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William R. Bradley and Associates

ENVIRONMENTAL HEALTH CONSULTANTS

18 GREEN STREET • NEWARK, N. J. 07102

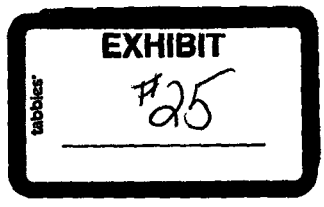
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October 23, 1968

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

Re: Environmental Health Investigation
Owens Corning Fiberglas Corporation
Berlin, N. J. Plant

Studies on employee work environment were conducted at the Berlin, New Jersey Plant of Owens Corning Fiberglas Corporation September 23 through September 27, 1968. This plant processes installation for flat surfaces and for pipes in various sizes and thicknesses, using asbestos, silica, diatomite and cement as main ingredients. The operation is known as the Kaylo process. Samples of work-room air were collected to determine the concentration of asbestos dusts and measurements were made of noise intensity at various octave band frequencies.



A dust exposure exists for employees unloading box cars of diatomite shipped in paper bags. The supplier should be urged to use a multi-wall paper bag of heavier strength and one with a dust proof seal. More care should be taken in the loading of box cars to prevent broken bags.

There is a potential dust exposure at the second floor batch mix area during bag dumping. It is recommended that the hopper where bags are dumped be enclosed on three sides and mechanically exhausted to the bag collectors. The handling of empty bags is a source of dust. It is suggested that empty bags be placed in a mechanically exhausted bin.

Dust counts in the area of the flatware line where the product is boxed or stacked on pallets are higher than desirable. It is suggested that cartons to be loaded, travel on a roller conveyor that passes through a mechanically exhausted booth enclosure.

The design of dust collection hoods on the integrated line sawing stations should be improved in order to provide more complete enclosure. Dust counts are excessive at these stations, and it is recommended that employees wear

espiratory protection until environmental control has been installed.

Dust control at the two band sawing stations for pipe needs improvement. Operators are exposed to high dust concentrations. The two band saw stations should have a separate dust collecting system rather than being "tied in" to one of the existing systems. Hood design for dust control should be improved.

Work environment around the entrance to the Sid Cylinder is bound to be quite warm and to have high humidity due to escaping steam. Engineering studies should be made to enclose an exhaust steam to the outdoors.

An air sample in the Dowtherm boiler room shows that there is no exposure to Dowtherm.

Measurements for noise throughout the plant show a nuisance level of noise being created by the release of compressed air without the benefit of muffles. A high noise level exists in front of the Sid Cylinder due to escaping steam. This noise source adds to the background

noise level of nearby areas of the plant. Noise on the flatware sanding line is borderline and employees here should be monitored periodically with audiometric testing.

Undesirable noise levels exist on the integrated line sawing equipment. Enclosure of the sound source with accoustical paneling is desirable.

The Rotoblast equipment in the Mold Shop is noisy, but the main shop sound pressures exist in the lower octave band frequencies. The problem is mainly one of nuisance sound intensity.

William R. Bradley

DUST SAMPLES

Sample No.	Location	Millions of Particles Per Cubic Foot of Air
1	Breathing zone level of workmen in box car while unloading paper bags of diatomite (Eagle Pitcher "Celatom").	18.0
✓✓ 2	Batch mix floor while charging asbestos 7B, K3, S33, scrap, lime, iron chromite into west asbestos tank.	6.0 ✓
✓✓ 3	Batch mix floor while charging into south hydropulper. Charging lime and diatomite by hand, cement and silica being charged by screw conveyor.	5.0 ✓
✓ 4	No. 2 line stripping area.	3.1 ✓
5	No. 2 line pouring end.	2.2 ✓
6	No. 1 line pouring end.	2.3 ✓
✓ 7	No. 1 line stripping end.	3.5 ✓
✓ 8	Discharge area of pre-hardener during fork lift truck unloading.	3.6 ✓
9	In front of No. 9 Sid Condenser.	2.6 ✓
10	Operator's desk at rear of No. 9 Sid Condenser.	1.9 ✓
✓✓ 11	Flatware sanding at feed operator's station. (K-17)	4.2 ✓
✓✓ 12	Flatware line at top sander station. (K-17)	5.2 ✓

✓(✓✓) June 17, 1969

DUST SAMPLES (continued)

Sample No.	Location	Millions of Particles Per Cubic Foot of Air
13	Boxing flatware and packing on skids. (K-17)	6.0
14	Feeder's station on billet line.	3.3
15	Packer's station on billet line.	3.1
16	Integrated line sawing station on pipe halves. "B" Saw	12.9
17	Flatware finishing line, packing station. K-10 product sizes 2 x 6 x 36 and 2 x 12 x 36.	7.7
18	Flatware finishing line, packing station. K-10 product size 3 x 6 x 36.	6.8
19	Shipping area at end of flatware line. K-10 product size 3 x 6 x 36. Carton closing and gluing.	1.4
20	Integrated line, sawing K-10 product size 12 x 3 x 36 and 10 x 1.5 x 36. "B" Saw	13.8
21	Integrated line wrapping and packing station.	3.9
22	Integrated line carton sealing area.	2.2
23	Special assembly laminating jigs. Pipe area.	2.3
24	Band sawing, pipe area 3/8 x 2 1/2.	8.7

DUST SAMPLES (continued)

Sample No.	Location	Millions of Particles Per Cubic Foot of Air
25	Center of warehouse.	1.3
26	Outdoors 20 feet west of No. 3 and No. 4 bag collectors.	3.0
27	Mold shop at discharge end of Rotoblast.	3.5
28	Mold shop entrance to Rotoblast unit.	2.9
29	Mold shop repair area, disc sanding and arc welding.	2.4
30	Maintenance Shop, center of area.	1.6
31	Dowtherm boiler room.	0.9
32	Box car loading 2 x 6 x 36 pipe covering.	2.3
33	Entrance to No. 2-B drier. Fork lift truck unloading in drier, flatware and pipe.	3.0
34	Outdoor sample collected in salary staff parking lot.	1.1
35.	"A" Saw.	

NOISE MEASUREMENTS

Sample No.	Overall Level	A Scale	31	63	125	250	500	1000	2000	4000	8000
1	90	86	81	80	80	81	78	77	78	86	72
2	91	89	80	82	82	82	80	80	80	86	70
3	95	89	85	84	86	90	91	82	79	73	73
4	92	83	83	84	82	87	81	78	74	72	76
5	93	90	85	81	83	81	89	77	75	74	76
6	90	85	82	82	86	82	80	78	75	74	76
7	100	99	82	82	82	84	84	90	88	88	97
8	96	92	84	84	84	82	81	82	86	85	92
9	101	100	83	82	83	83	82	86	92	98	96
10	93	91	80	80	79	77	78	80	84	84	89
11	97	94	80	81	80	93	84	84	88	88	87
12	95	93	80	86	82	86	85	85	91	87	92
13	91	86	81	80	77	87	77	78	80	76	78
14	89	87	80	86	79	78	78	76	76	74	82
15	88	85	78	81	77	77	74	73	73	72	85
16	99	95	86	86	85	85	87	87	89	96	89
17	91	89	80	82	78	82	80	87	84	77	75
18	91	89	80	82	78	82	80	87	84	77	75

NOISE MEASUREMENTS (continued)

Sample No.	Overall Level	A Scale	31	63	125	250	500	1000	2000	4000	8000
19	93	92	81	83	80	82	82	85	90	82	82
20	86	94	81	84	84	87	86	87	87	89	93
21	84	75	76	76	74	81	78	84	72	70	70
22	82	78	74	73	70	79	74	70	70	68	68
23	82	76	73	71	69	68	66	76	68	66	68
24	90	88	75	74	70	68	71	82	76	74	87
25	98	90	84	95	89	89	90	86	86	87	79
26	98	91	79	94	92	90	88	87	88	84	80
27	95	85	79	92	84	83	83	80	76	76	70
28	84	75	72	81	76	70	72	70	66	68	70
29	94	89	86	90	84	86	83	81	81	81	82
30	92	84	88	80	82	83	74	74	74	75	77

LOCATION OF NOISE MEASUREMENTS

Sample No.	Location
1	Batch mix floor while charging asbestos 7B, K3, S33, scrap, lime, iron chromite into west asbestos tank.
2	Batch mix floor while charging into south hydropulper. Charging lime and diatomite by hand, cement and silica being charged by screw conveyor.
3	No. 2 line stripping area.
4	No. 2 line pouring end.
5	No. 1 line pouring end.
6	No. 1 line stripping end.
7	No. 1 line stripping end, use of compressed air.
8	Discharge area of pre-hardener during fork lift truck unloading.
9	In front of No. 9 Sid Condenser.
10	Operator's desk at rear of No. 9 Sid Condenser.
11	Flatware sanding at feed operator's station. (K-17)
12	Flatware line at top sander station. (K-17)
13	Boxing flatware and packing on skids. (K-17)

LOCATION OF NOISE MEASUREMENTS (continued)

Sample No.	Location
14	Feeder's station on billet line.
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22	Integrated line carton sealing area.
23	Special assembly laminating jigs. Pipe area.
24	Band sawing, pipe area 3/8 x 2 1/2.
25	Mold shop at discharge end of Rotoblast.
26	Mold shop entrance to Rotoblast unit.

LOCATION OF NOISE MEASUREMENTS (continued)

Sample No.	Location
27	Mold shop repair area, disc sanding and arc welding.
28	Maintenance Shop, center of area.
29	Dowtherm boiler room.
30	Box car loading 2 x 6 x 36 pipe covering.

MAIN BATCHES AS ASBESTOS

K-10 Batch

K-3 or W-3	6%
S-33	6.2%
7-D	3%
	15%

K-10 Batch

W-3 or K-3	9%
S-33	3%
7-D	3%
	15%

Core Batch

S-33	9.1%
4-T	3.9%
	13%

K-20 Batch

W-3	2%
S-33	10%
4-T	8.3%
	20%

Silica minus 325 mesh - 99% SiO_2

Diatomaceous Earth Nevada minus 325 mesh - 85% SiO_2