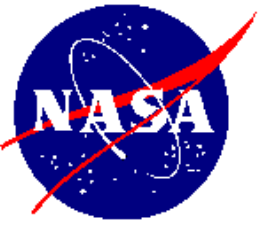


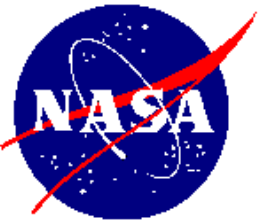
OSHA Construction Silica Standard

- Exposure to respirable crystalline silica is nothing new for employees on construction sites. However, this exposure can cause serious health issues. In response to these concerns, OSHA issued a new rule on exposure to silica in construction (29 CFR 1926.1153). The PEL is now 50 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$) for an 8-hour time-weighted average (TWA). The action level of airborne silica is 25 $\mu\text{g}/\text{m}^3$, calculated as an 8-hour TWA. The action level (set at half the PEL) triggers requirements for exposure assessment.
- The standard does not apply where silica exposures will remain low under any foreseeable conditions. This includes tasks like mixing mortar; pouring concrete footers, slab foundation and foundation walls; and removing concrete formwork.



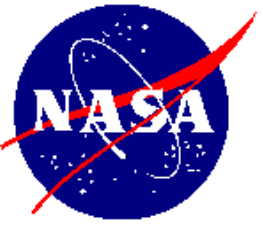
Employer Options

- Employers can either use a control method laid out in Table 1 of the construction standard, or they can measure workers' exposure to silica and independently decide which dust controls work best.
- Table 1 matches common construction tasks with dust control methods to help employers limit worker exposures to silica. The table includes methods known to be effective, like using water to prevent airborne dust or using ventilation to capture dust. In some operations, respirators may also be needed.
- Where an employee performs more than one task on **Table 1** during a shift, and the duration of all tasks combined is more than four hours, employers must use the respiratory protection specified for more than four hours per shift. If the combined duration of all tasks on Table 1 is less than four hours, employers may use the respiratory protection specified for less than four hours per shift.



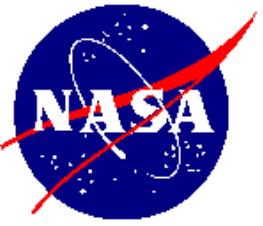
Alternative Exposure Control Methods

- For tasks not listed in Table 1, or where the employer does not fully and properly implement the engineering controls, work practices, and respiratory protection described in **Table 1**, the employer must:
 1. Measure silica exposures that may be at or above an action level of 25 $\mu\text{g}/\text{m}^3$, averaged over an eight-hour day.
 2. Protect workers from exposures above the PEL of 50 averaged over an eight-hour day.
 3. Use dust controls to protect workers from silica exposures above the PEL.
 4. Provide respirators to workers when dust controls cannot limit exposures to the PEL.



Additional Requirements

- Where required, the employer must provide each employee a respirator that complies with the requirements of 1926.1153(e) and 1910.134.
- Employers must have a written exposure control plan that contains at least the elements in 1926.1153(g).
- A designated competent person must inspect jobsites, materials, and equipment to implement the written exposure control plan.
- Medical surveillance at no cost must be available for each employee required to use a respirator for 30 or more days per year.
- Employees must be trained when they are assigned to a position involving exposure to respirable crystalline silica.
- Employers must include respirable crystalline silica in Hazard Communication Program requirements.



Demonstrated Knowledge

- Employees must demonstrate knowledge and understanding of:
 1. Silica exposure health hazards
 2. Tasks that could result in exposure
 3. Related engineering controls, work practices, and respirators to be used
 4. Contents of 1926.1153
 5. Designated competent person
 6. Medical surveillance program

Assigned Protection Factors ⁵

This is a copy of the official OSHA APF Table. Ref: 29 CFR 1910.134(d)(3)(i)(A)



APF = 10



APF = 50



APF = 1000

Type of respirator ^{1,2}	Quarter mask	Half mask	Full facepiece	Helmet/hood	Loose-fitting facepiece
1. Air-Purifying Respirator	5	10 ³	50	—	—
2. Powered Air-Purifying Respirator (PAPR)	—	50	1,000	25/1,000 ⁴	25
3. Supplied-Air Respirator (SAR) or Airline Respirator <ul style="list-style-type: none"> • Demand mode • Continuous flow mode • Pressure-demand or other positive-pressure mode 	—	10	50	—	—
	—	50	1,000	25/1,000 ⁴	25
	—	50	1,000	—	—
4. Self-Contained Breathing Apparatus (SCBA) <ul style="list-style-type: none"> • Demand mode • Pressure-demand or other positive-pressure mode (e.g., open/closed circuit) 	—	10	50	50	—
	—	—	10,000	10,000	—

Notes:

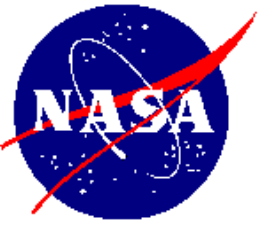
¹ Employers may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required respirator use is independent of concentration.

² The assigned protection factors in Table 1 are only effective when the employer implements a continuing, effective respirator program as required by this section (29 CFR 1910.134), including training, fit testing, maintenance, and use requirements.

³ This APF category includes filtering facepieces, and half masks with elastomeric facepieces.

⁴ The employer must have evidence provided by the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a WPF or SWPF study or equivalent testing. Absent such testing, all other PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators, and receive an APF of 25.

⁵ These APFs do not apply to respirators used solely for escape. For escape respirators used in association with specific substances covered by 29 CFR 1910 subpart Z, employers must refer to the appropriate substance-specific standards in that subpart. Escape respirators for other IDLH atmospheres are specified by 29 CFR 1910.134 (d)(2)(ii).



Mission Success Starts With Safety



Link to OSHA Specified Exposure Control Methods-Table 1



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Stationary Masonry Saw





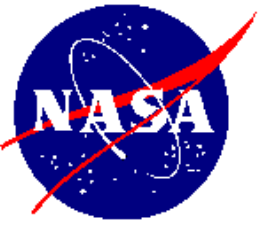
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Handheld Power Saws

(any blade diameter)





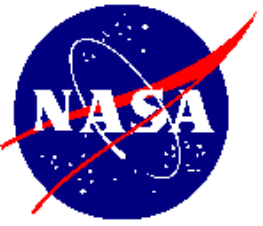
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Handheld Power Saws for Cutting Fiber-Cement Board

(with blade diameter of 8 inches or less)



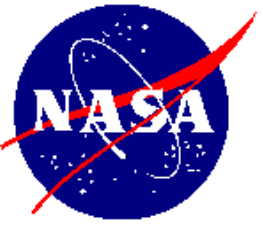


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Walk-Behind Saws



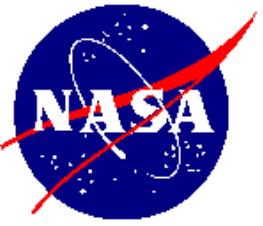


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Drivable Saws





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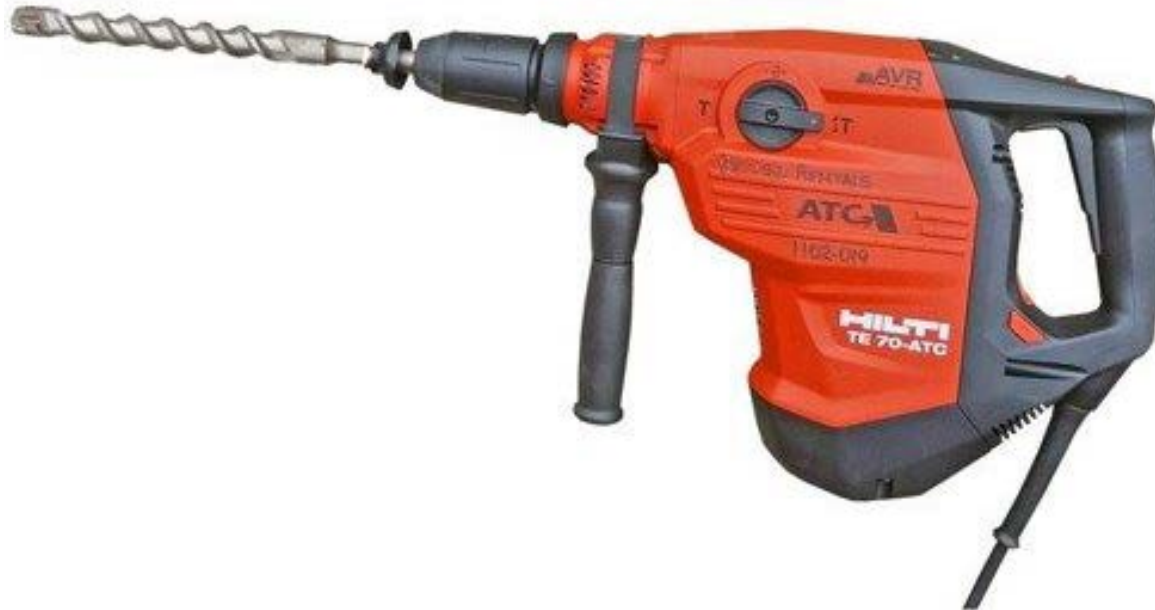


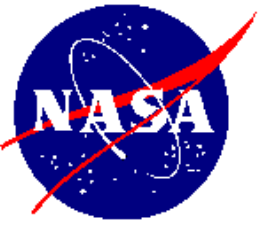
Rig-Mounted Core Saws or Drills





Dowel Drilling for Concrete





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Vehicle-Mounted Drilling Rigs for Rock and Concrete



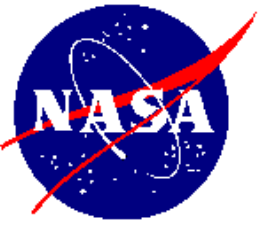


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Jackhammers and Handheld Powered Chipping Tools



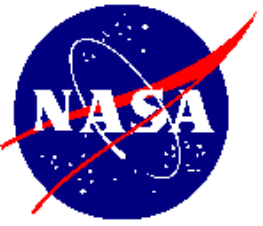


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Handheld Grinders for Mortar Removal



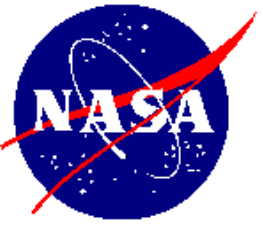


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Handheld Grinders for General Use



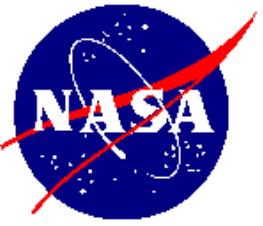


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Walk-Behind Milling Machines and Floor Grinders





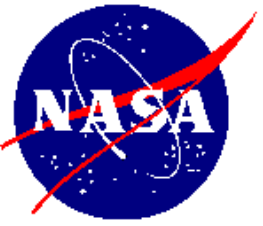
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Small, Drivable Milling Machines

(less than half-lane)





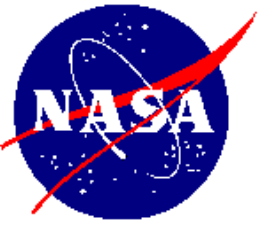
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Large, Drivable Milling Machines

(half-lane and larger)





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Crushing Machines

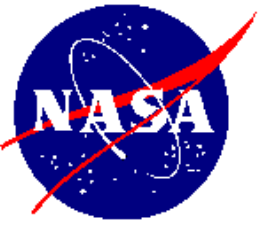




Abrading Equipment

Heavy equipment and utility vehicles used to abrade silica-containing materials (e.g. hoe-ramming, rock chipping) or used during demolition activities involving silica-containing materials

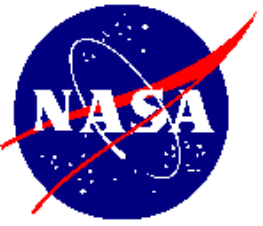




Grading and Excavating

Heavy equipment and utility vehicles for tasks such as grading and excavating, but not including: demolishing, abrading, or fracturing silica-containing materials





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Link to OSHA Specified Exposure Control Methods



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