



## Appendix V. Crystalline Silica (Dust) Safety Policy SEPTEMBER 2022

### Purpose

The purpose of this program is to educate VSC Fire & Security, Inc. (hereinafter "VSC") employees on the hazardous effects associated with the inhalation of crystalline silica dust, more commonly known in construction as "concrete dust".

### Regulatory Scope

This program addresses regulatory requirements found in the OSHA Silica Standard 1926.1153 and 1910.1053 effective September 23, 2017 (note: Virginia OSH standard is effective June 23, 2017).

### Hazard

Silica dust is hazardous when very small (respirable) particles are inhaled. These respirable dust particles can penetrate deep into the lungs and cause chronic disabling and sometimes fatal lung diseases, including silicosis, lung cancer, other respiratory diseases, as well as kidney disease. Exposure can occur during common construction tasks such as using masonry saws, grinders, drills, jackhammers and handheld powered chipping tools; operating vehicle-mounted drilling rigs; milling; operating crushing machines; and using heavy equipment for demolition or certain other tasks.

VSC employee's primary exposures to this hazard arise out of:

- Core drilling or installing anchors into brick, concrete, or masonry block that occurs when installing fire sprinkler pipe and systems;
- Power sawing concrete floors or using jackhammers to install risers between floors / levels;

Other exposures may include cleaning up concrete dust, the disposal of concrete dust, and exposure to other trades activity that generates concrete dust at levels above permissible exposure limits.

### Crystalline Silica Rule (Construction):

Key Provisions of the OSHA Crystalline Silica Rule

- Reduces the permissible exposure limit (PEL) for respirable crystalline silica to 50 micrograms per cubic meter of air, averaged over an 8-hour shift. The new standard requires a more stringent "permissible exposure limit (PEL)", moving from approximately 250 micrograms per cubic meter of air (250 µg/m<sup>3</sup>) over an 8 hour day (time weighted average) to 50 µg/m<sup>3</sup> over an 8 hour day.
- Requires employers to use engineering controls (such as water or ventilation) to limit worker exposure to the PEL; provide respirators when engineering controls cannot adequately limit exposure; limit worker access to high exposure areas; develop a written exposure control plan, offer medical exams to highly exposed workers, and train workers on silica risks and how to limit exposures.
- Provides medical exams to monitor highly exposed workers and gives them information about their lung health. These exams will include chest X-rays and lung function tests, every three years, where a worker is required by the OSHA standard to wear a respirator for 30 or more days per year due to exposure to crystalline silica in the workplace.
- Provides flexibility to help employers — especially small businesses — protect workers from silica exposure.
- Records of workers' silica exposure and medical exams will be retained. (Note: VSC's Risk-Safety department will retain these records for 30 years.)

VSC’s program incorporates these Key Provisions into its written exposure control plan and offers its employees the means by which to benefit from these key provisions.

**Exception to the Standard**

The construction standard 1926.1153 does not apply where exposures will remain low under any foreseeable conditions; for example, when only performing tasks such as mixing mortar, pouring concrete footers, slab foundation and foundation walls; and removing concrete formwork.

**Procedures to Follow When Working Around Crystalline Silica**

When it is not possible to eliminate exposure to crystalline silica in the workplace, VSC will implement the following engineering and work practice controls:

- Use of control methods to safely collect crystalline silica (dust), or wet sawing or wet drilling of silica-containing materials to keep crystalline silica dust from getting into the air;
- Provide and require workers to wear proper respiratory protection (PPE);
- Restrict VSC employee access to work areas where high exposures may occur due to other contractor’s work on a job-site. The “restrict access” requirement is intended to eliminate exposure to a VSC employee as an “unprotected bystander”.
- Restrict housekeeping practices (clean-up and disposal) which expose workers to silica dust.

Control Methods

- VSC will follow OSHA Table 1 - Exposure Control Methods for Silica Dust, found on OSHA’s website. Table 1 lists tasks and equipment-control methods that OSHA has determined will reduce exposure to acceptable levels. The Table includes requirements for when a task is performed for different periods of time and in different environments. An employer that fully implements an equipment-control option on Table 1 for a task will not have to perform air monitoring for that task.
- VSC will only use Equipment for the Tasks described as Table 1 dictates. Note: This requirement applies to Equipment owned by VSC, as well as Equipment rented or leased.
- Converting tools to meet the requirement using devices or equipment that are not designed to operate with the Equipment is not permitted. For example, duct taping a vacuum hose to the end of a power drill to collect concrete dust as the drill is being used to bore an opening in concrete is not permitted.

Table 1: Specified Exposure Control Methods When Working With Materials Containing Crystalline Silica (note: the table displayed only reflects those “Task” types undertaken by VSC. To see the full Table 1, visit <a href="http://www.osha.gov">www.osha.gov</a> )			
Equipment / Task	Engineering & Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤4 hours / shift	>4hours / shift
(ii) Handheld power saws (any blade diameter)	<ul style="list-style-type: none"> <li>• Use saw equipped with integrated water delivery system that continuously feeds water to the blade.</li> <li>• Operate and maintain tool in accordance with mfg.’s instructions to minimize dust emissions.</li> </ul>	When Used Outdoors: <u>None</u> When Used Indoors or in an enclosed area: <u>APF 10</u>	When Used Outdoors: <u>APF 10</u> When Used Indoors or in an enclosed area: <u>APF 10</u>
(iv) Walk-behind saws	<ul style="list-style-type: none"> <li>• Use saw equipped with integrated delivery system that continuously feeds water to the blade.</li> <li>• Operate and maintain tool in accordance with mfg.’s instructions to minimize dust emissions.</li> </ul>	When Used Outdoors: <u>None</u> When Used Indoors or in an enclosed area: <u>APF 10</u>	When Used Outdoors: <u>None</u> When Used Indoors or in an enclosed area: <u>APF 10</u>

(vi) Rig-mounted core saws or drills	<ul style="list-style-type: none"> <li>• Use tool equipped with integrated water delivery system that supplies water to cutting surface.</li> <li>• Operate and maintain tool in accordance with mfg.'s instructions to minimize dust emissions.</li> </ul>	None	None
(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	<ul style="list-style-type: none"> <li>• Use drill equipped with commercially available shroud or cowling with dust collection system.</li> <li>• Operate and maintain tool in accordance with mfg.'s instructions to minimize dust emissions.</li> <li>• Dust collector must provide the air flow recommended by the tool mfg., or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.</li> <li>• Use a HEPA-filtered vacuum when cleaning holes.</li> </ul>	None	None
(x) Jackhammers and handheld powered chipping tools	<ul style="list-style-type: none"> <li>• Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Use tool equipped with commercially available shroud and dust collection system.</li> <li>• Operate and maintain tool in accordance with mfg.'s instructions to minimize dust emissions.</li> <li>• Dust collector must provide the air flow recommended by the tool mfg., or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.</li> </ul>	<p>When Used Outdoors: <u>None</u> When Used Indoors or in an enclosed area: <u>APF 10</u></p> <p>When Used Outdoors: <u>None</u> When Used Indoors or in an enclosed area: <u>APF 10</u></p>	<p>When Used Outdoors: <u>APF 10</u> When Used Indoors or in an enclosed area: <u>APF 10</u></p> <p>When Used Outdoors: <u>APF 10</u> When Used Indoors or in an enclosed area: <u>APF 10</u></p>
(xvii) Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g. hoe-ramming,	<ul style="list-style-type: none"> <li>• Operate equipment from within an enclosed cab.</li> </ul>	None	None

rock ripping) or used during demolition activities involving silica-containing materials	<ul style="list-style-type: none"> <li>When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.</li> </ul>		
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**Personal Protection Equipment (PPE)**

- Employees will be issued and will wear respiratory protection with the minimum assigned protection factor (APF) as indicated in Table 1 above.

**Housekeeping**

- OSHA’s standard restricts the use of housekeeping methods that can contribute to a worker’s exposure to silica dust. These restrictions include dry sweeping or brushing, and use of compressed air for cleaning surfaces or clothing (unless used with ventilation to capture the dust), unless there is no other alternative feasible methods.
- VSC requires its employees to wet the dust prior to sweeping, either by use of a conventional method to wet the dust prior to sweeping, or to use a broom or other sweeping tool that is kept wet while sweeping. As an alternative, an eco-friendly sweeping compound that is a wet compound designed to absorb dust while sweeping can be used.
- When cleaning accumulations with a motorized vacuum a HEPA-filtered vacuum must be used.
- Accumulations of dry silica dust must be disposed of in a sealed bag or other sealed container so that particles are not re-introduced into the air. Sealed bags / containers can be disposed of in traditional trash containers.
- Eye and Skin protection: Maintain good industrial hygiene by following manufacturers recommendations outlined on the Safety Data Sheet (SDS) issued for silica and silica containing products.
  - Eye Protection: Wear safety glasses with side shields or goggles when conducting work that generates silica dust or when working in areas where silica dust is present. For exposure to silica dust wash eye immediately with plenty of water or saline. Do not rub eyes. If irritation persists, seek medical attention.
  - Skin Protection: First Aid is not required. Wash skin with water and hand/body soap.

**Training**

VSC’s Risk-Safety Department is the designated “competent person” responsible for creating, maintaining and implementing the company’s Crystalline Silica (Dust) Safety Policy which includes the written exposure control plan.

Any employee assigned to a facility that has been identified as a job-site where crystalline silica exposure will be created by VSC’s scope of work, or another contractor’s scope of work, or when assigned to manufacturing or industrial facilities, such as a concrete batch plant or concrete product fabrication facility, whose production is typical to an industry where crystalline silica levels that exceed permissible exposure limit (PEL) is present, will be provided training via this policy and exposure control plan.

Training on this Crystalline Silica (Dust) Safety Policy will also be included as part of VSC’s Hazard Communication Safety Policy training outlined in Appendix B of the VSC “Health & Safety Program”.

Additional training will be provided upon request or when an employee exhibits lack of understanding for the safety requirements.

VSC’s Risk-Safety Department (hereinafter “Risk-Safety”) will maintain written certification of all training delivered within this program. Records will include: employee name, training topic-to include course content and level of training, date of training, certification (where applicable), and date of future training to maintain certification.

If a VSC employee believes that they have been exposed to Crystalline Silica, they must immediately notify Risk-Safety!

