Asbestos and Building Materials 2018

There are over 3,000 products that contain asbestos including construction related products. Homes and buildings built prior to 1980 should be presumed to contain asbestos unless otherwise tested. Asbestos is the name of a group of naturally occurring minerals that separate into strong, very fine fibers. Serpentine rock (California's State Rock) has Chrysotile veins which are an asbestos material. Asbestos minerals are added to increase the overall strength of the product as well as provide heat resistant capabilities.

"Serpentine Rock" – showing white asbestos veins.

Asbestos tends to break down into a dust of microscopic size fibers. Because of their size and shape, these tiny fibers remain suspended in the air for long periods of time and can easily penetrate body tissues after being inhaled or ingested. Because of their durability, these fibers remain in the body for many years and thereby become the cause of asbestos related diseased.

The Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) requires an inspection and identification of asbestos on facilities that are to undergo demolition or renovation work. Materials found to contain asbestos will need to be removed prior to the start of such work.

Asbestos sampling and/or inspections are performed by trained and licensed Certified Asbestos Consultants (CAC's) or by an Asbestos Site Surveillance Technician (SST). Surveys are generally conducted in accordance with the procedures described by the Environmental Protection Agency in 125CFR 763 guidelines to determine the presence of exposed or accessible suspect asbestos-containing materials (ACM).

Building materials that are suspect for asbestos:

Acoustical Ceiling Material – Ceiling of a restaurant

- Acoustical ceiling material
- 9 x 9 Floor Tile
- 12 x 12 Floor Tile
- Linoleum
- Vinyl Flooring
- Mastic
- Base Coving
- Blown on Fireproofing
- Ceiling Tiles
- Theatre Curtains
- Ducting
- Thermal System Insulation
- Roof Felt
- Roof patching
- Roof Penetration Tar
- Roofing Layers
- Window Putty
- Sheetrock/Joint Compound
- Stucco

Samples that are collected during a survey are taken to an accredited laboratory and analyzed by Polarized Light Microscopy (PLM). There are two defining levels to keep in mind:

1) If the analysis indicates that the material contains 1% asbestos or above (>1%), the material will need to be removed and disposed of as a hazardous material utilizing a Certified Asbestos Abatement Contractor.
2) If the analysis indicates that the material contains less than (<1%) asbestos, the material will still need to be removed by a Certified Asbestos Abatement Contractor; however, will not require disposal as a hazardous material.

Note: If the material is <1%, you can request a special analysis from the lab called a Point Count (1,000 pts.). This type of analysis will determine if the material is <0.10%. If the material is <0.10%, a certified Asbestos Contractor is not needed.

Level	Regulator	Solution
1% or Above	EPA, OSHA, NESHAP, DOT	Removal and disposal As Hazardous Material
<1%	OSHA	Will still need removal by an Abatement Contractor
<0.01%	None	Nothing

<u>Categories of Asbestos</u>

The EPA groups Asbestos Containing Material (ACM) into three types:

1. Friable ACM – Asbestos containing materials that can reduce to powder by hand pressure such as, thermal system insulation and acoustical ceiling material.

2. Category I non-friable ACM – Asbestos containing resilient floor covers or VAT, asphalt roofing product, packing and gaskets.

3. Category II non-friable ACM – Any material, excluding Category I materials, that when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

Valves insulated with asbestos

These categories are what an Asbestos Consultant utilizes to determine how the materials found on a survey are to be handled.

Myth 1

If you have 100 square feet or less of material, anyone can remove it. WRONG. The 100 sq. ft. rule applies only to notification. If the quantity of material that you're are removing and disposing of is less than 100 square feet, you will not need to notify your local Air Quality Management District; however, all removal requirements still apply.

Myth 2

Asbestos is no longer manufactured and/or used. WRONG

Asbestos materials are still used in manufactured products in Canada and China.

Pricing

The following fee schedule is based on a 20,000 sq. ft. mixed use office building that is scheduled for renovation. The building has multiple suspect asbestos containing materials.

Service	Fee
Inspection, Sampling and Final Report Estimate of 40 PLM samples for analysis @$18.00/each If more than 40 are analyzed, each additional sample would be billed at the $18.00 fee. This can happen when multiple layers are found such as flooring and roofing.	Approximately $1,645.00
If the contractor requires an asbestos abatement specification, the cost will range	$800.00 – 1,200.00
If the contractor requires daily project management and oversight while the work is being performed, the average will range between	$760.00 – 900.00 per day plus air samples
Asbestos Clearance Inspection and Final Air Sampling the project.	$425.00 to $500.00 per clearance area and $18.00 per air sample.

Air samples are usually billed at $18.00 each and are taken on the workers and in the areas surrounding the work area.

Air samples are analyzed using Phase Contrast Microscopy (PCM) unless otherwise specified.

In Summary

1. Asbestos was used in Building Related Materials.

2. In General, any property built prior to 1980 that is scheduled for renovation and/or demolition will need to be surveyed by a CAC or SST.

3. Samples will be analyzed by PLM and results will determine the removal and disposal requirements. These will be indicated in the final report.

4. Removal of ACM needs to be completed by a Certified Asbestos Abatement Contractor

5. Determine how much assistance you want from the consultant after the initial survey.

6. Document all work performed and the contractors performing them.

About the author:

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Links:

OSHA:
http://www.osha-slc.gov/SLTC/asbestos/

EPA:
http://www.epa.gov/asbestos/

NIOSH:
http://www.cdc.gov/niosh/topics/asbestos/