

OSHA has issued two standards to protect workers from exposure to respirable crystalline silica; one is for construction and one for general industry. The standards require employers to limit worker exposure to silica dust. Exposure to respirable crystalline silica can cause silicosis, lung cancer, other respiratory diseases, and kidney disease.

Description of Tasks, Engineering Controls and Required Respiratory Protection:

The University of Rochester has two masons employed in the Facilities group. The masons routinely perform construction type work such as using masonry saws, grinders, drills and handheld chipping tools, which may expose them to respirable silica dust. The OSHA Construction Standard allows use of control methods listed in Table 1 of the standard in lieu of exposure monitoring.

The tasks and equipment used by masons at UR have been reviewed and it has been determined that all tasks listed in Table 1 that are done at UR now have the appropriate controls. Table A below lists the tasks done at UR and the specific control method in place. A respirator with APF (Assigned Protection Factor) 10 can be either a dust mask or a half-face cartridge respirator. A PAPR (Powered-Air Purifying Respirator) has an APF equal to 25.

Housekeeping:

HEPA (High Efficiency Particulate Air) filter vacuum or wet cleaning methods shall be used for cleanup if silica dust may be present. Dry sweeping or use of compressed air is **not** allowed for cleaning purposes.

Restricted Work Areas:

Any indoor work site with potential exposure to silica dust will have restricted access with floor to ceiling partitions (i.e. plastic or hard wall portable system). Return ventilation grids will be blocked off and the area will be setup to be negative pressure to adjacent areas. Outdoor work sites will have construction fences/cones to restrict access.

Table A: Tasks done at UR and the respective controls in place

Equipment/Task	Control Method	Required Respirator if ≤ 4 hours per shift	Required Respirator if > 4 hours per shift
Stationary masonry saws	Integrated Water Delivery System	None	None
Handheld power saws	Integrated Water Delivery System -when used outdoors -when used indoors or enclosed area	None APF 10	APF 10 APF 10
Rig-mounted core saws or drills	Integrated water delivery system	None	None
Handheld and stand-mounted drills	Shroud with dust collection system	None	None

Dowel drilling rigs for concrete	Shroud with dust collection system. Use HEPA vacuum for cleaning holes.	APF 10	APF 10
Jackhammer and handheld chipping tools	Shroud and dust collection system -when used outdoors -when used indoors or enclosed area	None APF 10	APF 10 APF 10
Handheld grinders for mortar removal	Shroud with dust collection system (min 25 cfm per inch of wheel diameter)	APF 10	APF 25
Handheld grinders for uses other than mortar removal	Integrated water delivery system	None	None
	OR shroud and dust collection system -when used outdoors	None	None
	-when used indoors or in enclosed area	None	APF 10
Demolition of block wall with sledge hammer*	Wet methods	APF 10	APF 10

*Not listed in OSHA Table 1, may need exposure monitoring