

<p>Safety Manual</p> <p>SILICA EXPOSURE CONTROL PLAN</p>
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Policy Section No.:64  
Revision No.: 1

**Effective:** 06-16  
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## SILICA EXPOSURE CONTROL PLAN

### 1. Purpose:

- 1.1 To protect our workers and ensure they do not come into contact with silica in excess of the Permissible Exposure Limit (PEL) of 50 ug/m<sup>3</sup> and that whenever they are feasible, engineering and work practice controls will be established and implemented to reduce and maintain exposures at or below the PEL.

### 2. Scope:

- 2.1 This applies to all work activities within Therma including but not limited to the service department, pipe fitting, plumbing, and sheet metal.

### 3. Definitions:

- 3.1 Silica – Silica is a natural mineral that comes in several forms, some more hazardous than others. Typically it's the crystalline forms that are of greatest concern. Silica can be present in large quantities in certain types of rocks and sand. Exposure to respirable (airborne) crystalline silica dust during construction activities can cause serious respiratory disease.
- 3.2 Employee Exposure – The exposure to respirable crystalline silica that would occur if the employee were not using respiratory protective equipment
- 3.3 Permissible Exposure Limit (PEL) – The maximum permitted 8-hour time-weighted average concentration of an airborne contaminant. The PEL of silica is 50 mg/m<sup>3</sup>.
- 3.4 Dust Containment Device – A device attached to a power tool such as a pouch, bag, plastic container, or similar attachment which is intended to capture dust generated by the power tool. This device is not intended to be a dust reduction system as defined under this section.

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- 3.5 Dust Reduction System – Technology that utilizes the application of water or local exhaust ventilation to reduce airborne dust generated by the use of powered tools or equipment. Local exhaust ventilation may include vacuum systems, dust collection systems, and dust exhaust systems.

#### 4. Training

- 4.1 In the event a Therma employee could come into contact with silica; they shall receive silica awareness training.
- 4.2 If respirators or other personal protective equipment are required, the employees shall receive the appropriate respirator training in accordance of the company policies.
- 4.3 Equipment and training will be provided at no cost to employees.
- 4.4 When operations include using powered tools or equipment to cut, grind, core, or drill concrete or masonry materials, Therma shall provide training on the following topics to all employees prior to their assignment to jobs or work areas where Therma will be conducting these operations:
- The potential health hazards of overexposure to airborne dust generated from concrete and masonry materials, including silicosis, lung cancer, chronic obstructive lung disease (COPD) and decreased lung function.
  - Methods used to control employee exposures to airborne dust from concrete and masonry materials, including wet cutting, local exhaust ventilation systems, and isolation of the process from the operator or other employees by means of distance, enclosure, or other method, as applicable.
  - Proper use and maintenance of dust reduction systems, including the safe handling and disposal of waste materials collected in connection with their use.
  - The importance of good personal hygiene and housekeeping practices when working in proximity to dust from concrete and masonry materials including:

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- Not smoking tobacco products; appropriate methods of cleaning up before eating, and appropriate methods of cleaning clothes.
- Avoiding, to the extent practical, activities that would contribute significantly to an employee's exposure to airborne dusts.
- When training is needed contact the safety department directly.
- Training shall be conducted by a safety representative, superintendent, or their designee.
- Once training is completed originals are to remain in the job site safety training files until job completion and an electronic/ scanned copy shall be sent to the Therma Safety Dept. to be kept on file within one week.

## **5. Engineering Controls**

- 5.1 Alternative Exposure Control Methods are necessary when effective engineering controls required by "Table 1" of OSHA's Respirable Crystalline Silica Standard are not achievable. When acceptable, engineering controls are feasible Therma will always defer to, and comply with "Table 1" of OSHA's Respirable Crystalline Silica Standard.

## **6. Safe Work Practices**

- 6.1 Procedures shall be implemented to ensure that dust reduction systems maintain their effectiveness for dust reduction throughout the work shift.
- 6.2 Dust reduction systems shall be installed, operated, and maintained in accordance with manufacturer recommendations to the extent they exist.
- 6.3 When engineering controls, such as the wet method, HEPA filtered dust collection systems, and local exhaust ventilation are by themselves inadequate for worker protection from overexposure, but feasible to use, they will be implemented in conjunction with

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respirator use to help control respirable crystalline silica concentrations.

- 6.4 Only sharp masonry drill bits and saw blades will be used when drilling or cutting into concrete.
- 6.5 Affected workers are not permitted to eat, drink, smoke, or apply cosmetics in affected work areas.
- 6.6 Affected workers are required to wash their hands and faces before eating, drinking, smoking, or applying cosmetics.

## **7. Affected Area Access Restrictions**

- 7.1 Therma restricts access by all others to areas where Therma workers are drilling, cutting, or boring through concrete and restricts access to its own affected workers who must perform work in areas where other trades are pulverizing silica containing building materials.
- 7.2 When necessary, to minimize exposure Therma will ensure:
  - The affected work area will be barricaded, and marked yellow and black caution tape.
  - The barricaded area will be large enough to prevent other trades in the area from overexposure to respirable crystalline silica, provided that they do not breach the barricade.
  - Signs stating, "Caution – Silica" will be posted around the perimeter of the barricaded areas so that other trades will know why they should not to breach the barricade.

## **8. Clean Up**

- 8.1 Minimize dust generation when working with or around silica-containing materials.
- 8.2 Never use compressed air to clean off equipment, surfaces or your clothes. Where feasible, use water or a HEPA vacuum. Consider using disposable (such as Tyvek coveralls) or reusable clothing that stays at the work site.

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8.3 Handle and dispose of waste materials without generating airborne dust

- Use a HEPA vacuum, squeegee instead of broom, or sweeping compound, in that order.

## **9. Respiratory Protection:**

9.1 Reference Therma's policy section No. 27 Respiratory Protection