

Silica Dust Specified Exposure Control Methods

When possible and applicable, activities with potential Silica exposure to be consistent with OSHA’s Construction Standard Table 1. Supervisors will ensure each employee under their supervision and engaged in a task identified on OSHA’s Construction Standard Table 1 have fully and properly implemented the engineering controls, work practices, and respiratory protection specified for the task on Table 1 (unless if assessed and limited the exposure of the employee to Respirable Crystalline Silica in accordance with the Alternative Exposure Control Methods Section of this program).

Table 1: Specified Exposure Control Methods When Working with Materials Containing Crystalline Silica

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
1	Stationary masonry saws	<ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None
2a	Handheld power saws (any blade diameter) when used outdoors	<ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
2b	Handheld power saws (any blade diameter) when used indoors or in an enclosed area	<ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
3	Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less) for tasks performed outdoors only	<ul style="list-style-type: none"> Use saw equipped with commercially available dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency. 	None	None

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
4a	Walk-behind saws when used outdoors	<ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None
4b	Walk-behind saws when used indoors or in an enclosed area	<ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
5	Drivable saws for tasks performed outdoors only	<ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None
6	Rig-mounted core saws or drills	<ul style="list-style-type: none"> Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None
7	Handheld and stand-mounted drills (including impact and rotary hammer drills)	<ul style="list-style-type: none"> Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 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. 	None	None

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
		<ul style="list-style-type: none"> Use a HEPA-filtered vacuum when cleaning holes. 		
8	Dowel drilling rigs for concrete for tasks performed outdoors only	<ul style="list-style-type: none"> 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. Use a HEPA-filtered vacuum when cleaning holes. 	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
9a	Vehicle-mounted drilling rigs for rock and concrete	<ul style="list-style-type: none"> 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
9b	Vehicle-mounted drilling rigs for rock and concrete	<ul style="list-style-type: none"> Operate from within an enclosed cab and use water for dust suppression on drill bit. 	None	None
10a	Jackhammers and handheld powered chipping tools when used outdoors	<ul style="list-style-type: none"> Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact. 	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
10b	Jackhammers and handheld powered chipping tools when used indoors or in an enclosed area	<ul style="list-style-type: none"> Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact. 	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
10c	Jackhammers and handheld powered chipping tools when used outdoors	<ul style="list-style-type: none"> Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 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. 	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
10d	Jackhammers and handheld powered chipping tools when used indoors or in an enclosed area	<ul style="list-style-type: none"> Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 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. 	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask

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Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
11	Handheld grinders for mortar removal (i.e., tuckpointing)	<ul style="list-style-type: none"> Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 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. 	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	Powered Air-Purifying Respirator (PAPR) with P100 Filters
12a	Handheld grinders for uses other than mortar removal for tasks performed outdoors only	<ul style="list-style-type: none"> Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None
12b	Handheld grinders for uses other than mortar removal when used outdoors	<ul style="list-style-type: none"> Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 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. 	None	None
12c	Handheld grinders for uses other than mortar removal when used indoors or in an enclosed area	<ul style="list-style-type: none"> Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 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. 	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
13a	Walk-behind milling machines and floor grinders	<ul style="list-style-type: none"> 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
13b	Walk-behind milling machines and floor grinders	<ul style="list-style-type: none"> 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. 	None	None

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Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
		<ul style="list-style-type: none"> 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. 		
14	Small drivable milling machines (less than half-lane)	<ul style="list-style-type: none"> 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
15a	Large drivable milling machines (half-lane and larger) for cuts of any depth on asphalt only	<ul style="list-style-type: none"> 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
15b	Large drivable milling machines (half-lane and larger) for cuts of four inches in depth or less on any substrate	<ul style="list-style-type: none"> 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
15c	Large drivable milling machines (half-lane and larger) for cuts of four inches in depth or less on any substrate	<ul style="list-style-type: none"> 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
16	Crushing machines	<ul style="list-style-type: none"> 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
17a	Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during	<ul style="list-style-type: none"> Operate equipment from within an enclosed cab. 	None	None

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Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
	demolition activities involving silica-containing materials			
17b	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	<ul style="list-style-type: 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
18a	Heavy equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials	<ul style="list-style-type: none"> Apply water and/or dust suppressants as necessary to minimize dust emissions. 	None	None
18b	Heavy equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials	<ul style="list-style-type: none"> When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab. 	None	None

