PLAINTIFF'S EXHIBIT K-232



REPORT OF

TECHNICAL SERVICES STUDY

PREPARED FOR: OWENS-CORNING
FIBERGLAS CORPORATION
BERLIN, NEW JERSEY

Aug. 28, 1972

SUBJECT – OCCUPATIONAL DISEASE SURVEY

PREPARED BY – R. L. SWEENEY
INDUSTRIAL HYGIENIST

SURVEY DATE – AUG. 28, 1972

P. S. PERSONAL SERVICE
FROM THE OFFICE OF – PICTON-CAVANAUGH, INC.

This study has been made to assist the named insured in a loss control program. It is confidential and is not to be used for any other purpose. It does not purport to include every loss potential, code violation or exception to good practice but relates only to those hazards specifically examined and described herein

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OWENS CORNING FIBERGLAS CORPORATION
BERLIN, NEW JERSEY

August 28, 1972

PURPOSE:

This survey covers a regular occupational disease study at the plant, with air sampling for asbestos and dust exposures.

CONTACTS:

Persons contacted during the survey were P. Scheuerle, Plant Manager; A. Courter, Safety Director and Personnel Supervisor; and W. Rotgers, Assistant Production Manager. Assisting me on the survey was Superintendent H. Webb of the Haddonfield Engineering Department.

CONCLUSIONS:

The results of our air samples indicate that asbestos exposure is borderline, and that dust and free silica, though present, do not exist in high enough concentrations to presently create a serious exposure.

RECOMMENDATIONS:

No recommendations are being made as a result of this survey.

Robert L. Sweeney

Robert L. Sweeney
Industrial Hygienist
hbg

PROCEDURES:

Air samples for dust were collected by drawing air at the rate of 0.1 cubic feet per minute through midget impingers using distilled water as a collecting medium. The dust was counted on a light field as outlined in the United States Public Health Service method for dust counting. Samples of ledge dust were collected in the area of air samples to determine the presence of free silica, which is done by phase contrast microscopy.

Air samples for asbestos were collected by drawing air through an open face Millipore filter. The filters were returned to the laboratory where the asbestos fibers entrapped on them were counted by the membrane filter method at 430 X magnification, using phase contrast illumination.

RESULTS:

Listed in Appendix A are the results of our air sampling for dust and in Appendix B, the findings of our asbestos sampling.

DISCUSSION:

In evaluating the results of our air sampling, we use as a guide the Threshold Limit Values (TLVs), which have been adopted by the American Conference of Governmental Industrial Hygienists. These limits have been incorporated in the regulations of the Federal Occupational Safety and Health Act, except where American National Standards Institute (ANSI) standards have been established for contaminants. In cases where ANSI standards have been promulgated, we use them to interpret our results. Threshold Limit Values refer to airborne concentrations of substances to which it is believed nearly all workers may be repeatedly exposed, day after day, without adverse effect. Threshold limits are to be used as guides in the control of health hazards and should not be regarded as fine lines between safe and dangerous conditions. These values refer to time-weighted average concentrations for a normal work day, unless a ceiling value has been established. Time-weighted averages permit excursions above the limit provided they are compensated by equivalent excursions below the limit during the work day. Threshold Limit Values are derived from industrial experience as well as laboratory experimentation. They are reviewed on a yearly basis and modified according to additional studies and experience.

In the case of dust containing free silica, the Threshold Limit Value is based upon the amount of this material in the dust. A formula has been established which sets the limit as 250 divided by percent of free silica, plus 5. Using the highest percentage of free silica which we found in our dust analysis (6.1%), we would arrive at a limit of 23 million particles per cubic foot of air. None of our samples approached this limit, although dust levels were somewhat higher in the area of the north/south hydrapulpers in the batch house than elsewhere. The results of our sampling indicate

that the dust exposure is fairly well controlled. Housekeeping was satisfactory. Since our last survey, much work has been done to reduce dust exposure, particularly in the flatware finishing department. Here, an excellent exhaust ventilation system has been installed over the sanders, completely enclosing the units, and serving to significantly reduce the dust concentration in the area.

In the case of asbestos dust, the Threshold Limit Value recommended by the American Congress Governmental Industrial Hygienists is given as 5 fibers per milliliter greater than 5 microns in length. The present regulation stipulated by the Occupational Safety and Health Act also sets 5 fibers per milliliter as the acceptable concentration. However, the latter also stipulates that, as of July 1, 1976, the time-weighted average concentration of asbestos fibers be reduced to a maximum allowable concentration of 2 fibers per milliliter. Our results indicate the concentration of asbestos fibers to be near the presently accepted limit of 5 fibers, in all plant areas tested. I was informed during my survey that present plans call for elimination of asbestos in the plant operations by December 1, 1976, and substitution of a fiberglas/pulp product. Because of this, we are making no formal recommendations in regards to controlling the concentration of asbestos dust. Airborne fiberglass in the operations would not constitute a serious exposure to employee health. Fiberglass is a biologically inert dust and is considered a nuisance particulate. It does exhibit mechanical irritation but there is no physiological body change associated with fiberglass exposure.

APPENDIX A

OWENS CORNING FIBERGLAS CORP.
BERLIN, NEW JERSEY

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Dust in Air

Location	Results-Dust*
1. Mold Cleaning - area of roto blast.	1.0 mppcf
2. Batch House - N/S hydrapulpers.	12.8 mppcf
3. Batch House - E/W slurry mixers.	1.1 mppcf
4. Batch House - filler press & gel tank.	0.5 mppcf
5. Flatware Finishing - end saws.	0.3 mppcf
6. B-Saw.	5.8 mppcf
7. Billet Stripping.	0.7 mppcf
8. Number 2 Line Stripping.	3.2 mppcf
9. Routing - semi-molded billets.	1.1 mppcf

Dust Analysis

1. Air-floated dust from Mold Cleaning: Acid Insoluble 20.0%
   Free Silica on Insoluble 6.1%

2. Air-floated dust from Batch House, N/S hydrapulpers: Acid Insoluble 42.0%
   Free Silica on Insoluble 5.8%

*TLV for dust containing free silica = 23.0 mppcf

mppcf - millions of particles per cubic foot

APPENDIX B

OWENS CORNING FIBERGLAS CORP.
BERLIN, NEW JERSEY

August 28, 1972

Asbestos in Air

Location	*Results-Asbestos
1. Mold Cleaning - area of roto blast.	4.4 fibers/ml >5 μ in lgth.
2. Batch House - E/W slurry mixers.	4.4 fibers/ml >5 μ in lgth.
3. Flatware Finishing - end saws.	4.4 fibers/ml >5 μ in lgth.
4. B-Saw.	6.8 fibers/ml >5 μ in lgth.

*Present TLV = 5 fibers/ml >5 μ in length; as of July 1, 1975, the TLV will be 2 fibers/ml >5 μ in length.

ml - milliliter
μ - microns
TLV - Threshold Limit Value