

Respirable Crystalline Silica Dust Safety

CEMSTONE®

Respirable Crystalline Silica Standards for Construction

Workers who are exposed to respirable crystalline silica dust are at increased risk of developing serious silica-related diseases. Below are some steps you can do to protect your team from exposure to respirable crystalline silica.

What is Respirable Crystalline Silica?

Crystalline silica is a common mineral that is found in construction materials such as sand, stone, concrete, brick, and mortar. When workers cut, grind, drill, or crush materials that contain crystalline silica, very small dust particles are created. These tiny particles (known as “respirable” particles) can travel deep into workers’ lungs and cause silicosis, is incurable and sometimes deadly lung disease. Respirable crystalline silica also causes lung cancer, other potentially debilitating respiratory diseases such as chronic obstructive pulmonary disease, and kidney disease. In most cases, these diseases occur after years of exposure to respirable crystalline silica.



How are Construction Workers Exposed to Respirable Crystalline Silica?



Exposure to respirable crystalline Silica can occur during common construction tasks such as using masonry saws, grinders, drills, jackhammers and hand-held powered chipping tools; operating vehicle mounted drilling rigs; milling; crushing machines; using heavy equipment for demolition or certain other tasks; and during abrasive blasting and tunneling operations. About two million construction workers are exposed to respirable crystalline silica in over 600,000 workplaces



What Does the Standard Require?

The standard (29 CFR 1926.1153) requires employers to limit worker exposure and take other steps to protect workers. Employers can use a control method laid out in the table below of the construction standard, or they can measure workers' exposure to silica and independently decide which dust controls work best to limit exposure in their workplaces.

Specified Exposure Control Methods When Working with Materials Containing Crystalline Silica			
Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection factor (APF)	
		≥ 4 hrs/shift	> 4 hrs/shift
Handheld power saws (any blades diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade.	When outdoors: None APF 10	When indoors/outdoors: APF 10

In this example, if a worker uses the saw outdoors for four hours or less per day, no respirator is needed. If a worker uses the saw for more than four hours per day or any time indoors, they need to use a respirator with an assigned protection factors of at least 10, such as a Noise-Certified filtering facepiece respirator that covers the nose and mouth available at Cemstone Supply stores.

- Establish and implement a written exposure control plan that identifies tasks that involve exposure and methods used to restrict access to work areas where high exposures may occur;
- Designate a competent person to implement the written exposure control plan;
- Restrict housekeeping practices that expose workers to silica, such as use of compressed air without a ventilation system to capture the dust and dry sweeping, where effective, safe alternatives are available;
- Offer medical exams – including chest X-rays and lung function tests-every three years for workers who are required by the standard to wear a respirator for 30 or more per year;
- Train workers on the health effects of silica exposure; and
- Keep records of workers' silica exposure and medical exams.

ADDITIONAL INFORMATION

Source: [OSHA's Silica Standard](#)