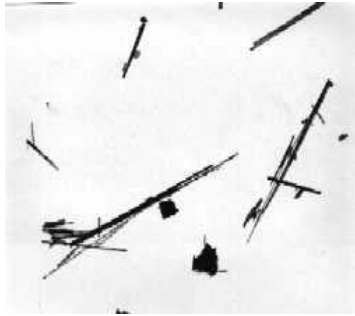


Asbestos and Its Uses

Asbestos is a term that is used to refer to a family of naturally occurring minerals that vary in size, color, and shape. Fibers range in texture from coarse to silky. Asbestos fibers are small, thin, and strong. Its high tensile strength, heat and chemical resistance, flexibility, and good frictional properties have made it an ideal material to meet the demands of an increasingly industrial world.



Asbestos fibers as seen under a microscope

Since asbestos can be easily woven, mixed, and formed, these characteristics have made asbestos ideal for use in many common building materials. "Asbestos-containing construction materials" (ACCM) are those manufactured construction materials that contain more than one-tenth of one percent asbestos by weight. These materials can be classified as either "friable" or "non-friable"; friable refers to material that may be crushed into a powder by hand pressure.

Potential Health Risks

The same properties that make asbestos valuable also make it a threat to those who work with it. Asbestos fibers can enter the body in either of two ways: by inhalation or by ingestion. The most common route of exposure is from breathing airborne fibers. Inhaled asbestos fibers can become embedded in the tissues of the respiratory or digestive system.

Years of exposure to asbestos can cause numerous disabling or fatal diseases: Asbestosis, Lung and Gastrointestinal Cancer, and Mesothelioma. In addition, smoking can increase the chances of developing lung cancer by 92 times for asbestos workers than for those who do not smoke or work with asbestos.

Life's Risky

Asbestos in buildings seems safe next to most everyday risks. Figures are expected deaths before age 65 per 100,000 people.

Smoking (all causes)	21, 900
Smoking (cancer only)	8,800
Motor vehicle	1,600
Frequent airline passenger	730
Indoor radon	400
Motor vehicle- pedestrian	290
Environmental tobacco smoke- living with a smoker	200
Diagnostic X-rays	75
Cycling deaths	75
Consuming Miami or New Orleans water	7
Lightning	3
Hurricanes	3
Asbestos in school buildings	1

Source: Harvard University symposium summary, August 1989

Types of Asbestos-Containing Construction Materials

Since asbestos was used in numerous materials, it may be found in many common building materials:



Surfacing materials- such as fireproofing, plaster



Thermal system insulation- such as pipe wrap



Miscellaneous material- such as floor tile

Testing for Asbestos

Since asbestos fibers are so small and cannot be detected with the human eye, visual inspection of construction materials can not be used to verify potential asbestos content. The only way to determine if a material contains asbestos is with sensitive laboratory equipment. **Contact EH&S for testing.**

Minimizing Risk of Exposure

Asbestos fibers can be released when the material is moved or disturbed. Avoid disturbing asbestos materials on walls, ceilings, pipes, or where ever else they have been found. Avoid work practices that may disturb materials containing asbestos- these include sanding asbestos floor tiles, drilling or boring holes into asbestos-containing ceiling or wall materials, replacing light fixtures located on ceiling with sprayed on asbestos, or dry sweeping asbestos debris.

Asbestos should only be handled by specially trained workers.

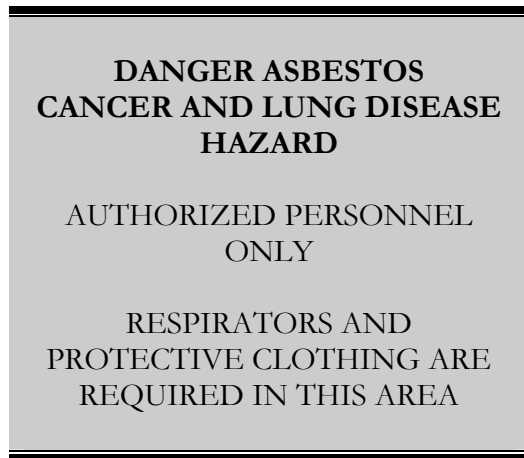
General Procedures and Handling Restrictions for Asbestos

Do not attempt to sweep or dust asbestos debris with brushes or brooms. Such action will create airborne fibers that may expose you and others to asbestos. If asbestos-containing materials are disturbed, report the condition to the appropriate authority (your supervisor or housing office). Never handle asbestos; only workers specially trained shall conduct proper disposal techniques.

Asbestos Warning Signs and Regulated Areas

Regulated areas must be established wherever construction, maintenance, or remodeling occurs that may disturb asbestos-containing materials. Only authorized personnel with appropriate training may enter regulated areas. Smoking, eating, drinking, chewing of tobacco or gum, or the application of cosmetics shall be prohibited in the regulated areas.

Warning signs must be displayed at each regulated area and must be posted at all approaches to regulated areas. These signs must bear the following information:



In addition, all asbestos products (raw materials, mixtures, scraps) and all containers of asbestos products, including waste containers must be affixed with the proper warning labels.

Regulatory Compliance - Notification

California Law, Section 25915 of the Health and Safety Code, requires that an employer annually notifies each employee of the presence of asbestos-containing construction material (ACCM) in any building constructed prior to 1979 and the method being used to control and contain these materials to prevent employee exposure.

The Environmental Health and Safety Office (EH&S) conducted a survey to identify those areas at UCI where ACCM exist. The information can be obtained by contacting the EH&S office at

949-824-6200
949-824-8791

Most buildings at UCI contain non-friable asbestos materials in public access areas. These materials include vinyl asbestos floor tiles and/or linoleum, the associated mastic, some laboratory benches, and fume hoods. The asbestos in these materials is bonded and under normal conditions does not pose any danger. If the materials are cracked, drilled, sanded, or disturbed, it could result in the release of asbestos fibers into the air, and thus present a potential health risk. Such work is should only be done by trained personnel using the proper methods.

Some other areas contain spray-on acoustical materials. These materials are somewhat friable but do not present a problem if they are not disturbed. Only trained workers with the proper equipment should perform work that would potentially disturb such materials-maintenance activities such as running cables or wires, installing light fixtures or fire detectors, are examples of such work.

Some of the fire doors used in stairwells and the entrances to mechanical rooms also contain asbestos. These doors have a metal label on the inside edge or top identifying them as having a type "B" fire rating of one hour or greater.

Many of the buildings have asbestos materials in areas or restricted public access, such as mechanical rooms. These materials include insulation for boilers, heat exchangers, some hot and cold water lines, and steam supply lines. In a few instances, asbestos insulated pipes are in public access areas. As long as the outer canvas cover or metal sheathing on the pipes is intact, the insulation presents no health problem. If the protective covering is disturbed, contact the Facilities Management Service Desk at extension 4-5444, and report the problem.

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University of California, Irvine
Environmental Health and Safety
4600 Bison Avenue
Irvine, CA 92697-2725
949-824-6200