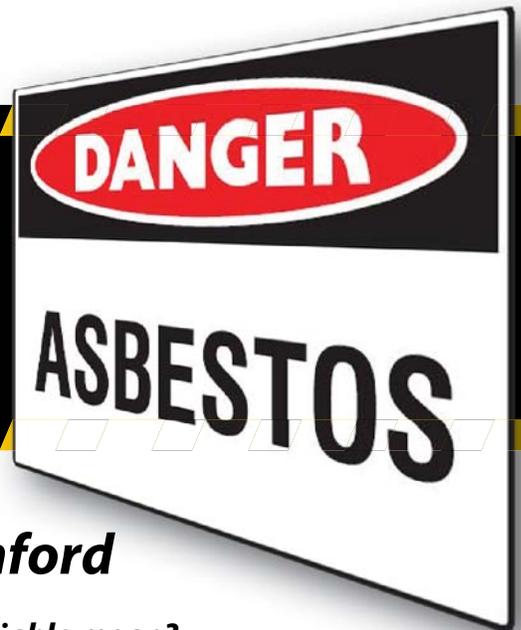


# Asbestos 101



## ***A Quick Reference to Asbestos at Hanford***

### ***What is asbestos?***

Asbestos is the name given to a group of naturally occurring minerals used in multiple commercial products, such as building materials and vehicle brakes, to resist heat and corrosion. Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these materials that have been chemically treated and/or altered.

### ***Where is asbestos used on the Hanford Site?***

Asbestos is no longer used on the Hanford Site. However, due to its unique properties, asbestos had a long and varied use at the site during production and must now be removed. On the Hanford site, the most common uses for asbestos were for pipe insulation (steam lines), boiler linings, wallboard, floor tile, roofing materials, and asbestos cement board (ACB) siding more commonly called cement asbestos board (CAB) material such as Transite.

### ***What are the dangers of asbestos exposure to workers?***

The inhalation of asbestos fibers (friable asbestos) by workers can cause serious diseases of the lungs and other organs that may not appear until years after the exposure has occurred. For instance, asbestos can cause a buildup of scar-like tissue in the lungs and result in loss of lung function that often progresses to disability and death. Asbestos fibers associated with these health risks are too small to be seen with the naked eye, and smokers are at higher risk of developing asbestos-related diseases.

### ***Are all asbestos materials on Site dangerous?***

No, asbestos has long been recognized as a health hazard when inhaled. Asbestos minerals that are bound in a material and are not released as fibers and are not inhaled do not cause health effects. Asbestos minerals have a tendency to separate when disturbed and produce microscopic-sized particles called fibers that remain suspended in air, becoming easily inhalable. Once in the lungs, they can lead to diseases such as asbestosis, lung cancer, or mesothelioma.

### ***What does friable mean?***

Friability is the degree to which a solid substance can be broken up into smaller pieces with a minimum of effort. In the case of asbestos, friable usually refers to whether the mineral can be broken down by a human hand. Friable asbestos materials are the ones that are most dangerous. They easily release asbestos fibers into the air, and these fibers may cause health effects related to exposure. Non-friable asbestos, on the other hand, is less likely to release fibers. Roofing material, for example, is a non-friable asbestos-containing material because the asbestos fibers are bound or locked into place. Non-friable asbestos can still be a health risk, if it is made friable through severe damage or alteration.

### ***Am I being exposed to asbestos?***

Not unless asbestos containing materials are disturbed and made friable without any controls (e.g engineering, PPE, etc.). In the construction industry, exposure occurs when workers disturb asbestos-containing materials during the renovation or demolition of buildings. In addition, custodial workers may be exposed through contact with deteriorating asbestos-containing materials in buildings if such materials are not properly managed through an Asbestos Operations and Management Plan.

### ***What are the permissible exposure limits for asbestos?***

Employee exposure to asbestos must not exceed 0.1 fiber per cubic centimeter (f/cc) of air, averaged over an 8-hour work shift. Short-term exposure must also be limited to not more than 1 f/cc, averaged over 30 minutes. Rotation of employees to achieve compliance with either permissible exposure limit (PEL) is prohibited.

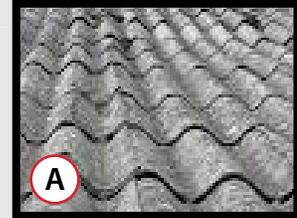
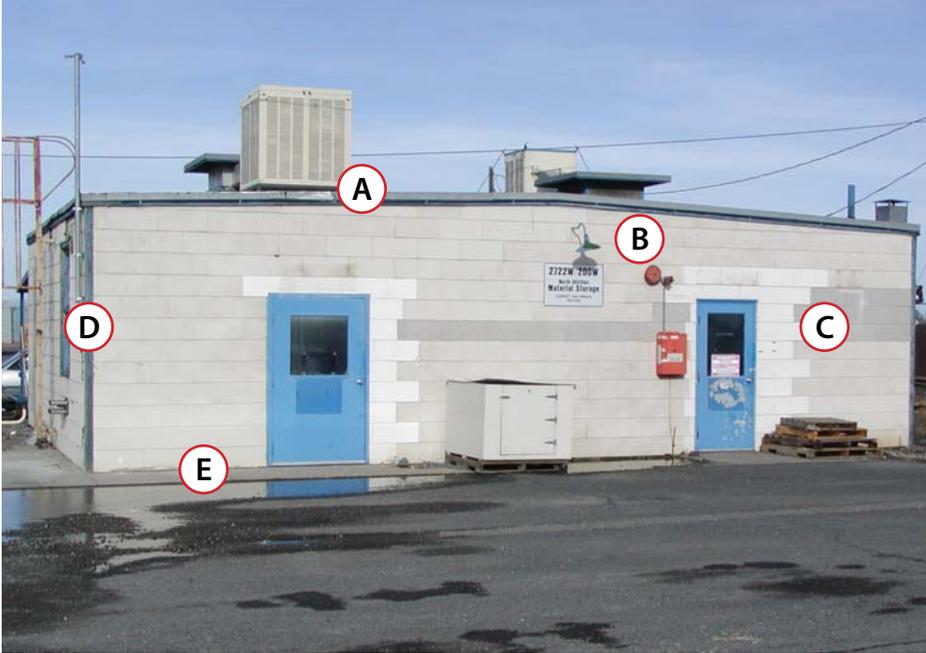
### ***Where can I get further information on asbestos at Hanford?***

- [www.hanford.gov](http://www.hanford.gov)
- [Frequently Asked Questions](#)
- [CSC Health Effects Factsheet](#)

# Asbestos 101 (cont.)



## Examples of where you may find asbestos on buildings at Hanford



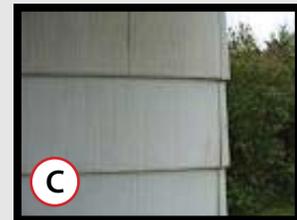
A

*Asbestos Roofing*



B

*Asbestos Ceiling Tiles*



C

*Asbestos Siding*



D

*Asbestos Insulation*



E

*Asbestos Floor Tiles*

## Examples of where you may find asbestos on buildings at home

