

Asbestos awareness

By Sharon Roney

Before you begin

Note: This lesson provides an overview of asbestos awareness. It doesn't replace the asbestos awareness training required under the Occupational Safety & Health Administration's (OSHA's) 29CFR 1910.1001(j)(7)(iv).

Review blueprints and specification sheets for the building(s) in question. Determine the age of the building(s). Obtain copies of any asbestos surveys and/or abatement reports. Provide a list of any known asbestos-containing materials in the building(s). If no survey exists, be prepared to identify questionable materials that you should leave undisturbed until examined (i.e., samples are obtained).



Introduction

Asbestos is a naturally occurring fibrous mineral mined throughout the world since 1890. There are several types of asbestos, including chrysotile, crocidolite, amosite, tremolite, actinolite and anthophyllite. Chrysotile, which has a curly fiber, is most commonly found in building products. The other types are found in more specialized applications and have straight fibers.

Builders have used asbestos since the beginning of the 20th century because of its physical properties of soundproofing, chemical resistance, strength and fireproofing. Materials such as plaster, window caulk, pre-formed pipe insulation, floor tile, ceiling tile, adhesives, paper products, paints and coatings can contain varying concentrations of asbestos. These materials range from those that can crumble using hand pressure (friable), such as sprayed-on fireproofing, to those that are very hard (non-friable), such as building siding.

The following list, compiled by the U.S. Environmental Protection Agency (EPA), includes potential asbestos-containing materials.

- Asbestos-cement sheets, pipe and shingles
- Roof coatings and roofing felt
- Flooring felt
- Pipeline wrap
- Asbestos clothing
- Vinyl/asbestos floor tile
- Automatic transmission components
- Clutch facings
- Disc brake pads
- Drum brake linings and brake blocks
- Commercial and industrial asbestos friction products
- Sheet and beater-add gaskets (except specialty industrial)
- Commercial, corrugated and specialty paper
- Millboard

In the late 1970s, the U.S. Consumer Product Safety Commission banned the use of asbestos in wallboard patching compounds and gas fireplaces. In 1989, the U.S. EPA banned most asbestos-containing products. This rule was overturned in 1991. Currently, there are a few specific banned materials; they include flooring felt, rollboard, and corrugated commercial or specialty paper. Use of asbestos in products that did not historically contain asbestos is also banned.

Asbestos is a known human carcinogen. People can inhale asbestos fibers into the lungs. From there, they can travel to the alveoli (small sacs at the very end of the airways) and become lodged. These fibers damage the lungs, creating scar tissue, which can lead to a condition known as asbestosis.

Asbestosis is primarily associated with individuals working in industries that formerly used asbestos in large quantities (e.g., shipbuilding). The likelihood of a worker contracting asbestosis increases with greater exposure to asbestos fibers. X-rays can detect this condition by revealing the scar tissue (plaques) in the lungs. Lung cancer and mesothelioma (a cancer of the lungs' linings) are also associated with exposure to asbestos. Mesothelioma may not show up until many years after asbestos exposure.

Regulations

There are federal EPA and Ohio Department of Health regulations covering asbestos-containing materials. These regulations generally define asbestos-containing materials as those containing more than 1 percent asbestos. Regulations primarily focus on the removal of materials and prevention of contamination during removal activities. The Ohio Department of Health certifies workers who inspect buildings for asbestos and those who remove asbestos. To be a certified inspector, these workers must attend approved training classes.

You can find OSHA regulations in the asbestos standard for general industry (1910.1001). There are also regulations for the construction industry and shipyards. The general industry regulation says to presume installed thermal system insulation as well as sprayed-on and troweled-on surfacing materials found in buildings constructed no later than 1980 are asbestos-containing materials (PACM). You do not need to presume this if samples have proven they are asbestos containing (ACM) or non-asbestos containing. Building owners must:

- Inform other employers and their own employees who will perform housekeeping activities of the presence and location of such materials;
- Post signs at entrances to mechanical rooms/ areas that contain ACM/PACM;
- Identify previously installed ACM/PACM with labels or signs;
- Provide an asbestos awareness training course to employees who will perform housekeeping activities in an area containing ACM or PACM.

Issues

You can't identify asbestos-containing materials with the naked eye. Experienced inspectors can identify suspected materials. However, they must confirm their findings via laboratory analysis. Workers should not disturb, move or clean up damaged building materials that could contain asbestos. These materials include:

- Hard pipe insulation that looks like plaster;
- Corrugated paper pipe insulation;
- Sprayed-on insulation;
- Hard wall plaster;
- Ceiling tiles (12" x 12" or smaller);
- Crumbled floor tiles;
- Vermiculite.

Report any of the previously mentioned items to a supervisor or other designated person. If you see someone cutting, sanding or otherwise damaging these materials, stop them and ask if the material has been identified as non-asbestos. Remember, asbestos fibers can be in the air even if visible dust is not present.

References

Asbestos (OSHA):

<http://www.osha.gov/SLTC/asbestos/index.html>

Asbestos (National Institute for Occupational Safety and Health): <http://www.cdc.gov/niosh/topics/asbestos>

Asbestos (Environmental Protection Agency): <http://www.epa.gov/asbestos/index.html>

Asbestos (Ohio Dept. of Health): <http://www.odh.ohio.gov/odhPrograms/dspc/asbes1/asbestos1.aspx>

Asbestos/Asbestosis (National Institutes of Health): <http://health.nih.gov/topic/AsbestosAsbestosis>

Sharon Roney is a librarian for BWC's Division of Safety & Hygiene. Before joining BWC, she worked in environmental consulting for 15 years.