



BRIEFING TO THE UN STAFF

Topics

- History, Properties and Uses of Asbestos
- Important Definitions
- Regulatory Overview
- Asbestos Abatement Procedures



History And Use

What is Asbestos?

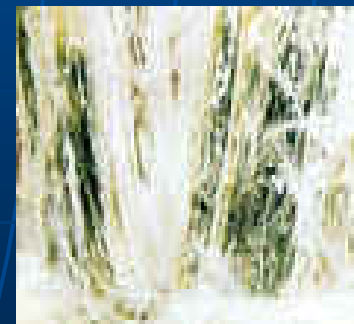
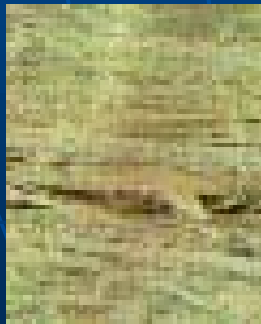
- Asbestos is a mineral rock mined from the earth as other minerals.
- Asbestos is mined using open pit mining.





What is Asbestos?

- It is a naturally occurring hydrated silicate mineral
- It is characterized by fibers or bundles of fine single crystal fibers





What is Asbestos?

- Asbestos Mineral Groups
 1. Serpentine
 2. Amphiboles

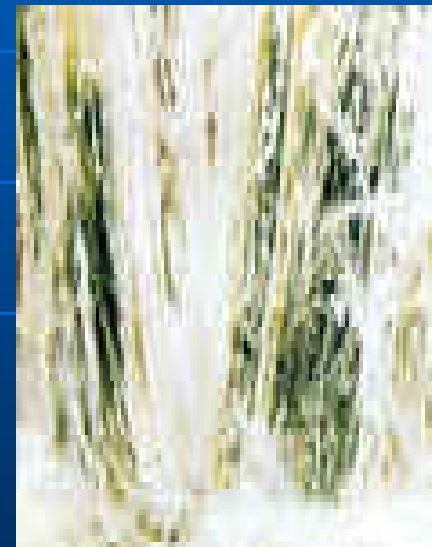


Asbestos Mineral Groups

1. Serpentine

A. Chrysotile

- ❖ White color
- ❖ Most common used in the U.S.
- ❖ 90-95%



Asbestos Mineral Groups

2. Amphibole

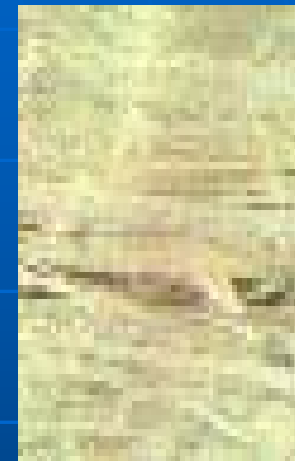
A. Amosite



B. Crocidolite



C. Tremolite



D. Actinolite



E. Anthophyllite





Properties and Use of Asbestos

- Fire-resistance
- Heat-resistance
- Chemical-resistance
- Friction-resistance
- Electrical-resistance
- Acoustical properties
- High tensile strength
- Decoration



Properties and Use of Asbestos

- Fire-resistance

Fireproofing, fire doors, Textiles- fire blankets, gloves, curtains, kids pajamas, protective clothing for firefighters, race car drivers, etc.



Properties and Use of Asbestos

- Heat-resistance

Insulation on pipes, boilers, furnaces, hot water tanks, components of the HVAC system, including air-handlers and ducts, etc.



Properties and Use of Asbestos

- Chemical-resistance

Chemical filters, lab countertops



Properties and Use of Asbestos

- Friction-resistance

Braking systems on cars, trains, cranes, etc.; transmission systems, clutch systems



Properties and Use of Asbestos

- Acoustical Properties

Plaster and tiles on ceilings and walls



Properties and Use of Asbestos

- Electrical-resistance

- Cable wrap

- Transite- asbestos-cement material

- Panels

- Conduit

- Box- breaker, fuse, switch-gear



Properties and Use of Asbestos

- High Tensile Strength- helps products be more durable

Vinyl Asbestos Tile (VAT), concrete, roofing, etc.



Properties and Use of Asbestos

- Decoration

Textured paint- "stucco," "popcorn"

History And Use



- It has been used since ancient times
 - Wicks in lanterns (Greeks and Romans)
 - Cremation clothes (Egyptians and Romans)
 - Tablecloths (French Emperor-Charlemagne)
 - Clay Potts (Finland)
 - Insulation in suits of Armor (Middle Ages)

History And Use



- Industrial Revolution (late 1800's-early 1900's)
 - Late 1800's – Commercial mining in Canada, South Africa, Russia, China, Italy, and U.S.
 - Insulation on high temperature equipment (steam engine, boilers)
 - Non-flammable fabrics
 - Packing materials
 - Cement products

History And Use



- World War II/Post-War Building Boom
- The production of asbestos products becomes extensive
- Used heavily in ships and shipyards
- Used in many different building materials during post-war construction boom
- (>3000 products)

History And Use



- Regulations are promulgated in the early 1970's by OSHA & EPA
- The use of asbestos declines in the U.S.

History And Use



➤ EPA- Asbestos Ban and Phase Out Rule

- 1989- The EPA Ban and Phase-Out Rule are promulgated. Its purpose was to prohibit, at staged intervals, the future manufacture, importation, processing, and distribution in commerce of asbestos in almost all products.
- 1991- Most of the ban was repealed, leaving only a few categories still banned

History and Use

- EPA- Asbestos Ban and Phase Out Rule
 - Product categories no longer banned- vinyl asbestos floor tile, pipeline wrap, roofing felt, roof coatings, non-roofing coatings, automatic transmission components, clutch facings, friction materials, disc brake pads, drum brake linings, brake blocks, gaskets, millboard, asbestos clothing, and asbestos-cement: pipe, shingle, flat sheet, corrugated sheet.

Next: Important Definitions





Important Definitions

- Asbestos Containing Materials (ACM):
Are materials that contain more than 1% asbestos by conducting Polarized Light Microscopy (PLM) analysis.
- Three Categories of ACM:
 - Surfacing Materials (SM)
 - Thermal System Insulation (TSI)
 - Miscellaneous Materials (Misc)



Important Definitions

- Thermal System Insulation (TSI)
 - Insulation used to prevent heat loss or gain, or condensation.
 - Examples: pipe insulation, boiler insulation, boiler breeching, HVAC insulation, duct insulation, furnace insulation, tank insulation



Important Definitions

- Surfacing Material (SM)
 - ACM that is sprayed-on or troweled on to surfaces for fireproofing, acoustical, or other purposes.
 - Examples: fireproofing on structural components, ceiling or wall plaster, textured paint



Important Definitions

- Miscellaneous Materials (Misc.)
 - Any ACM that is not TSI or SM.
 - Examples: ceiling tile, floor tile, mastic, roofing, gaskets, caulking, cove-base, transite, siding, shingles



Important Definitions

- **Friable**: materials that “can be crumbled, pulverized, or crushed to powder with hand pressure when dry” (EPA Definition)
- NYC regulation adds the phrase “...or with any mechanical means”
- Examples of friable Materials:
 - fireproofing, pipe insulation, ceiling tiles, plaster, boiler insulation



Important Definitions

- Non-friable materials
 - Examples: floor tile (VAT), mastic, roofing, gaskets, caulking, cove-base, transite, shingles, siding and roofing

Important Definitions

- Asbestos Fiber:

“ a particulate form of asbestos, 5 micrometers or longer, with a length-to-diameter ratio of at least 3 to 1” (OSHA)



REGULATORY OVERVIEW

- The Asbestos Industry is the second most regulated industry.
 - Federal Regulations
 - State Regulations
 - City Regulations



Federal Regulations

- United States Environmental Protection Agency (USEPA)
- Occupational Safety and Health Administration (OSHA)
- United States Department of Transportation (DOT)
- Consumer Products Safety Commission (CPSC)



Federal Regulations

- 40 CFR Part 61: National Emission Standard for Hazardous Pollutants – NESHAP
 - Demolition/Renovation & Waste Issues
- 40 CFR Part 763: Asbestos-Containing Materials in Schools-Final Rule and Notice (ASHERA, 1987)
- 40 CFR Part 763: Asbestos Model Accreditation Plan; Interim Final Rule (ASHARA, 1994)
 - Training requirements
- 40 CFR Part 763; Asbestos Worker Protection Rule
 - Extends OSHA worker protection to those in State & Municipality employment



Federal Regulations

- OSHA
- 29 CFR 1926.1101 Construction Industry
- 29 CFR 1910.1001 General Industry
- 29 VFR 1915.1001 Shipyard Standard
 - Very similar to the Construction Standard
- 29 CFR 1910.134 Respiratory Protection
 - Separate from the asbestos standards, but it applies to the use of personal protective equipment (respirators etc.) for all asbestos-related work



State Regulations

New York State Department of Labor (NYSDOL) Industrial Code Rule 56 (Title 12 of the New York Codes, Rules and Regulations- Part 56 (12 NYCRR Part 56))

The NYSDOL created, amends, and enforces the asbestos abatement regulations for conducting work in New York. The NYSDOL also issues company licenses, worker certification, and will also issue any violations of the code



State Regulations

NYS Department of Health (NYSDOH)

- The NYSDOH regulates all asbestos training and laboratory requirements for working in New York.
- *Environmental Laboratory Accreditation Program (ELAP)* approves all asbestos laboratories that will analyze air or bulk samples collected in New York.



State Regulations

NYS Department of Environmental Conservation (NYSDEC)

- The NYSDEC Division of Solid and Hazardous Materials has rules that focus on what happens to the asbestos after an asbestos abatement project.
- 6 NYCRR Part 364- regulates asbestos waste transportation, permits, and tracking.
- 6 NYCRR Part 360- regulates solid waste management facilities.

City Regulations



New York City Department of Environmental Protection (NYCDEP)

Title 15, Chapter 1 of the Rules of the
City of New York

NYCDEP, Asbestos Control Program
(ACP) enforces all of Title 15, Chapter 1