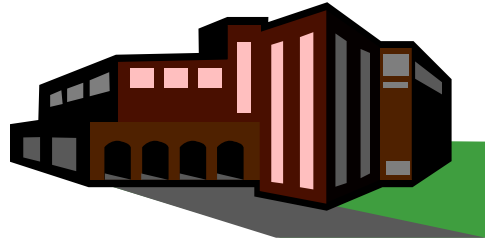


# ASBESTOS

IN YOUR HOME / AT WORK



Forsyth County  
Office of Environmental Assistance and Protection

## WHAT IS ASBESTOS?

Asbestos is a general name given to a group of naturally occurring minerals found throughout the world. The asbestos mineral is composed of bundles of fibers that are very durable, heat resistant and noise absorbing. Asbestos products have proven to be very resilient and have been used in building products since the late 1800's. In 1971, after years of studying the health effects of workers who made or installed asbestos products, the United States Environmental Protection Agency (US EPA) declared asbestos unsafe and listed it as a hazardous air pollutant. Asbestos products have proven to be superior over other materials as long as it remained intact. However, if asbestos becomes air-borne and an individual inhaled it, severe health problems could result. Since the 1970's, there have been strict US EPA rules regulating the removal and disposal of asbestos materials. The Occupational Safety and Health Administration (OSHA) has regulations in effect to protect employees working with or around asbestos. In 1995, OSHA issued revised regulations for asbestos with stricter requirements.



In 1971 the EPA identified asbestos as a hazardous air pollutant. The manufacture and use of some friable asbestos products was banned immediately while other friable and non-friable asbestos products would be phased out gradually while replacements for the asbestos were developed. Asbestos materials are divided into two categories, friable and non-friable. Friable asbestos is asbestos material that can be reduced to powder by hand pressure such as pipe insulation or sprayed on ceiling material and can become air-borne by touch. Non-friable asbestos cannot be reduced to powder or become air-borne by hand touch, such as floor tile. Asbestos must be released from a product and become air-borne to be considered a hazard. In 1991 the total ban on the use of asbestos was set aside, and asbestos was allowed to be used to a limited degree in some products. As a result, there are asbestos containing products on the market today. A new building does not mean that it is asbestos-free.

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### *IS ASBESTOS DANGEROUS?*

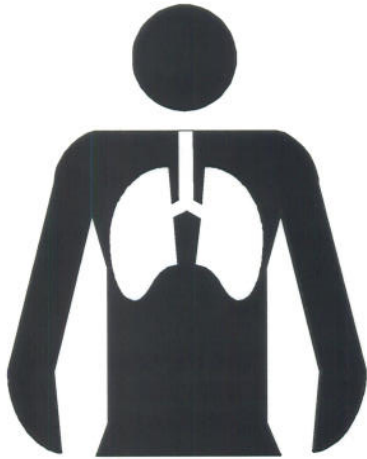
There are some myths circulating today that asbestos **is not** as dangerous as it was once claimed to be. This is not true. Asbestos is a carcinogen and exposure to it can lead to several types of health effects. Health effects from exposure to asbestos have a delayed effect or latency period. Health effects resulting from exposure to asbestos may not appear for 10 to 40 years after the exposure. If you know you have been exposed, inform your physician so that he may monitor your condition over the years.

**DANGER**  
**ASBESTOS**

Exposure to asbestos does not necessarily create health problems. However, people exposed to higher concentrations of airborne asbestos have a greater risk of developing asbestos related diseases, and no safe level of asbestos exposure has been determined.

## HEALTH EFFECTS OF EXPOSURE TO ASBESTOS

Since the mid 1900's many studies have shown the health effects associated with exposure to asbestos. These studies have shown that high levels of exposure to airborne asbestos fibers causes a variety of pulmonary diseases. The greater the exposure, the greater the chance of health effects. There have been cases of low level exposure to asbestos that have lead to asbestos related health problems. Health effects resulting from asbestos exposure have a latency period where the results may not appear for 10 to 40 years. Some asbestos-related diseases include:



*Asbestosis:* A scarring of the tissues of the lungs which cause a reduction in lung capacity.

*Mesothelioma:* A rare form of cancer involving the lining of the lungs, chest, or abdomen. This disease is always associated with asbestos exposure and is fatal.

*Cancer:* Lung, stomach and colon cancer, and other pleural diseases are also asbestos-related diseases.

Studies determining health effects from asbestos exposure have been based on airborne asbestos fibers. An individual can be exposed to asbestos two ways; inhalation or ingestion. Asbestos is either inhaled because of airborne asbestos fibers or asbestos is ingested or swallowed. An example of this is asbestos transite pipes used underground to

transport water to homes and buildings. Transite is a cementous material that contains asbestos which deteriorates over time. As the transite deteriorates, asbestos fibers can be released from the interior of the pipe into the drinking water flowing through the pipe.

Asbestos floor tile in a room does not mean that you are being exposed to asbestos. The asbestos must be released from the floor tile and become airborne to become a hazard. There is no requirement to remove asbestos from a facility unless it is in a poor condition where the asbestos fibers may be released. If an asbestos containing material is in good condition (not damaged to the point that asbestos fibers are released) there is little chance of exposure to potentially dangerous asbestos fibers.

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Is Asbestos  
in  
**YOUR** Home?



## **WHERE CAN ASBESTOS BE FOUND?**

Asbestos is present in many common building materials used in private homes and in public buildings. **An asbestos containing product can not be determined by sight.** The only way to determine if asbestos is definitely present in a material is through microscopic analysis by an approved laboratory. Some common materials that may contain asbestos include:

*Flooring materials including:* 9 inch by 9 inch floor tile (older, thicker floor tile)  
 12 inch by 12 inch floor tile (commonly used today)  
 Sheet linoleum  
 Mastic (glue located under the floor tile or linoleum)



There have been many instances where a homeowner decides to restore the natural wood floors in his/her home. In order to do this, the current flooring (floor tile or linoleum) must first be removed along with the glue underneath. The best way to get a smooth finish is to sand the glue off the wood. However, if there is asbestos in the glue, sanding it will cause the asbestos to become airborne, thus contaminating the entire house.

*Ceiling materials including:* Sprayed on textured ceilings  
 Ceiling tiles (drop ceilings)



*Thermal system insulation:*

Pipe wrap  
 Boiler/furnace insulation  
 Fire proof surfacing in or around fireplaces  
 Door gaskets on wood-burning stoves



*Sheetrock/joint compound:* Normally sheetrock does not contain asbestos, but the joint compound used on the seams between the pieces of sheetrock can contain asbestos. This is common on sheetrock walls and ceilings.



*Roofing Materials:*

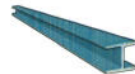
Roof flashing (tar)  
 Roof shingles



*Cementous Products:*

Exterior siding on private homes  
 Roof shingles  
 Underground water pipe

*Fireproofing/Soundproofing Insulation:* Many public buildings have sprayed insulation on steel beams located under each floor (and above drop ceilings on the floor below)..



## ***IDENTIFYING ASBESTOS MATERIALS***

Asbestos has no odor and can not be identified by visual observation. There are some common products that were produced over the years that may contain asbestos (such as 9x9 floor tile which contains asbestos 95% of the time). Visual inspection can not determine if there are asbestos fibers in it. Asbestos fibers are very small and some times invisible to the human eye. As a result, microscopic analysis is the only way to determine if a product contains or does not contain asbestos. Polarized Light Microscopy (PLM) and Scanning Electron Microscopy (SEM) are the only two approved methods of analysis to determine asbestos content in a material. PLM is the EPA accepted method. In addition, the lab performing the analysis must be an approved laboratory and participate in the National Voluntary Lab Accreditation Program (NVLAP), a certification program that evaluates analysts in determining the type and quantity of asbestos in a material.

Sampling of suspect asbestos materials must be performed by an inspector accredited by the State of North Carolina. Inspectors are trained to look for certain materials in buildings that may contain asbestos and are also trained in proper sampling techniques.

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## ***DOES ASBESTOS HAVE TO BE REMOVED?***

At present there is **no requirement** to remove asbestos materials from commercial and industrial buildings unless the identified asbestos material has deteriorated to the point that it may become air-borne and, therefore, a possible health hazard. Even in a deteriorated condition, asbestos does not have to be removed if it can be repaired or enclosed. Depending on the type of asbestos that is deteriorating (flooring, pipe insulation, etc.) repairs may include wrapping asbestos pipe insulation in polyethylene plastic, or covering flooring material with a non-asbestos flooring material. Some people prefer removal as an option, but repairing or enclosing the asbestos is usually less expensive than removal. If removal is the option of choice, caution must be used by the owner in deciding who will remove the asbestos material.

Friable asbestos is the more dangerous and the most regulated type of asbestos. Removal of friable asbestos should be performed by an asbestos contractor with a Supervisor and workers accredited by the State of North Carolina.

Non-friable asbestos is asbestos where the fibers can not easily be made air-borne. An asbestos release will not result simply from touching non-friable asbestos such as floor tile. Non-friable asbestos must be beaten or broken (such as floor tile), cut or sawed (as in sheet linoleum), or sanded (as in the mastic (glue) under flooring). Non-friable asbestos can become friable and a hazard if handled improperly, but normally an asbestos contractor is not required to remove this material unless it is already in a deteriorated condition or will become friable during removal.

Non-friable asbestos may be safely removed by a homeowner or non-asbestos contractor if handled properly. This includes no sawing, cutting, or beating apart the material or using any power tools to remove it. Precautions should be taken when removing non-friable material such as keeping breakage to a minimum and keeping the material wet when disturbing it.

If asbestos is removed, it must be disposed of properly. Check with the landfill on regulations regarding disposal.

# ASBESTOS FACTS

- Asbestos is a naturally occurring mineral composed of bundles of fibers.
- Asbestos is an excellent insulator that is not affected by heat or chemicals, and will not conduct electricity and will absorb noise.
- In 1971, the EPA declared asbestos unsafe and a hazardous air pollutant with strict requirements regulating removal and disposal.
- Asbestos has been determined to cause severe health problems such as asbestosis (scarring of the lung tissues), and cancers of the lungs, esophagus, colon, pancreas, and stomach.
- Health problems resulting from asbestos exposure can take 10 to 40 years after exposure to appear in an individual.
- Asbestos must enter the body to cause health problems. This happens through inhalation or ingestion of asbestos fibers.
- Asbestos fibers can become airborne and a possible health hazard when materials containing asbestos are disturbed or improperly removed.
- Asbestos fibers are so small in size that they can be invisible when in the air thus individuals can be exposed to asbestos without their knowledge.
- Once asbestos is released in an area, it can remain in that area for an indefinite amount of time. Disturbed asbestos fibers become air-borne and eventually settle down onto objects in an area. These fibers can become airborne again upon any disturbance or activity in that area.
- Asbestos is safe and legal to remain in homes or public buildings as long as the asbestos materials are in good condition and the asbestos can not be released into the air.
- There is no requirement to remove asbestos from buildings or private homes.
- Asbestos was banned in the 1970's, but is still present in homes and buildings built after that time and is being used today to a limited extent.

For Additional Information:

**Forsyth County Office of Environmental Assistance and Protection**  
**201 N Chestnut St.**  
**Winston-Salem, NC 27101-1362**  
**(336) 703-2440**  
**[www.forsyth.cc/EAP](http://www.forsyth.cc/EAP)**

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