

Dartmouth College
Facilities Operations and Management
Environmental Health and Safety

Occupational Health and Safety Program

(2007)

Asbestos Policy and Procedures

Prepared in compliance with 29 CFR 1910.1001, 29 CFR 1926.1101, EPA NESHAP 61.145 and .61.150, EPA Worker Protection Rule, State of NH Air Resources and Waste Management divisions.



Dartmouth College

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ENVIRONMENTAL HEALTH AND SAFETY

Asbestos Policy and Procedures

Introduction: Asbestos is a naturally occurring mineral fiber with high tensile strength, flexibility and resistance to thermal, chemical, and electrical conditions. It is most commonly used as a fire retardant and for thermal insulation. These qualities make asbestos an excellent building material. Asbestos building materials which are commonly encountered include: pipe, duct and boiler insulation; floor tile and sheet flooring and commercial adhesives; vapor barriers and concrete coatings; joint compounds and plasters.

Asbestos is regulated by the Environmental Protection Agency (EPA), the Occupational Safety & Health Administration (OSHA) and the State of New Hampshire Department of Environmental Services. The Dartmouth Asbestos Policy complies with: OSHA Title 29 CFR Part 1910.1001 "General Industry", OSHA Title 29 CFR Part 1926.1101 "Construction Standard", EPA NESHAP 61.145 and 61.150, EPA Worker Protection Rule, State of NH Air Resources and Waste Management divisions.

Asbestos is clearly recognized as having the ability to cause health and environmental harm. However, there is significant data and risk assessments to show that properly managed and intact asbestos containing materials do not present a significant health risk to building occupants. Dartmouth will use a comprehensive approach to managing materials in place unless there is a need to disturb them. Renovation or demolition work will require removal of any asbestos containing materials to be conducted by approved methods based on the requirements outlined by the EPA, OSHA and State of NH.

Purpose: The Dartmouth Asbestos Policy outlines procedures to be used to minimize possible exposure to asbestos fibers when encountering Presumed Asbestos Containing Materials (PACM).

Scope: This policy and these procedures apply to all Dartmouth College employees, contractors, Dartmouth College students, invited guests and visitors.

Responsibilities:

Environmental Health & Safety

- Coordinate analysis and identification of various suspect materials. Information regarding the status of building materials and sampling results is available at EHS.
- Determine appropriate action to be taken.
- Approve asbestos removal contractor.
- Maintain records.
- Maintain annual State Notification for small scale/short duration projects.
- Maintain qualifications as "competent person".
- Coordinate employee training for compliance.
- Air monitoring as required.
- To act as a resource for information to employees and supervisors.

Employees

- Employees are not permitted to remove any friable Asbestos Containing Material (ACM).
- Asbestos containing floor tile and adhesives may be removed only by employees who have fulfilled applicable training requirements.
- PACM on a job site, that is likely to be disturbed, must be reported to your supervisor and to the Environmental Health & Safety Office (EHS Office) prior to starting work.
- Attend training as directed. All custodial and maintenance staff must attend the annual asbestos awareness training.

Project Managers

- Request asbestos survey information prior to the start of any project.
- Review job site for asbestos materials prior to the start of work.
- Review with EHS.
- Develop a work plan for removal of ACM.

Contractors

- Contractors who are not specifically hired and licensed to remove ACM must contact the project manager or the EHS Office (646-1762) to coordinate testing of suspect material and any asbestos removal. Any disturbance of PACM is strictly forbidden. All approvals, forms, manifests, etc. must be turned over to the EHS office.

Students

- Report suspected asbestos hazard to the Office of Residential Life or the Environmental Health & Safety Office.

Glossary of terms:

ACM – Asbestos Containing Materials

Amended water - water which has had a wetting agent added to it to increase the ability of the water to penetrate asbestos

Competent Person - a person who has the knowledge and authority to identify and take appropriate action when asbestos is present and who has been trained in a class that meets the requirements of the EPA Accreditation Plan

EHS – Environmental Health and Safety at Dartmouth College

EPA – Environmental Protection Agency

Friable - capable of being crushed using hand pressure

HEPA - High Efficiency Particulate Air filter

Negative Exposure Assessment - a demonstration by the employer that any employee exposure during an operation will be below the Permissible Exposure Limit (PEL)

OSHA – Occupational Safety and Health Administration

PACM – Presumed Asbestos Containing Material

SOP – Standard Operating Procedure

Attachments: SOP #6, S O P when encountering damaged PACM
SOP #7, S O P for Removal of Asbestos-Containing Flooring
SOP #8, S O P for removal of Asbestos Cement Panels, Siding, Shingles
SOP #9, S O P for removing Asbestos-containing Roofing Material

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S O P when encountering damaged PACM.

Purpose: To address asbestos material damaged unintentionally during the course of maintenance or renovation work in compliance with Dartmouth College Policy.

Scope: This applies to all Dartmouth College Employees.

Responsibilities: The employee must report the damage to his/her supervisor and warn other employees in the area. The supervisor must contact EHS. EHS will evaluate the incident and determine the appropriate response.

Procedure:

- If an asbestos containing materials is encountered, or a suspect material which has not been sampled is encountered during a work procedure, **work must stop immediately**, any contaminated tools must be left at the site and the area must be evacuated.
- Do not disturb, attempt to clean up, or work in and around damaged PACM.
- Warn other people in the area to stay away from the debris, close and lock doors or otherwise block access to the area and post warning signs.
- Contact the office of Environmental Health & Safety for testing and further action.
- When entering an area, if there is already damaged insulation or other material that is possibly asbestos containing, close and lock doors or otherwise block access to the area and contact the Environmental Health & Safety Office.

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S O P for Removal of Asbestos-Containing Flooring

{29 CFR 1926.1101(8)(i)},{29 CFR 1926.1101(9)(iv)},{Env-C 406.02}

Purpose: To address removal of asbestos containing floor material in compliance with Dartmouth College Policy.

Scope: This applies to all Dartmouth College Employees.

Responsibilities:

- Supervisors will inform EHS prior to removing any asbestos flooring.
- Supervisors will not ask employees who have not been trained to remove asbestos containing flooring.
- Workers must have successfully completed an 8 hour, material specific training course.
- EHS will conduct air and bulk sampling and Negative Exposure Assessments as necessary.

Procedure:

- Air monitoring is required, respirators and protective clothing must be worn unless a negative exposure assessment has been performed.
- Resilient flooring material including mastic and backing shall be assumed to be asbestos-containing unless an industrial hygienist determines that it is asbestos-free using recognized analytical techniques.
- Flooring or its backing shall not be sanded, drilled, sawn or otherwise abraded.
- Vacuums equipped with HEPA filters, disposable dust bag, and metal floor tool (no brooms) shall be used to clean floors.
- Restrict access to trained persons only.
- Resilient sheeting shall be removed by cutting. Wetting of the snip point and wetting during delamination is required. Rip-up of resilient sheet floor material is prohibited.
- All scraping of residual adhesive and /or backing shall be performed using wet methods.
- Dry sweeping is prohibited.
- Mechanical chipping is prohibited.
- Tiles shall be removed intact unless the employer demonstrates that intact removal is not possible.
- Adequately wet the flooring in the work area prior to ACM removal.
- When tiles are heated and can be removed intact, wetting may be omitted.
- All liquids used in removal shall be disposed of as asbestos-containing waste.

- Asbestos containing flooring waste materials must be double bagged in appropriate 6-mil asbestos disposal bags (no more than 50 lbs/bag). Labels, identifying where the material came from, account number, etc. must be affixed to the bag. The bag is then placed in a designated area for disposal.
- All waste must be disposed of in landfills approved for acceptance of asbestos waste and packaged to the specifications established by the landfill, the US Department of Transportation, the EPA, and states through which the waste will be transported.

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S O P for removal of Asbestos Cement Panels, Siding, Shingles.

{29 CFR 1926.1101(8)(iii)},{29 CFR 1926.1101(9)(iv)},{Env-C 404.03}

Purpose: Proper removal of asbestos cement panels, siding, shingles in compliance with Dartmouth College Policy.

Scope: All Dartmouth College Employees

Responsibilities:

- Supervisors will inform EHS prior to any asbestos material is being removed.
- Supervisors will not ask employees who have not been trained to remove asbestos material.
- Workers must have successfully completed an 8 hour, material specific training course.
- EHS will conduct air and bulk sampling and Negative Exposure Assessments as necessary.

Procedure:

- Workers must have successfully completed an 8 hour, material specific training course.
- Cutting, abrading or breaking shall be prohibited.
- Restrict access to trained workers.
- Install polyethylene sheeting or other impervious drop cloth below work area
- Cover windows, doors, etc. immediately adjacent to and below the work area with 2 layers of 6-mil polyethylene sheeting. Lock out tag out HVAC systems in close proximity to work area. Vents, grilles, ducts, should be blanked off and sealed using 2 layers of 6-mil polyethylene sheeting.
- Each panel shall be sprayed with amended water prior to removal.
- Panels must be wrapped in plastic sheeting or impervious waste bags no later than the end of the work day.
- Nails shall be cut with sharp, flat instruments. Dust suppression methods shall be used during disassembly.
- All waste, including polyethylene sheeting must be disposed of in landfills approved for acceptance of asbestos waste and packaged to the specifications established by the landfill, the US Dept. of Transportation, the EPA and states through which the waste will be transported.

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S O P for removing Asbestos-containing Roofing Material.

{29 CFR 1926(8)(ii)},{29 CFR 1926.1101(9)(iv)},{Env-C 406.05}

Purpose: To address removal of asbestos containing roofing material in compliance with Dartmouth College Policy.

Scope: This applies to all Dartmouth College Employees.

Responsibilities:

- Project manager will ensure roofing material has been sampled
- Supervisors will not ask employees who have not been trained to remove asbestos containing roofing.
- Workers must have successfully completed an 8 hour, material specific training course.
- EHS will conduct or arrange for air and bulk sampling and Negative Exposure Assessments as necessary for Dartmouth Employees.

Procedure:

- Workers must have successfully completed an 8 hour, material specific training course.
- Air monitoring is required, respirators and protective clothing must be worn unless a negative exposure assessment has been performed.
- Ground below a sloping roof must be protected by drop cloths such that no ACM comes in contact with the ground.
- Roofing material must be removed as intact as possible.
- Wet methods shall be used to limit fiber release when material can not be removed intact.
- Asbestos containing roof materials may be removed using cutting machines as long as the machines are equipped with a HEPA dust collector, the cut line is HEPA vacuumed as the cut is being made or the cut line is wetted during cutting.
- Asbestos material that has been removed from a roof shall not be dropped or thrown to the ground. It shall be hand carried or passed to the ground or lowered via dust tight chute, crane or hoist.
- Any ACM that is not intact shall be wrapped in plastic sheeting or impervious waste bags and lowered to the ground no later than the end of the work day.
- All ACM debris must be lowered to the ground no later than the end of the work day.

- Unwrapped material shall be transferred to a closed receptacle so as to preclude any dispersion of dust once it is lowered to the ground no later than the end of the work shift.
- Roof level HVAC intakes must be isolated or shut down.
- All waste must be disposed of in landfills approved for acceptance of asbestos waste and packaged to the specifications established by the individual landfill, the U. S. Department of Transportation, the EPA and states through which the waste will be transported.

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