

RHEOLOGY BULLETIN

Publication of The Society of Rheology, Inc.

Volume 37 No. 3



August, 1968

39TH ANNUAL MEETING THE SOCIETY OF RHEOLOGY, INC.

Williamsburg, Virginia

January 13-15, 1969

Program

Two invited hour lectures:

R. F. Scott
California Institute of Technology
"The Application of Rheology to Soil
Mechanics"

I. M. Krieger
Case Western Reserve University
Discussion of the rheology of latexes

Evening discussions:

"The Influence of Entanglement on Flow"
E. A. Collins, discussion leader
"The Rheology of Dispersions"
Discussion leader to be announced

Program Committee

J. G. Brodnyan (Chairman), Research Laboratories,
Rohm and Haas Company, Spring House, Pennsylvania
19477.

M. L. Dannis, Goodrich Research Laboratories,
Brecksville, Ohio 44141.

C. L. Sieglauff, Diamond Alkali Research Center,
P. O. Box 348, Painesville, Ohio 44077.

J. R. Knox (Local Arrangement Chairman), Avisun
Corporation, Marcus Hook, Pennsylvania 19061.

Publication

Authors are urged, but not required, to publish their papers presented at the meeting in the Transactions of the Society of Rheology. Manuscripts should be submitted to the editor, R. R. Myers, Chemistry Department, Kent State University, Kent, Ohio 44240. Acceptance for publication will be decided by the editor, in consultation with assistant editors for Volume 13 and referees appointed by him for each manuscript.

Instructions for the Preparation of Abstracts

Abstracts which are to appear in the November Bulletin shall be no longer than 500 words; if they exceed that length, the program chairman or the editor will trim to the nearest paragraph or sentence, depending on how the message is affected. Equations are to be used sparingly; and if they are used, they must be in a form that permits them to be posted on the printer's copy (one display line equals twenty words plus five for each additional line), and they may be left out.

These rules are necessary in order to conserve time and money and to improve accuracy.

Type the following information, double spaced, on heavy white bond paper 8½ x 11 inches, using a fresh ribbon: title, your name, and the name (only) of your institution. The abstract must appear alone on the sheet, never as part of a letter to the program chairman, and preferably in duplicate. (Except for the spacing, this instruction is in the form recommended for abstracts.)

Note abstract deadline: October 1, 1968.

SOCIETY OF RHEOLOGY REPORT OF THE SECRETARY FOR 1967

1. Membership

Society membership has reached a temporary plateau with no growth in 1967. This effect is important to the Society and its possible causes will have to be examined.

2. Publications

Three Bulletins have been published this year and mailed to the membership. Transactions, Volume 10, Part II, and Transactions, Volume 11, Issue 1, have been completed and sent to the membership. Volume 11, Issue 1 represents a new concept for the Transactions, a quarterly publication. A new contract with Interscience was signed for the next three years which changes the Transactions to a quarterly of more than 600 pages. The contract also provides for a new method of charging based on total Transactions sold and the number of pages published in a year. At the same time a page charge to the authors of \$15 per page was instituted to defray increased publication charges.

RHEOLOGY BULLETIN

Raymond R. Myers, Editor
Department of Chemistry
Kent State University
Kent, Ohio, 44240

3. Technical Meetings

Two general meetings of the Society were held in 1967. The Winter Meeting in California at Santa Barbara was run by M. Shen. The Fall Meeting was held at the Sheraton-Park Hotel in Washington, D.C. The arrangements were carried out by A. B. Bestul.

4. Executive Committee Meetings

The Executive Committee met twice during the year, once at Santa Barbara and once in Washington, D.C. The minutes of the Santa Barbara meeting were published in the May 1967 Bulletin. The discussion in Washington centered around publications, meeting sites, amendments to AIP Constitution.

5. Incorporation of the Society

The proceedings necessary to incorporate the Society as a New York State non-profit corporation have been completed. This action was necessary because of our contract with Interscience Publishers and because the American Institute of Physics tax exemption was dependent on our tax exemption. We will presently have a recognized tax exemption because of the incorporation instead of a provisional.

6. Charter Flight to Japan

A charter flight to Japan for the International Rheological Congress next year has been organized by R. E. Coulehan.

7. Amendments to the Constitutions

The Constitutional amendments necessary to conform to New York's laws for incorporation were passed by the necessary counts.

8. American Institute of Physics

All mailing, due collections, accounting, etc. were made by AIP.

R. S. Marvin attended two Governing Board Meetings during the year.

R. S. Marvin, J. T. Bergen were present at the meeting of Society Officers and Corporate Associates.

9. Acknowledgements

The Secretary is grateful for the cooperation of the Society Officers, committees, and the American Institute of Physics staff in the operation of the Society.

The Secretary wishes to acknowledge the cooperation of Union Carbide management in providing minor expenses, secretarial help, and facilities necessary to his duties.

Respectfully submitted,
John C. Miller, Secretary

SOCIETY OF RHEOLOGY EXECUTIVE COMMITTEE MEETING

AIP Building, New York City
March 22, 1968

Executive Committee Present: J. L. Ericksen, T. L. Smith, H. Markovitz, R. S. Marvin, R. R. Myers.

Others Present: W. Koch, E. S. Proskauer, R. Truelsen, J. Brodynan.

1. The meeting was called to order by President Smith at 9:30 A.M.
2. W. Koch of AIP discussed the publication program and the AIP service contract. The arrangement given in the new service control will become effective January 1, 1969 after approval by the Governing Board of AIP. The service contract was approved and the Secretary directed to forward information to AIP.
3. The Williamsburg Meeting, January 13-15 technical program, was discussed and J. G. Brodynan was appointed Program Chairman. J. Brodynan will invite I. M. Krieger to give an invited lecture. E. Collins and S. G. Mason to be moderators for evening sessions. T. L. Smith will invite R. F. Scott of Cal Tech to present a lecture.
4. E. S. Proskauer and R. E. Truelsen of Interscience Division of John Wiley discussed that Transactions Volume 11 will have three issues, one to be mailed in 1968 totaling 399 pages. A smaller fraction of authors have paid the page charges than anticipated, putting a financial burden on the Society. Attached is an estimate of the Society's responsibility. President Smith will also write authors who have not paid. R. R. Myers will write and send to R. E. Truelsen an editorial prescribing policy.
5. R. E. Coulehan reported on the status of the Charter Flight. Three dates were mentioned: (1) April 5, the last day for non-members to join the Society (2) July 1, when the fare must be paid by the travelers and (3) August 5, when \$67,000 must be paid to the airline.
6. The meeting was adjourned.

Respectfully submitted,
John C. Miller, Secretary

SIXTH U. S. NATIONAL CONGRESS OF APPLIED MECHANICS

Harvard University
June 15-19, 1970

General Chairman—H. W. Emmons
Papers Committee—G. F. Carrier
Local Arrangements—F. H. Abernathy

The Society of Rheology has accepted the invitation to participate in the publication of papers from the Sixth National Congress for Applied Mechanics. The Transactions of the Society of Rheology will serve as a vehicle for the proceedings of this Congress. Steven Prager will be the Society of Rheology representative on the Papers Committee of the Congress.

ANNOUNCEMENTS

1. The 1969 Fall Meeting will be held at the St. Paul Hilton Hotel, Minneapolis, Minnesota, October 19-22, 1969.
2. The Plastics Design Engineering Subcommittee of The Plastics Institute is now planning the third in a series of conferences which deal with engineering design problems in plastics. This conference will be held in Cranfield, England, January 6-8, 1969. The meeting will cover recent and novel work which will

lead to better engineering design in plastics. Topics include:

1. Engineering properties of plastics
2. The effect of processing on properties
3. Engineering design methods

The committee aims to publish the proceedings in *Plastics & Polymers* (the new title for the *Institute Transactions and Journal*). For further information, contact: J. N. Ratcliffe, Secretary, 11 Hobart Place, London, England.

Division of Rubber Chemistry
 American Chemical Society
 Atlantic City Meeting—September, 1968
 Chalfonte-Haddon Hall Hotel

MELVIN MOONEY SYMPOSIUM ON RUBBER PROCESSING AND RHEOLOGY

Wednesday, September 11, 1968

Paper	Time		
	9:00	J. L. White, chairman	Symposium Introduction
1	9:10	W. E. Wolstenholme	"Melvin Mooney"
2	9:20	K. Ninomiya	"Application of Polymer Rheology to Rubber Technology"
	Inv. Lec.		
3	10:10	L. L. Blyler	"Some Aspects of the Relationship Between Molecular Structure and Flow Behavior of Polymer Melts"
4	10:40	N. Tokita, R. Scott	"Rheological Properties and Molecular Structure of Elastomers: EPM, EPDM"
5	11:10	G. Kraus, J. T. Gruver	"The Viscosity of Carboxy-Terminated Polybutadienes"
6	11:40	F. C. Weissert	"Polymer Structure and Multispeed Rheometry"
Afternoon			
	2:00	N. Tokita, Presiding	Opening Remarks
7	2:05	Z. Tadmor	"The Formulation of a Mathematical Model for Plasticating Extrusion"
	Inv. Lec.		
8	2:55	G. A. Bialas, J. L. White	"Melt Flow Instability in Polymer Extrusion"
9	3:25	E. Collins, J. T. Oertzel	"Rheological Behavior of Elastomers Pt 1. Melt Viscosity Characteristics of Uncured Epichlorohydrin Rubber"
10	3:55	J. Collier	"Polymer Crystallization History and Resultant Properties"
11	4:25	W. G. DePierri, Jr., J. R. Hopper	"The Effect of Oil and Black Upon the Injection Molding of EPDM Compounds"

AMERICAN INSTITUTE OF PHYSICS, INCORPORATED FOR THE SOCIETY OF RHEOLOGY, INC.

Statement of Receipts and Disbursements
At March 31, 1968

BALANCE IN ACCOUNT — January 1, 1968 \$13,259.02

RECEIPTS (JANUARY 1 — MARCH 31, 1968)

Dues Collections:

1968 Dues 1,429.85

Income from Winter Meeting:

New Memberships \$ 80.00

Registrations 265.00

Contribution from Instron 200.00

545.00

\$15,233.87

DISBURSEMENTS (JANUARY 1 — MARCH 31, 1968)

Charge for Dues Billing and Collection \$ 67.10

Charge for Maintenance of Society List 151.01

Contribution for Support of AIP for 1968 188.16

Winter Meeting 295.52

Winter Bulletin 501.93

Transactions of the Society of Rheology:

Editorial Expenses — R. R. Myers 210.50

Secretarial Duties — E. Wolf 17.19

Other (envelopes, addressing, postage, etc.) 187.85

Staff Travel 56.00

Charter Flight (paper, labels, postage, etc.) 75.72

Total Disbursements

1,750.98

Balance in Account, March 31, 1968

\$13,482.89