

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>   |  |                 |
|  | When used outdoors.   | None   | APF 10          |
|  | When used indoors or in an enclosed area.   | APF 10   | APF 10          |
| (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            |

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|   |   | ≤ 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 commercially available dust collection system.</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 the 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>  | None   | None                      |

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|  | 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.<br><br>Use a HEPA-filtered vacuum when cleaning holes.                             |  |                 |
| (viii) Dowel Drilling Rigs for Concrete                  | For tasks performed outdoors only:<br><br>Use a 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.<br><br>Use a HEPA-filtered vacuum when cleaning holes. | APF 10   | APF 10          |
| (ix) Vehicle-Mounted Drilling Rigs for Rock and Concrete | 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.<br><br><b>OR</b>  | None   | None            |
|  | Operate from within an enclosed cab and use water for dust suppression on drill bit.  | None   | None            |
| (x) Jackhammers and Handheld Powered Chipping Tools      | 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          |
|  | <b>OR</b><br><br>Use tool equipped with commercially available shroud and dust collection system.   |  |                 |

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|   |   | ≤ 4 hours/shift  | > 4 hours/shift             |
|   | <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>   | <p>None</p> <p>APF 10</p>  | <p>APF 10</p> <p>APF 10</p> |
| (xi) Handheld Grinders for Mortar Removal (i.e. tuckpointing) | <p>Use grinder equipped with a 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 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.</p> | APF 10   | APF 25                      |
| (xii) Handheld Grinders for Uses Other Than Mortar Removal    | <p>For tasks performed indoors only:</p> <p>Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface.</p> <p>Operate and maintain tool in accordance with manufacturer’s instructions to minimize dust emissions.</p> <p><b>OR</b></p>  | None   | None                        |

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|  | <p>Use grinder equipped with a 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 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.</p> <p>When used outdoors.</p> <p>When used indoors or in an enclosed area.</p>  | <p>None</p> <p>None</p>  | <p>None</p> <p>APF 10</p> |
| (xiii) Walk-Behind Milling Machines and Floor Grinders | <p>Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface.</p> <p>Operate and maintain tool in accordance with manufacturer’s instructions to minimize dust emissions.</p> <p><b>OR</b></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>None</p> <p>None</p>  | <p>None</p> <p>None</p>   |

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|   |  | ≤ 4 hours/shift  | > 4 hours/shift                                  |
|   | When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.   |  |  |
| (xiv) Small Drivable Milling Machines (less than half-lane) | Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combine with a surfactant.<br><br>Operate and maintain machine to minimize dust emissions.  | None   | None   |
| (xv) Large Drivable Milling Machines (half-lane and larger) | For cuts of any depth on asphalt only:<br><br>Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust.<br><br>Operate and maintain machine to minimize dust emissions.   | None   | None   |
|   | For cuts of four inches in depth or less on any substrate:<br><br>Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust.<br><br>Operate and maintain machine to minimize dust emissions.<br><br><b>OR</b><br><br>Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combine with a surfactant. | None<br><br><br><br><br><br><br><br><br><br>None                             | None<br><br><br><br><br><br><br><br><br><br>None |

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|   |   | ≤ 4 hours/shift  | > 4 hours/shift  |
|   | Operate and maintain machine to minimize dust emissions.  |  |                  |
| (xvi) 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.<br><br>When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.                      | None<br><br>None   | None<br><br>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.<br><br>OR<br><br>When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab. | None<br><br>None   | None<br><br>None |