

Silica Exposure Control Program

Applicability

1. This Written Exposure Control Plan (Plan) applies to Clancy & Theys (C&T) personnel who are potentially exposed to airborne concentrations of respirable crystalline silica (silica) because of their work activities or proximity to the work locations where airborne silica is being emitted. This Plan also applies to C&T superintendents, foremen, or safety personnel who may be responsible for overseeing a subcontractor's operations that have the potential to expose personnel to airborne concentrations of silica at or above regulatory and industry action levels and exposure limits

Regulatory Review

1. Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1153: Respirable Crystalline Silica (Construction Industry) contains regulatory requirements specific to respirable crystalline silica. This Written Exposure Control Plan is developed in accordance with the requirements in 29 CFR 1926.1153(g). If there is a conflict between regulatory policy and C&T policy, then the most stringent shall apply.

Scope

1. This Plan describes the hazards associated with projects involving potential exposure to airborne concentrations of silica and the issues to be addressed during these projects. These projects include, but are not limited to:
 - 1.1. Handheld power saws used to cut concrete, asphalt, concrete masonry block, or any other product containing quartz.
 - 1.2. Rig-mounted or free standing core saws or drills (including impact and rotary hammer drills) used to penetrate concrete, concrete masonry block, or any other structural component or product containing quartz.
 - 1.3. Jackhammers and handheld powered chipping tools used to demolish or modify concrete, concrete masonry block, or any other structural component or product containing quartz.
 - 1.4. Handheld grinders or cut-off wheels used for mortar removal or cutting/grinding of concrete, concrete masonry block, or any other structural component or product containing quartz.
 - 1.5. Installation or demolition of sheet rock, including mudding, taping, texturizing activities with quartz containing materials.
 - 1.6. Hand or power tool sanding of painted surfaces. Current latex paint products contain quartz and the painted substrate (concrete masonry block, concrete) contains quartz.
 - 1.6.1. All housekeeping operations associated with the activities described above.
2. C&T employees who work in proximity to silica-related operations must be aware of safe work practices and take all necessary precautions associated with avoiding and minimizing airborne silica exposure.

Training Requirements

1. C&T employees who anticipate working on projects where they could be exposed to airborne silica will be provided training in silica hazards in accordance the C&T program established to comply with the hazard communication standard (**29 CFR 1910.1200**).
2. Each employee will have access to labels on containers of crystalline silica and safety data sheets, and be provided information on the health hazards of silica including cancer, lung effects, immune system effects, and kidney effects. In addition, C&T employees will be provided training and information regarding specific activities identified in this Plan that could result in airborne silica exposure, and the specific engineering controls, work practices and respiratory protection requirements to mitigate the potential airborne silica exposures.
 - 2.1. This training will provide a discussion of silica hazards, initial exposure determination either by complying with **29 CFR 1926.1153 Table 1** requirements or air monitoring, specific engineering and work practice control measures, personal protective equipment (PPE), and medical surveillance requirements. The training will also identify the C&T competent person for silica exposure identification and determination of control requirements. All C&T employees will

be provided with access to a copy of 29 CFR 1910.1153 and be trained on the contents of 29 CFR 1926.1153.

Medical Surveillance Requirements

1. C&T shall make medical surveillance available and at no cost to the employee for any employees required by this Plan to wear a respirator 30 or more days per year.

Competent Person Requirements

1. C&T will identify a competent person to inspect and oversee all activities with potential airborne silica exposure. Subcontractors working on projects within the scope of this Program shall appoint a competent person capable of executing the duties described herein.
 - 1.1. The competent person has training in the inspection of work areas and equipment and in the determination of safe working conditions.
 - 1.2. The competent person shall also have a working knowledge of the 1926.1153 standards, shall be capable of identifying airborne silica hazards, shall determine the need for initial and additional exposure monitoring, shall recommend and implement engineering and work practice controls, shall establish levels of PPE, and has the authority to take action to eliminate hazards and correct incidences of noncompliance.

Planning Activities

1. Projects where anticipated activities involve concrete cutting, grinding, sandblasting, drilling, coring, or other abrasive operations are treated as potential sources for airborne silica exposure. Additionally, existing structures and materials such as sheetrock, any painted surfaces with low volatile organic compounds, tile, brick, or some insulation products may contain silica. Likewise, new material installation may involve silica-containing mortar, paints, or insulation. Where process knowledge indicates the presence of silica, C&T will either implement all controls required by **1926.1153 Table 1- Exposure Control Methods for Selected Construction Operations** or conduct an initial determination in accordance with 29 CFR 1926.1153(d)(2).

Safe Work Practices

1. The requirements of this section are to be followed by C&T employees, who may be exposed to airborne concentrations of silica at or above the regulatory limits.

Exposure Assessment

1. C&T will either comply with and implement all controls required by **1926.1153 Table 1- Exposure Control Methods for Selected Construction Operations** or conduct an initial determination in accordance with 29 CFR 1926.1153(d)(2).
 - 1.1. An exposure assessment is required when employees may be exposed to airborne silica at or above the action level in order to determine the extent to which employees are exposed and the appropriate exposure controls required.
 - 1.2. An initial determination of exposure shall be made at the beginning of operations. The determination may consist of the collection of personal air samples representative of a full shift including at least one sample for each job classification in each work area, either for each shift, or for the shift with the highest exposure level.
 - 1.3. During the initial determination, until such time that actual airborne concentrations are determined, personnel shall be protected by respiratory protection based on task- specific anticipated airborne concentrations of silica as illustrated in OSHA Table 1
 - 1.4. During the initial determination, and in addition to the levels of respiratory protection required, personnel shall be provided with protective clothing, equipment, and training.

- 1.5. Whenever a change in equipment, process, controls, or a new task has been initiated, an additional exposure assessment is required.
- 1.6. When an assessment determines that exposure has occurred above the action level but below the PEL, additional monitoring shall be required at least every 6 months.
 - 1.6.1. Additional monitoring shall continue until such time that the monitoring results fall below the action level on two separate occasions at least 7 days apart.
- 1.7. When monitoring yields results above the PEL, then quarterly monitoring is required. In addition, the quarterly monitoring may be suspended when additional monitoring results fall below the action level on two separate occasions at least 7 days apart.
- 1.8. Where the competent person can demonstrate in the absence of air monitoring data, that a work activity will not create airborne silica concentrations in excess of the action level, then air monitoring may be unwarranted.

Communication of Hazards

1. Each employee shall be provided training and demonstrate knowledge and understanding of the following:
 - 1.1. Health hazards associated with exposure to respirable crystalline silica
 - 1.2. Specific tasks that could result in exposure to respirable crystalline silica
 - 1.3. Specific measures that are required to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and required use of respiratory protection
 - 1.4. The contents of the 29 CFR 1926.1153
 - 1.5. The identity/name of the competent person
 - 1.6. Purpose and description of the medical surveillance program
 - 1.7. A written compliance program shall be made available to all affected employees.
2. In addition, notification to owners, contractors, and other personnel working in the area shall be made.

Control Methods

1. Engineering and work practice controls, including administrative controls, shall be implemented to reduce and maintain employee exposure to silica at or below the PEL, to the extent that such controls are feasible.
2. Where all feasible engineering and work practice controls that can be instituted are not sufficient to reduce employee exposure to or below the PEL, such controls shall be used, nonetheless, to reduce employee exposure to the lowest feasible level (and in conjunction with respiratory protection).
3. Respiratory protection shall be selected based on guidance in 1926.1153 Table 1 or based on a Certified Industrial Hygienist's or competent person's assessment of the potential airborne exposure that may be created by the means and methods of work (high energy operations with high airborne dust generation or low energy operations with low dust generation).
4. When using mechanical ventilation to control exposure, regularly evaluate the system's ability to effectively control exposure.
5. If administrative/objective controls are used to limit exposure, establish and implement a job rotation schedule that includes employee identification as well as the duration and exposure levels at each job or work station where each affected employee is located.
6. Maintain all surfaces as free as possible from accumulations of silica. Select methods for cleaning surfaces and floors that minimize the likelihood of silica becoming airborne.
7. If vacuuming is the method selected, specialized vacuums with HEPA filtration are required. Methods to use and empty vacuums in a manner that minimizes the reentry of silica into the workplace shall be described and used. Use of household vacuums with HEPA filters are not allowed at any time for the collection of dust or debris that contains silica.
8. Never use compressed air to remove silica from any surface unless it is used in conjunction with a ventilation system designed to capture the airborne dust created while using the compressed air.

9. Employees shall not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in any areas where exposure to silica is above the PEL
10. Do not allow employees to leave the workplace wearing any protective clothing or equipment that is required to be worn during their work shift without HEPA vacuum removal of dust.

Personal Protective Equipment (PPE)

1. Respiratory protection must be used for the following conditions:
 - 1.1. During periods when employee exposure to airborne silica exceeds the PEL
 - 1.2. For work operations where engineering and work-practice controls are not sufficient to reduce employee exposure to or below the PEL
 - 1.3. During periods when an employee requests a respirator
 - 1.4. During periods when respirators are required to provide interim protection while conducting initial exposure assessments