FILE NAME: Square D (SQD)

DATE: 1973-1974

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DM

George D. Clayton & Associates Division of Marlennan Management Systems, Inc.
26711 Southfield Road, Southfield, Michigan 48075 • Telephone: 313-352-3120

for better environment

April 10, 1973

Mr. Frank J. Hitchcock
Square D Company
Circuit Breaker Division
3700 Sixth Street, S.W.
Cedar Rapids, Iowa 52406

RE: Job No. 1865-473-LA

Dear Mr. Hitchcock:

The twelve filters for asbestos counting which you submitted to us on April 5, 1973 have been analyzed as you requested and are reported below using the sampling data which you supplied to us:

Lab No.	Sample No.	Asbestos Fibers >5μ/ml
53621	1	18.0
53622	2	0.67
53623	3	0.19
53624	4	0.05
53625	5	0.03
53626	6	0.06
53627	7	0.08
53628	8	0.05
53629	9	0.29
53630	10	0.12
53631	11	4.7
53632	12	3.1

We trust this report will prove helpful.

Very truly yours,

Robert G. Keenan
Vice-President
Director, Laboratory Services

RGK:dv

Moldwp area

cc: DM, ER, SE

SQDKVR_013047

ER

George D. Clayton & Associates Division of Marlennan Management Systems, Inc.
25711 Southfield Road, Southfield, Michigan 48075 • Telephone: 313-352-3120

for better environment

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Robert G. Keenan
Vice-President
Director, Laboratory Services

RGK:dv

I.C.: DM, ER, SE

SQDKVR_013048

ROUTE TO:

SQUARE D COMPANY

INTER-OFFICE

TO DM FROM IE-2

ATTENTION C. W. Denny III BY W. E. Ballin DATE May 1, 1973

SUBJECT Air Analysis Report C.C. F. Hitchcock
D. Ferguson
M. Garlick

In accordance with OSHA section 19.10.93a tests were conducted in the molding areas of the Cedar Rapids Square D facility for the enumeration of airborne mineral dusts. These tests were conducted by Max Garlick and myself during the period of April 2 thru April 24, 1973.

The attached report lists the results of these tests.

William E. Ballin
Industrial Engineer

ne

SQUARE D COMPANY
CEDAR RAPIDS PLANT

May 1, 1973

AIR ANALYSIS REPORT

PURPOSE

The purpose of these tests was to determine the source and level of concentration of airborn asbestos fibers.

METHOD OF ANALYSIS

Millipore filter holder containing 0.8µm membrane filter was attached to a MSA portable pump which provided a source of suction. The airborne contaminations were collected on these filters. They were sent to George D. Clayton and Associates Incorporated for analysis by Phase Microscope Counting Techniques. The results of these analysis are shown on the attached air analysis table.

DISCUSSION

The current OSHA standard establishes a Threshold Limit Value of no more than five fibers longer than five microns in length per cubic centimeter of air. The standard futher states that at no time may the ceiling limit of 10 fibers per cubic centimeter be excelled.

To pinpoint areas requiring additional improvement the tests have been segregrated into several job areas. They being manual molding, auto molding set-up, preform manufacture, part cleaning, housekeeping and maintenance.

Manual molding concentrations are well within limits when preforms were utilized (sample #2, #3, #4, #5, #6, and #7). A marked increase in the level of concentration was noted when Durez 23639 was used in a loose condition (sample #11). Fan operation appeared to have little effect on counts. (sample #13).

Auto molding set-up was within limits and poses no problem. (sample #9 and #10)

Preform manufacture appeared to be the major source of contamination (sample #1 and #13) however, after the equipment was reengineered to eliminate and enclose dust generating areas the readings fell to well within limits (sample #19 and #22). The preform grinder requires additional engineering to bring dust output to a reasonable level (sample #14 and #20). Plant Engineering is now in the process of evaluating and designing preform grinder equipment which will bring these readings within the standard. Maintenance will have the necessary changes accomplished by May 11, 1973.

Part cleaning operators on the multitable are within limits. (sample #8)

Housekeeping personnel are not exposed to levels greater than the Threshold Value (sample 16).

Equipment maintenance does not generate dust in excess of the limits (sample #15)

In addition several general air samples were taken in manual molding to note the effects of sweeping and grinding of preforms (samples #17, #18 and #21). Slight increases are noted but the samples all fall below the Threshold Value.

CONCLUSION

With the changes to be incorporated into the preform grinder all areas should fall within prescribed limits. This coupled with a medical examination program will allow us to comply with OSHA.

Sample No.	Sample Date	Location and Events	Asbestos Concentration (Fibers/ML)
1	April 2, 1973	Breathing zone at preform machine CA 348, molding powder 639.	18.0**
2	April 2, 1973	Breathing zone sample at annual molding station FE 130-1 and FE 133-1, molding powder - 509 preform, 639 preform.	0.67
3	April 2, 1973	Breathing zone sample at manual molding station CA 477 & CA 478, molding powder 509 preform.	0.19
4	April 2, 1973	Breathing zone sample at manual molding station FE 127-1 & FE 132-1 molding powder - 509 preform.	0.05
5	April 2, 1973	Breathing zone sample at manual molding station FE 129-1, molding powder - 509 loose.	0.03
6	April 2, 1973	Breathing zone sample at manual molding station FE 118-1 molding powder - 482 preform.	0.06
7	April 2, 1973	Breathing zone sample at auto mold machine CA 23 being raw manually, molding powder - 771 preform	0.08
8	April 2, 1973	Breathing zone sample at multitable cleaning station FE 395, molded material 509.	0.05
9	April 3, 1973	Breathing zone sample on auto molding set-up (operator invalidated test).	0.29
10	April 3, 1973	Breathing zone sample on auto molding set-up.	0.12
11	April 3, 1973	Breathing zone sample at manual molding station CA 373 & FE 130-1, molding powder - 639 loose, 509 preform.	4.7
12	April 3, 1973	Breathing zone sample at preform machine FE 123-1, molding powder 24060.	3.1
13	April 23, 1973	Breathing zone sample at manual molding station FE 121-1 & FE 122-1, molding powder - 639 preform, 482 preform.	0.29

Sample No.	Sample Date	Location and Events	Asbestos Concentration (Fibers/ML)
14	April 23, 1973	Breathing zone sample at preform grinder CA 586, molding powder - 639	46.9**
15	April 23, 1973	Breathing zone sample equipment repair preform machine CA 348.	0.58
16	April 23, 1973	Breathing zone sample sweeping manual and auto mold areas.	0.11
17	April 23, 1973	General air sample after sweeping	0.006
18	April 23, 1973	General air sample - Datum Base	0.002
19	April 24, 1973	Breathing zone sample at preform machine CA 348, molding powder - 639	.012
20	April 24, 1973	Breathing zone sample at preform grinder CA 586, molding powder 639, fan on.	44.8**
21	April 24, 1973	General air sample after preform grinding.	0.01
22	April 24, 1973	Breathing zone sample at preform machine CA 348, molding powder 639, fan on.	0.35

*Exceeds Threshold Limit Value of 5.0 Fibers/ML

**Exceeds Ceiling Value of 10.0 Fibers/ML

LABORATORY REPORT

BEDFORD LABORATORIES

P. O. Box 428
Cedar Rapids, Iowa 52406

(319)398-3687

To: Square D Company
3700 6th St. S.W.
Cedar Rapids, Iowa 52406

Attn: Bill McGregor

Date 1/31/75
A. R. 724
I. R.
Date Rec'd 1/28/75
Sample of Air Particulates
Order No.

Asbestos Fiber Counts

Sample	Fibers per ml.	
Auto Room	3.30	Mary Fenske
Semi Press	4.45	Kay Martensen
Preformer	5.39	Ken Kirby

The samples from the Auto Room and the Semi Press had a variety of fibers, some of which may not be asbestos. However, using the technique recommended by OSHA, the fibers would all be considered as asbestos using a modifying crossed Nicol prism to eliminate nonbirefringent fibers.

The sample from the preformer had extremely distinct asbestos fibers.

Bedford Laboratories
Ken Kirby
K. W. Kitby

KWK:mh

LABORATORY REPORT

BEDFORD LABORATORIES

P. O. Box 428
Cedar Rapids, Iowa 52406

(319)398-3687

To: Square D Company
3700 6th Street S. W.
Cedar Rapids, Iowa 52406

Attn: Bill Berman

Date 7/29/74
A. R. 525
I. R.
Date Rec'd 7/17/74
Sample of Air Contaminant
Order No. 72246

Asbestos Fiber Analysis
Collected on Millipore Filter

Sample	Fibers per ml. Greater than 5 Micrometer
1974 CZA; collected for 30 minutes at 2 liters per minute	4.45

The counting procedure was that described by the U. S. Public Health Service as practiced by NIOSH.

Bedford Laboratories

K. W. Kirby

KWK:mh

Don Barta

SQDKVR_013024

LABORATORY REPORT

BEDFORD LABORATORIES

P. O. Box 428
Cedar Rapids, Iowa 52406

(319)398-3687

To: Square D Company
3700 6th Street S. W.
Cedar Rapids, Iowa 52406

Attn: Bill Berman

Date 7/29/74
A. R. 525
I. R.
Date Rec'd 7/17/74
Sample of Air Contaminant
Order No. 72246

Asbestos Fiber Analysis
Collected on Millipore Filter

Sample	Fibers per ml. Greater than 5 Micrometer
1974 CZA; collected for 30 minutes at 2 liters per minute	4.45

The counting procedure was that described by the U. S. Public Health Service as practiced by NIOSH.

Bedford Laboratories
Kes Kirby
K. W. Kirby

KWKmh

SQDKVR_013025