

DEMOLITION/RENOVATION OF A BUILDING/STRUCTURE

Pre-1981 Buildings - Asbestos Building Survey by Michigan Accredited Asbestos Building Inspector or CIH
 Note, the inspection must identify, locate and quantify all PACM and also other materials that may contain asbestos based upon the inspector's/CIH's past knowledge and due diligence

Notify contractors/employees of inspection results

No Asbestos Present	Asbestos-Containing Material Present				
<u>Requirements</u>	<u>Requirements for Class I</u> TSI & Surfacing Materials	<u>Requirements for Class II</u> All Other ACM	<u>Requirements for Class III</u> Disturbance or removal of Class I or II materials not to exceed contents of 1 glovebag (60" x 60")	<u>Requirements for Class IV</u> Custodial and Maintenance work activities that contact but do not disturb ACM/PACM	<u>G(11) Materials</u> Intact Roofing and Pipeline Coating Materials
<ul style="list-style-type: none"> • No MIOSHA Asbestos Requirements • MIOSHA Part 20 Demolition, Construction Safety Standard Requirements • National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Requirements • Notification for demolition of a facility - confirm applicability with Department of Environmental Quality's (DEQ's) Air Quality Division. • No NESHAP Asbestos Requirements on renovations. <p>*Respirators Mandatory if</p> <ul style="list-style-type: none"> • Class I, or • Class II substantially non-intact removal, or • Class II or III no NEA, or • > PEL, or • Class II or III dry removal (except for intact sloped roofing projects where NEA obtained), or • In emergencies, or • Class III asbestos work when TSI or Surfacing Material ACM/PACM is being disturbed, or • Class IV within regulated area where other employees required to wear respirators <p>**Medical Surveillance Mandatory if</p> <ul style="list-style-type: none"> • Wearing negative-pressure respirator, or • Exposed ≥ PEL ≥ 30 days of work/year, or • Class I, II, or III work ≥ 30 days/yr. <p>***Protective Clothing Protective clothing is coveralls or similar whole body clothing, head-coverings, gloves and foot coverings. Mandatory if</p> <ul style="list-style-type: none"> • Class I > 25' or 10 ft², or • Class I < 25' or 10ft², Class II and Class III with No NEA, or • > PEL <p>MIOSHA Regulations:</p> <ul style="list-style-type: none"> • Part 602, 29 CFR 1926.1101, Asbestos Standards for Construction • Act 135, Asbestos Abatement Contractors Licensing Act, P.A. 1986, as amended • Act 440, Asbestos Workers Accreditation Act, P.A. 1988, as amended 	<ul style="list-style-type: none"> • Licensed asbestos abatement contractor or exempt licensed trade group performing asbestos abatement work incidental to primary licensed trade and <260' or 160 ft² and work contracted out • Project notification on project > 10' or 15 ft² and work contracted out • 40-hour initially trained and accredited competent person and 8-hour annual refresher training and accreditation - accreditation excludes <10 residential units or exterior ACM • 32-hour initially trained and accredited worker(s) and 8-hour annual refresher training and accreditation - accreditation excludes <10 residential units or exterior ACM • Regulated area (restrict access to work site) • Personal air monitoring or NEA • Wet methods [unless not feasible (e.g., electrical hazard, equipment malfunction, or creates roofing safety hazard)] • Decontamination area (equipment room, shower and clean room if project > 25' or 10 ft²; drop cloth & HEPA vacuum < 25' or 10ft²) • Respirators (establish and implement a written respirator program) • Medical surveillance** • Protective clothing*** • Waste disposal (labeled sealed impermeable bags/containers) • Waste transport requirements, if friable (USDOT Hazardous Materials for Asbestos, 49 CFR Parts 100-180) - contact State Police Motor Carrier Division for information • Engineering and work practice controls for renovations and pre-building demolition interior removals [see Part 602, 29 CFR 1926.1101 (g)(1), (g)(2), (g)(4)(i)-(vi) and (g)(5)] • Engineering controls for demolition of building where ACM remains [see Part 602, 29 CFR 1926.1101 (g)(6)] • NESHAP Requirements (contact DEQ) 	<ul style="list-style-type: none"> • Licensed asbestos abatement contractor or exempt licensed trade group performing asbestos abatement work incidental to primary licensed trade and <260' or 160 ft² if friable and work contracted out • Project notification on friable project > 10' or 15 ft² and work contracted out • 40-hour initially trained and accredited (if friable) competent person and 8-hour annual refresher training and accreditation (if friable) - accreditation excludes < 10 residential units or exterior ACM • 12-hour trained competent person if only supervising intact ACM flooring projects utilizing compliant work practices • 32-hour initially trained (if friable, if substantially non-intact interior project, or interior project w/o NEA) and accredited worker(s) (if friable) and 8-hour annual refresher training (if friable, if substantially non-intact interior project, or interior project w/o NEA) and accreditation (if friable) - accreditation excludes < 10 residential units or exterior ACM • 8 or more hours initial worker training and annual refresher training for one Class II material (non-friable and intact roofing materials, flooring materials, siding materials, ceiling tiles, or transite materials) • > 8 hours worker initial training and annual refresher training for more than one Class II material (non-friable and intact roofing materials, flooring materials, siding materials, ceiling tiles, or transite materials) • For non-friable intact Class II materials other than those above, no specified time for initial or refresher training • Regulated area (restrict access to work area) • Personal air monitoring or NEA • Wet methods [unless not feasible (e.g., electrical hazard, equipment malfunction, or creates roofing safety hazard)] • Decontamination area (drop cloth + HEPA vacuum) if no NEA • Respirators* (establish and implement a written respirator program) • Medical surveillance** • Protective clothing*** • Waste Disposal (labeled sealed impermeable bags/containers) • Waste transport requirements, if friable (USDOT Hazardous Materials for Asbestos, 49 CFR Parts 100-180) - contact State Police Motor Carrier Division for information • Engineering and work practice controls for renovations and pre-building demolition interior removals [see Part 602, 29 CFR 1926.1101 (g)(1), (g)(2), (g)(7)(i)-(iv) and (g)(8)(i)-(v) for specific controls] • Engineering controls for demolition of building where ACM remains [see Part 602, 29 CFR 1926.1101 (g)(8)(vi)] • NESHAP Requirements (contact DEQ) 	<ul style="list-style-type: none"> • Licensed asbestos abatement contractor or exempt licensed trade group performing asbestos abatement work incidental to primary licensed trade if friable and work contracted out • Project notification on friable project > 10' or 15 ft² and work contracted out • 16-hour initial competent person training and annual refresher training • 16-hour initial worker training and annual refresher training unless competent person determines otherwise • Regulated area (restrict access to work area) • Personal air monitoring or NEA • Wet methods [unless not feasible (e.g., electrical hazard, equipment malfunction, or creates roofing safety hazard)] • Decontamination area (drop cloth + HEPA vacuum) if no NEA • Respirators* (establish and implement a written respirator program) • Medical surveillance** • Protective clothing*** • Waste Disposal (labeled sealed impermeable bags/containers) • Waste transport requirements, if friable (USDOT Hazardous Materials for Asbestos, 49 CFR Parts 100-180) - contact State Police Motor Carrier Division for information • Engineering and work practice controls for repair and maintenance operations [isolation/containment, see Part 602, 29 CFR 1926.1101 (g)(1), (g)(2), and (g)(9)(i)-(v) for specific controls] 	<ul style="list-style-type: none"> • At least 2 hour initial and annual refresher training • Respirators* (establish and implement a written respirator program) <p>Definitions:</p> <p>Accredited: means individuals accredited under the Asbestos Workers Accreditation Act (Act 440, P.A. 1988, as amended).</p> <p>Asbestos-Containing Material: means any material containing more than one percent asbestos (Part 602).</p> <p>Class I Asbestos Work: means activities involving the removal of TSI and surfacing ACM or PACM (Part 602).</p> <p>Class II Asbestos Work: means activities involving the removal of ACM which is not TSI or surfacing material (Part 602).</p> <p>Class III Asbestos Work: means repair and maintenance operations where "ACM", including TSI and surfacing ACM or PACM, may be disturbed (Part 602).</p> <p>Class IV Asbestos Work: means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM (Part 602).</p> <p>Demolition: means wrecking or taking out of any load-supporting structural member and any related removing or stripping of friable asbestos material (Act 135)/asbestos products (Part 602).</p> <p>Disturbance: means activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM or generate visible debris from ACM or PACM (Part 602).</p> <p>Exempt Licensed Trades: means Michigan licensed plumber, electrician, mechanical contractor, residential building or residential maintenance alteration contractor (Act 135).</p> <p>Friable: means ACM that can be crumbled, pulverized, or reduced to powder when dry, by hand pressure (Act 135 and Act 440).</p> <p>G(11) Materials: means intact roofing (i.e., roof cements, mastics, coatings or flashings with asbestos encapsulated or coated by bituminous or resinous compounds) and pipeline (i.e., asphaltic wrap) coating materials (Part 602).</p> <p>Intact: means that the ACM has not crumbled, been pulverized, or otherwise deteriorated so that asbestos is no longer likely to be bound to its matrix (Part 602).</p> <p>Negative Exposure Assessment: means a demonstration by the employer in accordance with Part 602(f)(2)(iii) that employee exposure to asbestos is consistently below PEL.</p> <p>Permissible Exposure Limits (PEL): 1) Time Weighted Average (TWA) - 0.1 fibers/cubic centimeter of air (f/cc) as an 8 hour TWA; 2) Excursion limit - 1.0 f/cc averaged over 30 minute period (Part 602).</p> <p>Presumed Asbestos Containing Material: means thermal system insulation (TSI) and surfacing materials found in pre-1981 buildings. Note, asphalt and vinyl flooring material found in pre-1981 buildings is also assumed to be an asbestos-containing material (Part 602).</p> <p>Renovation: modifying of existing structure or portion thereof (Part 602).</p> <p>Surfacing Material: means material that is sprayed, troweled-on or otherwise applied to surfaces (Part 602).</p> <p>Thermal System Insulation (TSI): means ACM applied to pipe fittings, boilers, breeching, tanks, ducts, and other structural components to prevent heat loss or gain (Part 602).</p> <p>Key:</p> <ul style="list-style-type: none"> • ACM: Asbestos-Containing Material • CIH: Certified Industrial Hygienist • PACM: Presumed Asbestos-Containing Material • HEPA: High Efficiency Particulate Air Filter • NEA: Negative Exposure Assessment • >PEL: Greater than Permissible Exposure Limits • ≥PEL: Greater than or equal to Permissible Exposure Limits • PPE: Personal Protective Equipment (i.e., protective clothing) • TSI: Thermal System Insulation 	<ul style="list-style-type: none"> • Competent person adequately trained [see 1926.1101(g)(11)(i) and (g)(11)(ii)] • Workers trained [see 1926.1101(g)(11)(ii)] • Work practices [see 1926.1101(g)(11)(i-vi) if intact • Non-Intact Roofing and Pipeline Coating Materials - Refer back to Class II requirements

- Persons without respirators within the regulated area).
- Wet methods (i.e., a water hose spraying water on the building debris).
- Labeled, lined dumpsters for ACM wastes
- A means of personal decontamination (i.e., shower or drop cloth and HEPA vacuum - whatever applies) for employees unless only Class II or III ACM is involved and an NEA is obtained.
- Demolition and/or renovation workers wearing respirators and personal protective clothing unless it is intact Class II or III work and an NEA has been obtained.

What should a compliance officer not see when conducting an inspection at a demolition and/or renovation site?

- An unregulated demolition site with unauthorized persons on the site.
- A concrete crusher if there is floor tile remaining on the concrete slab.

Licensure/Project Notification
If the ACM being removed by a contractor is or will become friable during any part of the demolition or renovation project, then a licensed asbestos abatement contractor or licensed exempt trade group as specified in Michigan Public Act 135 of 1986, as amended, the *Asbestos Abatement Contractor Licensing Act*, must be utilized to perform work activities. The licensed



assessment (NEA) has been produced.

Work Practices and Engineering Controls.
All projects involving the removal or disturbance of ACM must address establishment of a regulated area. Contractors must also address the need for engineering controls, air monitoring, respiratory protection, personal protective equipment, decontamination area, worker/supervisor training, and potentially medical surveillance. Many of these specific work practices and procedures are dependent upon whether the ACM being removed remains intact and/or whether a negative exposure assessment (NEA) has been produced.

Training
Whether the facility contains Class I or Class II ACM, demolition and/or renovation involving ACM removal requires a 40-hour trained competent person. Accreditation in accordance with Act 440 is also required for Class I and friable Class II projects. There is one exception to this competent person training requirement involving flooring that is removed intact utilizing the compliant work practices specified in Part 602 for these materials; 12 hours competent person training is required.

Demolition and/or renovation involving the removal of Class I materials and Class II projects that are friable; that are non-intact interior projects or an interior project without a negative exposure assessment requires 32-hour trained and accredited workers (if friable). Removal of non-friable/intact Class II materials require workers be trained 8 or more hours depending on number of Class II materials involved.

Regarding project notifications, licensed asbestos abatement contractors must notify the Department of Licensing and Regulatory Affairs' Asbestos Program of all projects exceeding 10 linear feet or 15 square feet of friable materials at least 10 days before beginning the project. Exempt licensed trades must also notify before beginning these projects.



What should a compliance officer see when conducting an inspection at a demolition and/or renovation site?

- Restricted access to the site (i.e., regulated area).
- Wet methods (i.e., a water hose spraying water on the building debris).
- Labeled, lined dumpsters for ACM wastes
- A means of personal decontamination (i.e., shower or drop cloth and HEPA vacuum - whatever applies) for employees unless only Class II or III ACM is involved and an NEA is obtained.
- Demolition and/or renovation workers wearing respirators and personal protective clothing unless it is intact Class II or III work and an NEA has been obtained.

MIOSHA's Demolition Standard, Part 20, also regulates demolition activities. Specific information regarding this standard is listed below:

Rule 2031. (1) Before the start of a demolition operation, an employer shall ensure that all of the following are done:

- An engineering survey of the structure and equipment is conducted by a competent person knowledgeable in demolition to determine:
 - The condition of the foundation, roof, walls, and floors.
 - Whether any adjacent structure will be affected by the demolition.
 - The utility service entering the building.
 - Any other conditions and equipment affecting the safety of an employee.
- Ensure that there is a written report of the engineering survey at the field office until the completion of the job. The report shall include information such as the name of the person conducting the survey, date of the survey, and hazardous substances and dangerous conditions found and their location.

Background of Asbestos
Asbestos is the name of a group of naturally occurring minerals that can separate into microscopic needle-like fibers. The most common of these minerals are *Chrysotile*, *Amosite*, and *Crocidolite*. Once released into the atmosphere, the size and shape of these fibers permit them to remain airborne for long periods of time and thus contaminate the building environment.

If inhaled, these needle-like fibers can cause three specific asbestos-related diseases: *Asbestosis* (a fibrous scarring of the lungs), *Lung Cancer*, and *Mesothelioma* (a cancer of the lining of the chest area).

When asbestos-containing materials are disturbed during demolition or renovation activities, asbestos fibers can become airborne and inhaled. These fibers can cause three specific asbestos-related diseases: *Asbestosis* (a fibrous scarring of the lungs), *Lung Cancer*, and *Mesothelioma* (a cancer of the lining of the chest area).

or abdominal cavity). These diseases do not develop immediately after inhalation of asbestos fibers and typically have a latency period ranging from 15 to 30 years and sometimes as long as 40 to 50 years from first exposure before symptoms appear.

Asbestos-Containing Materials
Asbestos has been used in more than 3,000 different products over the last 100 years primarily because of its tensile strength, thermal insulating, fire retardant, and chemical resistant properties. Some common products in buildings that contain asbestos include but are not limited to pipe insulation, floor coverings, ceiling tile, spray-on insulation, boiler wrap insulation, wall coverings, fire doors, and old electrical wire insulation. Employees, tenants, and custodial maintenance workers may be exposed to ACM during maintenance, renovation, or disturbance activities.

- The MIOASHA - Asbestos Program performs the following services:
- Approves asbestos-related training courses.
 - Accredits professionals in the asbestos abatement industry.
 - Licenses asbestos abatement contractors.
 - Maintains databases of approved trainers, licensed contractors, accredited individuals, and asbestos projects.
 - Investigates asbestos-related compliance issues.
 - Reviews AHERA management plans.

For additional information, please contact us at:
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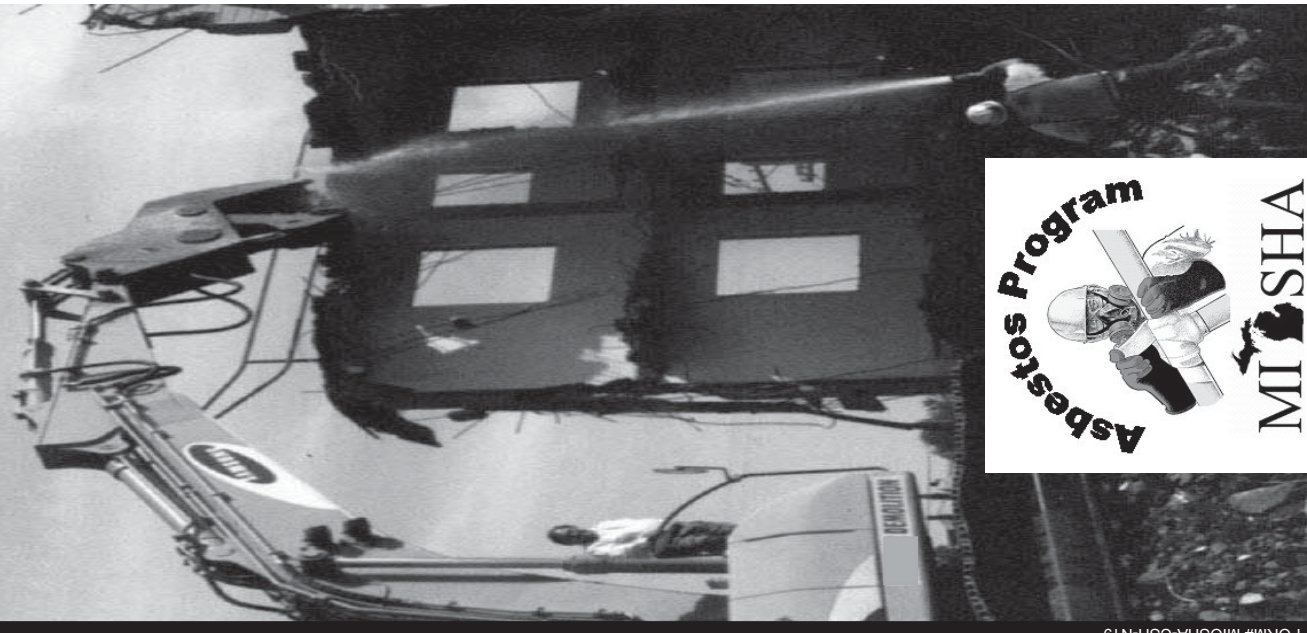


The Department of Licensing and Regulatory Affairs will not discriminate against any individual or group because of race, religion, age, national origin, color, mental status, political beliefs or disability. If you need assistance with reading, writing, hearing, etc., under the Americans with Disabilities Act, you may make your needs known to this agency.

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Asbestos & Demolition/Renovations

MIOSHA's Requirements



FORM# MIOASHA-CSH-N19

This brochure is provided as a general summary of the responsibilities of demolition and renovation contractors in regard to the Michigan Occupational Safety and Health Administration (MIOASHA) asbestos regulations. This brochure does not address the specific asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements for demolition.

Part 602, the OSHA Asbestos Standards for Construction [29 CFR 1926.1101(k)(2)(i)] requires that a thorough asbestos inspection must be conducted of all pre-1981 building facilities. This survey must identify the presence, location, and quantity of asbestos-containing materials (ACM) and/or presumed asbestos-containing materials (PACM) within the building.

A building that is slated for demolition and/or renovation may contain ACM that will remain within the building during the work activities. Please contact the Asbestos Program of the Michigan Department of Environmental Quality (DEQ) if you have questions in regard to the types of asbestos materials that may remain in a building that is to be demolished or renovated and for any additional NESHAP requirements.

If a contractor demolishes or renovates a building containing ACM, what does MIOASHA require?

To minimize obligations under MIOASHA, removal of ACM prior to initiating demolition and/or renovation work is encouraged. When this does not occur then the demolition and/or renovation activities are potentially regulated by Part 602, Act 135 and Act 440. Please note, a contractor must comply with Part 602 regardless of the amount of ACM being removed or disturbed. In addition, the following requirements must be in place prior to the disturbance of ACM: