

CONTENTS

SESSION I

Successful Marketing of Polyurethanes: Using Your Resources to Create a Preference for Your Product	2
Protection of Electrostatic Discharge (ESD) Sensitive Devices with Urethane Foams	6
Fate of Toluene Diisocyanate in Air Phase II Study	9
Field uses of an Isocyanate Monitor	15

SESSION II

Urethane Foam in Bedding – The Missed Opportunity	20
Foam Core Mattresses Get High Marks from Consumers in Kansas City Comparison Survey: An SPI Research Project	23
Melamine Modified Polyurethane Foam	27
A New High Efficiency Flame Retardant for Flexible Polyurethane Foam	34
Full Scale Fire Tests on Rooms Furnished with Flame Resistant Material	37

SESSION III

Effect of Polyol Structure in Diamine Extended Rim Systems	48
Catalytic Amine Crosslinkers for Polyurethanes	54
Advances in Structure RIM	59
Development and Production Trials of First Polyurethane Structural Foam Internal Mold Release System	63

SESSION IV

A Comparison of Aromatic Polyester Polyols for Rigid Urethane and Isocyanurate Foam	66
Low Cost Compatibilizers for Waste Stream Polyester Polyols	72
Organic Surfactants for Rigid Urethane and Isocyanurate Foam	76
Reaction Instability of Rigid Foam Systems Containing Polyester Polyols	84

SESSION V

1,4-Butanediol Based Oligomers N-Vinyl-2-Pyrrolidone in UV Curing	92
Titanate Coupling Agents – 1985 Urethane Applications	96
A New Technology for Producing Stabilized Foams Having Antimicrobial Activity	108
Polyurethane Stabilizers	113

SESSION VI

A New Development Study Defining Minimum Mattress Foam Quality for Various Human Body Types by the Brazilian Urethane Raw Material Suppliers	120
Polyurethane Foam Physical Properties as a Function of Foam Density	129
Flexible Urethane Foam for Packaging	134
A New Approach to Humid Aged Compression Set Study in High Resilient Molded Foams	138

SESSION VII

Reinforcing Structural Foam RIM Polymers with Continuous Fiberglass Mat	146
MM/RIM: Composites Using Preplaced Reinforcement	154
Formulation and Physical Properties of Polyurethane Foam Incorporating Hollow Microspheres	161
Inserts Molded into Structural Foam: A Look at Their Strength	164

SESSION VIII

Index Versus Flammability in Urethane Modified Isocyanurate Foam Systems	172
Chlorendic Diol-Antimony Trioxide Synergism: Use and Performance of a Novel Rigid Urethane Foam Fire Retardant	176
XFS-43357.00 (FR-2000) – A Flame Retardant for Low Cost Class I, Rigid Pour-in-Place and Spray Polyurethane Foam	184
A Tunnel Is Saved	190
Rigid Plastic Foam Boardstock in Residential and Commercial Applications	194

SESSION IX

Void Detection in Polyurethane Foam Using Thermographic Imaging	200
Torque Rheology in Measuring Crosslinking of Urethane	205
Foam Rheometer: Its Principle and Applications	209
Measurement of Polymerized Ethylene Oxide in Polyether Polyols: Comparison of ¹ H and ¹³ C Nuclear Magnetic Resonance Methods	214

SESSION X

Innovative Use of Antimicrobials in Creating New Market Opportunities	224
How Atmospheric Humidity Influences Foam Characteristics During the Production of Flexible Slabstock Polyurethane Foams. Is It Possible to Minimize This Phenomenon?	230
New Progress about as Economical Process of Vertical Foaming	236

SESSION XI

Mold Filling Studies of Polyurea RIM Systems	242
Polyurea RIM – A Versatile High Performance Material	248
Polyurethane RIM Modular Windows – A Synergistic Combination of Polymer, Process, and Application	254
Processing and Properties of Polyurea RIM	259

SESSION XII

High Performance MDI Based Urethane Chemistry for Insulation of Domestic Appliances in Western Europe	266
Amine Catalyst for Refrigerator Rigid Foam Application	272
New Rigid Surfactants for Appliance Insulation Using Polymeric	279

SESSION XIII

Physical Properties of Blowing Agent Polymer Systems – I. Solubility of Fluorocarbon Blowing Agents in Thermoplastic Resins	286
Modified PTMG Based Thermoplastic Polyurethane Elastomers	300
Influence of Processing Conditions on Mechanical Properties of High Performance CHDI Based TPUs	305
Novel Elastomeric Catalysts	309

SESSION XIV

Novel Cell Opening Technology for HR Molded Foam	314
Lower Density MDI Based Flexible Molded Foams	319
Polyurethane Foam for Direct Injection of Foamed Seals	323

SESSION XV

The Scope and Methods of the On-Line, Interactive Databank: A Case for the Urethane Industry	330
RIM Moves Toward CIM	335
RIM – The Electronic Equipment Evolution	337
Tank and Mixer Design Requirements to Effectively Maintain Suspension of Milled Glass Fibers in Polyol	342
Author Index	347