National Institute of Occupational Safety and Health (NIOSH) researchers find measurable quantities of silica in asphalt milling fines.

NIOSH asks the National Asphalt Pavement Association (NAPA) to form and manage a research team to evaluate silica exposure in asphalt milling and find ways to reduce airborne dust.

NAPA works with American Equipment Manufacturers (AEM) to contact labor, industry, government, and contractors to form the Silica/Milling Machine Partnership.
Initial field studies establish base line levels of dust exposure and were weighed against the current Occupational Health and Safety Administration (OSHA) standard for dust exposure in the field.

Although dust exposures measured were below the existing OSHA standard, the team resolved to achieve reductions through optimizing water systems for dust control.

All partnership manufactures participated in field trials at abandoned airport in Marquette, Michigan to minimize job site variables. These trials helped manufactures to determine the most effective water based control elements.
As machinery was prepared for testing, it was critical that water systems were operating properly and utilized as intended. Accordingly, the Partnership wanted to emphasize how critical it was for contractors to properly maintain and operate their water spray systems so a section was added in the AEM "Cold Planer Safety Manual" addressing water system maintenance and operation.

AEM and NAPA also developed "Best Practices Bulletin" for silica/milling machine partnership 2010.

Partnership manufacturers gathered again for field trials in Shawano, Wisconsin - this time to test improvements based on results from Marquette. As an extra step, certain companies included an experimental vacuum system on their machine to test in conjunction with water based controls.
Tests results from Shawano showed that optimized water based controls were effective but they also showed that vacuum controls along with water can provide for significant reductions at critical locations or test zones around the machine.

Focus shifted from optimizing water based controls to optimizing dust control with water and vacuum systems. The Partnership agreed that the ultimate goal must be to provide the best dust control feasilby possible.

Outstanding article was published in "Asphalt Pavement Magazine" (Sept/Oct 2012) outlining Silica Partnership efforts and the decision to continue on with the addition of vacuum based controls.

NIOSH tracer gas tests performed in controlled environment to determine capture efficiency of production vacuum systems.
Began field testing combined water /evacuation dust control systems.

Initial results from controlled environment testing and from field testing looked very good!

Silica/Milling Machine Partnership 2013

Complete field tests for combined water/evacuation dust controls. Water based control systems will continue to provide primary dust control. Secondary evacuation systems will capture airborne dust in primary areas of dust generation and deposit the exhaust into the secondary conveyor chute - carrying dust away from the operators. New OSHA standard proposal for respirable dust exposure expected.

Vacuum Dust Control Systems
Production Machines With Vacuum Dust Control Systems Incorporated.

Thank You