**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.

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| **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 | 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** |
| (ii) Handheld power saws (any blade diameter) | |  | | --- | | 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: | | - When used outdoors | | **None** | **APF10** |
|  | -When used indoors or in an enclosed area | **APF10** | **APF10** |

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| (iii) Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less) | For tasks performed outdoors only: 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** |
| (iv) Walk-behind saws | 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:  - When used outdoors | **None** | **None** |
|  | - When used indoors or in an enclosed area | **APF10** | **APF10** |
| (v) Drivable saws | For tasks performed outdoors only: 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** |
| (vi) Rig-mounted core saws or drills | 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** |
| (vii) Handheld and stand-mounted drills (including impact and rotary hammer drills) | 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  Use a HEPA-filtered vacuum when cleaning holes | **None** | **None** |
| (viii) Dowel drilling rigs for concrete | For tasks performed outdoors only:  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 | **APF10** | **APF10** |
| (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, OR | **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** | **APF10** |
|  | - When used indoors or an enclosed area | **APF10** | **APF10** |
|  | OR |  |  |
|  | 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: |  |  |
|  | - When used outdoors | **None** | **APF10** |
|  | - When used indoors or in an enclosed area | **APF10** | **APF10** |
| (xi) Handheld grinders for mortar removal (*i.e.*, tuckpointing) | 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 | **APF10** | **APF25** |
| (xii) Handheld grinders for uses other than mortar removal | For tasks performed outdoors only: 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 |  |  |
|  | OR |  |  |
|  | 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: |  |  |
|  | - When used outdoors | **None** | **None** |
|  | - When used indoors or in an enclosed area | **None** | **APF10** |
| (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** |
| (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  For cuts of four inches in depth or less on any substrate: | **None** | **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** |
|  | 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, conveyors, 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** |
| (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** |
| Ditto above | 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** |

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**1926.1153(c)(2)**

When implementing the control measures specified in Table 1, each employer shall:

**1926.1153(c)(2)(i)**

For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust;

**1926.1153(c)(2)(ii)**

For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust;

**1926.1153(c)(2)(iii)**

For measures implemented that include an enclosed cab or booth, ensure that the enclosed cab or booth:

**1926.1153(c)(2)(iii)(A)**

Is maintained as free as practicable from settled dust;

**1926.1153(c)(2)(iii)(B)**

Has door seals and closing mechanisms that work properly;

**1926.1153(c)(2)(iii)(C)**

Has gaskets and seals that are in good condition and working properly;

**1926.1153(c)(2)(iii)(D)**

Is under positive pressure maintained through continuous delivery of fresh air;

**1926.1153(c)(2)(iii)(E)**

Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10.0 μm range (*e.g.*, MERV-16 or better); and

**1926.1153(c)(2)(iii)(F)**

Has heating and cooling capabilities.

**1926.1153(c)(3)**

Where an employee performs more than one task on Table 1 during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.