



## TOOLBOX TALK

### WORKING WITH SILICA

#### **Introduction:**

Silica is found in many minerals common on construction sites, including sand, granite, concrete, brick and most other types of rock. When workers cut, grind, abrasive blast, jackhammer or perform other tasks that disturb these materials, dust containing crystalline silica can be released into the air. Workers who inhale this dust are at risk.

The Occupational Safety and Health Administration (OSHA) has now issued a Final Rule to help combat lung cancer, silicosis, chronic obstructive pulmonary disease, and kidney disease within America's workforce by implementing a new section to the silica standard limiting exposure to crystalline silica dust.

The Final Rule for construction employers will take effect June 23, 2017. This is when all construction employers must be in full compliance with the new OSHA standard.



#### **Standard Requirements:**

The OSHA standard for crystalline silica dust requires employers to limit worker exposure and

take further steps to ensure the safety of their workforce. Due to the new updates, employers can either use a control method that is explained in Table 1 (see Table 1) of the construction standard, or they can measure workers exposure independently and further determine which safety measures will be taken.

Whichever method is chosen, all construction employers are required to:

- Establish and implement a written exposure control plan that identifies tasks that involve exposure and methods used to protect workers, including procedures 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 where feasible 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 days per year.
- Train workers on work operations that result in silica exposure and ways to limit exposure. For example; Use wet methods when feasible and if conditions permit
- Keep records of workers' silica exposure and medical exams.



### What is Table 1?

Table 1 describes certain construction equipment/tasks and matches them with dust control methods so that employers know what steps need to be taken to limit employee exposure to respirable crystalline silica dust. The dust control measures listed in the table include methods known to be effective, like using water to keep dust from getting into the air or using ventilation to capture the dust. Although methods listed in the table give examples for how to reduce respirable dust, respirators may still need to be used.

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(i) Stationary masonry saws	<p>Use saw equipped with integrated water delivery system that continuously feeds water to the blade.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p>	None	None
(ii) Handheld power saws (any blade diameter)	<p>Use saw equipped with integrated water delivery system that continuously feeds water to the blade.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <ul style="list-style-type: none"> <li>– When used outdoors.</li> <li>– When used indoors or in an enclosed area.</li> </ul>	<p>None</p> <p>APF 10</p>	<p>APF 10</p> <p>APF 10</p>

**Examples from Table 1:**

**Alternative Control Measures to Table 1:**

Employers that do not utilize Table 1 are required to:

- Measure the amount of silica that workers are exposed to if it may be at or above an action level of 25 µg/m<sup>3</sup> (micrograms of silica per cubic meter of air), averaged over an eight-hour day.
- Protect workers from respirable crystalline silica exposures above the permissible exposure limit PEL of 50 µg/m<sup>3</sup>, averaged over an eight-hour day.
- Use dust controls to protect workers from silica exposures above the PEL.
- Provide respirators to workers when dust controls cannot limit exposures to the PEL.

Under the Occupational Safety and Health Act, [employers are responsible](#) for providing a safe and healthy workplace and [workers have rights](#). OSHA can help answer questions or concerns from employers and workers. Contact your [regional or area OSHA office](#) or call 1-800-321-OSHA (6742). OSHA also provides [help to employers](#). OSHA's [On-site Consultation Program](#) offers free and confidential advice to small and medium-sized businesses, with priority given to high-hazard worksites.

Through the OSHA and APCA Alliance, APCA developed this toolbox talk for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor. APCA adapted this toolbox talk from one developed by the Sealant Waterproofing and Restoration Institute.