Table 1 – Equipment Names and Best Practice Tips – Update September 2018

- Includes equipment terms commonly used by different trades and in different geographic areas.
- 'Best practice' tips are intended to help employers and their employees operate the equipment-control options effectively and are based on 1) OSHA's Small Entity Compliance Guide for the Respirable Crystalline Silica Standard for Construction; 2) OSHA's Frequently Asked Questions ("FAQs") for the Construction Industry; 3) silica standard's Table 1; 4) manufacturer specifications; and 5) craft worker/contractor input based on experience in the field.

Equipment/ Control	Photo & Video	Engineering, Work Practice Control Methods & Required Respiratory Protection	Best Practice Tips

(xvi) Crushing machines	
	Used by permission of Screen Machine Industries™
	
	 
	Video courtesy of NIOSH (https://www.youtube.com/watch?v=pk5C-bCuXns)
		CONTROL: water + ventilated booth
		• 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.
		
		Required Respiratory Protection:
		• ≤4 hours/shift: NONE
		• >4 hours/shift: NONE
			OSHA[1] requires the employer to ensure that:
			• Enclosed cabs or booths:
			  ○ Are maintained as free as practicable from dust
			  ○ Have door seals and closing mechanism that work properly
			  ○ Have gaskets and seals that are in good condition and work properly
			  ○ Are under positive pressure maintained through continuous delivery of filtered air
			  ○ Have intake air that is filtered through a pre-filter that is 95% efficient in the 0.3-10 µm range (e.g., MERV-16 or better)
			  ○ Have heating and cooling capabilities
			• Water sprays or mists are at the crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves, sizing or vibrating components, and discharge points)
			• Nozzles are located upstream of dust generation points and positioned to thoroughly wet the material
			• The volume and size of droplets is adequate to sufficiently wet the material (optimal droplet size is between 10 and 150 µm)
			• Spray nozzles are located far enough from the target area to provide complete water coverage, but not so far that the water is carried away by wind

[1]Best practice requirements from OSHA's Small Entity Compliance Guide for the Respirable Crystalline Silica Standard for Construction

[2]Although many of the entries on Table 1 require employers to"[o]perate and maintain" tools "in accordance with manufacturer's instructions to minimize dust emissions," 29 C.F.R. § 1926.1153(c)(1)(i)-(vii), (x)-(xiii), (xvi), or to "[o]perate and maintain machine[s] to minimize dust emissions," 29 C.F.R. § 1926.1153(c)(1)(xiv)-(xv), the standard does not separately require employers to minimize dust emissions. An employer generating a limited amount of dust when engaging in a task listed on Table 1 would not be in violation of the standard if it is fully and properly implementing the engineering controls, work practices, and respiratory protection specified on the Table (including operating and maintaining controls so as to minimize emissions). A small amount of dust can be expected even with new equipment that is operating as intended by the manufacturer. However, a noticeable increase in dust emissions may indicate that the dust control system is not operating properly. See OSHA's Q&A's #15 at https://www.osha.gov/dsg/topics/silicacrystalline/construction_info_silica.html.

[3]Respirator use is conditional on time spent using equipment (less than or equal to 4 hours/shift or greater than 4 hours/shift) and if task is done outdoors, indoors or in an enclosed area. See Table 1 in the standard for specific requirements including the assigned protection factor (respiratory protection). The employer does not have the track the exact amount of time that employees are performing a job throughout a shift to be in compliance with Table 1. Before the task is performed, the employer must make a good-faith judgement about whether the task will take more than 4 hours based on previous experience and other available information. At the beginning of the task, the employer must provide the employee the respiratory protection required for the anticipated time the employee will be engaged in the task. However, if unforeseen difficulties or other circumstances are expected to extend the task duration beyond 4 hours, the employer must provide the appropriate respiratory protection as soon as it becomes evident. (In that situation, the 4-hour mark is still measured from the beginning of the task, not from the time the expected duration of the task changes.) See OSHA's Q&A's #14 at https://www.osha.gov/dsg/topics/silicacrystalline/construction_info_silica.html.

[4]In August 2018, OSHA released new Q&A's. These additions are based on information included in the responses. Q&A #11 addresses manufacturer air flow recommendations; #12 addresses use of additional exhaust; #13 addresses indoor and enclosed spaces; #14 addresses respirator requirements based on duration of task; #15 addresses minimizing dust emissions; #17 addresses demolition hammers with bushing tools; #18 addresses tile saws. For more information, see https://www.osha.gov/dsg/topics/silicacrystalline/construction_info_silica.html.

[5]Employees engaged in the Table 1 task means the equipment operator; helpers, laborers and other employees who are assisting with the task; or any other employee responsible for completing the task. For example, an employee operating a walk-behind saw and another employee helping the operator guide the saw are both engaged in the task. An employee operating a jackhammer would be engaged in the task, but another employee directing traffic near the employee jackhammering would not be engaged in the task. OSHA's Small Entity Compliance Guide for the Respirable Crystalline Silica Standard for Construction, page 5.