



## NORTHWESTERN UNIVERSITY

# Asbestos Management

## POLICY

All Asbestos Containment Material (ACM) removal activities shall comply with applicable federal, state, and local regulations.

Areas of responsibility of Facilities Management and the Office of Risk Management are defined as follows:

**Facilities Management (FM):** FM receives and investigates asbestos concerns and complaints generated by members of the University community. FM serves as the University's liaison to regulatory agencies concerning compliance with occupational and environmental asbestos regulations. FM provides awareness and operator training to all FM staff. FM is responsible for the Asbestos Operations and Maintenance Program

Facilities Management Asbestos Coordinator (FMAC) serves as liaison between FM personnel, the Office of Risk Management, and regulatory agencies.

**Office of Risk Management (ORM):** ORM supports the University community by providing regulatory interpretation, monitoring regulatory compliance and training university employees who may come in contact with ACM in the course of their duties. ORM maintains the campus-wide asbestos database

## PROCEDURE

1. FM personnel involved with the removal and maintenance of ACM shall notify the Facilities Management Coordinator before activities begin.
2. The Facilities Management Coordinator will notify ORM via email before removal begins with the location, date, time, abatement contractor, air monitoring contractor and type of ACM to be removed.
3. Bulk sampling data that identifies asbestos and non-asbestos material results will also be forwarded to ORM for entry into the database.
4. Northwestern University (NU) has established an Asbestos Operations and Maintenance (O&M) program to properly address Asbestos-Containing Material (ACM) in NU facilities. Two essential purposes for this O&M program are (1) to promote the health and safety of the campus community, and (2) to comply with applicable federal, state, and local regulations. The O&M program provides management direction through procedural guidelines, and provides information on the maintenance and/or removal of ACM.

**ASBESTOS OPERATIONS AND MAINTENANCE PROGRAM**

**FOR**

**NORTHWESTERN UNIVERSITY**

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## **ASBESTOS CONTAINING MATERIALS**

Asbestos is a naturally occurring mineral fiber used primarily for its noncombustible, insulating properties. Asbestos-containing materials (ACM) have been grouped into three general categories:

1. Surfacing materials (SM), sprayed or troweled on.
2. Thermal system insulation (TSI), for controlling heat loss/gain and condensation.
3. Miscellaneous forms including all materials that are not SM or TSI.

## **ASBESTOS IN UNIVERSITY BUILDINGS**

Based on the construction dates of many of the buildings, ACM was used in several applications. Buildings that were built prior to 1981 are likely to contain TSI in pipes, ducts, tanks, vessels, and exhaust systems. In a 1981 or earlier building if the material is not fiberglass or "armaflex, it should be assumed asbestos containing until laboratory sampling is conducted.

Surfacing ACM can also be found in buildings built prior to 1981. Surfacing material will be in the form of fireproofing or plaster. Asbestos containing plaster is generally a textured material. Smooth plaster may also contain asbestos but is much less likely. In all cases material should be assumed asbestos until laboratory testing is completed.

Miscellaneous asbestos material can be found in buildings regardless of construction date. The later the construction date the less likely that materials will contain asbestos. It is important to note that asbestos has not been banned and still may be present in some materials like glues, caulks and mastics.

The most common miscellaneous ACM in our buildings is floor tile and the associated mastics. Nine x 9 inch floor tile and mastics have a high probability of containing asbestos. Twelve x 12 inch floor tile and mastic will contain asbestos in many cases. Asbestos is less likely for later installation dates. Although less

likely, asbestos is contained in some floor tile and mastics that were installed in the 1990s. When examining any floor surface, it is important to look at all layers. Sometimes floor tile is located below carpet, or there are multiple levels of floor tile. Disturbing the upper layer can potentially disturb the asbestos.

Other forms of suspect miscellaneous ACM are as follows:

Acoustical Plaster Skim Coat	Ductwork Flex Connectors	Packing Materials (at wall/ floor penetrations)
Acoustical Plaster Base Coat	Electrical Cloth	Roofing Materials
Adhesives	Electrical Panel Board	Roofing Shingles
Asphalt Floor Tile	Electric Wiring Insulation	Rooftop Equipment Sealant
Blown-in Insulation	Elevator Brake Shoes	Sheetrock Wallboard
Boiler Insulation	Elevator Equipment Panels	Spackling Compounds
Breeching Insulation	Fire Blankets	Spray-Applied Insulation
Caulking/Putties	Fire Curtains	Stucco
Ceiling Tiles	Fire Doors	Textured Ceiling Surfacing
Cement Pipes	Fireproofing Materials	Textured Paints/Coatings
Cement Siding	Floor Backings	Thermal Paper Products
Cement Wallboard	Heating/Electrical Ductwork	Thermal Taping Compounds
Chalkboard	HVAC Duct Insulation	Transite Panels
Construction Mastic (floor tile, carpet, ceiling tile, etc.)	High Temperature Gaskets	Vinyl Floor Tile
Cooling Towers	Joint Compound	Vinyl Sheet Flooring
Decorative Plaster	Laboratory Hoods/Table Tops	Vinyl Wall Coverings
	Pipe Insulation	

## **PROCEDURES FOR INSPECTION OF SUSPECT ACM**

Presumed Asbestos Containing Material (PACM) and confirmed ACM is initially inspected for condition and exposure potential.

When the condition of ACM indicates the need for corrective action, procedures will follow the guidelines in the Planned Asbestos Removal section of this O & M program.

PACM must be sampled before disturbance to determine if it is asbestos containing. Asbestos sampling shall only be conducted by an Illinois licensed asbestos inspector. The Inspector will be licensed by the Illinois Department of Public Health (IDPH).

Asbestos in floor tiles was milled in very thin fiber sizes. The normal identification method of Polarized Light Microscopy (PLM) is not sufficient to detect these thin fibers. For this reason, any floor tile sample that is negative by PLM analysis will be confirmed by Transmission Electron Microscopy (TEM) to avoid false negatives.

Presumed and confirmed ACM will be periodically re-inspected by FM Staff to ensure its condition has not deteriorated

### **POSTING AND LABELING**

Confirmed and suspected ACM will be labeled in accordance with OSHA standard 1910.1001 (j)4. The labeling will consist of the following options:

- Warning labels on pipes, ducts and vessels
- Warning signs at entrances to mechanical rooms that may contain asbestos insulation
- Warning signs and postings near access points to fireproofing or surfacing material.

### **EMERGENCY PROCEDURES FOR UNPLANNED ASBESTOS DISTURBANCE**

- Isolate immediate area from all occupants
- Shut down the HVAC system and cover return air ducts in immediate area.
- Notify Facilities Management Asbestos Coordinator immediately.
- Retain a licensed asbestos removal contractor and licensed Asbestos Consultant.

Response to a fiber release requires IDPH and the Cook County Department of Environmental Control to be notified for Evanston Campus work and IDPH for the Chicago campus. Based on the quantity of material disturbed, the Illinois Department of Public Health and the Illinois EPA may also require notification at both campuses. This notification is the responsibility of the licensed asbestos contractor.

### **PLANNED ASBESTOS REMOVAL**

The planned removal of ACM will occasionally be required. In most cases this requirement is due to reconstruction plans that have the potential to disturb asbestos. In some cases removal will be necessary based on the condition of ACM.

Planned removal projects will require Performance guidelines before commencement as follows:

- Removal of greater than 10 linear feet of ACM TSI
- Removal of greater than 32 square feet of ACM surfacing
- Removal of greater than 100 square feet ACM floor tile

### **Applicable Regulations**

The following regulations govern asbestos removal activities at the University:

- OSHA regulation 29CFR1926.1101
- 40 CFR Part 61, Subpart M, EPA NESHAPS
- Illinois Department of Public Health (IDPH) 77 Ill, Adm. Code 855, Subpart D, Commercial and Public Buildings
- Cook County Environmental Control Ordinance, Article X, Asbestos and Demolition Ordinance **(Evanston Campus)**

- Municipal Code of Chicago, Article XVII, Asbestos, Sandblasting and Grinding Standards. **(Chicago Campus)**

Multiple jurisdictions require notification depending on project location and scope. The licensed asbestos contractor is responsible for this notification.

### **Northwestern University Best Practices for Asbestos Removal**

In addition to regulations all asbestos removal work at the university will adhere to the following additional requirements:

- All polyethylene used on asbestos projects shall be fire rated. Poly-America 620 FRW or 6112 FRW or an equivalent must be used.
- Clearance sampling using Transmission Electron Microscopy will be at the discretion of FMAC and the Air Monitoring Consultant

### **TRAINING**

In accordance with OSHA requirements training will be provided to various University Employees. There are two (2) levels of training provided, awareness level and operators' level.

#### **Awareness Training**

Awareness Training will be provided to custodial and shop staff. Awareness Training will consist of the following:

- Identification of asbestos and its usage
- Potential Health Effects of Asbestos Exposures
- Typical Location of Asbestos in University Buildings
- Methods and Procedures to avoid asbestos exposure

## **Operator Training**

Project Managers/Supervisors will receive operations training in the specific O & M procedures. In addition to awareness training topics, the contents of this O & M manual, and specific procedures to retain asbestos contractors and consultants will be discussed.

## **RECORDKEEPING**

As part of our O & M program, the following records will be maintained:

- Training records for operations and awareness training
- Bulk sampling data that identifies asbestos and non-asbestos material
- Project documentation and air sampling results from planned and emergency asbestos projects