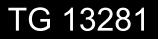
Summary of Changes (v19.08)

TECHICAL GUIDE

1. Comprehensive updates necessary for TG 13281 Attachment C Technical Guide (last update was done in May 2003) and now incorporated into TG 13281 (was part of TG13280).

Removal and Disposal of Asbestos Containing Materials (ACM) (Attachment C)



REQUIREMENTS FOR ROOF REMOVAL WORK CONTAINED IN THE OSHA STANDARD FOR ASBESTOS CONSTRUCTION (29 CFR 1926)

The following is a summary of 1926.1101 Asbestos requirements used in the OSHA Standard concerning roofing work.

- **1.** Definitions: Class II asbestos work means activity involving the removal of ACM, which includes roofing and construction mastics.
- Permissible exposure limits (PELs):
 A. 8 hour time weighted average (TWA), .1 f/cc.
 - B. Excursion Limit, 30 min., 1.0 f/cc.
- **3.** Regulated Areas: All Class II work must be conducted within a regulated area, demarcated in any manner which limits the number of persons within the area and protects persons outside the area.
- 4. Exposure Assessment and Monitoring:
 - A. Initial Exposure Assessment: Required to be performed by a "competent person" prior to start of work, unless a "negative exposure assessment" has been performed, to ascertain expected exposure during the work.
 - _B. Negative Exposure Assessment: the employer may demonstrate using objective data that the work cannot release airborne fibers in concentrations exceeding the PELs.
 - C. Periodic Monitoring: For Class II work, daily monitoring must be performed within the regulated area unless a "negative exposure assessment" has been made. Exception: If employees are equipped with supplied-air respirators, daily monitoring may be deleted.
- 5. Methods of Compliance:
 - A. Prohibitions: The following work practices shall not be used.
 - 1) High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
 - 2) Compressed air used to remove ACM unless used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.
 - 3) Dry sweeping, shoveling or other dry clean-up of dust and debris containing asbestos.
 - 4) Employee rotation as a means of reducing employee exposure to asbestos.
- 6. Work practices and engineering controls for Class II work: All Class II work must be supervised by a "competent person."
- 7. Additional Controls for Class II Work:
 - A. For removing roofing material which contain ACM, following work practices apply.
 - 1) Remove roofing material in an intact state to the extent feasible.
 - 2) Wet Methods must be used where feasible.

- 3) Cutting Machines shall be continuously misted unless a Competent Person determines that misting substantially decreases worker safety.
- 4) All loose dust left by a sawing operation must be HEPA vacuumed immediately.
- 5) Unwrapped or unbagged roofing material must be immediately lowered to the ground.
- 6) Upon being lowered, unwrapped material must be transferred to a closed receptacle in a manner so as to preclude the dispersion of dust.
- 7) Roof level air intakes must be isolated or shut down to prevent entry of any potential asbestos containing dust or debris from entering occupied building spaces.
- B. Asbestos-Cement Shingles:
 - 1) Cutting, abrading or breaking shingles is prohibited unless the employer can demonstrate that methods less likely to result in asbestos fiber release cannot be used.
 - 2) Spray each panel with amended water (water with surfactant added) prior to removal.
 - 3) Unbagged shingles shall be immediately lowered to the ground via dust tight chutes, crane or hoist. Or bag and lower to ground no later than end of work shift.
 - 4) Nails shall be cut with flat, sharp instruments.
- 8. Respiratory Protection: Required in the following circumstances:
 - A. ACM is not removed in an intact state.
 - B. Removal is not done using wet methods.
 - C. Employer does not produce a "negative exposure assessment".
 - D. Employees are exposed above the PELs.
 - E. In emergencies.
- **9.** Protective Clothing: Required for any employee exposed to airborne concentrations which exceed the PELs or in cases where a "negative exposure assessment" has not been produced. The transport and cleaning of contaminated clothing is also regulated.
- **10.** Hygiene Facilities: An equipment room adjacent to the regulated area is required for the decontamination of employees and their equipment if a PEL is exceeded or there is no "negative exposure assessment".
- 11. Communication of Hazards:
 - A. Signs: Warning signs that demarcate the regulated area shall be provided.
 - B. Labels: All waste containers containing asbestos must be labeled.
- **12.** Employee Information and Training: All employees to handle ACM shall be trained in a course of at least 8 hours.
- **13.** Housekeeping: Where vacuum methods are used, HEPA filtered vacuuming equipment must be used.
- **14.** Medical Surveillance: Required for all persons who are engaged in Class II work for a total of 30 or more days per year, or exposed above the PELs, or required to wear negative pressure respirators.
- **15.** Recordkeeping: Required for objective data relied on for exposure assessments and monitoring, exposure measurements, medical surveillance, training records, and required notifications.

16. Competent Person: A person designated by the employer as a competent person who has the qualifications and authorities for ensuring worker safety and health. Training of this person shall include all aspects of asbestos removal and handling; such training shall be obtained in a comprehensive course for supervisors.

END OF SECTION 13280 - ATTACHMENT C