

DESIGN AND CONSTRUCTION GUIDELINES AND STANDARDS

DIVISION 2 • EXISTING CONDITIONS

02 82 00 • ASBESTOS REMEDIATION

SECTION INCLUDES

Asbestos Remediation

RELATED SECTIONS

02 41 00 Demolition
07 90 00 Sealants
09 65 00 Resilient Flooring

REFERENCE

29 CFR Part 1910, US Department of Labor, OSHA Act of 1970
40 CFR Part 61 & Part 763, US Environmental Protection Agency
49 CFR Parts 172 and 173, US Department of Transportation Regulations
310 CMR 7.15 "Asbestos"
453 CMR 6.0 "The Removal, Containment or Encapsulation of Asbestos"

TECHNICAL STANDARDS

PROJECT GOALS



All tested materials that contain one percent (1%) asbestos fibers or more, using Polarized Light Microscopy method, are considered hazardous. The disturbance or dislocation of such Asbestos Containing Materials (ACM) may cause asbestos fibers to be released into the environment, thereby creating a potential health hazard to workers and building occupants.

The general project goal is to identify cost effective means of dealing with ACM that comply with all applicable regulations and rules and minimize health and environmental risks during the asbestos abatement, removal or disturbance activities. DHCD strongly recommends that the LHAs hire a licensed consultant to perform this service.

All asbestos abatement work shall take place in accordance with the provisions outlined in the current local, state and federal regulations. In particular, work must adhere to the Massachusetts Department of Labor and Workforce Development (DLWD) and the Department of Environmental Protection (DEP) regulations regarding asbestos removal and disposal.

INVESTIGATION AND RESEARCH

The Designer needs to identify those materials which may be disturbed during construction and thus may be potential sources of friable asbestos. For example: on a heating job, the pipe insulation should be tested, as well as flooring or walls that may be penetrated by heating pipes. Similarly, on an electrical job, areas of conduit penetration should be tested.

Note: Materials installed prior to 1980 are classified as Presumed Asbestos Containing Materials (PACM). This presumption can be rebutted by testing using Polarized Light Microscopy method.

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DESIGN

Once the locations of the asbestos containing materials (ACM) have been determined, the design goal is the selection of the appropriate cost effective abatement methods. In general, the options are removal, encapsulation or management in place.

ACM can be placed into the following categories:

1. **Category I: Friable Asbestos Containing Material (Friable ACM)** is defined as any material containing more than one percent (1%) asbestos, which when dry, may be crumbled, pulverized or reduced to powder by hand pressure. It also includes non-friable ACM when such material becomes damaged to the extent that when dry it may be crumbled, pulverized or reduced to powder by hand pressure when fastening through during construction.

Class I Asbestos Work generally involves the removal/ disturbance of TSI (thermal system insulation) and surface ACM or PACM. This removal procedure requires full containment and a three stage decontamination unit under negative pressure.

Clearance air sampling at the end of the asbestos removal is mandatory.

2. **Category II: Non-Friable Asbestos Containing Material-** Any material excluding Category I friable ACM, containing more than one percent (1%) asbestos

Class II Asbestos Work generally involves the removal/disturbance of non-friable ACM which is not thermal system insulation or surfacing material. The category and level of removal shall be designed by the consultant. The work area shall be properly isolated to prevent release of asbestos fibers into the adjacent spaces or into the environment. The Contractor should be required to erect mini containments and use wetting agents during the removal/disturbance of ACM.

Visual inspection at the end of the asbestos removal process is mandatory.

3. **Class III Asbestos Work** generally involves the removal of small amounts of Category II materials such as pipe insulation using the glove bag method or other alternative methods for small scale removals/ disturbances.

Warning: Use this option after careful consideration of either using an Asbestos Contractor vs. an asbestos associated project worker for 3 square feet or less of asbestos removal.

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DIVISION 2 • EXISTING CONDITIONS

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Typical Types of Work Items:

- Pipe insulation
- Resilient floor tile
- Spray on fire proofing
- Roofing felts
- Siding Shingles
- Caulking
- High temperature gaskets
- Glazing materials
- Joint compound
- Wall board
- Transite panels
- Mastics
- Fire doors
- Popcorn ceiling coatings

Typical Situations:

- Old basement piping that is covered with deteriorated asbestos pipe insulation needs to be removed, disposed of properly and replaced with new insulation per code. This scope typically falls under the Class I removal procedure.

Insulation in an area not accessible to tenants that is essentially intact can be repaired and encapsulated depending on quantity and location.

- Although vinyl-asbestos floor tile (VAT) can be partially abated to accommodate new floor penetrations (e.g. for heating and electrical systems upgrade projects) as Class III maintenance scope, DHCD's preferred method on flooring projects with concrete underlayment is to completely remove the VAT.
- If ACM insulation particles are visually detected in the crawl spaces with dirt floors, all visible debris should be carefully cleaned, properly packed and legally disposed of as defined in 310 CMR Regulations. Soil may need to be removed and consideration should be given to installing a new rat slab with vapor barrier over the crawl space floor in lieu of soil removal.

Alternative approaches exist for dealing with various ACM; the designer's task is to identify the method that best balances the budget, environmental risk, and longevity. The time required for residents to be out of their unit should be taken into consideration when determining the appropriate method of ACM removal. Every effort should be made to minimize the relocation time required.

Requirements for procedures during abatement are defined by the applicable regulations, however it is important to note that asbestos removal under full containment is not the *only* procedure allowed by regulations.

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DIVISION 2 • EXISTING CONDITIONS

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Contract documents must clearly identify the type and provide quantities of asbestos containing materials to be abated and method of abatement. They should also identify existing conditions that will affect the work of the abatement contractor such as location of electric panels and water lines which will be used for temporary services, proposed locations of HEPA exhaust systems and decontamination facilities, etc. Coordination shall exist between the abatement under this Section and the work of other trades.

It is important that the contract documents be written to allow the Contractor to decide how to complete the work using the most cost effective, compliant work practice. A phasing plan for the containment method and relocation coordination may need to be specified in the contract documents.

Asbestos containing waste shall be containerized, transported and disposed in compliance with all local and state regulations. Copies of the disposal manifests shall be given to the owner.

EXECUTION

Full time abatement monitoring is not required for asbestos abatement projects. Normal construction administration services, with the parallel services of the Asbestos Abatement Consultant, including conducting the initial submittal reviews (e.g. medical records, licenses, etc.), final visual inspections and air clearance tests (whichever is required by the class of abatement) are usually adequate project oversight. At the conclusion of the abatement process the Asbestos Consultant shall submit a detailed report to the LHA, which includes a summary of abatement operations, results of air sampling, and documentation relative to the proper disposal of asbestos waste.