

## **Asbestos Information For The Modern FireFighter**

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Asbestos is a catch-all term for a group of six naturally occurring rock-like, silicate minerals that can be found in twenty U.S. states, as well as Canada, the former Soviet Union, South Africa, Italy, China, Greece, and India. All forms of asbestos are fibrous, meaning that small strands can be extracted and then spun and woven, much like cotton, into conventional cloth-like fabrics. Asbestos has a very unique set of physical properties including tensile strength, durability, flexibility, sound absorption, and a resistance to heat, chemical, and electrical damage. It is the combination of these rare properties which led to asbestos' use in a number of functions in ancient times. Then, with the advent of mass industrialization, asbestos became a component of in a wide variety of commercial products.

Unfortunately, it has come to light that this previously termed "magical mineral" comes with an incredible downside. Asbestos fibers, when inhaled or swallowed, are dangerous and known to cause [mesothelioma](#), asbestosis, and lung cancers among other adverse health effects. The nearly-indestructible nature of asbestos fibers is what makes them so harmful to the body. They can remain in lung tissue for a very long time and cause scarring, inflammation, and ultimately many of the health problems mentioned above.

Mesothelioma is a rare cancer that develops from the protective lining that covers many of the body's internal organs, the mesothelium, and is almost always caused by exposure to asbestos. Mesothelioma can take anywhere from 15-40 years to develop and there are only around 2,000 new diagnoses of mesothelioma each year. [Mesothelioma law](#) has become a large industry because many of the asbestos manufacturers knowingly hid the dangers of their product, thus victims are entitled to compensation.

### **Asbestos in Building Materials**

As mentioned above, asbestos has a unique set of physical properties that make it attractive as a component in many construction materials.

When the health risks of asbestos began to surface, asbestos was phased out of most commercial and industrial applications, however the material may still be present in many buildings built before 1980 due to the high cost of asbestos removal / abatement. Products that may contain asbestos in buildings include roofing materials, shingles, siding, flooring, millboard, door gaskets, walls, insulation, patching, joint

compound, textured paint, and pipes. In addition, it is estimated that up to 35 million homes in the United States may contain Zonolite, an attic insulation made from asbestos-contaminated vermiculite.

### **Firefighter Specific Asbestos Information**

During a fire, firefighters can be exposed to a broad spectrum of construction materials, and in older buildings, especially those built before the 1980s, many of these materials contain asbestos. The hot air current at a fire can carry asbestos fibers that are released when cold water hits hot asbestos or when structural failure causes asbestos-containing components to break. Also, fire may cause non-friable asbestos materials (materials in which the asbestos fibers are not easily broken apart) to become friable.

Researchers have found that the level of toxic chemicals such as PVC and asbestos remains high even after fires are extinguished. A simple dust mask or working quickly will not protect you from the potential harm. Firefighters that wear self-contained breathing apparatus' are better protected from fiber inhalation. However, many firefighters often remove their respiratory equipment after the fire is mostly controlled and they are searching through the debris for any remaining embers. This has the potential to expose them to airborne asbestos and should be avoided.

### **Asbestos Exposure Prevention Tips for the Modern Firefighter**

- \* Continue to wear SCBA while searching for hotspots during overhaul stage
- \* Wet parts of the building where firefighters are working to minimize asbestos fibers released into the air
- \* Venting and entry techniques, which often involve opening walls, should always be performed with protective equipment
- \* Equipment and clothing should be washed at the scene, if possible, to prevent the spread of contaminants beyond the work site