

PCM clearance air sampling guidance for Asbestos Project Monitors

What clearance air sampling methods are required in Massachusetts?

Asbestos Project Monitors who perform final air clearance after the completion of response actions in Massachusetts are required to use one of the methods below, depending on the type of facility:

- Phase contrast microscopy (“PCM”) when the response action involves 160 square feet (or less) or 260 linear feet (or less) of asbestos-containing material (“ACM”) in schools facilities subject to AHERA or for response actions of any size in non-school facilities.
- Transmission electron microscopy (“TEM”) when the response action involves more than 160 square feet or 260 linear feet of ACM in facilities subject to AHERA. TEM may be used in place of PCM at any time.

Who is responsible for hiring the Project Monitor?

Clearance monitoring, including visual inspection and final air testing, must be performed only by a licensed Asbestos Project Monitor who is not an employee or Responsible Person of the Asbestos Contractor or entity which conducted the work, and therefore must be contracted by the facility owner/operator directly [454 CMR 29.10(9)], including any Class C Analytical Services providing Project Monitor services.

The Asbestos Contractor shall not subcontract with an Asbestos Project Monitor or Asbestos Consulting Service Provider, to perform the visual inspection required by 454 CMR 28.10(10) or the clearance air monitoring required by 454 CMR 28.11 [454 CMR 28.10(9)] in facilities subject to the Asbestos Hazard Emergency Response Act (AHERA). The person designated by the Local Education Agency (“LEA”) is responsible for selecting the Project Monitor to perform a visual inspection and collect clearance air samples. LEA’s must take care to avoid the conflict-of-interest provision of AHERA between the Asbestos Contractor and the consulting firm, including the Project Monitor [454 CMR 28.13(1)(b)6 and 40 CFR 763.84(h)]. The Project Monitor may function as the on-site representative of the facility owner, to ensure that abatement work is completed according to specification and in compliance with all relevant statues and regulations [40 CFR 763, Appendix C to Subpart E, section B6].

Is clearance air sampling required upon completion of a response action where glove bag is the sole method of removal?

Clearance air monitoring is required for all response actions except: 1) those involving the complete demolition of facilities; or 2) those facilities not subject to AHERA where glove bags are used as the sole means of removal or repair [454 CMR 28.10(11)]. AHERA [454 CMR 28.13(6)(h)2 and 40 CFR 763.90(i)(2)] requires clearance air sampling at the conclusion of all response actions except for projects that are of small scale, short duration. All aggressive clearance monitoring must be performed within a negative pressure enclosure [454 CMR 28.10(11)(a)2 and (11)(b)2]. Work area barriers shall remain in place, work area ventilation systems will remain in operation, and personal protective equipment shall be worn until all clearance-monitoring requirements have been met [454 CMR 28.10(7)]. Aggressive air-sampling methods cannot be implemented at the conclusion of glove-bag removal that is not performed within a negative pressure enclosure.

How many samples must be collected and submitted for TEM clearance air sampling?

TEM clearance air sampling must be performed pursuant to AHERA, *Appendix A to Subpart E of 40 CFR 763 [454 CMR 28.10(11)(a)]*. A set of 13 samples must be collected and submitted for analysis to a Massachusetts-certified laboratory. A sample set consists of 5 samples inside the work area, 5 samples outside the work area, 2 field blanks and 1 laboratory blank. When the average concentration of the 5 samples inside the work area meet the clearance standard of 70 structures/mm², the 5 samples outside the work area do not need to be analyzed. If the average of the 5 samples inside the work area exceed 70 structures/mm², the 5 samples outside the work area shall be analyzed through the application of the Z-test calculation.

How many samples must be analyzed by PCM at the conclusion of a response action?

For facilities subject to AHERA, at least 5 samples within the work area, or one sample per room, whichever is greater shall be collected and analyzed [454 CMR 28.10(11)(b)3]. For non-AHERA facilities, at least one sample for each 500 linear/1000 square feet of asbestos, or one sample per room, whichever is greater, shall be collected and analyzed. Each of the samples must be analyzed, and must meet the clearance criteria of .01 fibers/cubic centimeter or less. If any sample fails to meet the clearance criteria, the work area must be re-cleaned, and clearance air sampling performed again until the clearance criteria is met.

What is the standard for the volume of air collected during PCM clearance sampling?

When using the phase contrast microscopy, the NIOSH 7400 method (as most recently amended, must be followed for the collection and analysis of clearance air monitoring samples [454 CMR 28.10(11)(b)3]. No fewer than 1080 liters of air must be collected for clearance air samples where the NIOSH 7400 method is used for analysis [454 CMR 28.10(11)(b)3]. The chain of custody will document the flow rate, start and stop times, the specific location of each sample, a unique ID number for each sample, the date of sample collection, the date of sample analysis, documentation of a reference slide, the name and license number of the person collecting samples, the name and address of the facility.

Can the project monitor be sub-contracted by an Asbestos Analytical Service?

No person shall perform, or be directed to perform, any asbestos analysis in the direct business interest of an Asbestos Analytical Service unless that person is a Responsible Person or an employee of the Asbestos Analytical Service [454 CMR 28.06(5)(b)]. A Project Monitor who is not an employee of the laboratory can collect samples, but cannot analyze those samples at the work site. The laboratory must maintain a list of all employees performing asbestos analysis, and their dates of employment or utilization [454 CMR 28.06(10)]. Each person performing analysis must participate in the laboratory's proficiency testing program.

Each laboratory must participate and maintain proficiency in the Proficiency Analytical Testing (PAT) Program of the American Industrial Hygiene Association (AIHA). In addition to the foregoing, each Class C laboratory shall comply with one of the following, effective January 1, 2022: 1) Enroll all analysts in the Asbestos Analysis Registry (AAR) of the Asbestos Analysis Testing Program (AAT) of the AIHA; 2) All analysts participate in an annual DLS provided Asbestos Analysts Testing Program; 3) AIHA OHLAP accreditation for PCM. [454 CMR 28.06(6)].

Failure to follow the required analytical methods when performing final clearance sampling would be a violation of 454 CMR 28.00 and/or AHERA. *Written Warnings, Civil Citations, and Civil Penalties* may be issued for violations of the Department of Labor Standards (DLS) and/or AHERA regulation.