

Guidelines for Work Involving Materials Containing Trace Asbestos

Asbestos at a Concentration \leq 1%

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GD-10 Trace Asbestos

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1. Introduction

This guidance document was developed to provide information and requirements for disturbing materials at Syracuse University that contain “trace” asbestos. A material is considered to contain trace levels of asbestos if the concentration of asbestos in the material is identified to be less than 1%. NYS Department of Labor’s Asbestos regulations (Code Rule 56) and the US EPA’s Asbestos NESHAPs regulations do not apply to materials containing $\leq 1\%$ asbestos. However, OSHA’s Asbestos Construction Standard (Standard) applies regardless of the amount of asbestos present. This document outlines the regulatory requirements and Syracuse University’s recommend best practices for handling trace asbestos containing materials.

2. Asbestos Survey Requirements

Prior to performing any construction, alteration, repair, maintenance, renovation or demolition of structures, substrates, or portions thereof, a determination of the asbestos content of the building materials to be impacted or potentially impacted by the project must be made. This determination requires that an asbestos survey be performed by a NYS certified Asbestos Inspector in accordance with 12 NYCRR §56 (CR56).

If any of the materials that may potentially be impacted by the planned disturbance project (project) are found to contain asbestos at a concentration greater than 1%, those materials are deemed “asbestos containing materials” (ACM) and must be handled in accordance with NYS Department of Labor Code Asbestos Regulations (12 NYCRR §56), the US EPA’s NESHAP for Asbestos (40 CFR §61, subpart M), and OSHA’s Asbestos Construction Standard (29 CFR §1926.1101). All handling of ACM at Syracuse University (SU) must be performed by a NYS Certified Asbestos Handler(s) approved by the SU Physical Plant Environmental Shop. The SU Environmental Shop will approve and oversee all projects involving ACM.

If the materials to be impacted by the planned disturbance project are found to contain asbestos but at concentration of equal to or less than 1% by weight, these materials are classified as containing “trace asbestos”. NYS DOL’s Asbestos regulations (CR 56) and the US EPA’s Asbestos NESHAPs do not apply to materials containing $\leq 1\%$ asbestos. However, OSHA’s Asbestos Construction Standard (Standard) applies regardless of the amount of asbestos present. Some of the requirements of the OSHA Asbestos Construction Standard are summarized below. For complete details on OSHA’s Asbestos Construction Standard please refer directly 29 CFR §1926.1101.

3. OSHA Asbestos Construction Standard Applicability

- A. **Applicability:** OSHA’s Asbestos Construction Standard, 29 CFR §1926.1101, regulates exposure to asbestos in all construction work as defined in 29 CFR §1910.12(b), including but not limited to the following

B. Definitions (29CFR 1926.1101)

Asbestos: “*Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that has been chemically treated and/or altered...*”

Note: the definition of “Asbestos” in the OSHA standard does not provide a de minimis quantity.

Asbestos-containing material (ACM): *Asbestos containing material means any material containing more than one percent asbestos.*

Note: Sections of the Standard that reference ACM, only apply to materials containing >1% asbestos.

C. Permissible Exposure Limits (PELs) (CFR §1926.1101(c)(1)&(2))

- Time-weighted average PEL: 0.1 fiber per cm³ of air as an eight hour TWA.
- Excursion limit PEL: 1.0 fiber per cm³ of air as averaged over thirty minutes.

4. OSHA Requirements for Trace (≤1%)Asbestos

Many of the engineering controls and work practices required by the OSHA Asbestos Construction Standard (29 CFR §1926.1101) (“Standard”) are applicable only to installed building materials that contain >1% asbestos and OSHA has assigned the term “Asbestos Containing Materials” to those materials. However, the Standard does stipulate required work practices and prohibitions applicable **if asbestos in any quantity** is present in the impacted materials. The Standard also contains requirements that apply whenever worker exposure(s) exceed either (or both) of the PELs, regardless of the amount of asbestos contained in the materials involved.

If a material to be impacted by a disturbance project contains asbestos at a concentration of ≤1% (trace asbestos) the following actions must be taken:

- An Asbestos Exposure Assessment must be made specific to the work to be performed. (This assessment must be written and retained and available at all times during the project. Retention should be at least 30 years.)
- All applicable work practices in the OSHA Standard must be implemented.
- All applicable prohibitions in the OSHA Standard must be adhered to.
- If either PEL is exceeded (**or a negative exposure assessment is not available**), all applicable requirements of the Standard must be adhered to.
- All other applicable laws, rules, and regulations must be followed.

A. Asbestos Exposure Assessment (29 CFR §1926.1101(f)(2))

For projects involving the disturbance of trace asbestos, the employer must conduct an “exposure assessment immediately before or at the initiation of the operation to ascertain expected exposures during that operation or workplace. The assessment must be completed in time to comply with requirements which are triggered by exposure data or the lack of a ‘negative exposure assessment,’ and to provide information necessary to assure that all control systems planned are appropriate for that operation and will work properly” (§1926.1101(f)(2)).

There are three potential approaches provided under 29 CFR §1926.1101(f)(2) for producing a negative exposure assessment. They are the use of objective data, previous air monitoring results, or current air monitoring results. If objective data is to be used for the negative exposure assessment, it must clearly demonstrate that employees will not be exposed to asbestos at levels above the asbestos PELs for the particular conditions and work to be performed. If a negative exposure assessment is to be used for trace asbestos work performed at Syracuse University, a negative exposure assessment must be documented and available for immediate review by Syracuse University and/or OSHA representatives upon request and retained with project files for a period of 30 years.

Until the employer is able to produce a negative exposure assessment specific to the trace asbestos project to be performed, the employer must comply with the elements of the Standard that are applicable when either asbestos PEL is exceeded¹.

B. Work Practices and Prohibitions for Activities involving Trace ($\leq 1\%$) Asbestos

If a material contains asbestos at a concentration of 1% or less, then only certain sections of the Standard apply. The work practice requirements and prohibitions that must be observed regardless of the exposure levels and of the percentage of asbestos in the installed construction materials are:

Engineering controls and work practices

- 1926.1101(g)(1)(ii): Wet methods, or wetting agents, to control employee exposures during asbestos handling, mixing, removal, cutting, application, and cleanup, except where employers demonstrate that the use of wet methods is infeasible due to, for example, the creation of electrical hazards, equipment malfunction, and, in roofing, except as provide in paragraph (g)(8)(ii) of this standard; and
- 1926.1101(g)(1)(iii): Prompt clean-up and disposal of wastes and debris contaminated with asbestos in leak-tight containers except in roofing operations, where the procedures specified in paragraph (g)(8)(ii) of this section apply.

¹ Per OSHA Standard Interpretation Letter dated August 13, 1999 to Mr. Walter Chun

- SU Best Management Practice: If a vacuum cleaner is to be used to clean up materials and debris containing trace asbestos, the vacuum cleaner must be equipped with a HEPA filter(s).

Prohibitions

- 1926.1101(g)(3)(i): High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
- 1926.1101(g)(3)(ii): Compressed air used to remove asbestos, or materials containing asbestos, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.
- 1926.1101(g)(3)(iv) : Employee rotation as a means of reducing employee exposure to asbestos.

5. Exposure Monitoring

Any individual(s) who may be potentially exposed to asbestos as a result of a project involving the disturbance of materials containing trace asbestos must have a negative exposure assessment available indicating that their exposure will not exceed a PEL. This includes individuals directly involved in the trace asbestos disturbance as well as individuals who may not be performing work associated with the disturbance but may potentially be exposed as a result of the disturbance. If a negative exposure assessment is not available, it must be assumed that a PEL could potentially be exceeded and the applicable provisions of the Standard implemented.

Employee exposure monitoring must be performed in accordance with applicable Standard requirements. The following citations provide the requirements for employee exposure monitoring:

- 1926.1101(c)(1) Time-weighted average limit (TWA): “The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.”
- 1926.1101(c)(2) Excursion limit: “The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.”
- 1926.1101(f)(1)(i) General monitoring criteria: “Each employer who has a workplace or work operation where exposure monitoring is required under this section shall perform monitoring to determine accurately the airborne concentrations of asbestos to which employees may be exposed.”
- 1926.1101(f)(1)(ii): “Determinations of employee exposure shall be made from breathing zone air samples that are representative of the 8-hour TWA and 30-minute short-term exposures of each employee.”

- 1926.1101(f)(1)(iii): “Representative 8-hour TWA employee exposure shall be determined on the basis of one or more samples representing full-shift exposure for employees in each work area. Representative 30-minute short-term employee exposures shall be determined on the basis of one or more samples representing 30 minute exposures associated with operations that are most likely to produce exposures above the excursion limit for employees in each work area.”

6. Disposal of Trace Asbestos Materials

All disturbed materials and debris containing trace asbestos must be promptly cleaned up and disposed of in leak-tight containers or bags. The containers/bags must be labeled with a waste generator’s label indicating the date, location and waste generator (i.e. Syracuse University). Trace asbestos waste may only be disposed of at a disposal facility approved by the Syracuse University Environmental Shop and/or the Syracuse University Environmental Health and Safety Services, and authorized to accept trace asbestos waste. The University project manager overseeing the trace asbestos disturbance project is responsible for ensuring that trace asbestos waste is properly disposed of and all associated disposal documentation is maintained.

7. Multi- Employer Workplace Requirements

A Multi-Employer Workplace Program has been established to provide the exchange of pertinent hazard communication information in a multi-employer setting at the University. University contracting personnel who hire outside employers must provide a multi-employer packet to all contractors and sub-contractors, advising them of their obligations.

Any outside (non-university) employer who produces, uses, or stores hazardous materials at a University-operated workplace in such a way that employees of the University or other on-site employers (i.e. contractor’s employees) may be exposed, whether during normal work or during reasonably foreseeable accidents or other incidents, shall ensure that they provide, develop and implement the applicable requirements set forth in the University’s Multi-Employee Workplace Program as provided by the University contracting personnel.

For work activities where an asbestos PEL may be exceeded or if a negative exposure assessment is not available, it is emphasized that work practices/procedures must be developed and implemented to ensure that University employees and property are adequately protected during a planned or unplanned disturbance of such building materials.

