

GEOTEXTILE SEPARATORS FOR DUST SUPPRESSION ON GRAVEL ROADS

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ABSTRACT

Dust can be a health concern because of its potential to contain respirable particles. The US EPA and state environmental agencies developed and implemented a reporting system for the amount of particulate (PM₁₀) derived from various sources including gravel roads. Although numerous techniques are used in attempts to control the dust generated from gravel roads, all have limitations and the search for more effective means of reducing dust levels from gravel roads continues. Geotextile separators offer the potential to reduce dust while providing enhanced driving characteristics and reduced maintenance of the roads.

A field demonstration program was initiated to quantitatively document the dust suppression effect of geotextile separators on unpaved, gravel-surfaced roads. Six sampling events were taken to evaluate the effectiveness of using geotextiles as a dust suppressant. Results indicated that the dust collected on the downwind side were always significantly higher than the dust collected on the upwind side. Initially, dust collected on the control section was 70 to 80% less than the pre-geotextile dust levels, for the downwind side.