Asbestos Hazards: Avoiding Exposure

Inhaling or ingesting asbestos fibers can cause lung diseases and cancer. To control asbestos exposure, we a combination of:

1. Engineering controls
2. Administrative controls
3. Personal protective equipment (PPE)

Preventing Disturbance

Assume that building, friction and heat-resistant products installed before 1981 contain asbestos. Only qualified professionals should work on these materials. Intact asbestos-containing materials are not a health risk. They become dangerous when we disturb them by touching, drilling, cutting, sanding, breaking or sawing them. Disturbing asbestos-containing materials send asbestos fibers into the air where people may inhale or ingest them. These fibers can cause lung disease and lung cancer.

Demolition and renovation contractors, carpenters, plumbers, electricians, building owners, inspectors, insurance adjusters and real estate agents are just a few examples of people who may encounter and disturb asbestos when they are working.

When possible:

1. Leave intact asbestos-containing materials alone.
2. Have a professional repair the damaged areas by sealing or covering them.
3. Have professionals remove asbestos.

Only qualified professionals should touch, move or perform work on asbestos-containing materials. If you disturb asbestos materials, assume that asbestos fibers are in the air and dangerous. Leave, decontaminate and wait for qualified professionals to make the area safe.

Engineering Controls

Engineering controls isolate people from asbestos fibers. Examples:

- Point-of-cut ventilators or enclosures with high-efficiency particulate air (HEPA) filtered exhausts
- Impermeable drop cloths and mini-enclosures or glove bags
- Ventilation to move fibers toward HEPA filtered collection devices or exhausts
- Misting units that keep the air moist so that fibers are heavier and less likely to become airborne

Administrative Controls

Administrative controls change how qualified professionals work so that they can avoid asbestos fibers. Engineering controls are tools and administrative controls that tell us when and how to use them. Examples:

- Following safety policies and procedures
- Observing warning signs and labels
- Housekeeping
- Following hygiene and decontamination practices

Wet Methods

Wet fibers tend to settle down instead of being suspended in the air like dry fibers. Qualified professionals repeatedly mist or gently spray asbestos-containing material with amended water, which contains surfactant chemicals. **Surfactant chemicals** reduce the surface tension of the water and penetrate the asbestos-containing materials. Your company will determine what surfactant chemicals to add to the water and in what proportion based on applicable regulations and industry best practices.

Qualified professionals may spray amended water from a tank or a tap or hydrant with a special nozzle. Wet method examples:

- Misting dislodged floor tiles before putting them in a disposal bag
- Saturating fireproofing before scooping it up

Qualified professionals may wet the material, let the amended water absorb, rewet the material to begin work, and then wet it again during the work to prevent drying.

Housekeeping

Housekeeping includes keeping surfaces as free of asbestos waste as practical. Qualified professionals must wear appropriate PPE during housekeeping tasks.

Qualified professionals will promptly place all asbestos-containing waste in properly labeled, sealed and leak-tight containers or bags. They will begin cleanup by using HEPA vacuums, which are designed to remove very small particles or fibers, such as asbestos. After they vacuum, qualified professionals will mist the air.

NEVER dry sweep, dust or use compressed air to remove asbestos-containing materials, debris or dust. Instead, wipe areas with wet cloths.

Vacuum carpets twice with a HEPA filtered vacuum and use wet mops on hard flooring. Empty HEPA filtered vacuums or change their filters in a physically isolated area.

Place debris and used cleaning equipment in properly labeled, sealed and leak-tight containers while they are still wet. Place contaminated personal protective equipment and clothing in asbestos waste containers and bags.

People exiting the regulated asbestos area must use a decontamination area that has an equipment room, shower area and clean room. Place contaminated equipment and clothing in labeled, sealed, impermeable bags or containers.

Make sure all waste containers and bags can be sealed effectively and aren't too full.

Follow applicable regulations for waste removal, transport and disposal.

Personal Protective Equipment (PPE)
The goal of PPE is to prevent asbestos fibers from getting on clothing, bodies and hair and to prevent people in regulated asbestos areas from inhaling or ingesting it.

Qualified people in regulated asbestos areas must wear appropriate:

- Full-body clothing/suits
- Head coverings
- Gloves
- Foot coverings
- Vented goggles
- Face shields
- Respirators

A competent person must examine coveralls and bodysuits at least once per work shift to verify that it is free from rips or tears and immediately mend or replace it, as needed.

Do not wear contacts when asbestos exposure is possible. Instead, wear prescription safety glasses or goggles under your face shield.

The level of potential asbestos exposure determines the type of respirator that is required for people in the area. Half-face or full-facepiece, negative pressure, air-purifying respirators have replaceable high-efficiency filters. Half- or full-facepiece powered air-purifying respirators (PAPRs) have replaceable high-efficiency filters and a battery-powered pump. People may be able to replace a negative pressure respirator with a powered air-purifying respirator if it offers equal protection.

People wearing respirators must receive training, fit-testing and medical clearance.

NOTE: In the United States, any respirator that workers wear must be approved by the National Institute for Occupational Safety and Health (NIOSH). Check applicable regulations in your area for similar or additional requirements.