

ASBESTOS FAQ's

What is asbestos?

Asbestos is a naturally occurring, odorless mineral, with a long, fibrous crystal structure. There are six forms of asbestos: chrysotile ("white asbestos"), amosite ("brown asbestos"), crocidolite ("blue asbestos"), anthophyllite, tremolite, and actinolite. Chrysotile is the most common type of asbestos found in buildings in the United States, and amosite the second most common.

Crocidolite generally was used in high temperature insulation applications. The other three forms are not typically used in commercial applications in the United States, but can occur as minor contaminants in other asbestos products.

What are asbestos containing materials (ACM)?

The word asbestos derives from a Greek word meaning "inextinguishable." In the late 1800s large asbestos deposits were discovered in Canada, spurring the development of asbestos-containing material (ACM). The legal definition of an ACM is a product that contains more than one percent asbestos by weight.

Thousands of ACM products were manufactured, including thermal system insulation (TSI), fireproofing, roofing felts, siding, floor tile, joint compounds, and adhesives. Asbestos was used because it was inexpensive, abundant, and easily mined and extracted. It also is fire resistant, strong, a poor conductor of heat and electricity, and generally resistant to chemical attack, with a high tensile strength. The Environmental Protection Agency (EPA) categorizes ACM used in buildings as: 1) surfacing material – ACM sprayed or troweled onto surfaces; 2) thermal system insulation; and 3) miscellaneous materials – other mostly non-friable products including floor tile, ceiling tile, roofing felt, concrete pipe, exterior siding, and fabrics.

Asbestos products also are categorized as friable or non-friable. "Friable" means the material can be crumbled, pulverized or reduced to powder by hand pressure when dry. Non-friable ACM can become friable if damaged.

Certain building materials are categorized as Presumed Asbestos-Containing Materials (PACM). PACM are thermal system insulation and surfacing materials in buildings constructed no later than 1980. These materials must be presumed to contain asbestos, until proven otherwise by laboratory tests, because it is highly probable that they do contain asbestos. They can be treated as ACM for removal and disposal planning, however, without tests. Floor tile in the 9-inch by 9-inch squares is a PACM, for example.

In 1978, the use of asbestos was banned for the manufacture of most products in the United States due to increasing awareness of the health risks associated with asbestos. Products still made with asbestos in the United States are required to be labeled as asbestos-containing. Other countries still make asbestos-containing products, and these may not be labeled.

What are the health risks of asbestos?

Asbestos becomes a health hazard when the fibers are inhaled. Exposure to asbestos has been linked to asbestosis (scarring of the lungs with fibrous tissue), lung cancer, and mesothelioma (cancer of the lining of the chest and abdominal cavity, associated with crocidolite asbestos). It usually takes 20 to 30 years from the time of exposure until symptoms appear. Smoking increases the risk of contracting these asbestos-related diseases by 50 times or more. At greatest risk for developing asbestos-related diseases are individuals in the construction and asbestos-abatement industries who disturb asbestos on a regular basis.

The permissible exposure level (PEL) for asbestos is 0.1 fibers per cubic centimeter (fibers/cc, as an 8-hour time-weighted average [TWA]) and the excursion level (EL) is 1.0 fibers/cc (30 minute sample). The Occupational Safety and Health Administration (OSHA) standards for asbestos exposure in the construction industry are covered in 29 CFR 1926.1101, which apply to construction work, including alteration, repair, renovation and demolition of structures containing asbestos. OSHA standards for asbestos exposure in general industry are covered in 29 CFR 1910.1001 and apply to custodial work, brake and clutch repair, and the manufacture of asbestos-containing products. For more information on the OSHA asbestos regulations, view: <http://www.osha.gov/SLTC/asbestos>.

Asbestos in your home.

Much of the asbestos has been removed from the residences on post that were renovated during Phase II of the Whole House Revitalization. In any residence, however, do not allow children to play in the crawlspaces or in the boiler room, because asbestos might be present as thermal system insulation or be in the soil.

If you live in quarters that have not yet been renovated or in off-post housing constructed before 1978, you probably have asbestos in your house. To keep your family safe, please review: <http://www.epa.gov/iaq/asbestos.html>.

Asbestos in the workplace.

All administration buildings at Fort Jackson that were constructed before 1978 are likely to contain asbestos. If you work in an office with known or presumed asbestos-containing materials, you are at very low risk for exposure to the asbestos as long as the asbestos remains in good condition. General office workers should not enter boiler rooms or crawl spaces, or use them for storage. When penetrating a wall to hang a picture, mist the area first with water, because asbestos has been found in the plaster in some walls—wetting the area will prevent fibers from becoming airborne. If you observe new damage to a wall, floor, or ceiling, file a service order to have it repaired.

Certain workers are at greater risk for asbestos inhalation—for example, plumbers, carpenters, custodial service personnel, firemen, asbestos inspectors, and anyone else who regularly comes

into contact with asbestos-containing materials in a capacity that causes, or has the potential to cause, disturbance or damage to the matrix.

OSHA divides asbestos activities into four classes. Class I activities comprise removal of thermal system insulation (TSI) and/or surfacing ACM or PACM. Class II activities include removal of ACM other than TSI or surfacing, such as asbestos-containing wallboard, floor tile, roofing shingles, siding shingles, and mastics. Class III activities include repair and maintenance operations in which ACM may be disturbed. Class IV activities include maintenance and custodial activities in which employees contact ACM and/or PCM or are required to clean up waste and debris containing ACM and/or PCM. Individuals performing Class I and II activities must be certified through an EPA-approved asbestos worker's training course, at a minimum. Individuals performing Class III activities must have, at a minimum, the equivalent of the 16-hour Operations and Maintenance asbestos course. Individuals performing Class IV activities should have asbestos awareness training, which is a two-hour course that may be provided by their employer.

Asbestos contractors are required to submit an asbestos plan prior to the initiation of their work. Please contact the asbestos POC at x1731 to obtain a copy of the most recent version of Fort Jackson's Asbestos Management Plan, which stipulates what must be included in the contractor's plan.

Why doesn't Fort Jackson locate and remove all the asbestos?

Asbestos containing materials (ACM) in good condition generally will not release fibers. Preventing ACM from being disturbed or damaged is the most efficient way of managing ACM under most circumstances. Although suspect ACM can be identified by visual inspection, the presence of asbestos can only be confirmed through laboratory analysis. This requires taking samples. Sampling can release asbestos fibers into the air and leave holes in walls, roofs, insulation, and other surfaces. Asbestos inspectors must wear special protective equipment and establish controlled zones or "regulated areas" to protect others. This is disruptive to the work or home activities. A post-wide survey of easily accessible suspect ACM has been conducted. Additional surface and invasive testing has been conducted when workers will need to disturb potential asbestos-containing materials or when these materials need to be discarded.

An asbestos inspector takes samples to determine where asbestos is located. An asbestos management-planner assesses the hazard potential of ACM. The risk factor is determined by the current condition of the ACM ("significantly damaged," "damaged," or "good") and, for the latter two categories, potential for disturbance ("potential for significant damage," "potential for damage," or "low potential"). The potential for disturbance level is assigned based on whether the ACM has a high, moderate, or low likelihood of frequent contact by people, exposure to vibrations, or potential for air erosion. Because asbestos removal is expensive, removal is prioritized based on the hazard rank.

Removal is not the only method of controlling asbestos hazards. Another method for controlling the hazard is to have an operations and maintenance program in which service personnel with

asbestos awareness training monitor the condition of ACM and PACM and use special work practices designed to not damage the material. Other methods are to repair damaged ACM or PACM, or to enclose or encapsulate the asbestos.

Where can I learn more about asbestos?

See <http://www.osha.gov/SLTC/asbestos>, for more information on asbestos. This website covers a wide variety of asbestos-related topics.