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PLAINTIFF'S EXHIBIT
K-937

June 27, 1969

Mr. S. H. Thomas
Director of Environmental Control
Owens Corning Fiberglas Corporation
P.O. Box 901
Toledo, Ohio 43601

Re: Environmental Health Study
Berlin, New Jersey Plant

Environmental Health Studies on work environment were conducted June 17 and 18, 1969 at the Berlin, New Jersey plant of Owens-Corning Fiberglas Corporation. The current study was a follow up investigation of a study made in September 1968 to determine whether improvements have been made in lessening employee exposure to the inhalation of dusts including asbestos fibers. The plant processes insulation for flat surfaces and for pipes in various sizes and thicknesses using asbestos, silica, diatomite and a cement as main ingredients.

Measurements were made of in-plant noise intensity at several locations, which include overall noise pressure energy measurements as well as octave band frequencies. Noise measurements were made at those locations where previous measurements indicated noise exposures of employees exceeded "A" scale intensities above 90 decibels.

C 545

The dust samples collected by the impingement technique using triple distilled water were counted under 100 x light field microscopy. The membrane filter samples were evaluated in accordance with the method for the enumeration of asbestos dust on membrane filters as proved by Edwards & Lynch of the U.S. Public Health Service. It is recognised that membrane filter technique is only an indication of the presence of asbestos fibers in air developed for the asbestos fabric industry. It is further recognised with the impinger technique that an estimation of the presence or absence of Asbestos fibers of respirable size gives answers that are relatable to the toxicology and to the instances of asbestosis in industry.

Most of the batches prepared for production of insultation products in the Berlin Plant contained between 13 and 20% asbestos or diatomaceous earth and represent an even smaller percentage of raw product by weight involving respirable size asbestos in the form of fibers.

Summary

Generally speaking airborne dust in the work environment has lessened in concentration. The exhaust hood at the flatware finishing line loading station should be extended in accordance with prior design.

C 546

Hood enclosures about the batch mix dumping stations that are mechanically exhausted also should be installed. Improvements in exhaust ventilation hood enclosure should be made at the finishing line station. The "B" saw and the "C" saw should be provided with mechanically exhausted hood enclosures on the integrated line similar to those installed on the "A" saw. Where dust exposures exceed five million particles per cubic foot of air, control of the work environment is recommended. In cases where the dust count is less than five million particles the quantity of asbestos fibers in the breathing zone is of such a limited quantity that occupational illness from asbestosis is unlikely. Where dust control by hood enclosure of the process with mechanically exhausted ventilation does not reduce operator exposure to dust concentrations less than five million particles per cubic foot of air, then respiratory protection in the form of approved type masks should be worn. These masks are classified as toxic dust respirators, approved by the U.S. Bureau of Mines in Schedule 21. These respirators are similar to MSA Dustfoe type number 33, or similar respirators issued by Willson Company, or American Optical Company.

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There are a few locations in the plant where noise measurements exceed 90 decibels on the "A" scale. Consideration should be given to noise reduction by control of the noise source. If this is not feasible then the wearing of ear muffs on the part of employees is recommended. A new noise source was evaluated in the plant. This involves disc grinding on metal forms in the Mold Shop

William R. Bradley

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IMPINGER DUST SAMPLES

Sample No.	Location	Millions of Particles Per Cubic Foot of Air
1	Number 2 line stripping	1.9
2	Flatware line, Feed Operator's Station K-10, 2 x 18 x 36	3.9
3	Flatware line, Top Sander Station K-20, 1¼ x 18 x 36	2.9
4	Batch mix floor while charging Asbestos tanks	4.2
5	Batch mix floor, south hydropulper	4.8
6	Flatware finishing line Packing station K-10 1¼ x 18 x 36	5.1
7	Flatware finishing line packing station K-10 product: 1¼ x 18 x 36	5.8
8	Integrated line - "B" saw K-10 product, 2 x 1 x 36	12.9
9	"A" saw 16 x 1¼ x 36 Trisect, product K-10	3.7
10	Number 3 line pouring	1.6
11	Number 3 line stripping	1.7
12	Number 2 line pouring	1.8
13	Number 1 line pouring	1.7

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IMPINGER DUST SAMPLES (cont'd)

Sample No.	Location	Millions of Particles Per Cubic Foot of Air
14	Batch mix floor, loading East-West tanks	3.9
15	Batch mix floor, South Hydropulper	3.7
16	Band saw, no. 1204 no. 1547	2.8
17	"A" saw - feed end 16 x 2 x 36: Tri cut K-10 product	2.2
18	"B" saw operator's station K-10 product 10 x 2 x 36	12.6
19	Flatware finishing product stacking $1\frac{11}{16}$ x 18 x 36: Core product	4.9
20	Flatware finishing stacking station	4.8
21	Billet line feeder station	2.3
22	Billet line packing station	2.1
23	Flatware line top sanding area	3.7
24	Flatware line feed operator area	4.1
25	Intrgrated line and wrap deck	1.7
26	Mold Shop, metal shot blast area	2.8
27	Outdoors 20' west of no. 3 and no. 4 bag collectors	1.6

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MEMBRANE FILTER SAMPLES

Sample No.	Location	Asbestos Fibers/cc. Total Fibers	Fibers greater than 10 microns
1	Batch mix floor while charging Asbestos tank	.05	.04
2	Batch mix floor while charging hydropulper	.04	.03
3	Flatware line feed operator's station	.02	.01
4	Flatware line top sanding	.01	.008
5	Boxing flatware and packing on skids	.02	.015
6	Flatware line packing station	.02	.015
7	Flatware line packing station	.02	.015
8	Intrgrated line "B" saw	.11	.05
9	Band saw operation	.01	.008
10	"A" saw	.02	.016

NOISE MEASUREMENTS

Sample No.	Overall Level	'A' Scale	31	63	125	250	500	1000	2000	4000	8000	16000
1	100	99	86	84	90	83	83	85	93	97	82	80
2	104	103	84	81	85	85	85	87	91	94	101	93
3	97	96	82	82	84	85	83	85	87	88	94	83
4	94	89	82	82	90	84	83	80	79	80	91	70
5	97	94	80	82	84	80	83	83	86	94	90	82
6	96	93	76	80	78	84	83	83	88	93	83	77
7	93	90	84	80	82	82	79	80	86	90	71	68
8	93	91	81	84	84	83	82	83	90	83	86	76
9	89	87	78	80	77	76	78	77	82	86	76	68
10	94	92	80	81	81	87	86	86	86	90	76	66
11	112	110	74	80	78	82	82	86	92	94	108	98

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LOCATION OF NOISE MEASUREMENTS

Sample No.	Location
1	Operator's desk at rear of No. 9 Sid Condenser
2	In front of No. 9 Sid Condenser
3	Discharge area of pre-hardener during fork lift truck unloading
4	Line 1, stripping end
5	Integrated line, B saw
6	Integrated line, A saw
7	Flatware finishing line operator's feed station
8	Flatware finishing line top sander area
9	Shipping area end of flatware line
10	Mold Shop - metal shot blast area
11	Mold Shop - disc grinding on metal forms