

**1926.1153 RESPIRABLE CRYSTALLINE SILICA
PARAGRAPHS (C) THROUGH (J)**

1926.1153(c) SPECIFIED EXPOSURE CONTROL METHODS

1926.1153(c)(1) For each employee engaged in a task identified on Table 1, the employer shall fully and properly implement the engineering controls, work practices, and respiratory protection specified for the task on Table 1, unless the employer assesses and limits the exposure of the employee to respirable crystalline silica in accordance with paragraph (d) of this section.

Table 1 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 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> <p>—When used outdoors</p> <p>—When used indoors or in an enclosed area</p>	<p>None</p> <p>APF 10</p>	<p>APF 10</p> <p>APF 10</p>
(iii) Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)	<p>For tasks performed outdoors only:</p> <p>Use saw equipped with commercially available dust collection system</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions</p> <p>Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency</p>	None	None

**Table 1
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 hours/shift	>4 hours/shift
(iv) Walk-behind 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> <p>—When used outdoors</p> <p>—When used indoors or in an enclosed area</p>	<p>None</p> <p>APF 10</p>	<p>None</p> <p>APF 10</p>
(v) Drivable saws	<p>For tasks performed outdoors only:</p> <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
(vi) Rig-mounted core saws or drills	<p>Use tool equipped with integrated water delivery system that supplies water to cutting surface</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions</p>	None	None
(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	<p>Use drill equipped with commercially available shroud or cowling with dust collection system</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions</p> <p>Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism</p> <p>Use a HEPA-filtered vacuum when cleaning holes</p>	None	None

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With Materials Containing Crystalline Silica**

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤4 hours/shift	>4 hours/shift
(viii) Dowel drilling rigs for concrete	<p>For tasks performed outdoors only:</p> <p>Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism</p> <p>Use a HEPA-filtered vacuum when cleaning holes</p>	APF 10	APF 10
(ix) Vehicle-mounted drilling rigs for rock and concrete	<p>Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector</p> <p>OR</p> <p>Operate from within an enclosed cab and use water for dust suppression on drill bit</p>	None	None
		None	None
(x) Jackhammers and handheld powered chipping tools	<p>Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact:</p> <p>—When used outdoors</p> <p>—When used indoors or in an enclosed area</p> <p>OR</p> <p>Use tool equipped with commercially available shroud and dust collection system</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions</p> <p>Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism:</p> <p>—When used outdoors</p> <p>—When used indoors or in an enclosed area</p>	None	APF 10
		APF 10	APF 10
		None	APF 10
		APF 10	APF 10

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With Materials Containing Crystalline Silica**

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤4 hours/shift	>4 hours/shift
(xiii) Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions	None	None
	OR Use machine equipped with dust collection system recommended by the manufacturer Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes	None	None
(xiv) Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant Operate and maintain machine to minimize dust emissions	None	None

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With Materials Containing Crystalline Silica**

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤4 hours/shift	>4 hours/shift
(xv) Large drivable milling machines (half-lane and larger)	For cuts of any depth on asphalt only: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust Operate and maintain machine to minimize dust emissions	None	None
	For cuts of four inches in depth or less on any substrate: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust Operate and maintain machine to minimize dust emissions	None	None
	OR Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant Operate and maintain machine to minimize dust emissions	None	None
(xvi) Crushing machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points) Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station	None	None

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With Materials Containing Crystalline Silica**

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤4 hours/shift	>4 hours/shift
(xvii) Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab.	None	None
	When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions	None	None
(xviii) Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: Demolishing, abrading, or fracturing silica-containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions	None	None
	OR When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab	None	None