



E Light Electric Services, Inc.

Workplace Crystalline Silica Exposure Control Policy

1. Purpose

To reduce employee exposure of airborne crystalline silica to below the PEL (permissible exposure limit) set by OSHA by eliminating the exposure, using engineering controls to limit exposure, and by using administrative controls to keep employees from being exposed to airborne crystalline silica.

2. Applicability

This policy will apply to all E Light Electric Services, Inc. employees who are at risk of being exposed to airborne crystalline silica where exposure is at or above the action limit of 25 $\mu\text{g}/\text{m}^3$ (micrograms of silica per cubic meter of air) averaged over an eight-hour day.

This policy will also apply to any and all sub-contractors working for E Light Electric Services, Inc. unless they have a written exposure control plan that meets or exceeds this policy.

3. Policy

The employees of E Light Electric Services, Inc. and the sub-contractors will be protected from health hazards associated with airborne crystalline silica.

4. Responsibilities

E Light Electric Services, Inc.

- Will develop and maintain a training program that educates all employees on the health hazards and protection methods associated with exposure to airborne crystalline silica.
 - Maintain records of training for all employees.
- Review the exposure control plan as needed to maintain a suitable program to protect employees.
- Designate a competent person on the job site that is responsible for implementing the written exposure control plan when required.
- Develop alternative methods that reduce employee exposure when feasible.

Project Manager and Superintendent:

- Will ensure that any tools, equipment, personal protective equipment, and or materials are readily available to protect employees from exposure.
- Will obtain and keep on site a copy of this exposure control plan and will have it readily available to personnel for review.
- Provide a JHA (job hazard analysis) for work where employees are at risk of exposure.
- Ensure that all employees are utilizing the proper protection methods while in an area where there is risk of exposure.
- Removing employees from an area where there are no feasible ways to protect workers from exposure.
- Communicating with other contractors on site to ensure workers are protected from exposure due to other work being performed.

Employees

- Knowing the hazards of crystalline silica dust exposure.
- Following this policy and any other site-specific policies.
- Setting up work/tasks in accordance with this plan.
- Using assigned protection equipment for each task.
- Reporting any unsafe conditions to supervision/management.
- Knowing how and when to report unsafe exposures.

5. Scope

This policy covers all tasks that could create an environment where employees are at risk of exposure to airborne crystalline silica at or above the action limit of 25 µg/m³.

6. Silica Properties

Silica:

The dioxide form of silicone, occurring especially as quartz sand, flint, and agate: used usually in the form of its prepared white powder chiefly in the manufacture of glass, water glass, ceramics, and abrasives.

Also called **Silicone Dioxide**

Common materials containing silica:

- Rock and Sand
- Topsoil and Fill
- Concrete, Cement, and Mortar
- Masonry, Brick, and Tile
- Granite, Sandstone, and Slate
- Asphalt (containing rock and stone)
- Fibrous cement board containing silica

Some examples of work activities that could expose employees to the hazards of silica:

- Abrasive blasting (concrete and stone structures)
- Jackhammering, chipping, or drilling rock or concrete
- Cutting brick or tiles
- Sawing or grinding concrete
- Road construction
- Loading, hauling, or dumping gravel
- Demolition of concrete/stone structures
- Sweeping concrete dust

7. Health Hazards

Exposure to silica has been shown to cause silicosis, lung cancer, pulmonary tuberculosis, and other airway diseases. Silicosis is a permanent lung damage caused by breathing dust containing extremely fine particles of crystalline silica. When these particles are breathed in, they can cause scarring or lung damage. Silicosis can be totally disabling and often lead to death.

There are three main types of silicosis which depend on the concentrations of silica dust and duration of exposure:

- Chronic Silicosis – develops after 10 or more years of exposure to crystalline silica at relatively low concentrations.
- Accelerated Silicosis – develops 5 to 10 years after initial exposure to crystalline silica at high concentrations.
- Acute Silicosis – develops within a few weeks, or 4 to 5 years, after exposure to very high concentrations of crystalline silica.

Symptoms:

Workers may not have any signs of symptoms initially, however, as the disease progresses, a worker may experience:

- Shortness of breath
- Severe cough
- Weakness

8. Procedures

Each site will develop exposure control methods for **each task** where exposure to silica is possible. This means each task must be planned in advance before starting the task. The task must be planned to reduce the risk of exposure for employees working on each task. This will be done by creating a JHA using IAuditor. If the work area changes, becomes more confined, or any other condition that could raise the risk of exposure the work will be stopped and the JHA will be revised in order to create a safe working environment.

The following are guidelines that can be used, however these guidelines will not take the place of task specific JHA's on the jobsite.

When conducting your risk exposure and creating a task specific JHA, keep in mind that drilling overhead an employee will be at a greater risk of exposure. If drilling numerous holes in a single area, this could also create a greater risk of exposure.

When only drilling a small quantity of holes:

For drilling holes 1/2" or less:

- No further protection methods are needed unless it is deemed by the competent person that there is risk of exposure (such as in an enclosed or confined area)

For drilling holes larger than 1/2":

- Use a drill equipped with a shroud or a cowl with a dust collection system. The dust collector must have a filter with 99% or greater efficiency. Use a HEPA filtered vacuum when cleaning out the holes.
- Utilize a water delivery system that will be adequate enough to not allow airborne particulates.

For saw cutting:

- All cutting of brick, block, and tile will be cut wet when possible.

Demo saw cutting:

- Work will be done wet whenever possible. A dust collection system may also be used.

Sweeping:

- Use floor sweep to control the dust build up when sweeping.

Miscellaneous:

- Whenever doing any other task that may expose employees to airborne crystalline silica, wet methods shall be used. This includes scraping, chipping, sanding, or grinding.

- Do not eat, drink, or use tobacco products in dusty areas.
- Use personal protective equipment whenever the level of dust cannot be controlled.
- Post warning signs in areas where the level of dust cannot be controlled.
- If another contractor or an outside source is creating a condition that exposes personnel to silica, remove personnel from the area until the area is safe to continue work.

9. Training & Education

All E Light Electric Services, Inc. personnel shall complete Silica awareness training as part of new hire orientation. Training will include:

- Properties of silica
- Recognizing silica hazards
- Activities that could expose employees to silica hazards
- The E Light Electric Services, Inc. silica safety program.

All personnel will be required to complete this training annually by accessing the training module on elightraining.com. All records of training shall be kept and made available upon request.

Refresher training will be completed if but not limited to:

- Near miss involving silica
- Incident/accident involving silica
- Violation of E Light Electric Services, Inc. policy or procedures