

February 19, 1980

Mr. Jim Armstrong  
Bendix Corporation  
Bendix Center  
Southfield, Michigan 48076

Dear Jim:

I am enclosing a copy of EPA's version of the "minutes" of the meeting held with EPA personnel in Washington on January 3, 1980. Without going into the wording of the covering letter and the minutes, any differences are in the wording of the questions as we agreed at the January 3 meeting.

The questions indicated in Enclosure III do not appear to differ in substance from the questions the way we drafted them. There may be some question as regards Question 2 concerning the effects of non-asbestos disc brake linings and the materials used therein. My notes specifically indicated that we were not asking this question but instead were asking concerning the fibrous characteristics of the materials. Also, for example, our question number 4 and question number 10 are more specific than the questions indicated with their Enclosure III.

I have replied to Mr. Colli with the comments indicated with the copy enclosed. The foregoing is sent to you as a matter of information.

Sincerely,

FRICITION MATERIALS STANDARDS INSTITUTE, INC.

EWD/lmc

E. W. Drislane  
Executive Director

FMSI--0338

FMSI 03645



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

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OFFICE OF TOXIC SUBSTANCES

Mr. E. W. Drislane, Executive Director  
Friction Materials Standards Institute Incorporation  
Bergan Mall Office Center  
E. 210 Route 4  
Paramus, New Jersey 07652

Dear Mr. Drislane:

I have attached a copy of the minutes of the meeting between  
Environmental Protection Agency (EPA) personnel and  
representatives of FMSI that was held on January 3, 1980. Please  
let me know if you have any corrections, deletions or additions  
to the minutes.

Sincerely,

*Albert Colli*  
Albert Colli

Enclosure

FMSI 03646



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF TOXIC SUBSTANCES

Meeting with the Friction Materials Standards Institute  
January 3, 1980

At the request of the Friction Materials Standards Institute (FMSI), EPA staff met with FMSI representatives at EPA, Washington, D.C. A list of attendants is attached as enclosure (1).

The purpose of the meeting was to discuss a list of questions on friction products provided to the FMSI by EPA on November 16, 1979. FMSI was to determine whether their members would answer the questions and what mechanisms should be used to solicit the responses. The list of questions are attached to these notes as enclosure (2).

Ralph P. Moalli, representing FMSI, stated that the chances of obtaining responses from the members of FMSI would be increased if the questions could focus on disc brakes and exclude drum brakes at this time. He suggested that a second questionnaire could be submitted, specifically addressing drum brakes, after the responses to the questions on disc brakes had been secured. Changes to the original questions were made by mutual agreement during the meeting which resulted in a revised list which has been included as enclosure (3).

At the conclusion of the meeting, E.W. Drislane, representing FMSI, stated that the questions as phrased would probably be submitted to 15 of their 19 members. He indicated that responses to the questions would be obtained in about 3 months.

FMSI 03647

## ENCLOSURE I

| Name               | Company/Code   | Telephone Number |
|--------------------|----------------|------------------|
| Al Colli           | OPTS/CAD       | 755-8023         |
| Hope Pillsbury     | OPTS/CAD       | 755-8023         |
| Jim Armstrong      | Bendix         | 313-352-6350     |
| E.W. Drislane      | FMSI           | 201-845-0440     |
| Eugene L. Rogers   | Bendix         | 518-273-6550     |
| Ronald P. Moalli   | FMSI/Raybestos | 202-371-0101     |
| Alan Carpien       | EPA/OGC        | 755-0794         |
| Richard J. Guimond | OPTS-CAD       | 755-8023         |
| Jim Silverman      | OPTS/CAD       | 755-6660         |
| David Mayer        | OPTS/PID       | 755-5854         |
| Jim Hughes         | OPTS/ORA       | 755-6660         |
| Bob Liss           | OPTS/CAD       | 755-8023         |
| Jane Nowak         | OPTS/CAD       | 755-8023         |

FMSI 03648

DRAFT

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## Informational Needs for Friction Products Containing Asbestos

1. What are the basic ingredients used in nonasbestos linings for disc brakes? Specific formulations are not necessary.
2. What are the basic ingredients under consideration for use in nonasbestos linings for drum brakes? Specific formulations are not necessary.
3. What data or evaluations are available regarding the health effects of nonasbestos brake linings or materials used in them?
4. What are the performance characteristics and the problems associated with the use of substitute products for brake linings containing asbestos?
5. Are nonasbestos brake pads used in conjunction with asbestos pads? For example, is the outer part of the pad nonasbestos and does the inner pad contain asbestos?
6. Are nonasbestos brake pads interchangeable with asbestos brake pads? If the vehicle has a nonasbestos pad as original equipment, must the replacement pad be nonasbestos?
7. Are the composition and manufacture of nonasbestos brake linings developed by your company protected by patent or are they trade secret?
8. Are there mechanisms for the transfer of this technology to other companies who manufacture brakes for vehicles? For example, would your company consider licensing of the technology to manufacture nonasbestos brake pads?
9. Can nonasbestos brake products be manufactured in existing production facilities or will new facilities be required? What will be the capital and operating costs associated with change over?
10. What is the projected price differential between brake linings containing asbestos and nonasbestos substitutes?
11. Do brake systems which utilize nonasbestos friction products require a different design from brake systems with linings containing asbestos? If component parts for use with nonasbestos linings are different, what is the product price differential?

**DRAFT**

ENCLOSURE III

Informational Needs for Friction Products Containing Asbestos

1. What are the basic ingredients used in nonasbestos linings for disc brakes? (Specific formulations are not necessary). The materials used to substitute for asbestos are of particular interest.
2. What data or evaluations are available regarding the health effects of nonasbestos disc brake linings or materials used in them? If the substitute is a fiber what are its physical characteristics and size distribution?
3. What are the performance characteristics and the problems associated with the use of substitute products for disc brake linings containing asbestos? How do the substitute pads compare with asbestos pads? (For example: expected wear, noise levels from use, etc.)
4. For original equipment applications describe the asbestos-nonasbestos braking system. Include part number, vehicle application, and model years for each system described.
5. Describe the asbestos-nonasbestos braking system used for original equipment applications. Specify the vehicle applications and the model years for each system described.
6. Describe the historical development of nonasbestos disc brakes in your company. For example, provide date of initial research, dates of initial testing, dates of commercial available product. Estimates research and development costs for developing commercial product. Provide either total cost or cost for each phase.
7. Are nonasbestos pads interchangeable with asbestos brake pads? If the vehicle has a nonasbestos pad as original equipment, what problems or advantages do you foresee with replacement pads that contain asbestos?
8. Are the composition and manufacture of nonasbestos disc brakes linings developed by your company protected by patent? What are the patent numbers?
9. What mechanisms are there for the transfer of this technology to other companies who manufacture disc brakes for vehicles? For example, would your company consider licensing of the technology to manufacture nonasbestos brake pads?

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10. Can nonasbestos disc brake products be manufactured in existing production facilities or will new facilities be required? What will be the capital and operating costs associated with change over? (For example: machinery, tooling, and time considerations.)
11. What is the projected unit cost differential between disc brake linings containing asbestos and nonasbestos substitutes for the part numbers specified above.
12. How much of the asbestos used by your firm in 1979 would have been eliminated had all disc brakes been nonasbestos in that year?