





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 8 Gallon Dust Extractor (8960-20) paired with the M18™ FUEL™ 7”/9” Large Angle Grinder (2785-20), 7”/9” Large Angle Grinder Cutting Shroud (49-40-6120), and 7” and 9” blades. 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	Blade Diameter	Average Sample Duration	% Silica (Quartz) in Sample	Average Respirable Crystalline Silica Concentration (µg/m³)	OSHA PEL in 1926.1153
	7"	61.7	10	13.8 µg/m³ TWA	50 µg/m³
	9"	59	10.2	30.3 µg/m³ TWA	50 µg/m³

- All cutting was performed using a Milwaukee 8 Gallon Dust Extractor (8960-20) paired with the M18™ FUEL™ 7”/9” Small Angle Grinder (2785-20), 7”/9” Large Angle Grinder Cutting Shroud (49-40-6120), and 7” and 9” blades
- The cutting was completed with the block placed on the ground
- Automatic Filter Cleaning was turned on
- 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.

*A 2-1/4" cutting depth X 1/8" cutting width reflects the highest dust generating application for this tool, suggesting that other wheel depths and widths would also be compliant when using the Milwaukee 8 Gallon Dust Extractor

Details on how to properly implement as a part of a complete exposure plan are outlined below*:

Maximum Number of Feet cut per Hour **

7" Blade

Cutting Width

Cutting Depth		7/64"	1/8"	5/32"	11/64"	1/8"
	0.25"	232	135	162	147	203
	0.5"	116	67	81	73	101
	0.75"	77	45	54	49	67
	1"	58	33	40	36	50
	1.25"	46	27	32	29	40

9" Blade

Cutting Width

Cutting Depth		7/64"	3/16"	5/32"	11/64"	1/8"
	0.25"	303	176	212	192	265
	0.5"	151	88	106	96	132
	0.75"	101	58	70	64	88
	1"	75	44	53	48	66
	1.25"	60	35	42	38	53
	1.5"	50	29	35	32	44
	1.75"	43	25	30	27	37
	2"	37	22	26	24	33
	2.25"	33	19	23	21	29

* These calculations are offered for reference and are calculated values based on previously recorded test data and represent a full work day of the tested application

** The user must cut the same depth and width or less than those listed above for the given application in order to be considered compliant with the objective data clause of 29 CFR 1926.1153 OSHA regulation on crystalline silica dust.

It is the responsibility of the user to operate the tool in accordance with manufacturer's instructions. For the latest listings of approvals, visit milwaukeetool.com. For technical or service assistance, contact Milwaukee Customer Service at 1-800-729-3878.