



William R. Bradley and Associates

ENVIRONMENTAL HEALTH CONSULTANTS

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Sprayed Mineral Fiber Mfg. Assoc., Inc.
Suite 2300
One Wall Street
New York, New York 10005

Attention: Technical Committee

Re: Environmental Health Investigation

A study was made of airborne dusts in the work area of operators spraying mineral fiber in the two new building construction sites. Dust counts from microscopic examination of eight air samples were made. The dust counts include mineral wool particles and asbestos fiber of respirable size only. These dust particles are five microns in diameter or smaller and represent dusts that may penetrate deeply into lung tissue and that may be retained therein.

The first three dust samples were collected at a northern New Jersey location that was completely enclosed. The skilled operator used a long, approximately twenty foot pipe, in order to reach high ceiling structures from the floor.

The first sample was collected in a sheltered corner of the outside walkway having a large overhead roof. The second and third samples were collected indoors.

The second series of five samples was collected at a midtown New York City construction site. Sample number four was collected on the platform at the nose level of the spray operator. The operator had his hand directly on the nozzle and was standing on a platform within a few feet of his work. The operator did not appear to be as skilled as the first operator, causing overspray, underspray and backspray. The location was a generally open area where the wind could blow through and carry visible spray a considerable distance.

Samples one, three and four were collected at about one foot distance from the operators head and nose level and represent operators potential exposure. It was noted that operators wore approved type respirators but that operators helpers or foreman did not. It was noted that the employee dumping bags into the feed hopper wore a respirator but that his supervisor in performing the same operation did not.

Analysis of Dust Samples

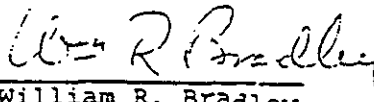
<u>Sample Number</u>	<u>Location</u>	<u>Millions Particles per Cubic Ft. of Air</u>
<u>New Jersey</u>		
1.	Outdoors in corner of sheltered walkway while spraying twenty foot high roof from ground area.	4.5
2.	Inside enclosed building. Large open area. Sample collected six foot from hopper of product feed machine.	4.0
3.	Spraying corner of enclosed room, upper wall and ceiling, operator at floor level, spray area fifteen to twenty feet. above floor.	7.0
<u>New York City</u>		
4.	On platform two to three feet from nozzle and two to six feet from area of application.	26.0
5.	Sample collected at head level sixty feet from spray operator.	9.0
6.	Sample collected at head level thirty feet from spray operator.	12.0
7.	Sample collected at head level 17 feet from spray operator.	10.0
8.	Sample collected two floors below area of spray application and in small enclosed service room.	2.7

At the New Jersey location air temperature was 46°F. and relative humidity was 96%. At the New York location air temperature was 42°F. and the relative humidity was 96%.

Summary

The recommended threshold limit value for asbestos dust is five million particles per cubic feet of air. Inert or nuisance dusts have a recommended threshold level of fifty million particles per cubic feet of air. Inert dusts have less than 1% free silica. The threshold level value applies to eight hours daily exposure, day in and day out, without damage to lung tissue likely to result in illness.

Threshold limit values are exceeded under the conditions of sampling and spray application and show concern for use of respiratory protection and for employee health maintenance. Steps taken to reduce minus five micron dust particles in the product are considered to be worthwhile.


William R. Bradley

WRB/dm