

GRACE

Construction Products Division

To: D. D. Walczyk

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From: H. G. Cummings

Subject: Airborne Fiber Studies for
the Attic Wetting Method
and the Pluronic Wetting
Agent

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Splitter tests were conducted during April to study the effect of an alternative wetting method and the addition of a wetting agent (Pluronic L-62) on the airborne fiber levels generated by Terralite. The test objectives are defined in a memorandum, "Respirable Fiber Control Development Plan"; D. D. Walczyk to R. C. Deskin; February 4, 1987.

1. Wetting Methods

Analysis of the splitter tests results was done to compare the alternative wetting method (the Attic Method) to the current method (the Fortified Method). The Attic Method sprays the water in the bag instead of on the belt.

a) L-2 Terralite w/3# H₂O

The splitter test results for the L-2 Terralite show a 93% statistical probability that the Fortified spray method generates lower airborne fiber levels than the Attic Method does.

<u>Spray Method</u>	<u>f/cc</u>	<u>Average</u>	<u>Std. Dev.</u>
Fortified	0.145		
"	0.167	0.145	0.022
"	0.123		
Attic	0.195		
"	0.180	0.188	0.008
"	0.190		

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1. Wetting Method (cont'd)

b. L-3 Terralite w/6# H₂O

Statistical analysis of the splitter test results for the L-3 Terralite shows the two spray methods generate airborne fiber levels that are not significantly different from each other.

<u>Spray Method</u>	<u>f/cc</u>	<u>Average</u>	<u>Std. Dev.</u>
Fortified	0.261	0.323	0.057
"	0.337		
"	0.372		
Attic	0.315	0.310	0.046
"	0.261		
"	0.353		

2. Wetting Agent

Statistical analysis of the splitter test results shows a 98% probability that the material with Pluronic L-62 generates a higher airborne fiber level than the material without it. The material used was L-2 Terralite with 3# H₂O sprayed by the Attic Method.

<u>Treatment</u>	<u>f/cc</u>	<u>Average</u>	<u>Std. Dev.</u>
3# H ₂ O	0.195	0.188	0.008
"	0.180		
"	0.190		
3# H ₂ O w/Pluronic	0.205	0.234	0.028
"	0.236		
"	0.261		

2. Wetting Agent (cont'd)

A comparison was also done using L-3 Terralite with 6# H₂O versus 3# H₂O and Pluronic. The L-3 without the Pluronic generated a lower airborne fiber level.

<u>Treatment</u>	<u>f/cc</u>	<u>Average</u>	<u>Std. Dev.</u>
6# H ₂ O	0.261	0.323	0.057
"	0.337		
"	0.372		
3# H ₂ O w/Pluronic	0.491	0.556	0.057
"	0.592		
"	0.586		

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