

CONTROL OF SILICA DUST IN CONSTRUCTION

Stationary Masonry Saws

Using a stationary masonry saw to cut bricks, concrete blocks, pavers, or other silica-containing materials can generate *respirable crystalline silica* dust. When inhaled over time, the small particles of silica can irreversibly damage the lungs. This fact sheet describes dust controls that can be used to minimize the amount of airborne dust when using stationary masonry saws as listed in Table 1 of the Respirable Crystalline Silica Standard for Construction, [29 CFR 1926.1153](#).

Engineering Control Method: Water applied continuously to the saw blade

Wet Cutting

When using a stationary masonry saw, wet cutting with an integrated water delivery system that continuously feeds water to the blade is an effective way to reduce exposure to silica dust. Many stationary masonry saws come equipped with a water basin that holds several gallons of water. A pump recirculates the water through a nozzle that directs a continuous stream onto the blade where it wets the material being cut and reduces the amount of dust generated.



A worker cutting masonry block on a stationary masonry saw that continuously feeds water to the blade.

Photo courtesy of OSHA

- **Check** that hoses are securely connected and are not cracked or broken.
- **Ensuring** that water flows at the rates recommended by the manufacturer. Water flow rates must be sufficient to minimize the release of visible dust.
- **Adjust** nozzles so that water goes to the blade and wets the cutting area.
- **Rinsing or replacing** water filters at recommended intervals.
- **Replace** basin water when it gets gritty or begins to silt up with dust.
- **Inspect** the saw blade before use to be sure it is in good condition and does not show excessive wear.

Indoors or in Enclosed Areas

Wet cutting indoors or in enclosed areas may not reliably keep silica exposures low, so extra ventilation or a means of exhaust may be needed to reduce visible airborne dust. Extra ventilation can be supplied by using:

- Exhaust trunks
- Portable exhaust fans
- Air ducts
- Other means of mechanical ventilation

The saw must be operated and maintained in

Electrical Safety. Where water is used to control dust, electrical safety is a particular concern. Use ground-fault circuit interrupters (GFCIs) and watertight, sealable electrical connectors for electric tools and equipment on construction sites.

Vacuum Dust Collection System (VDCS)

Some stationary masonry saws come equipped with a VDCS to capture the dust generated when sawing. For situations in which wet methods are not feasible, employers using a VDCS to control the dust must conduct an exposure assessment and may need to take additional action.

Respiratory Protection

When properly used, wet methods can effectively control silica dust. Therefore, Table 1 in the silica standard does not require use of respiratory protection when using wet methods for stationary masonry saws.

For stationary saws used with a VDCS by employers not utilizing Table 1 control methods, respiratory protection may be required if exposure monitoring results indicate employee exposures above the permissible exposure limit (PEL) of 50 µg/m³, calculated as an 8-hour time-weighted average. When using VDCS in these conditions, employers must put in place a written respiratory protection program in accordance with OSHA's

Respiratory Protection standard [29 CFR 1910.134](#).

Additional Information

For more information, visit www.osha.gov/silica and see the OSHA Fact Sheet on the [Crystalline Silica Rule for Construction](#), and the [Small Entity Compliance Guide for the Respirable Crystalline Silica Standard for Construction](#).

OSHA can provide compliance assistance through a variety of programs, including technical assistance about effective safety and health programs, workplace consultations, and training and education. OSHA's On-Site Consultation Program offers free, confidential occupational safety and health services to small and medium-sized businesses in all states and several territories across the country, with priority given to high-hazard worksites. On-Site consultation services are separate from enforcement and do not result in penalties or citations. To locate the OSHA On-Site Consultation Program nearest you, visit www.osha.gov/consultation.

How to Contact OSHA

Under the Occupational Safety and Health Act of 1970, employers are responsible for providing safe and healthful workplaces for their employees. OSHA's role is to ensure these conditions for America's working men and women by setting and enforcing standards, and providing training, education and assistance. For more information, visit www.osha.gov or call OSHA at 1-800-321-OSHA (6742), TTY 1-877-889-5627.