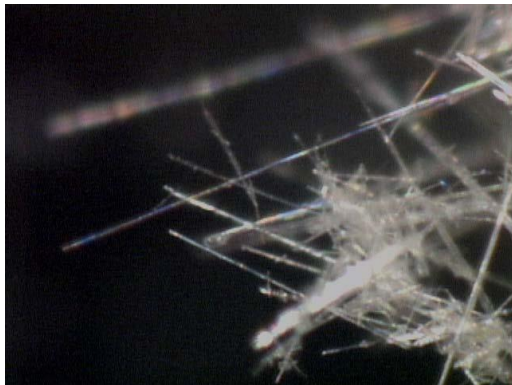


DESCRIPTION

Asbestos is a naturally occurring mineral fiber. The name asbestos comes from the Greek word for “inextinguishable”. The ancient Greeks found that asbestos fibers were perfect for weaving into cloth much like cotton and for use as wicks for their sacred lamps.

Asbestos is unique in that its crystals form long, thin fibers. These fibers can be woven into cloth or mixed with other materials used in building products to add strength along with heat and chemical resistance. It has good insulating properties and was commonly added to products used for acoustical or thermal insulation.

Asbestos was predominantly added to products made between the 1950’s and late 1970’s. Asbestos may still be found in products made today including adhesives, caulking, floor tiles, roofing products and specialty products such as gaskets and brake parts.



ASBESTOS BANS

1973 – Spray-applied surfacing material such as fire proofing. (Environmental Protection Agency -EPA)

1975 – Thermal system insulation such as pipe insulation and block boiler insulation. (EPA)

1977 – Artificial fireplace embers and wall patching materials. (Consumer Product Safety Commission-CPSC)

1978 – Spray-applied surfacing materials not included in the 1973 ban such as decorative acoustical plaster. (EPA)

HAZARDS

The properties that make asbestos such an attractive material to add to building products make it a health hazard when it is inhaled or ingested. The body has difficulty dealing with internal asbestos fibers. Adverse health effects can occur many years after exposure. Asbestos fibers are released into the air during activities that disturb asbestos-containing materials. The asbestos fibers can then be inhaled and trapped in the lungs. Asbestos does not have an odor or other mechanism to alert of an exposure. Asbestos-containing materials only present a hazard once they deteriorate or are disturbed.

ASBESTOS-RELATED DISEASES

The primary adverse health effects related to asbestos exposure come through inhalation of the fibers. The aerodynamic properties of the fibers enable them to remain airborne for long periods of time and make them easily inhaled deep into the lungs. Asbestos-related diseases normally take anywhere from 20 to 40 years to develop. Following are the primary asbestos related diseases:

- Asbestosis – Scarring of the lung tissue that reduces the ability of the lungs to function properly. Associated with repetitive exposures over the course of many years.
- Lung Cancer – Typically associated with repetitive exposures over the course of many years. Smoking greatly increases the risk.
- Mesothelioma – Rare cancer of the lining of the lungs or abdominal cavity. It is unique in that it does not appear to require significant exposure in order to develop the disease.

SAFETY STANDARDS

All activities related to asbestos are thoroughly regulated within the City of Philadelphia. The City of Philadelphia Asbestos Control Unit (ACU) enforces the Philadelphia Asbestos Control Regulations which are among the most stringent in the nation. They also enforce Commonwealth of Pennsylvania asbestos occupation licensing and EPA asbestos-related regulations.

Philadelphia certifies the following asbestos businesses and occupations:

- Asbestos abatement contractors.
- Laboratories that analyze asbestos samples.
- Asbestos Investigators – those who inspect and sample materials for asbestos.
- Asbestos Project Inspectors – those who independently perform abatement project oversight, inspections and air sampling.

Philadelphia requires that properties undergoing renovation or demolition must be inspected for asbestos-containing materials prior to the start of work. An Asbestos Inspection Report signed by an Asbestos Investigator must be submitted with the building permit application. The ACU must be notified prior to all asbestos abatement projects.

City of Philadelphia inspectors regularly inspect asbestos abatement projects.

The air sampling standards set by the ACR are much more conservative than those set by OSHA.

ASBESTOS SAFETY EDUCATION

EHR provides asbestos awareness education to all at risk employees to minimize exposure potential.

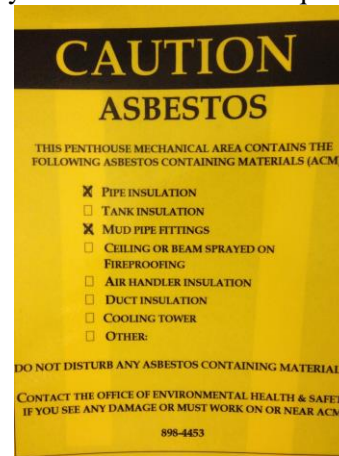
ASBESTOS MANAGEMENT AT PENN

EHR manages all asbestos abatement related activities at Penn. EHR maintains [Penn's Asbestos Management Program](#) which delineates roles and responsibilities and specific procedures.

EHR has certified Asbestos Investigators and Asbestos Project Inspectors on staff. All buildings have been inspected for asbestos containing materials. Asbestos containing materials are either abated if the likelihood is high that they may become damaged or managed in place in good condition until they are removed prior to maintenance, renovations or demolition activities.

Mechanical rooms that contain asbestos-containing materials have a sign posted in a conspicuous area alerting maintenance personnel to contact EHR prior to working on or near these materials. The asbestos-containing materials in the area may or may not be specifically labeled. Penn employees are not permitted to work with asbestos containing

materials. Therefore, any exposure should be quite limited. EHR must be contacted (215) 898-4453 if a material is suspected of containing asbestos or if there are any other asbestos-related questions.



EMERGENCY PROCEDURES

If contaminated, shower as soon as possible, as close as possible, to the area where the event took place and with contaminated clothing still on. Remove contaminated clothing in the shower after it is wet and place in a plastic bag. Contact EHR as soon as possible. EHR will evaluate the situation and coordinate mitigation and counsel the affected personnel.

An incident report will be written to document the exposure event and shared with all involved parties.

There is no need for immediate medical attention since there are no acute health effects or diagnostics that can predict the future potential for disease.

RESOURCES

- EPA Asbestos Information – <https://www.epa.gov/asbestos>
- OSHA Asbestos Information – <https://www.osha.gov/SLTC/asbestos/>
- City of Philadelphia – Air Management Services Asbestos Control Unit - <http://www.phila.gov/health/airmanagement/AsbestosControl.html>
- Penn EHR – Asbestos Management Program - <http://www.ehrs.upenn.edu/programs/environ/asbestos/>