



LUCE AIR QUALITY'S ASBESTOS FACT SHEET

An Asbestos Overview

Especially common in old buildings and structures, asbestos is a highly-regulated substance — regulated specifically by the U.S. Federal Clean Air Act — that becomes incredibly hazardous once it is exposed and airborne.

Asbestos is especially liable to become a danger when a building that is undergoing either renovation or restoration contains asbestos *unbeknownst to either the owners or the individuals performing the work*. Asbestos may also pose a danger in the case of emergency remediation projects for fire, water, mold, and more. During the aforementioned processes, asbestos-containing materials may become disturbed or removed, thereby putting the contractor(s) and/or property residents at risk of hazardous exposure.

An Industry Example of Exposure

Let's say there is a situation wherein a home experiences hurricane-related flooding. Once the restoration contractor arrives to remediate the site, they remove the ruined carpet — only to find floor tiles beneath the carpet. Consequently, they remove both the carpet and the tiles before completing their remediation process.

Now, let's say somebody performs an asbestos test on the tiles after the remediation and determines that they contained around 4% of asbestos. In this scenario, the remediation contractor actually performed an illegal removal of asbestos-containing material, as it is possible that they put their employees at risk of exposure. They may also have further contaminated the home in question.

Consequently, they may face fines from the following:

- The Environmental Protection Agency (EPA)
- Occupational Safety and Health Administration (OSHA)
- Their licensed state
- Their local jurisdiction

The Legality of Improper Asbestos Removal

When remediation contractors unknowingly remove, transport, and/or dispose of asbestos-containing materials, they are violating laws established by:

- The U.S. Environmental Protection Agency (EPA) — The EPA regulates asbestos removal.
- The Occupational Safety and Health Administration (OSHA) — OSHA oversees standards regarding safe work processes and workplace exposure.
- The U.S. Department of Transportation (DOT) — The DOT regulates processes that involve asbestos transportation and disposal.

Please Note:

- This document is written for educational purposes, not for legal advice.
- This document serves only as an overview of industry regulations. It is not all-encompassing.
- Contractors should be aware of what state and local regulations apply to their individual companies.
- Contractors should continue to perform follow-up tests and educate their employees as necessary in order to avoid potential liabilities.

DEFINING ASBESTOS

Asbestos is a naturally-occurring fibrous mineral that is lauded for its ability to withstand exposure to both high heat and chemicals. There are six different asbestos varieties that are used in a multitude of building materials. The most commonly used, however, is Chrysotile, or white asbestos.

Thanks to asbestos's overall durability, chemical resistance, and thermal insulation, it can be found in the below:

- Pipe insulation
- Boiler insulation
- Vermiculite insulation
- Wire insulation
- Gaskets
- Linoleum flooring
- Mastics and glues
- Roofing tars
- Asphalt roofing materials
- Cement roofing and siding
- Wall and/or ceiling plaster
- Spackle
- Caulking
- Ceiling tiles
- Floor tiles
- Gypsum board
- Popcorn ceilings
- Fire doors
- Vermiculite insulation
- Wire insulation
- Sprayed-on fire-proofing coatings
- Fire-resistant fabrics
- Cement pipes
- Sinks
- And more



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As asbestos is one of the most regulated materials in the United States, there are regulations implemented by federal, state, and local governments concerning:

- Handling
- Removal
- Transportation
- Removal

Thus, it is imperative that contractors check with their state and local authorities to determine what their company needs to do to be in compliance.

Otherwise, the most important federal regulations as they apply to the restoration or construction industry are summarized below:

EPA – National Emission Standards for Hazardous Air Pollutants (NESHAP)

While the restoration community is primarily concerned with renovation and demolition, the Asbestos NESHAP (40 CFR 61, Subpart M) comprehensively addresses both of these issues in addition to:

- Manufacturing
- Milling
- Fabrication operations
- Renovation
- Waste disposal
- And more

NESHAP also created the distinction between “friable” and “non-friable” asbestos materials:

- **Friable asbestos-containing material (ACM)** — “ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure.”
- **Non-Friable ACM** — “ACM that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.”

Regardless, any asbestos-containing material that is regulated under NESHAP is also referred to as “regulated asbestos-containing materials,” or RACM.

Under NESHAP rules, a contractor’s work practices that involve RACM should be completed as follows:

- Notify EPA of the intent to demolish and/or renovate a property
- Remove all asbestos-containing materials (ACM)
- Adequately wet all ACM
- Seal the ACM in leak-resistant containers
- Dispose of the ACM as swiftly and safely as possible

EPA — The Asbestos Hazard Emergency Response Act (AHERA)

Established in 1987, the Asbestos Hazard Emergency Response Act (AHERA) provides local education agencies (LEA) with the responsibility of ensuring that their facilities and staff are in compliance with certain asbestos rules and standards.

Namely, they must train their staff regarding asbestos, have an up-to-date Asbestos Management Plan (AMP) , perform regular building inspections, and document the location/condition of existing asbestos.

A designated person within the LEA will lead the collaborative efforts toward AHERA compliance, in addition to compliance with federal, state, and local regulations. This is also the person responsible for maintaining contact with a restoration contractor when applicable, as they should:

- Know if there are any ACM on-site
- Know the ACM location(s)
- Confirm the absence of ACM prior to demolition/restoration
- And more

Individual schools must also possess testing documentation detailing existing ACM or lack thereof. Contractors should be careful to note the date of sampling and inspection on these documents to ensure their methods were up to date.

The Occupational Safety and Health Administration (OSHA)

OSHA's two regulatory standards for asbestos can be found as follows:

1. The Asbestos Standard for General Industry
 - a. (29 CFR 1910.1001)
2. The Asbestos Standard for the Construction Industry
 - a. (29 CFR 1926.1101)

The OSHA asbestos standards apply to construction and restoration in terms of:

- Removing/disposing ACM
- Transporting ACM
- Storing ACM
- Demolishing, renovating, or salvaging buildings with existing ACM
- Cleaning emergencies that involve ACM
- Housekeeping that involves ACM on construction sites
- And more

Additionally, the OSHA standard was designed with a classification system for asbestos construction work, all of which feature varying processes and requirements.

UNDERSTANDING THE CLASSIFICATION OF ASBESTOS WORK

Defining the Classes:

- **Class 1 Asbestos Work** involves processes that may be the most hazardous. Specifically, it may involve the removal of thermal insulation (which is used for pipes, ducts, and more) or surfacing materials (like plaster or structural materials).
- **Class 2 Asbestos Work** involves the process of removing ACM that is not a form of thermal insulation. This may include ceiling/floor tiles and more.
- **Class 3 Asbestos Work** includes both the maintenance and repair of areas where ACM has not been disturbed or exposed.
- **Class 4 Asbestos Work** encompasses processes wherein custodial employees clean up asbestos-containing waste and contamination. They may also clean around this debris.

Boiling It All Down:

- Class 1 and Class 2 work involve the direct removal of ACM, whereas Class 3 and Class 4 deal primarily with maintenance responsibilities.
- Employers are required to prevent employee exposure to airborne concentrations of asbestos exceeding .1 fibers/cc per for long periods of time (about 8 hours) and short periods of time (up to about 30 minutes).
- Employers must also provide medical assistance to any worker that has been exposed beyond the aforementioned time limits (for work Classes 1, 2, and 3). They must also provide medical assistance to individuals utilizing negative-pressure respirators.
- Employers are subject to OSHA's asbestos regulations.

Heads-Up for Hazards

Communication is absolutely integral in preventing workplace exposure to asbestos. Contractors should not forget to ask the property owner or manager just how old the building is, as well as whether or not they are aware of existing asbestos within the structure. If a contractor is working with a school, they should request to the school's required asbestos management plan.

Additionally, before any renovation or remediation work begins, the property owner must disclose:

- The location of thermal insulation products
- The location of potentially hazardous surfacing materials
- The location of resilient flooring materials (if installed prior to 1981)

Otherwise, ACM may already be labeled if a contractor is working in or around a public or commercial building.

Should the contracting employer discover ACM on-site, they must:

- Provide notice of the ACM to both their coworkers/employees and the property owner within 24 hours. This should include the ACM location(s) and quantity
- Halt all work until the asbestos hazard has been safely and properly addressed
- Take further precautions to avoid the potential removal or disturbance of the ACM

There should be a designated person (preferably two) capable of ensuring worker safety on a construction site that contains asbestos and require asbestos operations. This person should be trained to:

- Identify potential ACMs
- Handle asbestos-related matters
- Possess knowledge of asbestos regulations

A restoration contractor should also have a designated team member for asbestos concerns. This person should undergo training equivalent to the 16-hour EPA Operations and Maintenance (O&M) course. Any employees performing Class 4 asbestos work should be trained in accordance with standards set by the EPA Awareness Training Class.

Finally, asbestos awareness classes lasting a minimum of two hours should be taken by Estimators, Supervisors, Field staff, and Technicians.

ASBESTOS ASSESSMENT

TRAINING ASBESTOS WORK

As an asbestos-containing material (ACM) contains a minimum of 1% asbestos, it is important that workers and managers assume that any suspect material is an ACM until tested for confirmation. Then it may then be disturbed and/or removed as necessary. Asbestos testing is completed by analyzing an asbestos sample beneath a microscope and is most often completed either by a third-party accredited lab. The most common asbestos forms are Chrysotile, Amosite, and Crocidolite. 6

Asbestos samples should be placed in a sealable container (i.e. a zip bag). The container should be labeled with the site name, sample location, and sample number on it. Additionally, a “chain of custody form” should be filled out. This form is often provided by the laboratory and must contain the following:

- The name of the company and/or individual who collected the sample
- The sample collection date
- The address where the sample was collected
- The specific location (where in the property) the sample was collected
- A description of the material from which the sample was collected (flooring, insulation, etc)
- The sample number as it corresponds to the container’s label.

If the chain of custody form is provided by a laboratory, the contractor should be sure to ask them how to properly contain and deliver the samples. Additionally, they should be familiar with:

- The analysis pricing
- The analysis type(s)*
- The analysis time frames

**Asbestos materials are most commonly analyzed by Polarized Light Microscopy (PLM). Some laboratories may also use Transmission Electron Microscopy (TEM), particularly for non-friable ACM.*

CONTROL MEASURES:

THE DOS AND DON'TS

When it comes time to determine how to handle asbestos-containing materials, contractors should first determine whether or not the existing asbestos has been damaged or destroyed. They should try to avoid exacerbating these conditions or causing them in the first place.

Otherwise, we encourage contractors to keep the following in mind:

DO

- Assess the work area to determine if there may be any other ACMs
- Avoid allowing untrained workers on-site for the cleaning
- Ensure qualified workers use the proper personal protective equipment (PPE) while handling ACMs
- Collect samples of the identified ACM(s) to be analyzed
- Inform the necessary parties (property owners, employers, etc) that asbestos is present
- Contain the area to prevent further airborne contamination and asbestos spread
- Keep ACMs that have been disturbed adequately wet
- Use HEPA vacuums and/or wet methods to clean the ACMs
- Contain and label the ACM in a sealed container
- Ensure that the area is properly cleaned
- Document the action taken
- Schedule a post-verification assessment to confirm the efficacy of the applied efforts

DO NOT

- Do not allow individuals to handle ACMs unless they are trained and qualified to do so
- Do not use fans on-site. This may further spread the asbestos fibers
- Do not dispose ACMs with regular waste and debris. Dispose of the materials in accordance with local asbestos regulation

Once the asbestos remediation/abatement process has reached completion, a post-remediation verification should be scheduled in order to confirm and document the work. The final air test results are most often reported in fibers/cc and, according to most regulations, the clearance level for an asbestos remediation process is approximately <0.01 fibers/cc.

Once the results have reached an acceptable level, the containment and equipment can be removed. At this point, the property owner/manager should also request the following from the contractor(s):

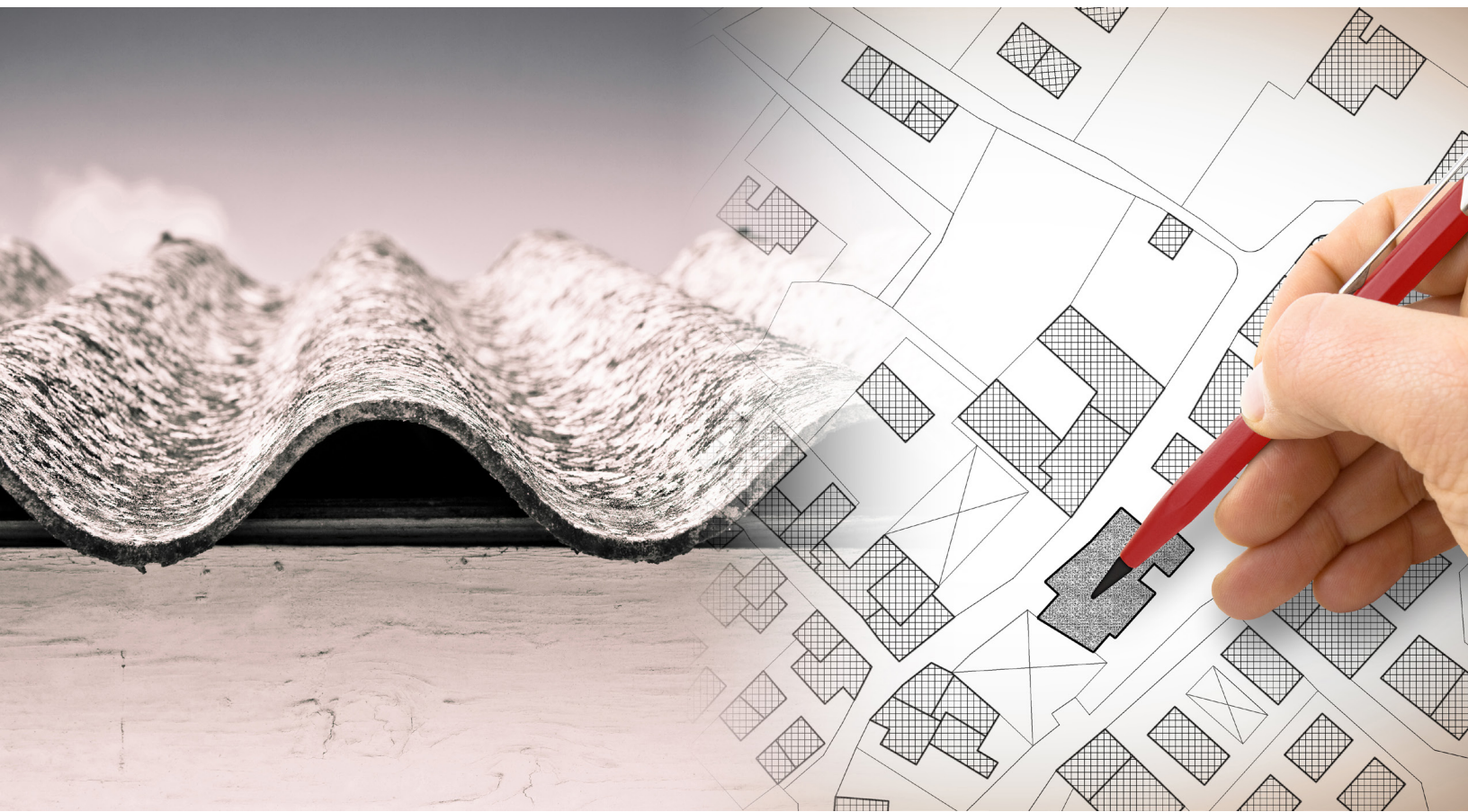
- Copies of all notifications
- Copies of all permits and/or licenses
- Copies of waste disposal manifests
- Copies of the final air test results

A FINAL WORD & SUMMARY

Asbestos is most commonly found in both residential and commercial structures built prior to 1981, albeit other materials found within a structure may still contain asbestos.

Thus, always remember...

- To never assume that asbestos is absent prior to starting a renovation, demolition, or other construction project. Otherwise, you may unwittingly expose yourself, your employees, and/or your clients to friable asbestos fibers.
- That asbestos remediation and abatement may be inherently involved in a renovation project. Contact the property owner and any other relevant parties regarding the applicability of insurance claims in your situation.
- That regulations regarding asbestos should never be disregarded. Particularly as these regulations have been created and enacted at multiple governmental levels — and apply to numerous parts of the overall handling of ACMs — you must be careful to be compliant and mitigate potential liability.



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Learn more with our team of environmental experts today by calling (904) 803-1014 or emailing us at info@luceairquality.com!