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SECOND INTERNATIONAL SYMPOSIUM ON ADHESION MEASUREMENT OF THIN FILMS AND COATINGS OCTOBER 25-27, 1999, SHERATON NEWARK AIRPORT, NEWARK, NJ

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CALL FOR PAPERS
SECOND INTERNATIONAL SYMPOSIUM ON ADHESION
MEASUREMENT OF THIN FILMS AND COATINGS
OCTOBER 25-27, 1999
SHERATON NEWARK AIRPORT
NEWARK, NJ

Thin films and coatings are one of the most pervasive and widespread technologies of the modern world. Applications range from the preservation of metal finishes in industries such as automobiles and watercraft to forming critical dielectric layers in microelectronic structures which are the foundation of the computer and consumer electronics industries. In all of these applications the adhesion of the coating to its substrate is critical to the coating's performance, reliability and durability. Thus the ability to accurately measure the adhesion of coatings to surfaces is a crucial part of the development and manufacturing process of coatings and films. In addition, the ability to make accurate adhesion measurements requires a fundamental understanding of the physics, chemistry and mechanics of thin films and coatings. This symposium is the natural follow on to the first international conference on this topic held in 1992 in Boston. This, the second symposium, will follow up on the latest developments in this tremendously active field. The primary focus of this meeting will be to provide a forum for the discussion of cutting edge advancements in the field and to review and consolidate the accomplishments which have been achieved thus far.

TOPICS OF INTEREST INCLUDE:

- Adhesion measurements in quality control and manufacturing
- Adhesion measurements in support of coating process research and development
- Adhesion measurement instrumentation for laboratory and manufacturing environments

FUNDAMENTAL ASPECTS OF ADHESION MEASUREMENT

- Mechanics of adhesion testing, the role of film stresses
- Fracture mechanics of adhesion testing
- Physico-chemical aspects of adhesion testing, the role of film morphology and chemistry

ADVANCED TEST AND DATA ANALYSIS METHODS

- Qualitative, semiquantitative and fully quantitative analysis methods.
- Novel test methods: laser spallation, internal friction, electromagnetic, ... etc.
- Thermodynamic aspects of adhesion testing, (energy flow and balance, calorimetry, ... etc)

This symposium is being organized under the direction of Dr. K. L. Mittal, Editor, Journal of Adhesion Science and Technology by MST Conferences, LLC. A proceedings volume is planned for this symposium and further details will be provided in due course. Please notify the conference chairman of your intentions to present a paper as early as possible. An abstract of about 200 words should be sent by **May 30, 1999** to the conference chairman by any of the following methods:

E-mail: rhlacombe@compuserve.com

FAX: 212-656-1016

Regular mail:

Dr. Robert H. Lacombe,
Conference Chairman,
3 Hammer Drive
Hopewell Junction, NY 12533

Contact by phone: 914-227-7026
Full conference details and registration via the Internet will be maintained on our web site:

<http://mstconf.com/adhmeas.htm>

Or mail response form below to conference chairman at address above.

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CALL FOR PAPERS
INTERNATIONAL SYMPOSIUM ON ADHESION ASPECTS OF
THIN FILMS

OCTOBER 28-29, 1999
SHERATON NEWARK AIRPORT
NEWARK, NJ

This is a companion symposium to the SECOND INTERNATIONAL SYMPOSIUM ON ADHESION MEASUREMENT OF THIN FILMS AND COATINGS. This symposium will deal with adhesion aspects of all types of thin films. The symposium will focus on a range of adhesion related concerns dealing with durability and reliability. Particular issues include the determination of the locus of adhesion failure, film-substrate interactions, bond durability against moisture and other deleterious factors, solvent swelling effects and the role of residual stresses on film performance and reliability. This symposium will follow up on the latest developments in this tremendously active field. The primary focus of this meeting will be to provide a forum for the discussion of cutting edge advancements in the field and to review and consolidate the accomplishments which have been achieved thus far.

BOTH ORGANIC AND INORGANIC THIN FILMS ARE
OF INTEREST IRRESPECTIVE OF DEPOSITION
METHOD

TOPICS OF INTEREST INCLUDE:

- ▶ Factors influencing adhesion - Residual stress, mechanical properties, contamination ... etc.
- ▶ Bond durability, corrosion prevention
- ▶ Adhesion promoters

POLYMERIC FILMS

- ▶ Plasma polymerized films
- ▶ Photoresists
- ▶ Organic insulators
- ▶ Barrier layers
- ▶ Effects of aging and environment on adhesion

GENERAL SYSTEMS

- ▶ Polymer to metal and metal to polymer adhesion
- ▶ Multilevel laminates involving glass, ceramic, metal and polymer thin films

FUNDAMENTAL ISSUES

- ▶ Role of surface chemistry, wettability and morphology
- ▶ Fundamental adhesion mechanisms including film/substrate interactions

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INTERNATIONAL SYMPOSIUM ON POLYIMIDES AND OTHER HIGH
TEMPERATURE POLYMERS: SYNTHESIS, CHARACTERIZATION AND
APPLICATIONS

NOVEMBER 29 - DEC. 1, 1999
SHERATON NEWARK AIRPORT
NEWARK, NJ

Since the earliest pioneering work there has been an accelerated interest in the use of polyimides and other high temperature polymers for a wide variety of applications. These materials have found applications in such diverse areas as the aerospace industry and microelectronic components. A unique combination of physical and chemical properties make these materials highly attractive for demanding applications where chemical inertness, high temperature stability, low dielectric constant, mechanical toughness and processability are primary concerns. The technical program will contain both invited and contributed papers which will reflect both original research and overviews. The central focus of this symposium will be to provide a forum for the discussion of cutting edge advancements in the field and to review and consolidate the accomplishments which have been achieved thus far.

TOPICS OF INTEREST INCLUDE:

- ▶ Chemistry, synthesis and characterization of polyimides and other high temperature polymers.
- ▶ Surface chemistry and surface modification

PHYSICO-CHEMICAL PROPERTIES

- ▶ Thermal-mechanical properties
- ▶ Electrical properties
- ▶ Adhesion properties and adhesion improvement
- ▶ Encapsulation and barrier properties
- ▶ Effects of aging and environment on long term stability, reliability and durability

APPLICATIONS

- ▶ Polyimides as adhesives and insulators. Metallization of polyimide coatings.
- ▶ Polyimides as dielectrics, photoresists and encapsulants in microelectronic structures

NOVEL AND ADVANCED FORMULATIONS

- ▶ Ultralow dielectric fluorinated materials, low thermal expansion liquid crystal morphologies, polyimide blends, copolymers, foams, ... etc.

This symposium is being organized under the direction of Dr. K. L. Mittal, Editor, Journal of Adhesion Science and Technology by MST Conferences, LLC. A proceedings volume is planned for this symposium and further details will be provided in due course. Please notify the conference chairman of your intentions to present a paper as early as possible. An abstract of about 200 words should be sent by **June 15, 1999** to the conference chairman by any of the following methods:

E-mail: rhiacombe@compuserve.com

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Dr. Robert H. Lacombe.
 Conference Chairman.
 3 Hammer Drive
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SEVENTH INTERNATIONAL SYMPOSIUM ON METALLIZED
PLASTICS: FUNDAMENTAL AND APPLIED ASPECTS
DECEMBER 2-3, 1999
SHERATON NEWARK AIRPORT
NEWARK, NJ

This symposium is the seventh in a continuing series designed to bring together an international group of experts to discuss the latest developments in the field of metallized plastics. Metallized plastics have become a burgeoning technology with applications ranging from decorative design to optical coatings to advanced thin film wiring schemes in the microelectronics industry. Metallized plastic films and coatings allow the technologist to capitalize on the favorable properties of two disparate classes of materials to create new and unique products which transcend the performance and usefulness which can be obtained in either class alone. Metals offer high electrical conductivity, excellent reflectivity and superior barrier properties. Plastics compliment this menu with their excellent insulating properties, optical clarity, mechanical flexibility and ease of molding and processing. Papers are solicited on all aspects of plastics metallization including unique metallization methods, novel material combinations and specialized coating characterization and analysis methods. This symposium will follow up on the latest developments in this tremendously active field and provide a forum for the discussion of cutting edge advancements and review and consolidate the accomplishments which have been achieved thus far.

TOPICS OF INTEREST INCLUDE:

- Metallization techniques and properties of metal deposits
- Metal diffusion during deposition
- Morphology and properties of metal deposits

INVESTIGATION OF INTERFACIAL INTERACTIONS

- Influence of polymer surface functional groups
- Metal-polymer interactions
- Fundamental adhesion mechanisms including coating-substrate interactions

PLASTIC SURFACE MODIFICATION

- Dry (vacuum) surface treatment of plastics
- Wet chemical surface treatment of plastics
- Mechanical surface treatment and cleaning

BASIC PHYSICAL PROPERTIES AND ADHESION

- Effects of aging and environment on adhesion
- Mechanical properties and failure mechanisms
- Diffusion, permeation and barrier properties

This symposium is being organized under the direction of Dr. K. L. Mittal, Editor, Journal of Adhesion Science and Technology by MST Conferences, LLC. A proceedings volume is planned for this symposium and further details will be provided in due course. Please notify the conference chairman of your intentions to present a paper as early as possible. An abstract of about 200 words should be sent by **June 15, 1999** to the conference chairman by any of the following methods:

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