

SPRAY APPLICATION OF FIREPROOF INSULATION  
AT THE CONSTRUCTION SITE OF THE  
PROCTOR AND GAMBLE TECHNICAL CENTER  
BLUE ASH, OHIO

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SURVEY CONDUCTED AND REPORT PREPARED BY:

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## SPRAY APPLICATION OF FIREPROOF INSULATION

PURPOSE: To sample, for asbestos exposure, workers involved in spraying of fireproofing insulation material at the new Proctor & Gamble Technical Center under construction in Blue Ash, Ohio.

CONTACTED: Mr. Frank Klein, Industrial Hygeinist, of the project, for Turner Construction Company contractor for the building.

SAMPLING PROCEDURE: Personal membrane filter sampling devices were placed on the four workers involved in the spraying and mixing operation. The samplers were run for approximately thirty minutes at a flow rate of 1.7 lpm.

SPRAYING OPERATION PROCEDURE: A sub-contractor for the Turner Construction Company, Anning and Johnson of Indianapolis, Indiana, was using four men in this job; a mixer-pump operator, two sprayers and a hose handler. The mixer-pump operator mixed the material into a wet slurry which was then sprayed with high pressure hoses, by the sprayers, onto the steel framework of the building. The mixing was done in a cement mixer type of equipment and in much the same manner as cement is mixed, with the dry material first dumped into

the mixer creating a wet cementness like slurry. The hoseman's job was to maintain the hoses connecting the two spray guns with the pump.

FINDINGS: Each of the four men were literally covered with the sprayed on material. During the spraying the material was visuable falling to the ground and not only the framework was covered with material but also everything within an approximate fifty foot radius of the spraying. Only the mixer-pump operator was furnished with a respirator, which I did not observe him wearing at any time. In discussions with the workers, I learned that their clothing was taken home at the end of the day.

LABORATORY METHOD OF ANALYSIS AND SAMPLE RESULTS: The membrane filter samples collected were rendered transparent with a 50-50 mixture of diethyl oxalate dimethyl phthalate and counted at 430X magnification with phase contrast illumination. The results of the four samples are listed:

<u>Job Title</u>	<u>Asbestos Exposure*</u>
1. Mixer-Pump Operator	3.00 fibers/cc > 5u
2. Sprayer	0.62 fibers/cc > 5u
3. Sprayer	0.87 fibers/cc > 5u
4. Hose Handler	1.12 fibers/cc > 5u

\*NOTE: Emergency standard for asbestos exposure is 5.0 fibers/cc > 5u, Federal Register, Rules and Regualtions, Title 29-Labor, 36,234,23207, December 7, 1971. Recommended standard for asbestos exposure is

2.0 fibers/cc > 5u, Department of Labor Advisory Committee on Asbestos Standards, February 25, 1972.

CONCLUSIONS: Exposure to asbestos does exist in the particular operation when using a material called FIRE-BAR, Type "F", manufactured by Fire-bar Inc. of Arlington, Virginia. Even though the exposure to the workers was below the standard at the time of wet spraying, increased exposures are possible to the mixer-pump operator when opening the bags with the asbestos containing material, and also after the sprayed-on material has dried and is being cleaned up around the area of spraying by dry sweeping. More sampling should be done on the mixer-pump operator and sampling should be done on the clean-up men.

RECOMMENDATIONS: 1. That respirators be supplied to all workers spraying or cleaning up or working around the asbestos containing material. Sec. 1910.93,3,iii, Federal Register, Wednesday June 7, 1972.

2. That clothing and laundrying be provided by the company doing the spraying. That work clothes not be worn home from work, thus preventing exposure to household members. That laundrying procedures follow Sec. 1910.100,4,i-iiia-c, Federal Register, Wednesday June 7, 1972.

3. That other workmen and areas around the spraying operation be protected by the use of hanging tarpaulins to decrease the spread of the material outside the spraying area.

4. That an asbestos-free material be used in place of the presently used asbestos containing material.

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