CAHI™ CONNECTICUT ASSOCIATION OF HOME INSPECTORS, INC.

MONTHLY

News and Views from the Connecticut Association of Home Inspectors, Inc. December 2008

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Buried Oils Tanks

By Randy Howland

The year most commonly referred to, when it became a recommended practice to place home-heating, oil tanks outside or underground, was 1961. In that year the National Board of Fire Underwriters, the insurance industry, recommended that oil-storage tanks be placed outside and/or underground for safety and fire issues, whenever feasible. Prior to this date, numerous oil tanks had already been installed below ground. However, at this time, it became a common practice to do so. The long-term effects of this were not foreseen. The technology of the tank material was not well-developed and the oil tanks could not withstand the climatic pressures. The same single-wall, steel tanks which were installed in basements were also used outside and underground, exposing them to the elements.

The common life expectancy for a single wall-steel tank, when located in a basement, is approximately 30 years. When the same tank is placed underground, its life expectancy decreases to approximately 10 to 15 years. In a more severe environment, with increased levels of humidity, rain, and extreme temperatures, its components and connections are adversely impacted.

The principal element that deteriorates an oil tank is water. It is concerning, when water gets into a tank. The risk of water entry, through leaks in pipe joints or fills, is greatly increased when a tank is placed outside or underground. Once inside the tank, the water and sulfur present in the oil create an acidic mixture that corrodes its steel walls.

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Meeting Dates

December - ***No Meeting***

Jan 10 **CT Law Seminar**

Jan 28 ***Chimney Maintenance & Repair*** **- Jim Jaffe of CT Chimney and Vent**

Holiday Inn
201 Washington Ave
North Haven
(203) 239-6700

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Combined with other bacteriological processes, and the natural rusting and aging of the steel, the bottom of the tank is corroded and a leak ensues.

Another way that water enters an outside or buried oil tank, is when it is only partially full. The remaining portion of the tank is filled with air. In New England, there are high humidity levels in the air most of the time during the year. The combination of the humidity in the air and the low temperature in the ground create condensation and form moisture droplets on the interior walls of the oil tank. Water is naturally heavier than the oil. Because of this, the droplets slide down the walls to the bottom of the oil tank, forming a layer of acidic water and scum. This is illustrated in WWII movies, with German submarines and oil tankers. When the tankers were torpedoed, the oil leaked from them, floated and burned on the surface of the ocean. Because oil is lighter than water, it will float on top of any water which is present in oil tanks. To use an idiomatic expression, oil and water don't mix. Oil is necessary to heat our homes; any water present in the system is a source of future problems.

Another problem with outside or buried oil tanks is that it may leak. Oil from a damaged tank will seep into the ground and migrate to the subsoil, not only of one's property, but other people, as well. It travels from one's tank to the neighbor's well, to the town stream, next door; then, it contaminates the public water supply.

How to test for leakage in oil tanks

There are many methods of testing for leaks in underground storage tanks. Each method may or may not offer conclusive proof that a leak is existent.

The two most common methods of testing for leaks are the volumetric and pressure method. Both methods measure the change in pressure within the tank over a predetermined period of time. Usually, the time required for testing is 24 hours. Other times it is four hours only. The latter is the minimum of hours required.

One style of pressure testing adds air pressure to the interior of the tank, much in the same way that a balloon is inflated. Another style creates a vacuum by sucking the air out of the tank. Both of these techniques measure the change in the pressure level in the tank. However, they do not identify the source of the problem. We do not know for certain whether a leak is present in the tank or the connecting piping.

Inert Gas

Another method of testing outside or buried oil tanks is by injecting the tank with a traceable inert gas. The air in the soil is, then, tested for the presence of the inert gas.

Electronic monitors

Some companies may offer sophisticated electronic testing. This method may be cost prohibitive.

Soil Sampling

A preferred method of testing is taking samples of the soil and examining it for evidence of oil in the ground. In this test, we take core samples of the areas beneath and surrounding the tank and send them to a laboratory to be analyzed. This test is also not conclusive. The width and breadth of the tank and the distance between the areas from which the samples were taken may hinder a true sampling of the soil directly below or around the tank. A sample of soil that is six inches away from a leak may not show evidence of oil in it.

The ultimate solution to an oil leakage is to empty the tank completely and then remove it from the outside or underground location.

The cost of tank removals

Oil tank removal, especially the underground tanks, can be costly. On the average, it costs $1,200.00 when there is no contaminated soil. The cost of removal will vary as to the size and accessibility of the tank. Extreme situations can cost over $100,000.

Additional information about Underground Storage Fuel Tanks provided by the Connecticut Department of Environmental Protection

The Residential Amnesty Underground Storage Tank program pursuant to Public Act 99-269, as amended by Public Acts 00-201 and 01-9 ***ended December 31, 2001***.

As such, homeowner participation in the program ended on December 31, 2001. With respect to the status of contractors registered under the Residential Amnesty Underground Storage Tank program, ***registrations for all such contractors were allowed to expire on August 1, 2002*** since the statutory period for the program had ended.

Last Notice! Last Chance!
SIGN UP NOW!

CONNECTICUT LAW SEMINAR

Saturday, January 10th
8:30 – 11:30 am

Holiday Inn
201 Washington Ave
North Haven

Come to this CAHI sponsored event and listen to Connecticut's premier law presenter, attorney Kent Mawhinney, who is one of the most well known lecturers on this required 3-hour Law Seminar! CAHI provides the seminar, breakfast, refreshments and a certificate upon completion for just $99. This will be the last CT Law Seminar sponsored by CAHI during this renewal cycle. This is the 3-hour required CT Law Seminar for the July 1, 2007 to June 30, 2009 license renewal cycle. Sign up now to reserve your seat. As the holiday season is upon us, I wish you all a safe and joyful season. Have a wonderful holiday and Happy New Year!

Woody Dawson
President

Fee $99.00
1/10/08 CT Law Seminar

Name: _____

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Month / Year

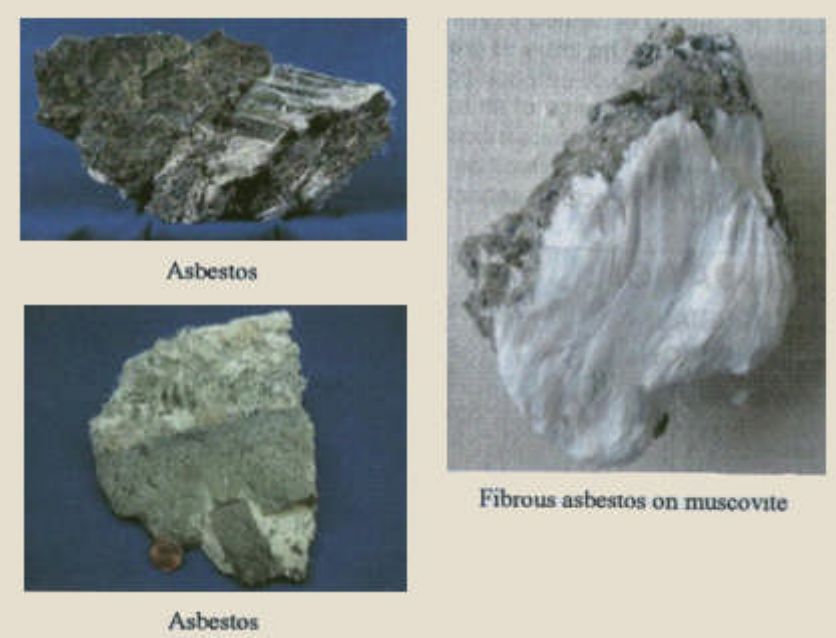
Mail to: CAHI, 75 Pond View Circle, Beacon Falls, CT 06403 or visit our website at www.ctinspectors.com and Register & Pay. On the home page, click on "Special Events" then click on "CT Law Seminar", Click on "add to cart"- fill out the form and pay by credit card.

Make a copy for your records

Asbestos

By Randy Howland

Asbestos is a mineral, which is mined the same way as other minerals, such as iron or copper. There are many varieties of asbestos, but three of the most common types are chrysotile, amosite, and crocidolite. One of the most appealing properties of asbestos is that when crushed, it breaks up into fine elongated fibers, whereas other minerals break up into a fine dust or powder. These elongated asbestos fibers act as a binder when mixed with another element. They provide the mixture with a greater overall strength and make it more workable. One example is cement asbestos siding. The cement is the main component and asbestos is added to it to serve as a binder. Asbestos provides strength to the shingles. It also acts as a binder in stucco finishes, making the stucco stronger and easier to work with.



Another useful characteristic of asbestos is its heat resistance. A tale of Charlemagne's tablecloth tries to explain the heat resistance of asbestos. His tablecloth was reportedly made of asbestos. The legend suggests that to clean the tablecloth, it was actually thrown into the campfire where everything, but the tablecloth, was burned away. Today, a home inspector can still find asbestos in heat resistance products, such as fireproof gloves and pipe insulation.

Asbestos' flexibility, heat resistance and durability make it an extremely practical product. At the height of its popularity, over 3,000 commercial products contained asbestos. Materials containing asbestos are used to fireproof, insulate, soundproof and decorate.

Asbestos was first used in the United States in the early 1900's to insulate steam engines, though it was not used extensively until 1940. Asbestos' heyday came between WWII through the 1970's. At that time it was the product of choice. The amount of asbestos contained in a product could have been as low as 1% or as high as 100%. The existence of asbestos cannot be determined by visual inspection, because the fibers are too small. The presence of asbestos can only be determined by the manufacturers' labeling or by laboratory analysis.

The problem with asbestos occurs when its small fibers become airborne and are inhaled. Over time, these fibers accumulate in the lungs. When an asbestos-containing product breaks down and the fibers become airborne, they are called friable. Friable asbestos material is any product containing more than 1% of asbestos. Breathing high levels of asbestos fibers can lead to an increased risk of lung cancer, mesothelioma (a cancer of the chest and abdominal linings), and asbestosis (lung scarring). Symptoms of these diseases do not show up until years after exposure.

Because of the health risks associated with asbestos its use was banned by the federal government in 1978 in the United States.

The Issue

When the asbestos material is in good condition, the best solution is to leave it alone. Materials in good condition will not release asbestos fibers. It is the disturbing or altering of the material that causes the release of the asbestos fibers.

The problem arises when we have an old boiler or furnace, or any product containing asbestos, which has to be replaced. At

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this time the asbestos may have to be disturbed, if it is in contact with or too close to the appliance. This poses a risk to the service technician.

Contractors should use HEPA vacuum cleaners to remove the asbestos. A wetting agent should be applied to the asbestos to keep the fibers from becoming airborne. Wet mops and rags should be used to help clean the area. The asbestos materials, as well as clothing, mop and rags, should be disposed of in properly-marked and sealed bags.

Repairing an object can be done by covering or sealing the asbestos material. This involves placing a protective wrap over or around the material with a sealant that either binds the asbestos fibers together or coats the fibers, so that these fibers cannot be released.

Vermiculite

Vermiculite is a naturally occurring mineral. It resembles mica. All vermiculite ores contain a range of other minerals. A small percentage of vermiculite ores, from some sources, have been found to contain asbestos. Vermiculite is light weight, fire resistant, and odorless. These qualities have allowed it to be used in numerous products including attic insulation (as shown below).

Prior to its close in 1990, much of the world's supply of vermiculite came from a mine near Libby, Montana. This mine had a natural deposit of asbestos that resulted in contaminated vermiculite.

1. The vermiculite insulation should be left undisturbed.
2. Items stored in the attic should not be located where the insulation can be disturbed.
3. If the house is to be remodeled, the insulation should be tested for the presence of asbestos and professionally removed, if found present.

Additional Information About Asbestos

provided by the United States Environmental Protection Agency

The following information below is taken largely from a document developed in 1990 entitled Asbestos in Your Home. However, this information is still of value to homeowners and renters. Hard copies of the 1990 document are available from the Toxic Substances Control Act (TSCA) Assistance Information Service at 202-554-1404, or from the Asbestos Ombudsman at 1-800-368-5888. Note: EPA is currently revising the original document.

- What Is Asbestos?
- How Can Asbestos Affect My Health?
- Where Can I Find Asbestos And When Can It Be A Problem?
- Examples of Where Asbestos Hazards May Be Found In The Home
- What Should Be Done About Asbestos In The Home?
- How To Identify Materials That Contain Asbestos
- How To Manage An Asbestos Problem
- Asbestos Do's And Don'ts For The Homeowner
- Asbestos Professionals: Who Are They And What Can They Do?
- If You Hire A Professional Asbestos Inspector
- If You Hire A Corrective-Action Contractor

Products Containing Asbestos

Automotive

Brake Shoes & Pads
Clutch Facings
Body Fillers
Mufflers
Transmissions
Undercoating
Gaskets

Appliances

Hair Dryers
Electric Blankets
Popcorn Poppers
Toasters
Gaskets

Building Materials

Acoustical Tile
Wallboard
Shingles
Siding
Roofing Felts & Tiles

Cement Asbestos

Shingles
Piping
Sheets

Electrical

Cable & Wire Insulation
Motor Components
Burner Components

Insulation

Rock Wool
Vermiculite
Oven
Dishwasher
Heating Pipe
Boilers
Furnaces
Ductwork

Paints, Sealants & Coatings

Asphalt
Drilling Fluids
Tile Adhesives
Plaster & Stucco
Caulking & Patching
Polishing Compounds

Textiles

Ironing Board Covers
Laboratory Aprons
Auditorium or Movie Curtains
Fire Hoses
Fire Blankets
Welding Hoods

Miscellaneous

Kilns
Black Boards
Candlesticks
Phonograph Records
Fire Doors
Baking Sheets
Ash Trays
Ammunition
Outdoor Movie Screens
Beverage Filters
Light Bulbs & Sockets
Marine Caulk
Thermal Heat Shields
Acetylene Cylinders
Fume Hoods
Laboratory Table Tops

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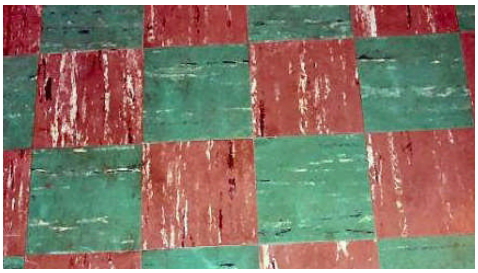
Examples of products containing Asbestos

Asbestos Pipe Insulation

Asbestos Pipe Insulation

Eight Inch Vinyl Flooring Tiles containing Asbestos



Cement Asbestos Exterior Siding

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The Licensing Board meetings are held at 9:30 am, Department of Consumer Protection, Room 117, 165 Capitol Avenue, Hartford.

The public is always welcome.