure to wet parts, which are then wiped clean with a cloth.
- Dry brushing is prohibited.



RESPONSE TO FIBER RELEASE EPISODES

- Isolate area by closing doors
- Notify your supervisor
- Post signs to prevent inadvertent entry
- Modify or shut down and seal off HVAC system
- Clean-up, perform visual inspection and conduct clearance air monitoring



CONSULTATION

- The employer must agree to correct any serious hazards identified by the consultant by an agreed upon date
- The Employer must certify to PESH that the serious hazards have been corrected



- https://dol.ny.gov/system/files/documents/2025/06/p206_6-25.pdf



FOR FURTHER INFORMATION:

- https://www.labor.ny.gov/workerprotection/safetyhealth/dosh_asbestos.shtm
- OSHA Home Page <http://www.osha.gov>
- Environmental Protection Agency <http://www.epa.gov/>

REFERENCES

- <https://www.whitman.edu/documents/offices/Environmental-Health-and-Safety/Asbestos.pdf>
- <https://stacks.cdc.gov/view/cdc/64305>
- https://www.clintonherald.com/news/local_news/demolition-progressing-on-s-fourth-st/collection_e8b43872-f815-11ee-b3c2-17a1edcd6745.html

QUESTIONS?





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