

**29 CFR 1926.1153 “Respirable Crystalline Silica”
Table 1**

Equip./Task	Mandatory engineering and work practice control methods	Required Respiratory Protection and Min. Assigned Protection Factor	
		4 hr.s or less per shift	More than 4 hr.s per shift
Stationary masonry saws	<ol style="list-style-type: none"> 1. Use saw equipped with integrated water delivery system that continuously feeds water to the blade 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions 	None	None
Handheld power saws (any blade diameter)	<ol style="list-style-type: none"> 1. Use saw equipped with integrated water delivery system that continuously feeds water to the blade 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions: 		
	When used outdoors	None	APF 10
	When used indoors	APF 10	APF 10
Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)	<u>For tasks performed outdoors only:</u>	None	None
	<ol style="list-style-type: none"> 1. Use saw equipped with commercially available dust collection system 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions 3. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency 		
Walk-behind saws	<ol style="list-style-type: none"> 1. Use saw equipped with integrated water delivery system that continuously feeds water to the blade 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions: 		
	When used outdoors	None	None
	When used indoors or in an enclosed area	APF 10	APF 10
Drivable saws	<u>For tasks performed outdoors only:</u>	None	None
	<ol style="list-style-type: none"> 1. Use saw equipped with integrated water delivery system that continuously feeds water to the blade 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions 		
Rig-mounted core saws or drills	<ol style="list-style-type: none"> 1. Use tool equipped with integrated water delivery system that supplies water to cutting surface 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions 	None	None
Handheld and stand-mounted drills (including impact and rotary hammer drills)	<ol style="list-style-type: none"> 1. Use drill equipped with commercially available shroud or cowling with dust collection system 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions 3. 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 4. Use a HEPA-filtered vacuum when cleaning holes 	None	None
Dowel drilling rigs for concrete	<u>For tasks performed outdoors only:</u>	APF 10	APF 10

	<ol style="list-style-type: none"> 1. Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filtercleaning mechanism 2. Use a HEPA-filtered vacuum when cleaning holes 		
Vehicle-mounted drilling rigs for rock and concrete	<ol style="list-style-type: none"> 1. 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 	None	None
	OR		
	<ol style="list-style-type: none"> 1. Operate from within an enclosed cab and use water for dust suppression on drill bit 	None	None
Jackhammers and handheld powered chipping tools	<ol style="list-style-type: none"> 1. Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact: 		
	-When used outdoors	None	APF 10
	-When used indoors or in an enclosed area	APF 10	APF 10
	OR		
	<ol style="list-style-type: none"> 1. Use tool equipped with commercially available shroud and dust collection system 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions 3. 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: 		
	-When used outdoors	None	APF 10
	-When used indoors or in an enclosed area	APF 10	APF 10
Handheld grinders for mortar removal (i.e., tuckpointing)	<ol style="list-style-type: none"> 1. Use grinder equipped with commercially available shroud and dust collection system 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions 3. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism 	APF 10	APF 25
Handheld grinders for uses other than mortar removal	<u>For tasks performed outdoors only:</u>	None	None
	<ol style="list-style-type: none"> 1. Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions 		
	OR		
	<ol style="list-style-type: none"> 1. Use grinder equipped with commercially available shroud and dust collection system 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions 3. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism: 		

	-When used outdoors	None	None
	-When used indoors or in an enclosed area	None	APF 10
Walk-behind milling machines and floor grinders	1. Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions	None	None
	OR 1. Use machine equipped with dust collection system recommended by the manufacturer 2. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions 3. 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 4. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes	None	None
Small drivable milling machines (less than half-lane)	1. Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant 2. Operate and maintain machine to minimize dust emissions	None	None
Large drivable milling machines (half-lane and larger)	<u>For cuts of any depth on asphalt only:</u> 1. Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust 2. Operate and maintain machine to minimize dust emissions	None	None
	<u>For cuts of four inches in depth or less on any substrate:</u> 1. Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust 2. Operate and maintain machine to minimize dust emissions	None	None
	OR 1. Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant 2. Operate and maintain machine to minimize dust emissions	None	None
Crushing machines	1. 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) 2. Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions 3. Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station	None	None

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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	1. Operate equipment from within an enclosed cab	None	None
	1. 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
Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: Demolishing, abrading, or fracturing silica-containing materials	1. Apply water and/or dust suppressants as necessary to minimize dust emissions	None	None
	OR		
	1. When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab	None	None