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PLAINTIFF'S EXHIBIT

DOW-877

MIDLAND, MICHIGAN
October 31, 1968

R. C. Middleton
Safety Department
Ludington Plant

LETTER DATED OCTOBER 7, CONCERNING HAZARDS DUE TO HANDLING PIPE COVERING MATERIAL CONTAINING ASBESTOS

Asbestos has long been known as a material capable of causing a discrete disease called asbestosis (which is somewhat similar to silicosis - caused by crystalline quartz). In the more or less recent past the subject of hazard due to asbestos has been further complicated by reports in the literature of malignant growths which were associated with the presence of asbestos bodies. The whole subject is presently under study by the U.S. Public Health Service.

I feel that at this point in time our best bet is to control asbestos dust exposures according to the Threshold Limit Values suggested by the American Conference of Governmental Industrial Hygienists. This Threshold Limit Value is five million particles per cubic foot of air (mppcf). We have done some dust sampling during a variety of operations carried out by pipe coverers. I'll include a summary of this work for your information. You will see that there are some jobs where the numbers of particles in the air are above the 5 mppcf mentioned here. Jobs such as this should be done using a dust respirator which is approved by the U.S. Bureau of Mines for protection against toxic dusts, including silica.

Another approach to the dust hazard is to contrive better control of the dust so that measurements will show less than the 5 mppcf and there will, therefore, be no need for respiratory protection. Generally this is best accomplished by the use of exhaust ventilation at the point where the dust is being generated.

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HRH:reh

Enc.

cc: R. F. Falk

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Table I

EXPOSURE TO FINE DUSTS ENCOUNTERED BY WORKERS CUTTING VARIOUS TYPES OF PIPE COVERING MATERIALS

Industrial Hygiene Standard, Nuisance Dusts . . . . 15 mg/m^3
Industrial Hygiene Standard, Asbestos Fibers . . . 5 M.P.C.F.

Operation	(Total Dust Exposure) mg/m^3	(Dust Count) M.P.C.F.	X-Ray Diffraction Analysis	Electron Microscope Analysis) Particle Size		(Fibers 10% of Total Dust) Fiber	Size	20-50 μ
Breathing zone of worker hand sawing Baldwin Ehret Hill calcium silicate curved block 2" thick	0.45	3.2 6.4 4.8 44.6	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	85% 95%	<10 μ <20 μ	1% 5% 70%	<10 μ <20 μ >50 μ	25%
Repeat same material	0.09	12.6 Avg. 14.5	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	45% 90%	<10 μ <20 μ	5% 10% 45%	<10 μ <20 μ >50 μ	45%
Hand sawing Owens-Corning Kaylo flat block 2" thick	3.60	17.3 22.2 Avg. 19.8	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	45% 90%	<10 μ <20 μ	1% 5% 70%	<10 μ <20 μ >50 μ	25%
Hand sawing Phillip Carey Fibercel curved block 2" thick	17.90	7.9 12.1 Avg. 10.0	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	45% 90%	<10 μ <20 μ	5% 10% 45%	<10 μ <20 μ >50 μ	45%
Hand sawing Phillip Carey 85% MG curved block 2" thick	7.20	11.0	$3MgCO_3 . Mg(OH)_2 . 3H_2O$	85% 95%	<10 μ <20 μ	1% 5% 70%	<10 μ <20 μ >50 μ	25%
Hand sawing Baldwin Ehret Hill Unibestos flat block 2" thick	4.09	14.5	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	85% 95%	<10 μ <20 μ	5% 10% 45%	<10 μ <20 μ >50 μ	45%
Breathing zone of worker using table saw to cut Owens-Corning [illegible] flat block 2" thick	77.90	--	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	45% 90%	<10 μ <20 μ	1% 2% 90%	<10 μ <20 μ >50 μ	8%
Using table saw to cut Baldwin Ehret Hill Unibestos flat block 2" thick	53.90	54.0	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	85% 95%	<10 μ <20 μ	1% 5% 70%	<10 μ <20 μ >50 μ	25%

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