FRICTION MATERIALS STANDARD INSTITUTE, 588 MONROE TURNPIKE, MONROE, CT 06468

# MINUTES OF THE ANNUAL MEMBERSHIP MEETING

# OF THE

# FRICTION MATERIALS STANDARDS INSTITUTE, INC.

**Sunday and Monday, June 9 and 10, 1996**

**Loews Coronado Bay Resort**

**Coronado, California**

| ACTIVE MEMBERS PRESENT | REPRESENTATIVES |
|---|---|
| Abex Friction Products | Walter Britland |
| AlliedSignal Braking Systems - Americas | Larry Mintman |
| Brake Parts, Inc. | Donald Delvy |
| Brake Parts, Inc., Stanford Division | Dave Moody |
| Carlisle Corporation | Bill Wood |
| Ferodo America, Inc. | Steve Tilton |
| Fibro Friction, Inc. | Joseph Nir |
| Friction Material Company, Inc. | Robert Scott |
| Heavy Duty Friction (PMI) Echlin | Paul Myers |
| New Jersey American | Greg Fresta |
| Performance Friction | Mark Price |
| Superior Friction, Inc. | Patrick Healey |
| TEK-MOTIVE, Inc. | Ronald R. Moalli |
| Universal Friction Composites | Doreen Tomao, Vice President |
| U.S. Automotive Manufacturing, Inc. | Martin Chevalier |
| Vaapco, Inc. | Richard M. Cross |
| Wagner Brake | Bill Aymond |
| Wheeling Brake Block | Lee Burgess |

| ACTIVE MEMBERS - PROXIES TENDERED | PROXY FROM |
|---|---|
| All Metal Machine (To G. N. Laycock) | Richard Lonetto |
| Anstro Manufacturing (To G. N. Laycock) | Robert Bosco |
| BBA Friction (To G. N. Laycock) | Lloyd Broadstreet |
| CECO Friction (To G. N. Laycock) | D. Ted Shumate |
| Delphi Chassis (To G. N. Laycock) | Joseph Pantano |
| EIS Brake Parts (To S. Suber) | Sean McVey |
| Frictiontech (To G. N. Laycock) | Ralph Neil |
| Hemispheres International (To B. Aymond) | Alan Fenwick |
| ITT Automotive (To M. Vakili) | Ken Selinger |
| Morse Automotive (To W. Britland) | Peter Morse |
| Performance Friction (To M. Price) | Don Burgoon |
| Reddaway Manufacturing (To B. Barton) | Todd Walker |
| Scan-Pac Manufacturing (To G. N. Laycock) | Skip Scandrett |
| Uni-Bond Brake (To G. N. Laycock) | Michael Grattan |

OTHERS PRESENT

| | |
|---|---|
| APRA Technical Service | Mark Kothe |
| Brake Parts, Inc., Stanford Division | Joe Krueger |
| BRAKEPRO, Inc. | Russell Armer |
| Capital Tool & Design Limited | Ono DiSanto |
| EIS Brake Parts | L. Steve Suber |
| Fibro Friction, Inc. | Neil Gethin |
| Antifriccion Friccion SA | Francisco Rangel |
| Friction Material Company, Inc. | Doug Watkins |
| ITT Automotive | Mohammad Vakili |
| New Jersey American | Louis Fresta |
| Nucap Industries, Inc. | Ray Arbesman (6/9) |
| Nucap Industries, Inc. | David Weichenberg(6/9) |
| Performance Friction | Jeff McLaughlin |
| Reddaway Manufacturing Co., Inc. | F. William Barton |
| Sachs-Boge of America | Bill Vernier |
| SustainableConservation | Greg Schwartz (6/10) |
| Util, SPA | Joe Rhodes |
| Wheeling Brake Block | Rob Burgess |
| Morehouse Harlow & Weldy Attorneys at Law | Thomas P. Weldy |
| Friction Materials Standards Institute | Gilbert N. Laycock, Secretary |

Ms. Doreen Tomao, Vice President, called the meeting to order at 8:35 A.M. June 9, 1996. As the first order of business, the Vice President called for a roll call.

## MINUTES OF PREVIOUS MEETING

The Secretary advised that minutes of the Membership Meeting of June 11-12, 1995 had been distributed. The Vice President suggested that a reading of the minutes be dispensed with, as no corrections had been suggested.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the minutes of the Membership Meeting of June 11-12, 1995 as written.

## VICE PRESIDENT'S REPORT

Ms. Doreen Tomao, Vice President, delivered her report. Please refer to EXHIBIT 1 in the report booklet.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the Vice President's Report as written.

## REPORT ON BOARD OF DIRECTORS ACTIVITIES

The Secretary summarized the activities of the Board of Directors transacted during the past fiscal year with mail ballots, primarily consisting of Membership additions and terminations.

Summarized as follows:

- Terminated Membership of Jaxon Motors & Trading Co.
- Approved the Application of EIS Brake Parts for Active Membership.
- Approved the Application for Regional Membership filed by Allied Nippon Ltd. of New Delhi, India.
- Balloted on meal choices for Membership dinner.
- Voted to defer replacing Officers A. Gagnon - President and R. Randall - Treasurer until Annual Meeting.
- Tentatively approved Active Membership Application filed by RT Industries conditioned upon payment of monies owed by Ultra Brake when terminated.
- Voted to recommend approval of the Expense Budget proposed by the Budget Committee.
- Voted to recommend the Fee Structure changes as proposed by the Fee Formula Committee.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the report on the Board of Directors as written.

## MEMBERSHIP COMMITTEE

Mr. Bill Wood, Chairman of the Membership Committee, presented this report. Please refer to EXHIBIT 2 in the report booklet.

Mr. Wood noted in his report that the Institute had 93 affiliates, up two from June, 1995. It was reported that due to the recently approved Constitution Revision, revising the Membership status of shoe manufacturers from Licensee to Active Member or Regional Member, the Active Membership now stands at 47. Regional Membership now is at 35. Licensee Membership has dropped to 11.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the Membership Committee Report as written.

## TREASURER'S REPORT

Mr. Gilbert Laycock presented this report. Please refer to EXHIBIT 3 in the report booklet.

The Treasurer's Report projected an excess of total income over expense, or profit, of $10,985. The operating income was projected to be $192,139, with expenses projected at $189,628, and Investment Income of $8,474. The report analyzed expense

**TREASURER'S REPORT** (con't)

variances which were over $200 from budgeted expense. There were five variances of $200 or more, two were favorable and three were unfavorable. The report included a Balance Sheet Projected to June 30, 1996, a Statement of Income and Expenses Projected for the 1995-96 Fiscal Year, a Seven-Year Financial Summary and a Chart of Income vs Expense by Month.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the Treasurer's Report as written.

**INVESTMENT ADVISORY COMMITTEE REPORT**

Mr. Bob Scott, Chairman, presented the Investment Advisory Committee Report. Please refer to EXHIBIT 4 in the report booklet.

Mr. Scott advised that the total investment assets projected to June 30, 1996 were $258,477 versus $259,028 on June 30, 1995. Current yields on U.S. Treasury Notes average 5.6%, up from 5.1% last year and Money Market yields are 4.8%, down from 5.3% last year. He reported that the effect of low yields on U.S. Treasury Notes purchased in 1992 and 1993 will be felt for some time to come. The report also included a summary of the Institute's position in U.S. Treasury Notes.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the Investment Advisory Committee Report as written.

**BUDGET COMMITTEE**

Mr. Martin Chevalier, Chairman, read the report. Please refer to EXHIBIT 5 in the report booklet.

Mr. Chevalier reported that the Committee proposed an Expense Budget of $197,745 for the 1996-97 fiscal year. This is an increase of 4.3% over the projected expenses for the year ending June 30, 1996. His report noted that the salary amount was indexed for budget purposes but any salary increments are determined by the Board of Directors. Line items that were increased were: Payroll Taxes, Pension, Auditing and Depreciation. Line items that showed no change were: Rent, Telephone, Postage, Stationery & Supplies, Legal, Meeting Expense, State Property Tax and all Travel Categories.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the Budget Committee Report as written.

**BUDGET COMMITTEE** (con't)

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To approve the Expense Budget of $197,745 for the 1996-97 Fiscal Year.

**NOMINATING COMMITTEE REPORT**

Mr. Ron Moalli delivered this report. There is no written report for the Nominating Committee.

The Board of Directors has four positions which expire this year. They are:

| | | |
|---|---|---|
| William Aymond | - | Wagner Brake |
| Walter Britland | - | Abex Corporation |
| Doreen Tomao | - | Universal Friction Composites |
| Open | | |

There are five Directors whose terms run to June 1997. They are:

| | | |
|---|---|---|
| Martin Chevalier | - | U.S. Automotive Manufacturing |
| Ronald Moalli | - | TEK-MOTIVE, Inc. |
| Paul Myers | - | Heavy Duty Friction Group |
| Robert Scott | - | Friction Material Company |
| William Wood | - | Motion Control Industries |

The recommendation of the Nominating Committee for four Directors to serve a two-year term until June 30, 1998, were:

| | | |
|---|---|---|
| William Aymond | - | Cooper Industries/Wagner Brake |
| Walter Britland | - | Abex Corporation |
| Patrick Healey | - | Superior Friction, Inc. |
| Joseph Nir | - | Fibro Friction, Inc. |

The President asked if there were any nominations from the floor. There were no nominations from the floor.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: That nominations for the Board of Directors be closed.

The Secretary was directed to cast one ballot for the election of Mr. Aymond, Mr. Britland, Mr. Healey and Mr. Nir to serve two-year terms until June 1998. The Secretary advised that the ballot had been so cast. The Secretary advised that with the election of these four Directors, the Board had the required nine Members.

## FEE FORMULA COMMITTEE REPORT

Mr. Larry Mintman, Chairman, read the report of the Fee Formula Committee. Please refer to EXHIBIT 6 in the report booklet.

The report detailed the income generated from Membership Dues for the various types of Membership, taking into account the Membership Revision with respect to brake shoe manufacturers (disc and drum) changing from Licensee to Active or Regional Member, dependent upon their location. The projected revenue from fee income was $193,600, compared to a proposed expense budget of $197,745, giving a projected loss of $4,145. Applying projected income from investment of $12,498 and an estimated income (net of costs) for catalog, print and bulletin sales of $12,000, gives a total Revenue over Expense of $20,353 for the 1996-97 fiscal year. Applying the 1991 fee adjustment guidelines, excluding the one-time income from the dissolution of the Duschek Trust received in 1994-95, the Committee recommended that the fee structure remain unchanged for the next fiscal year. The Committee also recommended that the five category Membership be charged the same Membership Dues as a four category member, although no five category member exists at this time.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the Fee Formula Committee Report as written.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: That the fee structure be unchanged for the 1996-97 Fiscal Year.

There was discussion concerning the unauthorized use of FMSI designations by companies who are not members of the Institute. It was noted that when the Institute can get documentation of the use of its numbers by non-members, the Institute does write to that company requesting that they consider joining the Institute or stop using the FMSI part numbers. It was noted that infringement on the registered trademarks FMS® and FMSI® is more defensible than the use of the actual part numbers.

There was also discussion concerning possible membership consolidations. It was noted that there have been a few over the past several years and that the potential exists for more. The Board of Directors had reviewed the situation several years ago and decided to not take any action at that time. A suggestion was made to consider a fee structure based on gross sales similar to APRA. It was noted that fee structure revisions are open at any time but should have research and background work done before any major fee revision is undertaken.

## ANNUAL MEETING COMMITTEE REPORT

Mr. Larry Mintman, Chairman, presented this report. Please refer to EXHIBIT 11 in the report booklet.

Larry Mintman's Meeting Committee recommended that the Institute return to Longboat Key which was the site of the 1995 and 1993 Meetings.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the Annual Meeting Committee Report as written.

Mr. Mintman also handed out a survey asking the members present for their input concerning price sensitivity, location recommendations and preferences such as golf, tennis, temperature, etc. He noted that the results of the survey will influence where he looks for the next year's recommended meeting site.

## HEALTH AND ENVIRONMENTAL AFFAIRS COMMITTEE

Mr. Mohammad Vakili presented this report. Please refer to EXHIBIT 9 in the report booklet.

Mr. Vakili gave updates on asbestos, a therapy for mesothelioma, a new fiber being used in brake linings outside of the U.S., heavy metals (copper) in storm water in San Francisco Bay and marking of asbestos and non-asbestos materials. Regarding asbestos, the updates related to activities of the Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH). A supplement was available containing a listing of those original equipment applications where asbestos is being or has been used over the past several years and a table of test results concerning percent copper found in brake linings in some Original Equipment materials and a few aftermarket samples.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the Health and Environmental Affairs Committee Report as written.

A member noted that the potential of the EPA listing phenol and formaldehyde as hazardous air pollutants represents a serious threat to the friction material industry as the majority of the binders used in brake lining are made from phenol/formaldehyde based resins. Several members questioned the methodology of determining the percentage of copper in storm water attributed to brake lining by analyzing the pure copper content in lining, as the pure copper in brake lining is most likely converted to an oxide of copper during the action of braking.

As part of the Health and Environmental Affairs Report, Richard Cross of Vaapco gave a presentation concerning microtaggants

**HEALTH AND ENVIRONMENTAL AFFAIRS COMMITTEE** (con't)

produced by Microtrace in Minneapolis, MN. The microtaggant material has the ability to provide a two stage identification. As a rough screen the material can be made with layers which will fluoresce under black light with either a green or red color. This can be used as an identifier for asbestos (red) or non-asbestos (green). The second stage of identification is encountered when the material is examined under a microscope. The material is made up of colored layers of melamine plastic which can be coded and read as one would read the color coding on electrical resistors. Up to seven million different color codes can be manufactured. They would be produced for a specific manufacturer with no one else having the same color coding. This coding goes beyond the asbestos/non-asbestos issue and could be used for false warrantee claims or liability issues. Several samples had been tested on brake applications and as dust only with respect to thermal degradation in an oven. Several members who acknowledged that they were not involved in the technical end of manufacturing requested a summary of results that they could forward to their technical people.

**GUEST SPEAKER**

Mohammad Vakili introduced Mr. Greg Schwartz of SustainableConservation. Mr. Schwartz is the project manager for the "Brake Pad Partnership". Mr. Schwartz explained that the government has established water quality standards for fresh and salt water. When the levels exceed these concentrations, efforts are made to identify the sources of metals and reduce the amounts of those metals. Copper was identified as being significantly above the established level in San Francisco Bay and, in particular, South San Francisco Bay. The Silicon Valley has been significantly impacted by copper reduction requirements in waste water. He cited several bodies of water which were high in copper levels. They were all salt water areas. One member asked why the Great Lakes were missing from the list. One member suggested that anti-fouling bottom paints for ships have traditionally been copper based and the solubility in salt water is probably higher in salt water than in fresh water.

Mr. Schwartz showed a detail map of South San Francisco Bay and indicated that studies showed that 15 to 20% of the copper was coming from urban run-off. He noted that it is difficult to get consistent data from run-off sampling. SustainableConservation had run tests for copper content on a number of original equipment brake linings and a couple of aftermarket materials. The results ranged from almost 0% to as much as 22% in various linings. The original equipment linings which showed the highest readings were all on imported vehicles. With only one exception, the domestic original equipment linings tested showed fractional percentages. There was a question concerning the building industry with copper piping and copper flashing being used extensively. Mr. Schwartz's answer was that he did not know. A question was asked if any data existed for copper percentage in urban run-

**GUEST SPEAKER** (con't)

off for Europe or Japan as the vehicles from those areas had brakes with the highest copper content as originally equipped. Mr. Schwartz noted that they did not have data on those areas, but, were attempting to get data from Europe. There were questions concerning the validity of the copper content analysis of O.E. brake linings with respect to what may actually be on the vehicles subsequent to a brake reline. One member noted that only about 30% of vehicle relines are done by O.E. service and 70% are done by other aftermarket sources. It was noted that the high end vehicles like Mercedes and BMW would more likely be done by O.E. dealers service and those vehicles represent the high copper usage. A member noted that the current development work for brakes for domestic vehicles is to move away from the iron based "semi-metallic" materials because of noise and vibration complaints and to move to materials which are more like the European so called "Lo-Met" compounds which do contain copper. The Original Equipment parts will probably go this way by the year 2000. However, the aftermarket, being so price competitive, will probably not move to these compounds. It was suggested that the focus should be on the original equipment area and not the aftermarket.

In summary Mr. Schwartz noted that over several years there have been initiatives by environmental organizations to address the copper run-off in South San Francisco Bay. SustainableConservation, in conjunction with Stanford University, established a program called Common Ground for the Environment with a mission to sponsor Environmental Partnerships where there is an identified problem and some opportunity for a collaborative solution.

**BRAKE PERFORMANCE STUDY COMMITTEE REPORT**

Mr. William Wood, Chairman, delivered the Brake Performance Study Committee Report concerning heavy duty applications. Please refer to EXHIBIT 7 in the report booklet.

In Mr. Wood's report he reviewed the SAE J1801 and SAE J1802 test component specifications and the Maintenance Council (TMC) of ATA listing of FMVSS 121 approved materials per their procedure RP628. Copies of the procedures and listing were contained in the Heavy Duty Supplement.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the Heavy Duty Report of the Brake Performance Study Committee as written.

A report was prepared by Mr. Mohammad Vakili with respect to passenger cars. It is also contained in Exhibit 7 in the report booklet.

Mr. Vakili reviewed the progress, modification and commercial adaptation of SAE J1652. He noted that the commercial adaptation of SAE J1652 is not endorsed by the Brake Manufacturers Council (BMC) or SAE. He also reviewed the DEA

**BRAKE PERFORMANCE STUDY COMMITTEE REPORT** (con't)

(Differential Effectiveness Analysis) procedure, also commercially available. In a supplement handout he outlined the BMC issues going from the beginnings of edgecodes in 1964 to SAE J1652 being published in April 1995 and SAE J1653 still currently in the works. He reviewed SAE J1652 and J1653 procedures and claims and counterclaims by Messrs. Arnie Anderson, Tom Flaim and Jim Trainor concerning the testing procedures.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the Passenger Car Report of the Brake Performance Study Committee as written.

There was a question concerning where to get testing done on SAE specifications such as SAE J1489 for rubber tired loaders. One member had asked SAE, Jim Trainor and AlliedSignal where to get material tested and no one could give an answer. It was noted that manufacturers such as Caterpillar have their own test facilities which test and approve materials for Cat service. Also, in Canada the regulations vary by province and the mining companies in a province generally do their own testing and approval.

In terms of automotive testing it was noted that there are original equipment materials that do not pass the established limits for the DEA Test. This leads to the question, is the O.E. material bad or is the test procedure flawed?

**DATA BOOK AND TECHNICAL COMMITTEE REPORT**

Mr. Don Delvy, Chairman, presented this report. Please refer to EXHIBIT 8 in the report booklet.

Mr. Delvy's report reviewed the changes in the Committee Roster and noted that although the Committee did not meet during the year, Committee decisions were handled by mail ballot. His report noted that 95 new assignments were made during the year and detailed the breakdown by category. Bulletins published were noted as well as catalog information. The report acknowledged the contributors of new identities and carry-over information.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the Data Book and Technical Committee Report as written.

A request was made to publish whatever information the Institute had accumulated concerning insulators on disc brake. The Secretary advised that a listing had been accumulated over the years going back to about D300, but, the information was from the point in time when the assignment was made and contains general information about the insulators observed on or in an O.E. set. On more recent assignments the information is more detailed as to the type of shim and thickness. It was

**DATA BOOK AND TECHNICAL COMMITTEE REPORT** (con't)

also noted that no effort was made to maintain the list after the list was generated. The information was valid at the point in time when the assignment was made.

**INSTITUTE PENSION PLANS**

The Secretary reported on the Institute Pension Plans. Please refer to EXHIBIT 10 in the report booklet.

The Secretary reported that there is one plan in effect. The Simplified Employee Pension Plan (SEPP) for current employees. The Institute contributes 15% of eligible employees salaries to the employees SEPP-IRA. Estimated contributions for 1995-96 fiscal year are projected to be $17,325.

Upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To accept the report on Institute Pension Plans as written.

**INTRODUCTION OF OFFICERS**

Ms. Tomao introduced to the Membership the new Officers to serve for the forthcoming year. They are:

| | | |
|---|---|---|
| President | - | Ms. Doreen Tomao |
| Vice President | - | Mr. Walter Britland |
| Treasurer | - | Mr. William Wood |
| Secretary | - | Mr. Gil Laycock |

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

There being no other business brought to the attention of the Membership, upon motion duly made, seconded and unanimously passed, it was:

RESOLVED: To adjourn

Adjourned at 10:00 A.M. June 10, 1996.

G. N. Laycock
Secretary