

ASBESTOS BUILDING MATERIAL IDENTIFICATION GUIDE

Buffalo State College



Natural mineral deposit containing asbestos fibers (white strands).

I. Purpose and Scope:

This asbestos field reference guide is intended to function as a resource for Buffalo State Campus Services employees. It identifies types of building materials that may contain asbestos.

II. Background: Regulation of Asbestos

Asbestos is a mineral that comes out of the ground. It is a strong fine fiber that is heat resistant, durable, and an excellent building material. Contrary to popular belief asbestos use in the U.S. **is not banned**.

At the height of asbestos use in the United States (from 1950 – 1980), over 3,500 products contained asbestos (Asbestos Containing Materials - ACM).

The Environmental Protection Agency (EPA) banned asbestos use in 1973. However the only products that were banned from manufacturing, use or importation were ***Sprayed-on Fireproofing, Pre-fabricated Pipe Insulation*** and certain types of ***Felts***.

The EPA ban of 1989, to eliminate approximately 1,500 asbestos products was overturned and never implemented. A labeling requirement was instituted requiring all ACM's to be labeled with asbestos content.

Currently in the U.S., it is estimated that over 1,800 ACM are manufactured, used or imported.

ACM is defined by the EPA as materials that contain more than 1% asbestos by *Polarized Light Microscope* (PLM).

Polarized Light Microscopy is an analytical technique that identifies larger asbestos fibers or bundled (multiple) fibers in a bulk sample. The magnification factor of a PLM is 400 times. This magnification factor is **not** capable of identifying smaller asbestos fibers or non-bundled asbestos fibers. The analytical technique that does identify all types of asbestos is known as *Transmission Electron Microscopy* or TEM. The TEM analysis is capable of a magnification factor of 25,000X, which allows this method to identify asbestos specifically.

Additionally, the current regulated analysis for asbestos air samples is known as *Phase Contrast Microscopy* (PCM). PCM is similar to PLM in that it has a magnification factor of 400 times and is not specific for asbestos fiber. In fact, in many instances, PCM cannot identify the smaller or non-bundled asbestos fiber. The only analytical technique that is specific for asbestos fiber is TEM.

At this time in the U.S., TEM analysis is only required for asbestos work done in schools (K-12th grade, public and private). All other asbestos work done in the U.S. requires air samples to be analyzed by PCM.

Workers planning, monitoring or supervising asbestos projects or handling gasbetsos in New York State must be licensed by the NYS Department of Labor and complete associated training and testing.

III. Common Terms, Definitions and General Asbestos Information:

Abatement is the process of reducing the degree/intensity of or elimination of asbestos.

Asbestos is a mineral that comes out of the ground. It is a strong fine fiber that is heat resistant, durable, and an excellent building material.

Asbestos ceiling tiles are used for enhancements. The asbestos fibers used in the tiles increase the fire rating.

Asbestos fireproofing is typically found on structural steel I-beams above drop ceilings. Fireproofing is friable, fluffy, sprayed-on material.

Asbestos floor tiles are found campus wide. The tiles are a cementitious densely packed material and considered non-friable. Not all floor tiles contain asbestos.

Asbestos gasket material can be found on all types of mechanical equipment on campus. It is used to tightly seal mechanical components.

Asbestos mudded pipe fittings can be found in pipe chase ways, crawl space areas, or hallways. Asbestos is mixed to a mud consistency to form a pipe fitting and wrapped in a lag cloth.

Asbestos pipe insulation is wrapped around piping and has great thermal value.

Asbestos transite material is used for underground drain lines and in our science labs. Transite is a cementitious densely packed material.

Asbestos window caulking is found in older campus buildings and is used to seal window components securely.

Cementitious material is densely packed material having properties of cement.

Crawl Space is an unfinished area, typically having a dirt floor.

Friable material is easily crumbled or pulverized and can be reduced to powder by hand pressure.

Mastic pasty material used as an adhesive or sealant.

PACM—Presumed Asbestos Containing Material

IV. Photo Examples of Typical Asbestos and Non-Asbestos Building Materials

ASBESTOS is a fibrous heat-resistant mineral and has been used in building-construction materials, textiles, missile and jet parts, asphalt, and caulking compounds and paints, and in friction products such as brake linings. Uncountable materials and places are incorporated with asbestos. It was one of major materials used before the WWII.

Non-Asbestos Ceiling Tile

Used for enhancements-to improve the fire rating



Asbestos Fire Proofing

Found on structural steel I-beams. Fireproofing is friable, fluffy sprayed-on material.
Found in drop ceilings.



Asbestos Floor Tile

Found campus-wide. Asbestos floor tiles are a cementitious densely packed material.



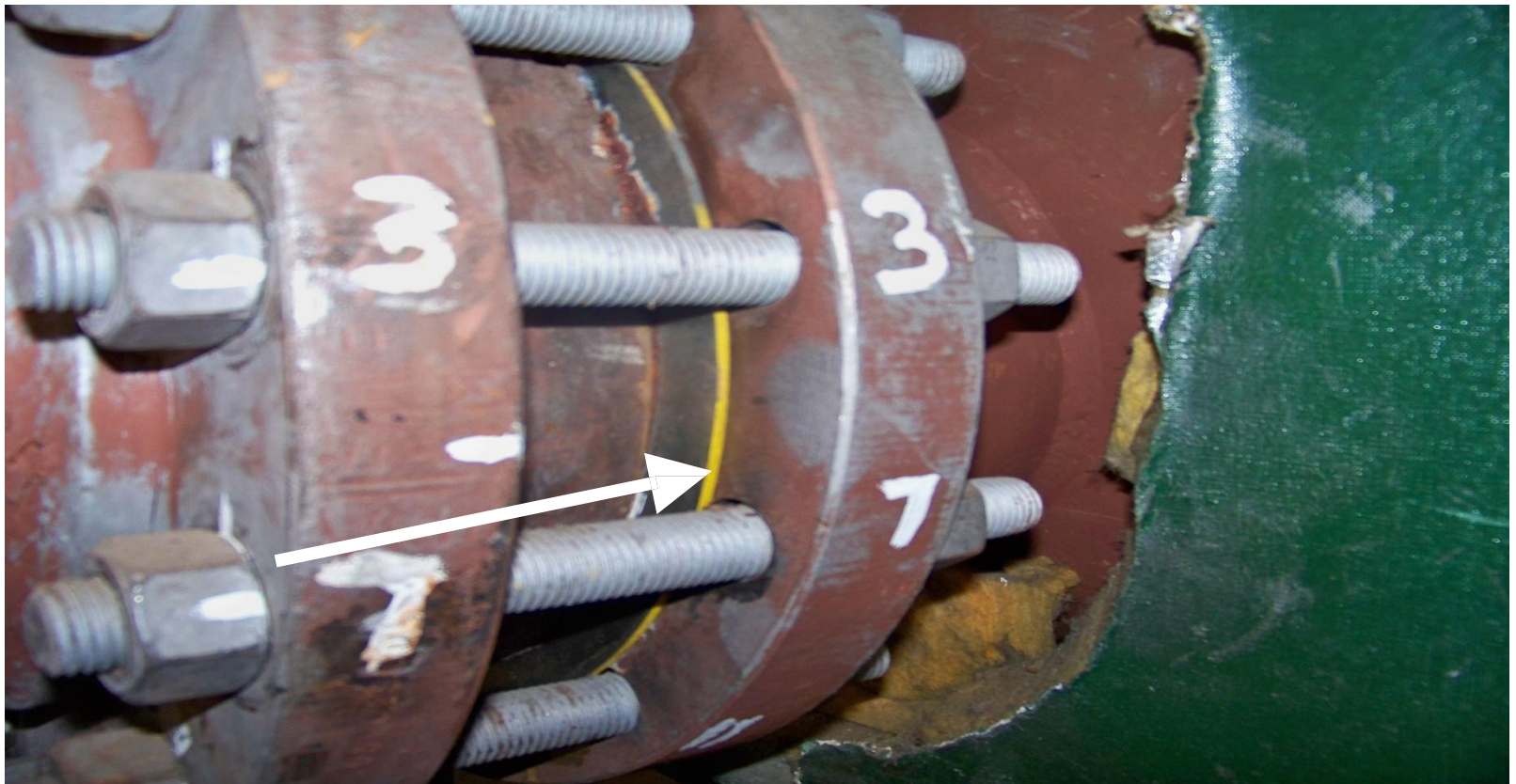
Asbestos Floor Tile

Found campus-wide. Asbestos floor tiles are a cementitious densely packed material.

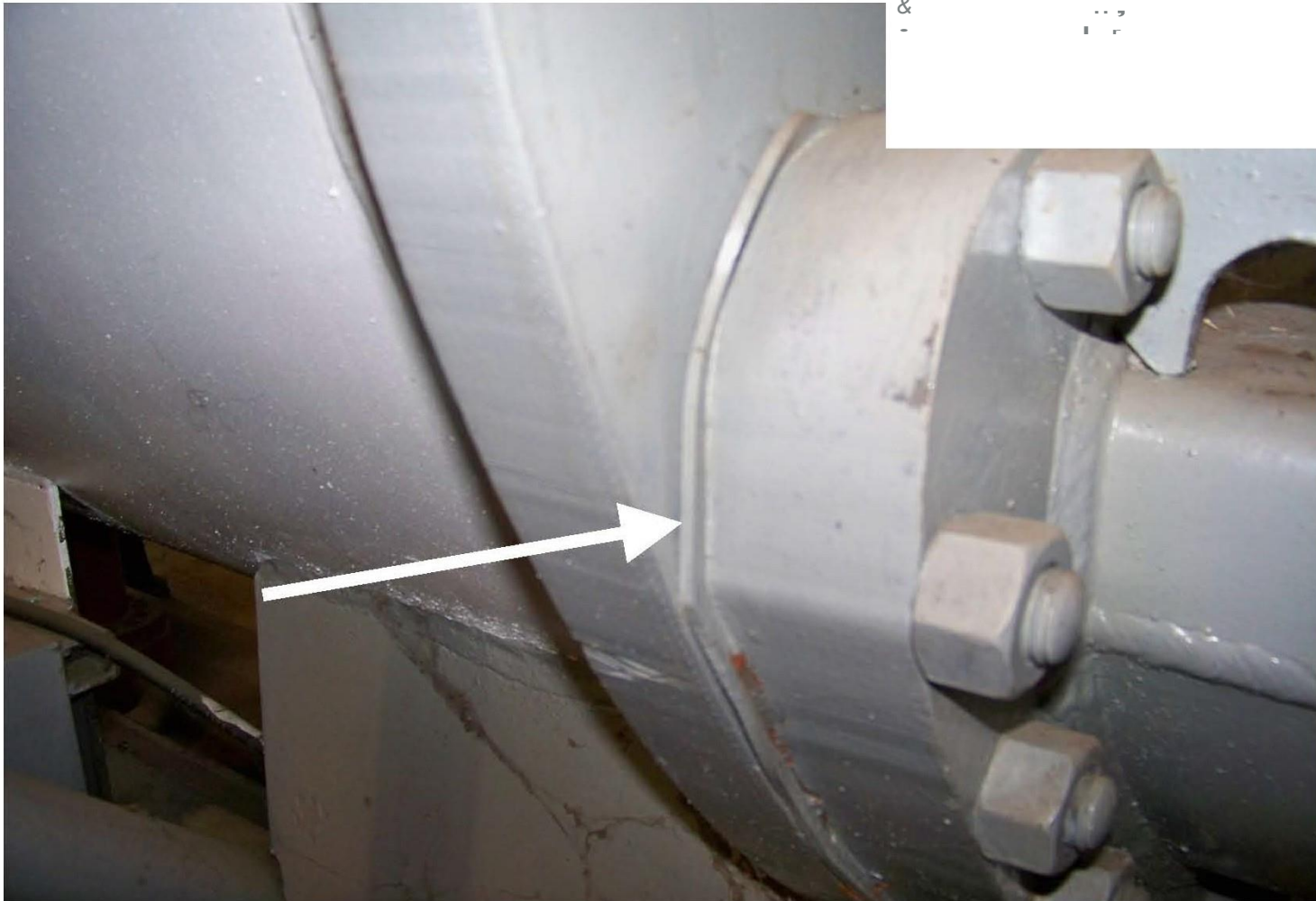


Asbestos Gaskets

Gaskets can be found on all types of mechanical equipment on campus. Asbestos gasket material is used to tightly seal mechanical components.

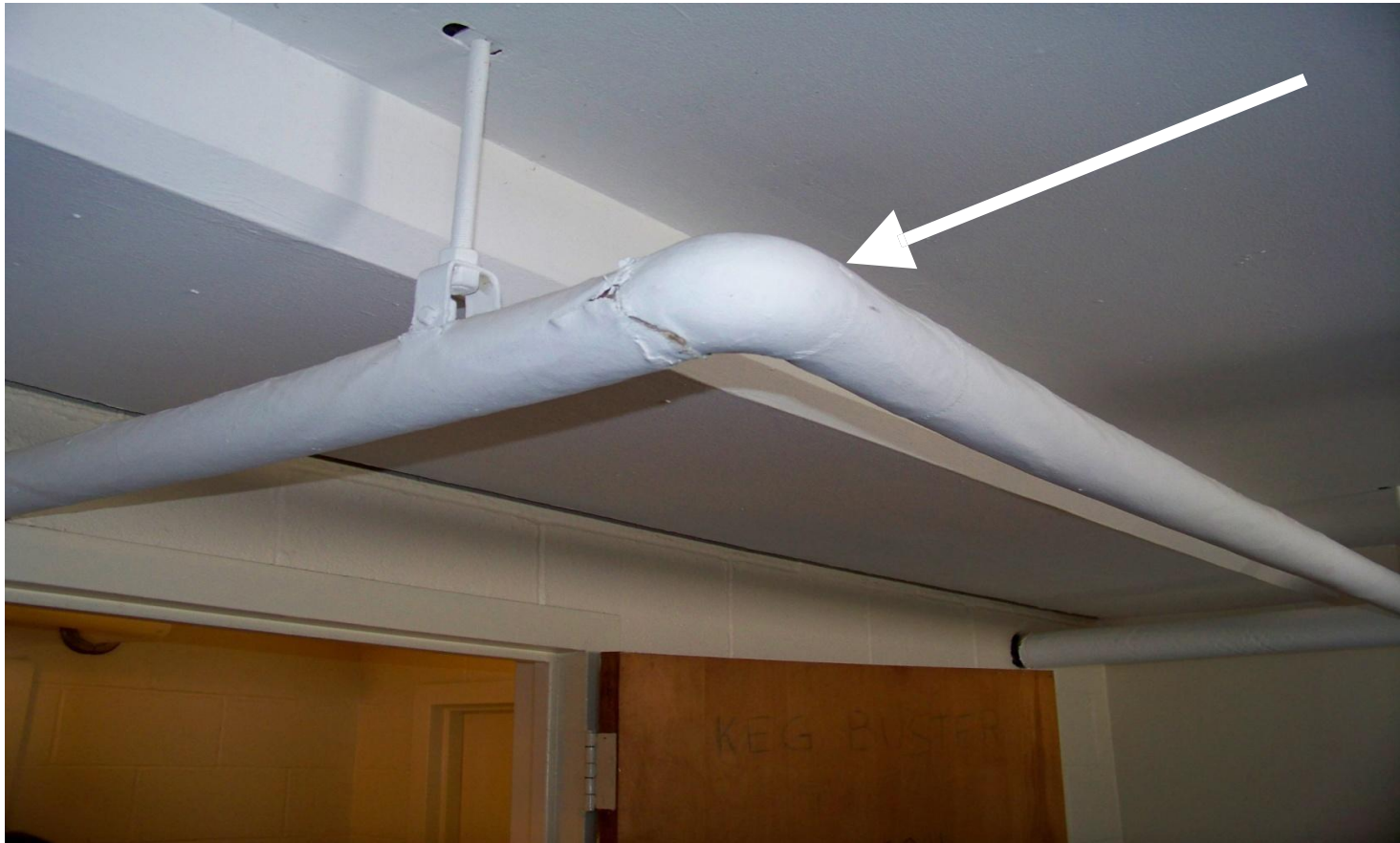


Asbestos Gaskets



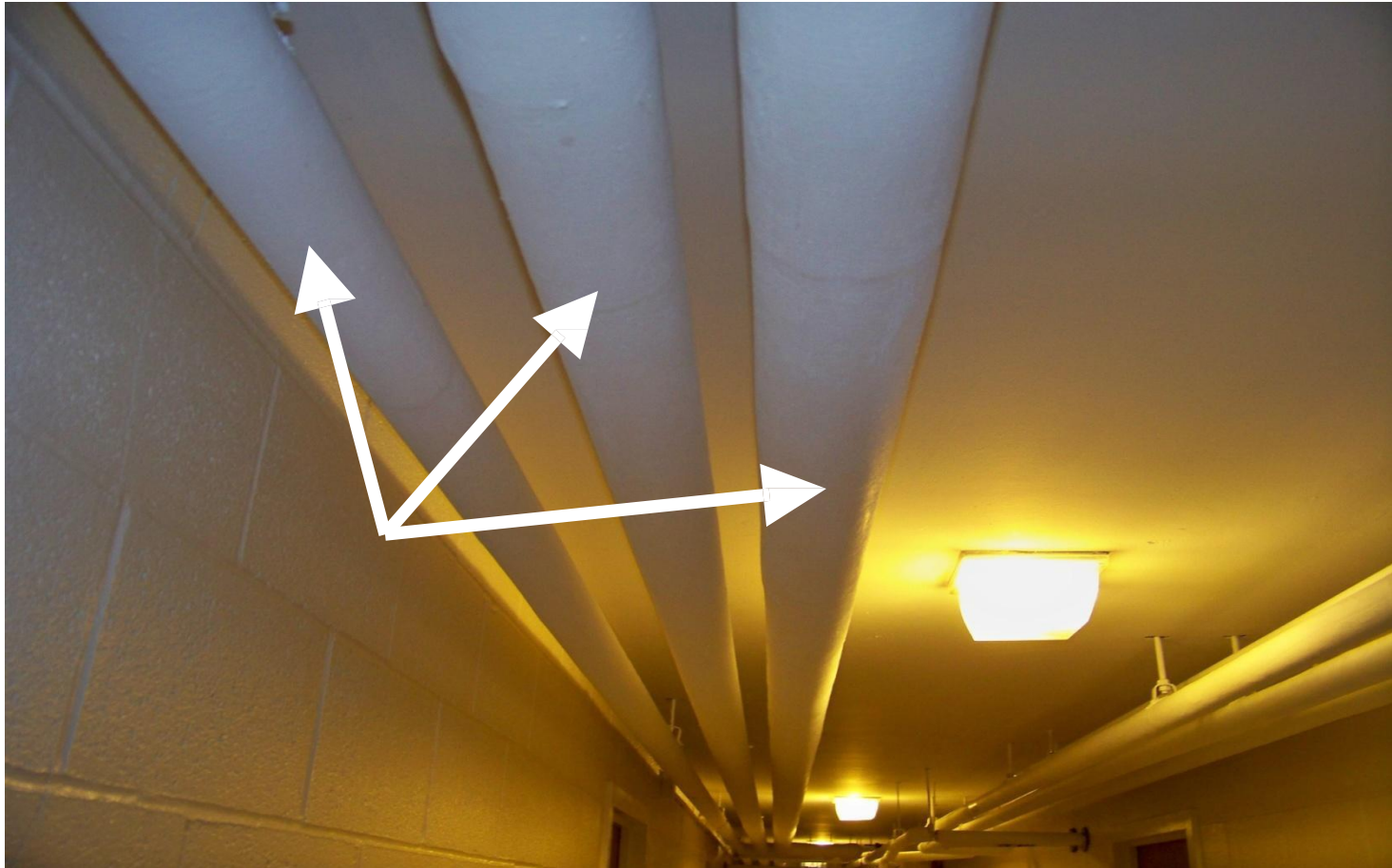
Asbestos Mudded Fittings

Can be found in pipe chase ways, crawl spaces, or hallways. Asbestos is mixed in a mud consistence to form a pipe fitting and wrapped in lag cloth.



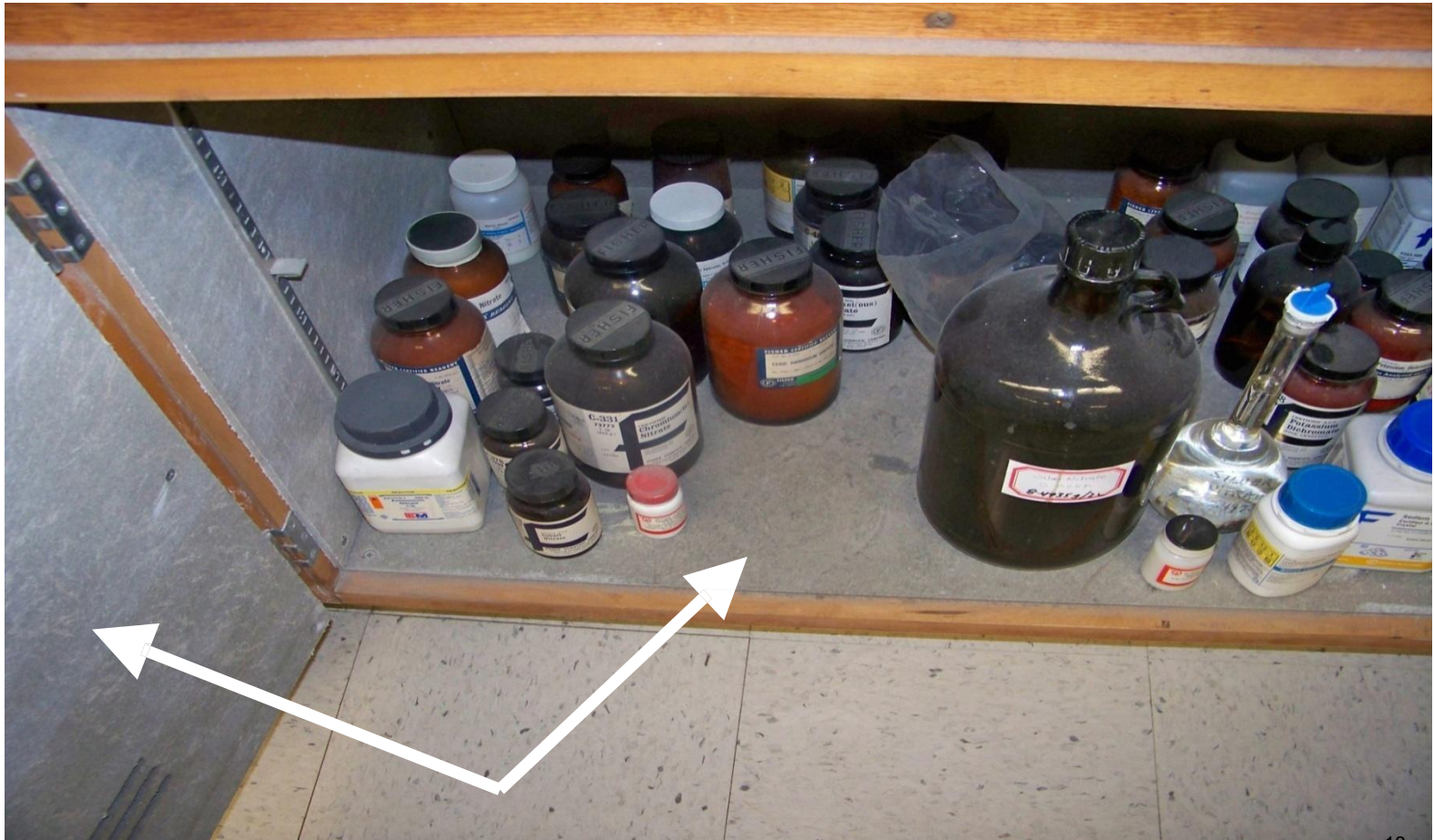
Asbestos Pipe Insulation

Insulation is wrapped around piping and has great thermal value.



Asbestos Transite Door/Cabinet Lining

Transite is used for underground drain lines and in science labs. It is a cementitious densely-packed material.



Asbestos Window Caulking

Typically found in older campus buildings.
Used to seal window components securely.

