

NCDOT **Division One** Monthly Safety Trainer

Asbestos

(Reference: NCDOT SPP 1910-1001)

<http://www.ncdot.org/doh/safety/sppm/chp17.pdf>

Asbestos is a naturally occurring mineral that has been used for centuries in a variety of ways. It is mined from the earth and has both fire resistance and insulating qualities.

Asbestos fibers are so small that they can not be seen with the naked eye. So remember, you should never rely solely upon the presence of dust to determine that asbestos fibers are present.

How Asbestos is Used

- Insulation – When asbestos is bonded in and to other materials, an asbestos containing material (ACM) is formed that has excellent insulating properties. Its uses include:
 1. **Sound proofing**– Older buildings used wall panels containing asbestos to help reduce some noise, as well as to provide some fire resistance. Other buildings (EXAMPLE: older school building auditoriums with cinder block walls) used sprayed on ACM to help dampen or reduce noise.
 2. **Heat resistance**– In older buildings, ceiling panels and pipe insulation had asbestos containing materials in them. Those products prevented heat loss from steam pipes, prevented warm air from reaching air conditioning pipes, and offered heat retaining qualities to ceiling panels. And when used in brake shoes, the ACM helps to prevent heat buildup from destroying the brake shoe.
 3. **Fireproofing**– When applied to various surfaces, ACM offers a higher degree of fire protection than some materials. Again, this is due to the heat resistance properties of asbestos.

Where It's Used

Some of the places where ACM is used were discussed in the previous section. By law, buildings constructed **after 1980** can not use ACM spray-on surfacing material or thermal system insulation on the buildings pipe. However, since some of you work in pre-1980 constructed buildings you should know that some ACM may be found in the following items: Ceiling tiles, floor tiles, patching compounds, old boiler pipes, and brake shoes.

POTENTIAL HEALTH AFFECTS

For asbestos to present a danger to humans, asbestos dust has to get into the body. There are two ways that this can happen. Inhalation and ingestion. Since your body usually finds ways to rid itself of most things that don't belong there, the inhalation or ingestion of too many fibers at once, or over a prolonged period of time prevents the body from ridding itself of the fibers.

We will now discuss some of the health problems associate with over-exposure to asbestos fibers. Remember, the health problems we are going to discuss can take as long as 20-30 years to develop after exposure. Some of the damage that can be caused by over-exposure to asbestos include:

1. Lung damage- If more asbestos fibers are inhaled than the body can remove, the potential exists for a variety of conditions to occur. Some of these, like pleural plaques or pleural thickening can cause discomfort in breathing.

Asbestosis is a condition where the asbestos fibers affect the lung tissue itself and causes scar-like material to form which can make it more difficult to breath. Other asbestos related diseases, like lung cancer, can be life threatening. Because smokers lungs are not as efficient as non-smokers at getting rid of things breathed into their lungs, smokers have a higher risk of getting sick if over-exposed to airborne asbestos fibers.

2. Mesothelioma- This is a cancer of the membrane that lines the chest and abdominal cavity. Over-exposure to asbestos fibers can cause this condition to occur many years after exposure.
3. Other damage- Some studies indicate that a higher than normal incidence of digestive system cancers occur among asbestos workers.

Signs & Labels

Signs and labels have been posted in buildings and on materials that have tested positive for ACM, or in areas where it is presumed that ACM is present. You are advised to not tamper with or remove these signs or labels.

To prevent accidental release of asbestos fibers by outside contractors working in our buildings, signs are posted in each building that directs them to the facility manager. They will then be notified where any ACM is located and told not to disturb it. Where there is a need to do so, a regulated area may be set up. It will be clearly marked and you must stay out of those areas.

WALK THROUGH THE BUILDING

Take the employees on a walk through of the building. If any known ACM is present, show them its presence and location. Remind them to not tamper with it or to remove any labels on it. Only trained professional are allowed to work with asbestos.

Show the video “Undersanding Asbestos in the Workplace”. There is least one video in each District Office and Department for use.

Information to assist employees that may have asbestos located in there work area or in there home:

<http://www.epa.gov/asbestos/pubs/ashome.html>