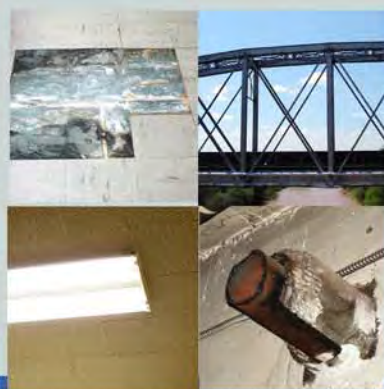


# ASBESTOS

ASBESTOS NESHAP REGULATIONS FOR DEMOLITION AND RENOVATION

A Guide for County and Municipal Building Services Departments  
and Owners/Operators of NESHAP Facilities

Is this building's  
renovation or  
demolition  
regulated?





## Purpose

The purpose of this document is to provide guidance to County and Municipal Building Departments regarding the state asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAPs) program and to provide an aid in determining which demolition and renovation projects are regulated. It also provides a summary of the activities that are needed to comply with the Asbestos NESHAP regulations found in 40 CFR, Part 61, Subpart M. This is not intended as a substitute for the Asbestos-NESHAP regulations, but rather is a guide to the important provisions of these regulations for jurisdictional permittees and owners/operators of NESHAP regulated facilities. Some Counties (including Maricopa, Pima and Pinal) have additional asbestos rules for renovations and demolitions. Please contact the asbestos NESHAP regulatory agencies listed at the end of this document for specific questions regarding your project.

The EPA's NESHAPs are part of the Clean Air Act and include air quality regulations for a large number of hazardous airborne pollutants, many of which are of chemical origin. The Asbestos-NESHAP regulation addresses the reduction of potential exposure from asbestos for facilities undergoing renovation or demolition. The regulation provides a method for identifying asbestos-containing materials and defines a process to: categorize, abate, package, label, transport and dispose of these materials.

## What Is Asbestos?

Asbestos is a mineral fiber. It can be positively identified only with a special type of microscope.

There are several types of asbestos fibers. Asbestos was added to a variety of products to strengthen them or to provide heat insulation and fire resistance.

## Why is Asbestos Regulated?

Asbestos fibers can cause serious health problems. If asbestos fibers are inhaled, these tiny microscopic fibers can cause normal functions of the lungs to be disturbed. Exposure increases the risk of developing lung cancer, mesothelioma, or asbestosis, which is a scarring of the lungs that leads to breathing problems. It could take anywhere from 15 to 30 years after the first exposure for symptoms to occur. Medical investigations have shown that inhalation is the principal route of entry that leads to asbestos-related diseases.

## Wasn't Asbestos Banned?

EPA did ban various asbestos-containing products in 1973, 1975, 1978 and 1989. However, the 1989 "Asbestos Ban and Phaseout" regulation was overturned in 1991. As a result, the following specific asbestos-containing products remain banned: spray applied fireproofing, thermal systems insulation, decorative textures, flooring felt, roll board, and corrugated commercial, or specialty paper. In addition, the regulation continues to ban the use of asbestos in products that have not historically contained asbestos, otherwise referred to as "new uses" of asbestos. However, asbestos continues to be used in many current building products that can be purchased today. The age of the building does not serve as a determining factor as to whether it is subject to asbestos regulations.

## What Determines Whether a Building is Regulated by the Asbestos Program?

There are six steps to determine if the building (or facility) is regulated by the Asbestos Program.

1. **Facility** -- Does it meet the definition of a "facility"?
2. **Renovation or Demolition** -- Is it undergoing "renovation" or "demolition" as defined by the NESHAP regulation?
3. **Thorough Asbestos Inspection** -- Has a "thorough asbestos inspection" been conducted to determine the presence, condition and quantity of asbestos-containing materials in the building?
4. **Categorizing the Asbestos-Containing Materials**  
Have the materials been categorized to determine if they are one of the following categories:
  - a. Regulated asbestos-containing materials (RACM),
  - b. Category I (Cat I) nonfriable asbestos-containing materials,
  - c. Category II (Cat II) nonfriable asbestos-containing materials?
5. **NESHAPS Notification** -- Has a NESHAP notification been submitted to ADEQ at least 10 working days prior to the beginning of the renovation or demolition activity?
6. **Emission Controls** -- Asbestos-containing materials need to be removed from the facilities prior to other construction activities. Special methods of abatement, packaging, labeling, transport and disposal are used to protect the public and the environment from exposure to asbestos fibers during material handling.

### The six steps in detail:

#### 1. Facilities regulated by this program

The asbestos regulation applies to facilities as defined by the Asbestos NESHAP Regulations in 40 CFR Part 61, Subpart M, Asbestos NESHAPS. Facilities are defined by the EPA as "any (including government owned or operated) institutional, commercial, public, industrial, or residential structure, installation or building, excluding residential buildings having four or fewer dwelling units; any ship; and any active or inactive waste disposal site."

#### 2. Demolitions and Renovations are regulated by Asbestos NESHAPS

Demolition means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operation or the intentional burning of any facility.

All demolition activities are regulated by Asbestos NESHAPS whether or not asbestos-containing materials are present.

Renovation means altering a facility or one or more facility components in any way, including the stripping or removal of regulated asbestos-containing materials (RACM) from a facility component.

All renovation activities that will disturb RACM with greater than threshold quantities are regulated. Threshold quantities are:

- Greater than or equal to 260 linear feet on pipes,
- Greater than or equal to 160 square feet on other facility components or,
- Greater than or equal to 35 cubic feet of "off facility" components within the area of disturbance or adjacent storage areas.



## Examples of Building Materials that Have Been Known to Contain Asbestos

- Cement Pipes
- Laboratory Hoods/Table Tops
- Elevator Brake Shoes
- Cement Wallboard
- Laboratory Gloves
- HVAC Duct Insulation
- Cement Siding
- Fire Blankets
- Boiler Insulation
- Asphalt Floor Tile
- Fire Curtains
- Breaching Insulation
- Vinyl Floor Tile
- Elevator Equipment Panels
- Ductwork
- Flexible Fabric Connections
- Vinyl Sheet Flooring
- Caulking/Putties
- Cooling Towers
- Flooring Backing Adhesives
- Pipe Insulation (corrugated air-cell, block, etc.)
- Construction Mastics (floor tile, carpet, ceiling tile, etc.)
- Wallboard Heating and Electrical Ducts
- Acoustical Plaster Joint Compounds
- Vinyl Wall Coverings
- Decorative Plaster Spackling Compounds
- Gaskets
- Textured Paints/Coatings
- Roofing Shingles
- Roofing Felt
- Ceiling Tiles and Lay-in Panels
- Base Flashing
- Thermal Paper Products
- Spray-Applied Insulation
- Fire Doors
- Electrical Cloth
- Blown-in Insulation
- Electrical Panel Partitions
- Fireproofing Materials
- Taping Compounds (thermal)
- Packing Materials (for wall/floor penetrations)
- Electric Wiring Insulation
- Chalkboards

### 3. Conduct a Thorough Asbestos Survey

Prior to commencement of the demolition or renovation, the facility must have a thorough survey done to determine the presence of asbestos-containing materials and categorize the materials.



**Survey** -- The inspection should determine all suspect asbestos-containing materials and have them sampled and analyzed by an approved laboratory to determine their asbestos content. The survey should be done by someone who is knowledgeable in field of asbestos. The agency recommends that personnel conducting the survey be trained and certified as an Asbestos Hazard Emergency Response Act (AHERA) building inspector. Materials can be assumed to be asbestos containing, if sampling and analysis are not performed. However, ADEQ recommends that sampling and laboratory analysis be conducted.

**Laboratory Analysis** -- The laboratory uses a microscopic method defined by EPA (appendix A, subpart F, 40 CFR part 763 section 1, Polarized Light Microscopy (PLM)). The laboratory will identify materials that contain greater than 1 percent asbestos. The laboratory that is used for the analysis should be accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

ADEQ has assembled a contact directory with consultants, contractors and laboratories. See [www.azdeq.gov/envIRON/air/asbestos/index.html](http://www.azdeq.gov/envIRON/air/asbestos/index.html).

**Friability** -- Friable asbestos material means any material containing more than 1 percent asbestos as determined by PLM, that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. The inspector that does the sampling will determine the friability of each of the materials prior to sending to the laboratory.



#### 4. Categorizing the Asbestos-Containing Materials

Once the results from the laboratory sampling are determined, the building inspector will prepare a report that categorizes the materials into three types:

##### A. Regulated asbestos-containing materials (RACM) which includes:

1. Materials assumed to contain asbestos
2. Friable asbestos material
3. Category I non-friable ACM that has become friable
4. Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or
5. Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.



##### B. Category I (Cat I) non-friable asbestos-containing material (ACM) means:

Products that have been determined to contain greater than one percent asbestos by PLM and are non-friable (crumbly by hand pressure).

1. Asbestos-containing packing
2. Asbestos-containing gaskets
3. Asbestos-containing resilient floor covering
4. Asbestos-containing asphalt roofing products

##### C. Category II (Cat II) non-friable asbestos-containing materials (ACM) means:

Any material, excluding Cat I nonfriable ACM, containing more than 1 percent asbestos as determined by PLM, that when dry cannot be crumbled, pulverized or reduced to powder by hand pressure.

#### 5. NESHAPS Notification

The owner or operator of a facility that is being demolished or renovated must submit a NESHAPS notification to the agency at least 10 working days prior to the commencement of work. This includes any site preparation that would breakup, dislodge or disturb any asbestos-containing materials.

**Demolitions** -- All demolition activities require the submittal of a NESHAPS notification form whether or not the building was determined to contain asbestos.



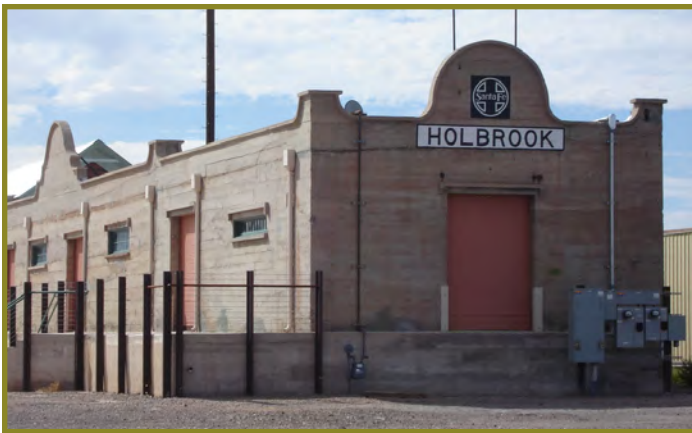
**Renovations** -- Facilities undergoing renovations must submit a NESHAPS notification if greater than threshold amounts of RACM are disturbed.

Threshold amounts are:

- 260 linear feet (for materials on pipes)
- 160 square feet (for surface areas)
- 35 cubic feet (for materials off facility components, or waste)

**Ordered Demolitions** – Facilities that are being demolished under an order of a state or local government agency because the facility is structurally unsound and in danger of imminent collapse must also submit a NESHAP notification. The notification must be provided as early as possible, but no later than the following working day.





**NESHAP Forms** -- Copies of the NESHAP form for each County and instructions for filling them out are available on ADEQ's Web site at [www.azdeq.gov/environ/air/asbestos/index.html](http://www.azdeq.gov/environ/air/asbestos/index.html)

**Fees** -- There are no state (ADEQ) notification or permitting fees involved with this program for jurisdictional counties. The U.S. EPA Region 9 Asbestos Program charges no fees for work on Tribal Lands. Maricopa, Pinal, and Pima counties have fees for their notification process. Some cities may have separate permit fees.

## 6. Emission Controls

The owner or operator of the facility must ensure that all NESHAP and OSHA asbestos regulations are met. The NESHAP procedures for asbestos emissions controls are set up to minimize the exposure of the public and the environment to the asbestos fibers during all steps of the renovation or demolition that would disturb asbestos-containing materials. NESHAP also regulates the wetting, packaging, labeling, manifesting, and disposal of the waste. A summary of the NESHAP emissions controls are provided below. These are not all inclusive, and the NESHAP regulations (40 CFR Part 61.145 (c)) should be consulted for specifics.



**Renovation and Demolitions** -- All RACM must be removed prior to the commencement of demolition or renovation that would breakup, dislodge or similarly disturb the asbestos-containing material. RACM need not be removed if:

- It is Cat I nonfriable ACM in good condition
- It is encased in concrete and is adequately wet during demolition
- It is Cat II nonfriable ACM and has a low probability that it would become crumbly, pulverized or reduced to powder, or
- Was not discovered until after demolition began and cannot be safely removed, and is adequately wet at all times.



**Trained Workers** -- Normally an asbestos contractor is used to perform the asbestos removal from the facility and to ensure the training requirements for OSHA workers (29 CFR 1910-1001) and OSHA workers protection measures (29 CFR 1926.1101) as well as the NESHAP measures (40 CFR Part 61, Subpart M) are met. At a minimum this includes:

- Using workers that can provide evidence of them having the required training to comply with both OSHA and NESHAP worker's training requirements, and
- Having at least one on-site representative trained as a Contractor/Supervisor to comply with the OSHA and NESHAP regulations.

**Emission Controls** -- The principle controls contained in the NESHAP for removal operations include the following requirements for RACM:

- a. Adequately wet the material and ensure that it remains wet while being collected, contained, treated, transported and prepared for final disposal
- b. Remove material using methods that minimize disturbance or damage of RACM, (this normally means manual methods of removal or cutting)
- c. Take out components in whole units or sections without disturbing the ACM materials
- d. Carefully lower components to the ground without dropping, throwing, sliding or otherwise damaging the material
- e. Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos materials produced during handling
- f. Encase all removed materials in leak-tight wrapping
- g. Discharge no visible emission to the outside air

**Labeling, Transport and Disposal** -- As soon as practical, the generated waste material must be taken to a landfill that is operated in accordance with the NESHAP regulations. The waste must be properly contained in leak-tight containers and properly labeled for disposal.

- a. Label the waste material for transport with the name of the generator and the location of where the waste was generated
- b. Dispose the RACM only at a landfill that is permitted to accept the waste
- c. Use an appropriate waste manifest for transportation of the waste, and
- d. Provide the completed waste manifest to ADEQ within 45 days of the date the waste was shipped to the waste disposal site.



# ASBESTOS NESHAP PROGRAM REGULATORY AGENCIES

## Arizona Department of Environmental Quality

Air Quality Compliance Section  
1110 W. Washington St.  
Phoenix, AZ 85007  
Phone: (602) 771-2300  
Toll Free: (800) 234-5677  
Fax: (602) 771-2299  
[www.azdeq.gov](http://www.azdeq.gov)

Asbestos NESHAP Program  
Phone: (602) 771-2333  
[asbestos@azdeq.gov](mailto:asbestos@azdeq.gov)

## County Jurisdiction:

**Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Mohave, Navajo, Santa Cruz, Yavapai, and Yuma**

## Maricopa County Environmental Services Department

Air Quality Division  
1001 N. Central Ave., Ste. 900  
Phoenix, AZ 85004  
Air Quality Hotline for Maricopa County only: (602) 506-6010  
Fax: (602) 506-0586  
[www.maricopa.gov/aq/](http://www.maricopa.gov/aq/)

## Pima Department of Environmental Quality

33 N. Stone Ave. Ste. 700  
Tucson, AZ 85701  
[www.deq.pima.gov/air/](http://www.deq.pima.gov/air/)  
Phone: (520) 243-7400  
Fax: (520) 243-7370

## Pinal County Air Quality Control District

31 N. Pinal St., #F  
Florence, AZ 85132  
<http://pinalcountyaz.gov/departments/airquality/>  
Phone: (520) 866-6960  
Fax: (520) 866-6967

## The United States Environmental Protection Agency

75 Hawthorne St. San Francisco, CA 94105  
[www.epa.gov/region9/](http://www.epa.gov/region9/)  
Robert Trotter  
Region IX Asbestos NESHAP Coordinator  
Phone: (415) 972-3989  
Fax: (415) 947-3579  
[trotter.robert@epa.gov](mailto:trotter.robert@epa.gov)  
Jurisdiction: Arizona, California, Hawaii, Nevada,  
the Pacific Islands, and Tribal Nations

