MILWAUKEE TOOL

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29 CFR 1926.1153

Milwaukee® OSHA® Compliance Solutions

To Whom It May Concern,

Milwaukee®, in partnership with the Wisconsin Occupational Health Laboratory, has conducted testing on the Milwaukee SDS Plus HAMMERVAC™ Dedicated Dust Extractors. Results show that the 2715-DE and 2712-DE HAMMERVAC™ Dedicated Dust Extractors are below the Permissible Exposure Limit (PEL) as described by OSHA 29 CFR 1926.1153 assuming they are used in accordance with manufacturer's instructions. Testing results and procedures are outlined below:

Unit Tested	Average Holes Drilled	Average Sample Duration (Minutes)	Average Respirable Crystalline Silica Concentration (µg/m3)	Permissible Exposure Limit (PEL) in OSHA 29 CFR 1926.1153
2715-DE 	81	63.33	14.27 µg/m³ TWA	50 µg/m³ over an 8 hour period

- All drilling was performed overhead using a Milwaukee Rotary Hammer and a Milwaukee HAMMERVAC™ Dedicated Dust Extractor.
- The hole size was 5/8" in diameter and 4" deep.*
- Test procedure included both the drilling of holes and a method of emptying the dust box:
    - The dust box on the extractor was emptied and the HEPA filter was knocked out every 5 holes.
    - The dust box and filter were knocked out lightly into a bucket placed on the ground next to the drilling location.
- 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 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 minutes (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 that would affect actual user exposures include, but are not limited to, the ventilation and air flow patterns in the work space, the presence of other respirable

*A 5/8" drill bit reflects the highest dust generating application, suggesting that other bit sizes would also be compliant when using the Milwaukee 2715-DE and 2712-DE HAMMERVAC™ Dedicated Dust Extractors

silica dust generating activities in the area, the frequency of and method used to empty the extractor, and the number and depth of the holes drilled.

- Details on how to properly implement the 2715-DE or 2712-DE as a part of a complete exposure plan are outlined below*:

Maximum Number of Holes per Day**

Hole Depth \ Hole Diameter	3/16"	1/4"	3/8"	1/2"	5/8"
1"	10,800	6,075	2,700	1,519	972
1-1/2"	7,200	4,050	1,800	1,013	648
2"	5,400	3,038	1,350	759	486
2-1/2"	4,320	2,430	1,080	608	389
3"	3,600	2,025	900	506	324
3-1/2"	3,086	1,736	771	434	278
4"	2,700	1,519	675	380	243

Frequency of Need to Empty Dust Box***

Hole Depth \ Hole Diameter	3/16"	1/4"	3/8"	1/2"	5/8"
1"	222	125	56	31	20
1-1/2"	148	83	37	21	13
2"	111	63	28	16	10
2-1/2"	89	50	22	13	8
3"	74	42	19	10	7
3-1/2"	63	36	16	9	6
4"	56	31	14	8	5

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.

* These calculations are offered for reference and are calculated values based on previously recorded test data.
** The user must drill the same number or fewer holes 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.
*** The dust box needs to be emptied out at or before the numbers specified above in order to be considered compliant with the objective data clause of 29 CFR 1926.1153 OSHA regulation on crystalline silica dust.