



IWU PHYSICAL PLANT SAFETY PROGRAM

Revision: 1

ASBESTOS WORK POLICIES

Section: 6

STANDARDS

Toxic and Hazardous Substances, Title 29 Code of Federal Regulations (CFR) Part 1910.1001, Subpart Z Asbestos

1. INTRODUCTION

IWU has a responsibility to provide a safe environment for students, employees and visitors. To meet this obligation, OSHA identifies potential or existing hazards in facilities and then determines the best course of action to eliminate or minimize the risks. In this role IWU has established an asbestos program to assess campus buildings for the presence and condition of asbestos containing material (ACM) and to oversee operations involving ACM for compliance with regulations issued by the OSHA. This manual was designed to ensure that asbestos is properly maintained and handled and to provide policies and guidelines that promote the safe management of asbestos at IWU.

2. GENERAL INFORMATION

The term “asbestos” describes several naturally occurring fibrous minerals found in certain types of rock formations. When mined and processed, asbestos mineral is processed into very thin fibers which are commonly mixed with binding materials so that they can be used in many different products.

Several fibrous minerals are regulated under the heading of asbestiform materials. Asbestos is classified into two categories of materials according to their characteristics:

- **Serpentine Minerals**

Chrysotile- “White Asbestos” has fine, flexible, silky fibers with high tensile strength and accounts for 90% of the asbestos used world-wide. Chrysotile is mined in Canada.

- **Amphibole Minerals**

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Amosite-“Brown Asbestos” is made up of long, brittle, needle-like fibers. Amosite bonds well with plastics and is often used in heat insulating materials. Amosite is primarily mined in Transvaal, South Africa.

Crocidolite-“Blue Asbestos” is the strongest asbestos. It is usually found in conjunction with chrysolite in wrapping, sheeting, piping and boiler wrap. As with amosite, crocidolite is mined in South Africa.

Tremolite, Actinolite, and Anthophyllite- These asbestos forms are seldom seen and rarely found in building or commercial products.

3. HEALTH HAZARDS OF ASBESTOS

Information concerning the health effects of asbestos primarily comes from studying workers in various asbestos manufacturing industries. The bulk of this health-related information comes from World War II ship building activities and the asbestos industries in the U.S. and England. Elevated airborne asbestos fiber concentrations in these industries have been linked to increased risk of asbestosis, mesothelioma, and various forms of cancer.

Asbestosis is a chronic disease in which the lungs become scarred (fibrotic) as a result of a biological reaction to the inhalation of asbestos fibers. This scarring causes the thickening of the walls of the lungs and the reduction of the capacity to transfer oxygen into the blood. Asbestosis results from the exposure to high fiber concentration over a long period of time. The effects of exposure (the latency period) may show up in the victim as much as 15 to 30 years after the first exposure.

Mesothelioma, a cancer affecting the lining of the lung cavity, is the rarest of the asbestos related diseases. With a latency period of as much as 30 years, the disease is almost always fatal, usually within a year of diagnosis.

Lung Cancer is responsible for as many as one-half the deaths occurring from past asbestos exposures. Tumors usually beginning in the lower lobes of the lungs may then invade other tissues. Statistically, the risk of developing lung cancer is 5 times higher for workers in the asbestos manufacturing and installation



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industry than those in the general population. Smokers who do not work with asbestos are statistically 10 times more likely to develop lung cancer than the general population. It is estimated that a smoker who also works with asbestos is statistically 90 times more likely to develop lung cancer.



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4. CONTROL MEASURES

NATIONAL OUTLOOK-----

Possible risk to the public from asbestos exposure has been the subject of much discussion in the news and science media. Much of the information concerning the health consequences of asbestos exposure have been derived from studies of groups that had relatively high occupational exposure. In October of 1990, the EPA released a list of five facts intended to put the exposure risk in perspective:

FACT ONE: Although asbestos is hazardous, the risk of asbestos related disease depends upon the exposure to airborne fibers.

FACT TWO: Based on available data, the average airborne asbestos levels in buildings seem very low. Accordingly, the health risk to occupants also appears to be very low.

FACT THREE: Removal is often not a building owner's best course of action to reduce asbestos exposure. In fact an improper removal can create a dangerous situation where none previously existed.

FACT FOUR: The EPA only requires asbestos removal in order to prevent significant public exposure to airborne asbestos fibers during building demolition or renovation activities.

FACT FIVE: The EPA does recommend a proactive, in-place management program whenever asbestos-containing material is discovered.

Asbestos is still debatably the best functional material in many applications in terms of strength, durability, and insulating capability. In most cases, maintaining ACM that is in good condition is a logical approach to management of asbestos hazard. However, removal may be necessary in instances when construction or related activities will disturb the ACM or the ACM is deteriorating, resulting in a potential release of asbestos fibers.

REMOVAL-----



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Removal is the most definitive solution to an asbestos problem. Once the ACM is removed from the building, the potential for a hazardous fiber release is eliminated, as is the need for surveillance. However, several problems make this solution much less straightforward than it first appears. As stated above, an improperly conducted removal project may actually increase the health hazard by releasing airborne fibers to the general environment. Once the ACM is removed, often a replacement material is necessary. In case of thermal insulation, a suitable replacement material (often fiberglass) is needed to insulate piping or boilers. In the case of acoustical treatments, the removed material is usually replaced with other fibrous materials such as mineral wool or fiberglass to function as the original surfacing did. However, replacement materials may have their own inherent health risks. The cost of these replacement materials may double the budget of the overall project.

ENCAPSULATION-----

Encapsulation can be an effective management option for ACM. An impenetrable barrier is constructed over and around ACM so that the asbestos material and any airborne fibers are effectively sealed within the enclosure. This option may be cost-effective, short term approach to the problem since constructing a barrier is often less expensive than the removal and replacement. While the encapsulation option may be less expensive, the potential for exposure still exists because the material is still present. In addition, the design of the repair and demolition operations must still consider the presence of ACM.

REPAIR AND MAINTENANCE-----

In certain instances, minor areas of damaged ACM may be repaired using various methods to provide a durable, serviceable coating that will allow the material to continue in service. Maintenance of any ACM is essential to prolong the life of the material and is required to maintain its safety and continued integrity.

PROHIBITED ACTIVITIES-----

Certain activities should never be conducted on materials containing asbestos. In general **DO NOT**:



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Drill ACM

Hang plants or pictures from structures covered with ACM

Sand ACM

Damage structural ACM (i.e. while moving furniture)

Install drapes, curtains or dividers that might damage ACM

Dry brush, sweep, or dust floors, ceilings, etc. in asbestos contaminated environments

Use a regular vacuum without HEPA filtration to clean up ACM debris. Instead use a vacuum equipped with a HEPA filter.

Remove ceiling tiles below ACM without wearing PPE, clearing the area of occupants, and observing asbestos removal and disposal procedures.

5. ABATEMENT PROCEDURES AT IWU

All of our abatement operations are managed through contract services by a licensed contractor. IWU has developed several methods of response to deal with projects and incidents that require asbestos abatement.

IN-HOUSE ABATEMENT PERSONNEL-----

All abatement and encapsulation projects will be completed by qualified contractors..

CONTRACT ABATEMENT-----



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More extensive removal and/or repair projects are sometimes conducted through contract services. The contractor will conduct the project to its conclusion and provide for occupant protection, permitting, sampling and disposal.

6. PERSONNEL PROTECTION

Asbestos fibers can be released during inspection, maintenance and removal activities, personal protective equipment is necessary for maintenance activities involving work with asbestos. The proper use of protective equipment will result in the reduced exposure to asbestos fibers during abatement and other activities that involve asbestos. There are a number of types of protective equipment available. IWU will not have employees exposed during maintenance or abatement activities.

7. O & M WORK PRACTICES

IWU follows prescriptive guidelines as established by cleaning methods such as sweeping and vacuuming cannot be used when working with asbestos containing material. Special cleaning methods must be used. Your main goal is to keep asbestos dust out of the air. This can be done following these rules.

1. Do not use rotating floor machines and ACM tiles.
2. If you use power tools on ACM surfaces, be sure they are HEPA equipped.

Once you discover where ACM is in your building, those areas will need special cleaning methods.

8. CONCLUSION



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IWU and the Physical Plant will ensure a safe and healthy work environment for employees, students, and visitors by following all OSHA standards and requirements for asbestos containing materials that are present in our facilities.