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STATE OF VERMONT
CHITTENDEN COUNTY, SS.

CHITTENDEN SUPERIOR COURT
DOCKET NO. S 0084-87

THE UNIVERSITY OF VERMONT and
STATE AGRICULTURAL COLLEGE,

Plaintiffs,

v.

U.S. MINERAL COMPANY,

Defendant.

:
:
:
:
: RESPONSE OF U.S. MINERAL
: PRODUCTS TO PLAINTIFFS'
: THIRD SET OF INTERROGATORIES
: TO DEFENDANT
:
:

PREAMBLE

COMES NOW UNITED STATES MINERAL PRODUCTS COMPANY ("USM"), and answers the Plaintiffs' Interrogatories.

Most of these interrogatories pertain to events that occurred many years ago. Therefore, in gathering the information to respond to these interrogatories, USM and its counsel have had to rely on many documents and the information contained therein. In addition, USM and its counsel have relied on the memories of officers and employees who have been with the company since the 1950s and 1960s. USM and its counsel have also acquired information from discovery in other cases, and this information may form the basis for a particular answer. Because the process of document review is ongoing, and because new and/or additional information about past events is sometimes acquired, USM reserves its right to supplement and/or to amend these answers in the event that more or more accurate information becomes available.

Additionally, this defendant only manufactured and sold asbestos-containing products from 1954 through 1972. Unless otherwise stated in a specific answer to an interrogatory the answers to these interrogatories shall be limited to those products, that period of time, and to the State of Vermont.

INTERROGATORIES

INTERROGATORY NO. 1:

List by brand name, manufacturer, and dates of production every non-asbestos-containing spray or trowel-applied fireproofing or ceiling product manufactured or distributed by any other company prior to July 4, 1973, of which you are present aware.

ANSWER:

Objection. This interrogatory is overly broad and unduly burdensome. Moreover, it seeks information irrelevant to the plaintiff's claim against U.S. Mineral about products never manufactured by USM. Furthermore, it seeks information not in U.S. Mineral's possession and equally available to plaintiff from other sources.

INTERROGATORY NO. 2:

List by brand name and dates of production every non-asbestos-containing fireproofing product, every non-asbestos-containing acoustical ceiling product, and every non-asbestos-containing spray-applied or trowel-applied ceiling product which you have ever manufactured or distributed. As to each such product, state the following:

- (a) type of product (e.g., acoustical plaster, fireproofing, etc.);
- (b) the approximate area (e.g., square feet or linear feet) which each package of the product would cover;
- (c) the suggested retail price for each package of the product for each year the product was produced;
- (d) the method of application (e.g., spray, trowel, etc.);
- (e) its ingredients and exact percentages of each such ingredient;
- (f) a description of its packaging; and
- (g) dates of manufacture.

ANSWER:

Objection. This interrogatory is overly broad and burdensome. Moreover, it seeks information irrelevant to the plaintiffs against U.S. Mineral. Without waiving these objections, U.S. Mineral responds as follows: The CAFCO line of products was modified during the period 1969-1971 to become asbestos-free. These same CAFCO products were marketed under the same tradenames, but were differentiated from the asbestos-containing products by the insignia "c/f".

INTERROGATORY NO. 3:

List by brand name and dates of production every asbestos-containing fireproofing product, every asbestos-containing acoustical ceiling product, and every asbestos-containing spray-applied or trowel-applied ceiling product which you have ever manufactured or distributed. As to each such product, state the following:

- (a) type of product (e.g., acoustical plaster, fireproofing, etc.);
- (b) the approximate area (e.g., square feet or linear feet) which each package of the product would cover;
- (c) the suggested retail price for each package of the product for each year the product was produced;
- (d) the method of application (e.g., spray, trowel, -etc.);
- (e) its ingredients and exact percentages or each such ingredient;
- (f) a description of its packaging; and
- (g) dates of manufacture.

ANSWER:

(a,g) Please see Exhibit "A".

(b,c,d,f) Objection. This interrogatory is overly broad and unduly burdensome.

(e) Objection. This interrogatory seeks proprietary, confidential information which is protected from disclosure by principles of trade secrecy. Furthermore, the Interrogatory is overly broad and seeks information regarding products not relevant to plaintiffs' claim. Without waiving this objection, U.S. Mineral responds as follows: U.S. Mineral will provide the formulas for its asbestos-containing products to plaintiff's counsel subject to a protective order guarding against unnecessary disclosure of proprietary information.

INTERROGATORY NO. 4:

Describe in detail any research, testing, study or analysis performed by or for you pertaining to the quality and/or performance of your asbestos-containing fireproofing products or asbestos-containing spray-applied or trowel-applied ceiling

products to determine the effect of water damage, mold, rust, condensation, wind, impact, vandalism, aging, and other forms of wear, tear and abrasion on the quality or performance and/or field success or failure of such products.

ANSWER:

See report of Michael Kodaras attached. In addition, U.S. Mineral believes that during the years that it manufactured asbestos-containing products, in-house tests for the purpose of determining and improving product performance were regularly performed. Some of these tests may have been related to factors listed in this interrogatory, but U.S. Mineral cannot presently provide details about these tests.

INTERROGATORY NO. 5:

Describe in detail any research, testing or studies of any kind you or anyone on your behalf has ever conducted to determine whether any of your asbestos-containing fireproofing products or asbestos-containing spray-applied or trowel-applied ceiling products posed any hazards or dangers to the health or safety of those persons, including maintenance men, who would apply such products in buildings or utilize, inhabit, or otherwise occupy buildings or structures in which these products had been applied.

ANSWER:

U.S. Mineral did not conduct any medical or scientific research on the effects of asbestos exposure.

INTERROGATORY NO. 6:

Under what circumstances would you recommend removal, encapsulation, enclosure, or assessment of your in-place asbestos-containing materials, or an operations and maintenance plan because of the existence thereof.

ANSWER:

Objection. This interrogatory is overly broad, vague and ambiguous; it calls for speculation. Moreover, it seeks opinions not relevant to plaintiff's claim. In addition, the interrogatory seeks experts' opinions from a party to this case.

INTERROGATORY NO. 7:

State the number of requests you have received by or on behalf of a building owner to abate in-place asbestos-containing materials which allegedly presented a present or potential hazard by reason of the asbestos, and the number of occasions you have agreed to undertake any abatement.

ANSWER:

Objection. This interrogatory is overly broad, vague and ambiguous. Furthermore, it seeks information irrelevant to this claim.

INTERROGATORY NO. 8:

Identify each notice, claim, allegation, or statement that you have ever received that an injury or disease resulted from exposure to an in-place asbestos-containing product or exposure to or use of an in-place asbestos-containing product.

ANSWER:

Objection. This interrogatory is overly broad, vague and ambiguous. Moreover, it seeks information irrelevant to plaintiff's claim. Without waiving these objections, U.S. Mineral responds as follows: the only instance involving such exposure to a U.S. Mineral product that U.S. Mineral knows of are the cases of Geraldine Layne and William Ball.

INTERROGATORY NO. 9:

State the following with respect to buildings owned or occupied by you:

- (a) the identity of all facilities where any of your asbestos-containing fireproofing or asbestos-containing ceiling products have been placed since 1954;
- (b) the identity of all facilities where any asbestos-containing construction product has been separately removed, encapsulated or enclosed, whether or not in connection with renovation or demolition;
- (c) the identity of all facilities where samples of any asbestos product have been taken for analysis, the

identity of all documents generated thereby, and the identity of the person who has custody of such documents; and

- (d) the identity of all facilities where air samples have been taken to determine the concentration of airborne asbestos, the identity of all documents generated thereby, and the identity of the person who has custody of such documents.

ANSWER:

Objection. This interrogatory is overly broad, unduly burdensome and not reasonably calculated to lead to the discovery of admissible evidence. Moreover, it seeks information irrelevant to the plaintiff's claim.

INTERROGATORY NO. 10:

List and identify each person whom you expect to call as an expert witness at trial, and with respect to each, the subject matter on which the expert is expected to testify, the substance of the facts and opinions to which the expert is expected to testify, and a summary of the grounds for each opinion.

ANSWER:

Please see Defendant's Answers to Plaintiff's First Set of Interrogatories, Response to Interrogatory No. 27.

INTERROGATORY NO. 11:

Please specify the type(s) of asbestos (e.g., Chrysotile, Crocidolite, Amosite, Anthophyllite, Actinolite or Tremolite) that were contained in the asbestos-containing ceiling products and/or fireproofing sold by you, and for each, give the reason for the presence of the type of asbestos (e.g., added, pre-existing contaminant).

ANSWER:

Objection. This interrogatory is overly broad and burdensome and seeks privileged information irrelevant to the plaintiff's claim. Without waiving these objections, U.S. Mineral responds as follows: Chrysotile.

INTERROGATORY NO. 12:

State when you last stopped manufacturing/selling products that contained asbestos as one of their components or ingredients in the United States or elsewhere in the world.

ANSWER:

1972.

INTERROGATORY NO. 13:

State all reasons why you stopped manufacturing and selling products that contained asbestos, with specific reference to whether or not the possibility that asbestos was a health hazard had anything to do with your decision.

ANSWER:

Objection. This interrogatory seeks irrelevant information. Without waiving its objection, U.S. Mineral responds as follows: U.S. Mineral stopped manufacturing asbestos-containing products due to a decline in demand for asbestos-containing products, which was cause, at least in part, by increasing concerns about the exposure to asbestos of workers handling or using these products.

INTERROGATORY NO. 14:

Describe any notice received by you prior to 1962 that any person was claiming or had claimed injury as a result of exposure to a material or product containing asbestos mined, manufactured and/or sold by you, your predecessors or your subsidiaries.

ANSWER:

Not applicable.

INTERROGATORY NO. 15:

Please state when and from what source you, your predecessor or subsidiary first acquired knowledge concerning an association between:

- (a) asbestos exposure and cancer (including, but not limited to mesothelioma and lung cancer); and
- (b) asbestos exposure and asbestosis.

Your answer should be directed to asbestos in general and not restricted to acoustical plaster or fireproofing.

ANSWER:

U.S. Mineral cannot identify exactly when or how it first received information that asbestos exposure was being associated with these specific diseases. - However, U.S. Mineral believes that it knew of the disease asbestosis in the mid-1950's and that it heard of studies about lung cancer and mesothelioma in the mid-1960's.

INTERROGATORY NO. 16:

Has U.S. Mineral or any of its subsidiaries or predecessors ever mined Erionite or an ore that was contaminated with Erionite in the United States? If so, please identify the location where Erionite was mined, the years of the mining operation as well as the name of the entity actually performing the mining operation.

ANSWER:

No.

INTERROGATORY NO. 17:

If the answer to the preceding Interrogatory is yes, to whom was the Erionite or ore identified in the preceding Interrogatory sold and for what purpose?

ANSWER:

Not applicable.

INTERROGATORY NO. 18:

Please describe in detail all information you provided to any architect, contractor, or building owner prior to 1971, informing the recipient about any potential health hazard from your asbestos-containing fireproofing or asbestos-containing ceiling products, and state whether or not this information was provided in response to specific inquiry about the health hazards of asbestos from such architect, contractor, or building owner.

ANSWER:

During the entire period CAFCO asbestos-containing products were manufactured, written instructions were supplied to the company's licensed applicators. The CAFCO application manual required that workers in proximity to the spraying be equipped with dust masks approved by the United States government for prevention of pneumoconiosis. Also beginning in May, 1962, the following warning prominently appeared on all asbestos-containing CAFCO bags:

"CAUTION"

This product contains asbestos. Inhalation of asbestos dust over long periods may be harmful. If employees are exposed to dust during use and application, those employees should be equipped with adequate personal protective devices.

In addition, in the late 1960's, U.S. Mineral provided its licensed applicators with the SMFMA Recommended Code of Practices for Application of Sprayed Fireproofing. This information was not provided in response to any specific inquiries. Please also see attached letter from John F. O'Rourke, Vice President of U.S. Mineral Products, to Mr. Alton Evans, Project Manager at the Cleveland Federal Office Building, dated June 3, 1966.

INTERROGATORY NO. 19:

Please explain how a contractor or architect reading a U.S. Mineral invoice during the period 1954-1971 could tell whether the product reflected on the invoice contained asbestos.

ANSWER:

Objection. This interrogatory calls for speculation and is vague, ambiguous and misleading. Moreover, it seeks irrelevant information. Without waiving its objections, U.S. Mineral responds as follows: By the time an architect specifying the product or the contractor applying the product saw a U.S. Mineral invoice, he or she would already know whether the product contained asbestos.

INTERROGATORY NO. 20:

Please identify all former employees of U.S. Mineral, any predecessor or subsidiary who are receiving or in the past have received disability or retirement benefits from U.S. Mineral, any subsidiary or predecessor (or insurers therefor) as a result of disability due to asbestos exposure. For each individual so identified, give the disease for which benefits were awarded and the date of first payment.

ANSWER:

Objection. This interrogatory seeks information irrelevant to the plaintiff's claim. Without waiving these objections, U.S. Mineral responds that not one of its former employees is receiving disability or retirement benefits from U.S. Mineral as a result of disability due to asbestos exposure. —

INTERROGATORY NO. 21:

What do you contend is the useful life of the following products in a building?

- (a) Cafco Spray;
- (b) Cafco Heat Shield;
- (c) Cafco Blaze Shield;
- (d) Cafco Sound Shield;
- (e) Cafco Power Shield; and
- (f) Cafco Blaze Shield Type D.

ANSWER:

Objection. This interrogatory is ambiguous and vague; it calls for speculation. The term "useful life" is not defined. Moreover, the interrogatory is overly broad and seeks irrelevant information.

INTERROGATORY NO. 22:

Did you ever advise any architect, contractor or building owner that your asbestos-containing fireproofing products could not be expected to last the entire life of a building in which it was installed? If so, please identify all such persons to whom you communicated this information, the date and substance of the communication.

ANSWER:

Objection. This interrogatory is overly broad, vague and unduly burdensome. Moreover, it seeks information irrelevant to the plaintiff's claim and available to the plaintiff from other sources.

INTERROGATORY NO. 23:

Did you ever advise any architect, contractor or building owner that your asbestos-containing spray applied or trowel-applied ceiling products could not be expected to last the entire life of a building in which it was installed? If so, please identify all such persons to whom you communicated this information, the date and substance of the communication.

ANSWER:

See Interrogatory 22.

INTERROGATORY NO. 24:

Identify the first date, if ever, on which any person advised you that a warning should be placed on a category of products, including your asbestos-containing fireproofing products, and asbestos-containing spray-applied or trowel-applied ceiling products.

ANSWER:

U.S. Mineral was not advised by some other person to place a warning on its asbestos-containing products; U.S. Mineral did so on its own.

INTERROGATORY NO. 25:

Please describe what you did with your remaining stocks of asbestos and asbestos-containing fireproofing products or asbestos-containing ceiling products on July 4, 1973, the effective date of the government ban on the spraying of products containing greater than 1% asbestos.

ANSWER:

Not applicable. U.S. Mineral stopped manufacturing asbestos-containing products in 1972.

INTERROGATORY NO. 26:

During the time you were selling asbestos-containing acoustical plaster and/or fireproofing products, did you ever inform any architect or other design or construction professional that they should not rely on the statements contained in your advertising and/or technical literature, but should undertake independently to test your asbestos-containing acoustical plaster and/or fireproofing products to determine the suitability of those products for use in buildings?

ANSWER:

Objection. This interrogatory is overly broad, vague and unduly burdensome. Moreover, it seeks information irrelevant to the plaintiff's claim. Without waiving the objection, U.S. Mineral responds as follows: No.

INTERROGATORY NO. 27:

Please identify all depositions and trial testimony of your past or present employees or officers in asbestos litigation, including asbestos property damage and personal injury litigation. The identification should include the name of the officer or employee, the date of the testimony, the title of the action in which the testimony was given, the date of such testimony, the name of the court reporting company who transcribed such testimony and whether you have a copy of the transcript in your possession or that of your attorneys.

ANSWER:

Objection. This interrogatory is overly broad, vague and unduly burdensome. Moreover, it seeks information irrelevant to the plaintiff's claim and available to the plaintiff from other sources.

INTERROGATORY NO. 28:

Please answer the preceding Interrogatory for litigation involving asbestos or asbestos products, other than asbestos personal injury or property damage litigation. Examples of this type of litigation include, but are not to be limited to, patent disputes, insurance coverage disputes, import disputes, tariff disputes.

ANSWER:

See objections to Interrogatory No. 27.

INTERROGATORY NO. 29:

Did you supply to the purchasers of your asbestos-containing ceiling products and/or asbestos-containing fireproofing products, any written instructions, including any material safety data sheets, covering the product(s) possible hazards, content, application and/or maintenance? If the answer is yes, please attach copies of all such instructions and set forth in detail:

- (a) the verbatim contents of all such instructions; and
- (b) whether such instructions were ever changed, altered or amended at any time and, if so, specifically all changes, the date of each change and the specific reason(s) why such change was made.

ANSWER:

U.S. Mineral incorporates, by reference, its answers to Interrogatory 19.

In addition, for the entire period during which asbestos-containing CAFCO products were manufactured, the application manual supplied to all contractors licensed to apply U.S. Mineral's products contained rules, advice, warnings, directives, instructions and recommendations on the proper handling and applications of U.S. Mineral's products, including instruction recommending the use of dust masks. U.S. Mineral further instructed its licensed applicators regarding ways to prevent and to minimize dust inhalation during its training sessions for said licensed applicators. Additionally, in 1968, U.S. Mineral began furnishing its licensed applications with copies of the Sprayed Mineral Fibers Manufacturers Bulletin, which contained instructions on the application of asbestos-containing sprayed mineral fiber products.

INTERROGATORY NO. 30:

Did you ever put into effect a recall of your asbestos product(s) already in the stream of commerce or distribution and/or already in the hands of purchasers and users? If so, please describe such recall efforts in detail.

ANSWER:

Objection. This interrogatory is overly broad and vague. Moreover, it seeks information irrelevant to the plaintiff's claim. Without waiving these objections, U.S. Mineral responds as follows: No.

INTERROGATORY NO. 31:

Please state whether you or anyone acting on your behalf ever conducted any research, testing or studies of any kind to determine whether asbestos posed any hazard or dangers to the health or safety of those persons who would utilize, inhabit or otherwise occupy buildings or structures in which asbestos products had been applied. (Note: This interrogatory is directed to asbestos in general and is not restricted to acoustical plaster or fireproofing). If the answer is yes, set forth in detail:

- (a) a full description of all research, testing or studies undertaken to determine whether said products were safe for such persons;
- (b) the names, present addresses and employment titles of all persons who participated in any such research, tests, or studies;
- (c) the results of conclusions reached as a result of such research, tests or studies;
- (d) any design changes made in your products as a result of such studies; and
- (e) please list and attach all writings and reports of any kind that in any way relate to the conduct of any such research, testing or studies or the results thereof, and identify their location(s), and the name(s) of the person(s) now in possession of such writings.

ANSWER:

Please see the Defendant's Answers to Plaintiff's First Set of Interrogatories, Response to Interrogatory No. 12.

INTERROGATORY NO. 32:

Have you undertaken to investigate the occurrences alleged in plaintiffs' complaint? If so, please state:

- (a) the name, address and job title of the person participating in such investigation;
- (b) a list of such written records pertaining to such investigation and its location and custodian;
- (c) whether statements from any witnesses were obtained; and
- (d) if so, please list each witness who has given a statement and the name, address and job title of each person having custody of any such statement.

ANSWER:

Objection. This interrogatory seeks information protected by the work product rule and prepared in anticipation of litigation.

INTERROGATORY NO. 33:

Did bags of Cafco Sound Shield 85 contain any information that it was "non-asbestos"? If so, please give the date of the first shipment of Cafco Sound Shield 85 which contained such information.

ANSWER:

Objection. This interrogatory seeks information irrelevant to plaintiff's claim. Without waiving this objection, U.S. Mineral responds as follows: No.

INTERROGATORY NO. 34:

Please identify all actions brought by building owners alleging property damage caused by asbestos which U.S. Mineral has settled, and for each such case give the name of the plaintiff's attorney and the amount of the settlement.

ANSWER:

Objection. This Interrogatory seeks information irrelevant to the plaintiff's claim. Moreover, it seeks confidential information that is privileged from disclosure. In addition, to the best of U.S. Mineral's knowledge, U.S. Mineral is required not to disclose the amounts of the settlements under the terms of the settlement agreement.

INTERROGATORY NO. 35:

Please list all occasions on which defendant, any subsidiary or division have used "comparative risk assessment," such as performed by defendants' expert Dr. Kenny Crump, in order to decide whether to remove asbestos from a facility.

ANSWER:

Objection. This Interrogatory is overly broad and unduly burdensome. Moreover, it seeks information which is irrelevant to the plaintiff's claim. Without waiving these objections, U.S. Mineral responds as follows: Not applicable.

INTERROGATORY NO. 36:

Please describe all tests performed by this defendant during the time it was selling asbestos-containing products in which asbestos fiber levels were measured during activities simulating any renovation or disturbance of the material itself or in the area of the material.

ANSWER:

U.S. Mineral did not perform any such test during the period that it was manufacturing asbestos-containing products for the specific purpose of measuring asbestos fiber levels.

INTERROGATORY NO. 37:

Please describe all tests performed by this defendant during the time it was selling asbestos-containing products in which asbestos fiber levels were measured during activities simulating demolition of a building containing the material.

ANSWER:

Objection. U.S. Mineral knows of no activity that simulates the demolition of a building and therefore objects to this interrogatory as ambiguous, vague, misleading and confusing.

INTERROGATORY NO. 38:

During the period that asbestos-containing products were manufactured by U.S. Mineral, did U.S. Mineral ever place a warning of any kind on the product packaging itself?

ANSWER:

Yes.

INTERROGATORY NO. 39:

During the period that asbestos-containing products were manufactured by U.S. Mineral, did U.S. Mineral ever place a warning in Sweets Catalog entries that the products contained asbestos or that asbestos was hazardous?

ANSWER:

The Sweets Catalogue advertisements for asbestos-containing products stated that those products contained asbestos; they did not include a warning about exposure to asbestos.

INTERROGATORY NO. 40:

Are you aware of any public health authority, government official, medical director or industrial hygiene expert who advises that a person can remove one square foot or more of asbestos-containing fireproofing and/or ceiling material from the beams and/or ceilings of an occupied structure without isolating the work area, disposing of the material in sealed plastic bags and having the work performed by individuals wearing respirators? If so, please identify the person or persons.

ANSWER:

Objection. This Interrogatory seeks attorney work product and privileged communications. Moreover, it seeks irrelevant information. The interrogatory is argumentative. It is also ambiguous and vague.

INTERROGATORY NO. 41:

Does U.S. Mineral deny that its asbestos-containing product Cafco Blaze Shield is present in the Harris-Millis Halls at the University of Vermont? If U.S. Mineral denies the presence of Cafco Blaze Shield in these facilities, please provide all evidence upon which you base your denial, as well as the names of any witnesses supporting your position.

ANSWER:

Objection. This Interrogatory is overly broad and burdensome. Furthermore, it seeks information prepared in anticipation of litigation. Without waiving said objections, U.S. Mineral states that it presently has insufficient information regarding the buildings allegedly containing its product.

INTERROGATORY NO. 42:

During the period 1954-1971, how much did it cost per bag to print the information that appeared on the packaging for the following products? If the price changed over time, please give the price for each time period:

- (a) Cafco Spray;
- (b) Cafco Heat Shield;
- (c) Cafco Blaze Shield;
- (d) Cafco Sound Shield;
- (e) Cafco Power Shield; and
- (f) Cafco Blaze Shield Type D.

ANSWER:

U.S. Mineral does not know this information.

INTERROGATORY NO. 43:

Do you have invoices showing the sales of your asbestos-containing fireproofing or acoustical plaster products to or for use in plaintiffs' buildings? If so, please identify these invoices.

ANSWER:

U.S. Mineral's invoices reflecting shipments to the University of Vermont are already in the possession of plaintiff's counsel.

INTERROGATORY NO. 44:

Does this defendant possess a complete record of all the sales of its asbestos-containing fireproofing and/or asbestos-containing ceiling products? If not, please identify all categories (by geographical location, company, product type or time) in which this defendant's sales records are incomplete.

ANSWER:

U.S. Mineral believes its invoices for sales of asbestos-containing products are complete.

INTERROGATORY NO. 45:

Please identify the first date on which Mr. James Verhalen personally became aware of any alleged association between exposure to asbestos, in any amount, and a potential health hazard.

ANSWER:

After numerous years, Mr. Verhalen cannot recall the date on which he first became aware of an association between exposure to asbestos and potential health hazards. However, in the mid-1950's, he was aware that long-term occupational exposures to high concentrations of airborne asbestos could cause pulmonary problems.

INTERROGATORY NO. 46:

Please identify the first date on which Mr. Frank Stumpf personally became aware of any alleged association between exposure to asbestos, in any amount, and a potential health hazard.

ANSWER:

After numerous years, Mr. Stumpf cannot recall the date on which he first became aware of an association between exposure to asbestos and potential health hazards. However, in the mid-1950's, he was aware that long-term occupational exposures to high concentrations of airborne asbestos could cause pulmonary problems.

VERIFICATION

Paulette A. Kaminski, states that she is Assistant Secretary for U.S. Mineral Products Company; that she is acquainted with the facts set forth in the foregoing Answers to Plaintiffs' Third Set of Interrogatories; that the same are true and correct to the best of her knowledge, information and belief.

Paulette A. Kaminski
PAULETTE A. KAMINSKI

Sworn to and subscribed before me,
a Notary Public, this 10 day of
October, 1990.

Patricia M. Dooley
Notary Public **PARTICIA M. DOOLEY**
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires July 28, 1993

AS TO OBJECTIONS:

Cynthia R. Bellagione for
Brett P. Powell
WILSON, POWELL, LANG & FARIS
P.O. Box 567
192 College Street
Burlington, VT 05402
(802) 658-4300

EXHIBIT "A"

- | | | |
|-----|---|---|
| 1. | CAFCO® Spray
(1954-58) | Fireproofing, insulation and
accoustical treatment of buildings |
| 2. | CAFCO BLAZE-SHIELD®
(1958-71) | Fireproofing of structural
steel and steel floors |
| 3. | CAFCO BLAZE-SHIELD
Type D (1965-72) | Fireproofing of structural
steel and steel floors |
| 4. | CAFCO BLAZE-SHIELD Patching
Fiber (1954-71) | Same as CAFCO BLAZE-SHIELD but
fiber modified so it can be mixed
with water and hand applied. |
| 5. | CAFCO BLAZE-SHIELD Patching
Fiber, Type D (1965-71) | Same as CAFCO BLAZE-SHIELD Type
D but modified so it can be mixed
with water and hand applied. |
| 6. | CAFCO Spray Type 1
(1954-58) | Fireproofing, insulation and
acoustical treatment of buildings |
| 7. | CAFCO SOUND-SHIELD® | Acoustical absorption |
| 8. | CAFCO BLAZE-SHIELD Type H
(1969-71) | Same as CAFCO BLAZE-SHIELD Type
D; generally used for exposed
acoustical areas |
| 9. | CAFCO HEAT-SHIELD®
(1958-71) | Building Insulation |
| 10. | CAFCO POWER-SHIELD®
(1964-71) | High temperature power and
process insulation |
| 11. | J Spray (1964-67) | High temperature power and
process insulation |
| 12. | COMINCO®
sometimes called Ace-Tite
Cement or All Purpose
(pre-1958-71) | Insulating cement used for
elbow fittings |
| 13. | COMINCO® Mono-ply
(1963-71) | Insulating cement used for elbow
fittings |
| 14. | CAFCO HEAT-SHIELD Type 2 | Modification of CAFCO HEAT-SHIELD |
| 15. | CAFCO BLAZE-SHIELD Type M | Modification of CAFCO BLAZE-
SHIELD; organic binders added |
| 16. | Mark II (1967-72) | Coating for application over CAFCO
products in areas of extreme
velocity and/or abrasion |
| 17. | CAFCO WEATHER-SHIELD®
(1970-72) | Coating for application over CAFCO
products to protect against
unusual exposure to the elements |

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KODARAS ACOUSTICAL LABORATORIES

DIVISION OF MICHAEL J. KODARAS, INC.

75-02 51st AVENUE/ELMHURST, NEW YORK 11373/TELEPHONE 212-446-1550

Def. Exp. Pht. Exp.
For ID in EV
Doyle Reporting, Inc.
Robert Capuzelo
8-30-90
RC

REPORT ON
SPRAYED MINERAL FIBER
DUSTING TESTS

SUBMITTED TO:

Sprayed Mineral Fiber Manufacturers Association, Inc.

Mr. Bert Levine - Asbestospray Corporation
Mr. Harry Wilson - Baldwin-Ehret-Hill, Inc.
Dr. Morris Lief - Smith & Kanzler Company
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PREPARED BY:

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REPORT NO. KAL-433-1-67

DATED: July 10, 1967

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I. INTRODUCTION:

A series of experiments have been conducted to arrive at a detailed test method that will conform to the requirements outlined in the General Services Administration Interim Guide Specification for Sprayed Fire Protection consisting of that portion of the specification relating to "Dusting". The specification is identified by the number 224-3B (Int) April 1966.

A test apparatus was built and is described in this report. A number of "shake-down" tests were found to be required in order to determine how to eliminate the effect of non-specimen dust, and changes in humidity from the test data. These findings are reported.

A series of tests were conducted using two samples selected at random from six prepared for test purposes. The results of these tests are also reported.

II. TEST APPARATUS:

The following equipment was used to conduct the last two tests:

A - A sealed room 16' x 18' x 13'. This room is constructed with a sealed concrete floor on grade; 8" dense aggregate concrete block walls sealed with 3 heavy coats of latex paint; a 6" thick poured concrete roof slab (dense aggregate); a 3" thick door equipped with double sealing gaskets and a drop seal.

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B - Electric motor, centrifugal fan, filters and duct system as shown on Figure 1 of this report consisting of:

Electric motor - $7\frac{1}{2}$ H.P. - 1800 rpm

Fan - Class II; 7500 cfm; 2700 O.V.; 4" S.P.;
1650 rpm; centrifugal fan

Ductwork contains a filter upstream of the test specimen hereafter called the "System Filter" and a filter downstream of the test specimen hereafter called the "Collection Filter". These filters are as follows:

System Filter - High performance filter with reinforced non-woven treated cotton fabric media having 95% efficiency in filtering particles of 5 micron size and larger. The filter has a mean efficiency of 36.5% on NBS type tests.

Collection Filter and Humidity Control Filter - Black nylon fabric having the following characteristics:

Thread Comb Per Inch

Warp	102
Filling	82.3

Calculated Denier

Warp	33.3 (30)
Filling	31.5 (30)

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The duct system has an opening wherein a sample 16" x 48" may be installed in such a manner that the face of the sample is flush or slightly protruding in relationship with the adjacent walls of the duct. The area of the sample that is exposed to the airflow inside the duct is 4.07 square feet.

C - Air velocity in the duct was measured by means of a standard 8 blade vane anemometer.

D - The Collection Filter and Humidity Control Filter were weighed before and after the test sequences by means of a Single Graduate Balance having a capacity of 100 gram in each pan and a sensitivity of 1 milligram.

III. TEST PROCEDURE:

A. - ROOM AIR PURGE - Before proceeding with the installation of a test specimen, the test room containing the test apparatus was sealed and the fan of the test apparatus was operated at maximum capacity for a period of at least 3 hours. During this period only the System Filter was in place and the recirculation of the air through the system filter provided an air purge that substantially reduced the dust content of the air in the sealed room. The room volume is 3744 cu. ft. At maximum capacity, the fan will move about twice the room volume each minute. The three hour air purge has been determined to be adequate to provide clean air for the test procedure.

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B. - SAMPLE PURGE CYCLE - The Dust Collection Filter and the Humidity Control Filter are both vacuumed and weighed and then inserted in polyethylene bags for transportation to the test room. In the test room both filters are installed in rabbitted wood frames. The Dust Collection Filter is inserted in the duct system downstream of the test sample opening. The Humidity Control Filter and its frame is suspended in the test room away from the discharge end of the apparatus but exposed to air movement.

The test sample is installed in the test opening. The fan intake and air by-pass damper located upstream of the System Filter are adjusted to provide a start-up air flow of less than 800 feet per minute. When the fan is operating normally the air by-pass damper is adjusted to increase the air flow to approximately 800 feet per minute. Air flow is measured in the duct. When the required flow is obtained, the flow velocity and time are noted.

After the test sample purge cycle time is completed (usually six hours), both the Dust Collection Filter and the Humidity Control Filter are weighed. The Dust Collection Filter difference in weight is noted. The Humidity Control Filter is shaken to dislodge any loose dust before weighing. Any variation of weight in the Humidity Control Filter is attributed to a

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change in relative humidity in the test room and is added or deducted from the change in weight of the Dust Collection Filter.

C. -- TEST CYCLE - The same procedure is followed for the test cycle (usually 24 hours) as is described above for the Sample Purge Cycle.

IV. DATA:

The data is submitted in net gain in grams per square foot of test sample area exposed to the air flow. The tests conducted of the two samples were weighed at 3 hours, 6 hours, 24 hours and 48 hours. The data sheets and a graph showing dust collection versus time is included with this report. A copy of the manufacturer's description of the test samples is also enclosed.

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KODARAS ACOUSTICAL LABORATORIES

DIVISION OF MICHAEL J. KODARAS, INC.

75-02 51st AVENUE/ELMHURST, NEW YORK 11373/TELEPHONE 212-446-1550

REPORT

December 26, 1967

PRODUCT: See Below.

TESTED FOR: Member Companies of Sprayed Mineral Fiber Manufacturers Association.

TEST NO. KAL-Series see below.

TEST METHOD: The test method used in obtaining the data is described in our Report No. KAL-433-1-67 dated July 10, 1967 with the following changes:

- The use of a humidity control filter has been omitted. Instead, the collection filter is placed in an oven at 170°F until a weight equilibrium is reached and then weighed immediately. This is done with the clean filter as well as with the loaded filter.
- The purge period was 6 hours as reported in KAL-433-1-67. However, the Test Cycle for the various samples varied and is noted below.
- The density of the various test specimens is not reported. In order to weigh the specimen, the specimen material is scraped off the gypsum board. This makes the specimen useless for more tests. We have carefully packed each specimen and will weigh the material after we have been advised by the Association that no additional tests of these samples will need to be conducted.

DESCRIPTION OF SPECIMEN: All test specimens consisted of sprayed mineral fiber on 18" x 48" pieces of gypsum board. 13" x 45" or 4.07 S.F. or 0.3 were exposed to the air flow.

RESULTS OF TEST:

	Manufacturer	Description of Specimen	Duration of Test	Dusting in grams/SF (.377 s)
KAL-542	Asbestospray	Untamped-Coated	24 hrs.	.008
	Asbestospray	Same sample	6 hrs.	.002
	Asbestospray	Same sample	24 hrs.	.002
	Asbestospray	Same sample	48 hrs.	.004
	Asbestospray	Untamped-Uncoated	24 hrs.	no results*
KAL-533	Baldwin-			
	Ehret-Hill	Number 2	24 hrs.	.022
KAL-545	Smith and			
	Kanzler	Sample A	24 hrs.	.005
KAL-532	U.S. Mineral			
	Products	Untamped Type D)	24 hrs.	.007
		Cafeco Blaze		
		Shield		

KODARAS ACOUSTICAL LABORATORIES
MICHAEL J. KODARAS, INC.

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SINCE 1975

UNITED STATES MINERAL PRODUCTS COMPANY

General Office and Plant
STANHOPE, NEW JERSEY 07874

Tel. 347-1200 Area Code 201
Cable: CAFCOINSUL, New York

June 3, 1966

Mr. Alton Evans, Project Manager
Huber, Hunt & Nichols - Frank Briscoe Company, Joint Venture
Cleveland Federal Office Building
East 9th and Lakeside
Cleveland, Ohio

Dear Mr. Evans:

In reply to the telephone request of Mr. William Walmer, we are pleased to comment on the questions raised concerning the possibility of a health hazard thought by some persons to result from exposure to the spraying of the mineral fiber now being applied for fireproofing at the Cleveland Federal Office Building.

There has been some publicity recently with respect to the possible effects of long exposure to high concentrations of asbestos dust. Although the studies have been under way for years, no final reports or findings have been released. Apparently, the probability of a health hazard exists only in those situations where there is exposure to asbestos dust over long periods, probably many years, and in places where there is a high dust concentration and ventilation is lacking. None of these studies are related specifically to spray mineral fiber products, nor to our CAFCO BLAZE-SHIELD Type D being used on this job.

Our CAFCO materials are specially treated during processing with dust control agents. Dust concentration is further minimized by the introduction of atomized water sprays as the fiber leaves the hose. The likelihood of any serious concentration of dust particles would be only in the immediate vicinity of the spray gun. For that reason we caution applicators to wear suitable dust masks, since they may be working under these conditions over extended periods of time.

We doubt seriously that any ~~mini~~ hazard exists for other workmen on the same site who are not actually spraying fiber. We have no knowledge of any sprayer or workman using CAFCO material or of any person exposed to it ever having been afflicted with a respiratory ailment caused by our fiber or process. We have been informed by the other members of the Sprayed Mineral Fiber Manufacturers Association, Inc. that, similarly, they have no knowledge of any case of respiratory illness being caused by the use of their spray mineral fiber products.

Of course, if a particular workman is unduly sensitive to dust, he should also wear a suitable protective mask. Such allergic tendencies would be exhibited in the presence of most any dust, such as fiber spraying, concrete hammering, plaster mixing, floor sweeping, and the like.

We believe this answers the questions raised, and we will be pleased to furnish such other information as may be required.

Yours very truly,

UNITED STATES MINERAL PRODUCTS COMPANY

John F. O'Rourke
John F. O'Rourke,
Vice President - Sales

JFO/deo



MINERAL FIBER AND FOAMED PLASTIC PRODUCTS FOR HIGH AND LOW TEMPERATURE
INSULATION CEILING SYSTEMS PACKAGING CLOTHING DISPLAY AND CONSUMER ITEMS



CAFCO SPRAYED FIBER PRODUCTS FOR FIREPROOFING, INSULATION
OF BUILDINGS AND EQUIPMENT AND ACOUSTICAL TREATMENT