



MSHA's Accident Prevention Program Safety Idea

Safety and
Health are
Values!

Drill Dust Control

Mine Type: **Stone surface and underground, Stone mills and plants**
Category(s): **Drilling**

William Krall, Stone Cutter, has developed a practical and inexpensive engineering solution to control dust that is emitted by the operation of hand held pneumatic rock drills. Without any type of engineering controls in use, the company exceeded the Personal Exposure Level set forth by MSHA on one sampling occasion. By applying basic engineering practices, a reduction in exposure limits was realized using readily available materials.



Dust Control Assembly Materials:

- Rubber air brake diaphragm, also called pancake (cut hole in top of pancake for drill bit),
- shop vacuum nozzle (cut precise hole in side of pancake for snug fit),
- weight attached to base of nozzle to support pancake, and
- a light industrial shop vacuum.

With control device:
36.2% Quartz
Quartz Silica standard = $.27 \text{ mg/m}^3$
Mine Results 0.12 mg/m^3 (compliant)

Without control device:
49% Quartz
Quartz Silica standard = $.2 \text{ mg/m}^3$
Mine Results 0.47 mg/m^3 (non-compliant)

The cost for implementation is < \$50, and its benefits are priceless.

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