




MILWAUKEE TOOL

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To Whom It May Concern,

Milwaukee®, in partnership with Industrial Hygiene Sciences, LLC, has conducted testing on the Milwaukee M18™ FUEL™ 3-in-1 Backpack Vacuum (0885-20) paired with the M18™ FUEL™ 1-9/16” SDS Max Rotary Hammer Drill (2717-20), SDS Max Bull Point 18” Concrete Bit (48-62-4077), and SDS Max Chisel Boot (5318-DE). Results show that the user will be below the Permissible Exposure Limit (PEL) as described by OSHA 29 CFR 1926.1153 when using the above combination, assuming it is used in accordance with manufacturer’s instructions. Testing results and procedures are outlined below:

Unit Tested	Average Sample Duration	% Silica (Quartz) in Sample	Average Respirable Crystalline Silica Concentration (µg/m³)	OSHA PEL in 1926.1153
	62	9.3	15 µg/m³ TWA	50 µg/m³

- All chiseling was performed using a Milwaukee M18™ FUEL™ 3-in-1 Backpack Vacuum (0885-20) paired with the M18™ FUEL™ 1-9/16” SDS Max Rotary Hammer Drill (2717-20), SDS Max Bull Point 18” Concrete Bit (48-62-4077), and SDS Max Chisel Boot (5318-DE)
- The chiseling was completed in a downward orientation to concrete at foot level
- Vacuum was turned to mode 1
- HEPA filter was cleaned every 10 minutes with the following method
 - User removed canister from unit and took off the cap that sits above the HEPA filter. The cap was used to clean the filter by tapping downward aggressively 4 times on top of the filter while it was still in the canister. The canister was then emptied into a garbage can at foot level.
- Concrete blocks were poured from a 5000 PSI concrete mix.
- The room size was 12’9” x 26’5” x 8’
- The room surfaces were wiped down between trials to ensure accurate measurements
- Samples were collected on 3 piece 37 mm diameter preweighed PVC filter mounted in a BGI GK2.69 respirable dust sampler, run at 4.2 lpm and connected to a Gilian 10i air sampling pump. A field blank was submitted with each day’s set of samples.
- Samples were analyzed using OSHA ID-142 by the Wisconsin Occupational Health Laboratory, an AIHA Accredited laboratory. The sampling method used meets the definition of respirable crystalline silica in 1926.1153 (a) and Appendix A of the OSHA Respirable Crystalline Silica Standard (1926.1153).
- The Time Weighted Average (TWA) was calculated assuming zero exposure to respirable crystalline silica for the non-sampled portion of a 480 minute (8 hour) shift. Longer exposure times, assuming that the dust exposures would be similar to those collected in these trials, would likely result in higher TWAs. Factors, including, but not limited to the ventilation and air flow patterns in the space where the work is done, how flat the grinder is held, the condition of the shroud brush, the silica content of the concrete, how much grinding was done when the shroud is not on a full, flat surface, the presence of other respirable silica dust generating activities in the area, how often the user knocks collected dust from the HEPA filter, how aggressively the HEPA filter is knocked off and how the vacuum is cleaned could affect actual user exposures.