

1926.1153 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 |
| <p><b>(i) Stationary masonry saws</b></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           |
| <p><b>(ii) Handheld power saws (any blade diameter)</b></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> <p>-</p>  |  |                |
|  | When used outdoors   | None   | APF 10         |
|  | When used indoors or in an enclosed area   | APF 10   | APF 10         |
| <p><b>(iii) Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)</b></p>  | <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           |

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|   |  | ≤ 4 hours/ shift   | >4 hours/ shift |
| <b>(iv) Walk-behind saws</b>  | 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: |  |                 |
| osha.gov  | When used outdoors<br>-When used indoors or in an enclosed area                                      | None<br>APF 10   | None<br>APF 10  |
| <b>(v) Drivable saws</b>  | For tasks performed outdoors only:   | None   | None            |
| osha.gov  | 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  |  |                 |
| <b>(vi) Rig-mounted core saws or drills</b>   | Use tool equipped with integrated water delivery system that supplies water to cutting surface       | None   | None            |
|  | Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions  |  |                 |

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|   |   | ≤ 4 hours/ shift   | >4 hours/ shift |
| <p><b>(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)</b></p>  | <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            |
| <p><b>(viii) Dowel drilling rigs for concrete</b></p>    | <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>  | APF 10   | APF 10          |
| <p><b>(ix) Vehicle-mounted drilling rigs for rock and concrete</b></p>                            | <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>   | None   | None            |
| <p>osha.gov</p>   | <p>Operate from within an enclosed cab and use water for dust suppression on drill bit</p>  | None   | None            |

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| (x) Jackhammers and handheld powered chipping tools<br><br>                      | Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact:<br><br>When used outdoors-<br><br>When used indoors or in an enclosed area<br><br>OR<br><br>Use tool equipped with commercially available shroud and dust collection system<br><br>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions<br><br>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<br><br>APF 10   | APF 10<br><br>APF 10 |
|   | When used outdoors<br><br>-When used indoors or in an enclosed area  | None<br><br>APF 10   | APF 10<br><br>APF 10 |
| (xi) Handheld grinders for mortar removal ( <i>i.e.</i> , tuckpointing)<br><br> | Use grinder equipped with commercially available shroud and dust collection system<br><br>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions<br><br>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               |
|   |  |  |                      |

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|  |   | ≤ 4 hours/ shift   | >4 hours/ shift |
|  | <p>OR</p> <p>Use machine equipped with dust collection system recommended by the manufacturer</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 manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism</p> <p>When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes</p> | None   | None            |
| (xiv) Small drivable milling machines (less than half-lane)                      | <p>Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant</p> <p>Operate and maintain machine to minimize dust emissions</p>   | None   | None            |
| (xv) Large drivable milling machines (half-lane and larger)                      | <p>For cuts of any depth on asphalt only:</p> <p>Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust</p> <p>Operate and maintain machine to minimize dust emissions</p> <p>For cuts of four inches in depth or less on any substrate:</p>   | None   | None            |

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|---|--|--|----------------|
|   |  | ≤ 4 hours/shift  | >4 hours/shift |
|   | Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust  | None   | None           |
|   | Operate and maintain machine to minimize dust emissions  |  |                |
|   | OR   | None   | 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  |  |                |
| (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) | None   | None           |
|   | Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions   |  |                |
| osha.gov  | Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station  |  |                |
| (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           |
|   | OR   |  |                |
|   | 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           |

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|  |   | ≤ 4 hours/shift  | >4 hours/shift |
| (xviii) Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: Demolishing, abrading, or fracturing silica-containing materials<br><br>eLCOSH.org<br> | Apply water and/or dust suppressants as necessary to minimize dust emissions<br><br>OR                              | None   | None           |
|  | When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab | None   | None           |
|  | When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab | None   | None           |