

Association of Industrial Metallizers,  
Coaters and Laminators

**Fall Technical Conference  
and 20<sup>th</sup> International Vacuum  
Web Coating Conference  
2006**

October 22-25, 2006  
Reno, Nevada, USA

Volume 1 of 3

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571  
[www.proceedings.com](http://www.proceedings.com)

ISBN: 978-1-60423-726-9

Some format issues inherent in the e-media version may also appear in this print version.

Association of Industrial Metallizers, Coaters and Laminators

Fall Technical Conference and 20<sup>th</sup> International Vacuum Web Coating Conference  
2006

## TABLE OF CONTENTS

### Volume 1

<b>Moth-Eyes, Lotus leaves, Sharkskin and Gecko feet - functional surfaces inspired by nature, made on a coating machine.....</b>	1
<i>Steve Abbott</i>	
<b>The Adhesives Research Warehouse Fire of January 10th, 2006 and the Recovery Process .....</b>	41
<i>Bill Stratton</i>	
<b>NFPA 70E .....</b>	N/A
<i>Ted Sommer</i>	
<b>LFL Monitor Overview .....</b>	76
<i>Steve Rach</i>	
<b>DOT and Home Security Requirements for Hazardous Material.....</b>	N/A
<i>Michael Schlarman</i>	
<b>Heat Recovery Options for VOC Oxidizer Systems.....</b>	112
<i>Mike Scholz</i>	
<b>Applied Ergonomic Solutions To Eliminate Hazards in Converting.....</b>	166
<i>Sean Craig</i>	
<b>Multi Layer Adhesive Lamination In One Pass .....</b>	199
<i>Giancarlo Caimmi</i>	
<b>After Over 100 Years of Use, Meyer Rods Are Still Popular Today .....</b>	254
<i>Doug Krasucki</i>	
<b>New Atmospheric Plasma and Photografting Approach for Permanent Surface Tension &amp; Coating Adhesion .....</b>	295
<i>Rory Wolf</i>	
<b>PEDOT-PSS: A Solution-processable Alternative to ITO in Transparent Conductor Applications.....</b>	319
<i>Ron Lubianez</i>	
<b>An In-depth Look at Reverse Roll Coating .....</b>	348
<i>John Pasquale</i>	
<b>Contract Coating .....</b>	368
<i>Greg Williams</i>	
<b>New Methods to Analyze the Steel to Rubber Roller Interface or Whats Happening in your Nip? .....</b>	394
<i>Stephen Huff</i>	
<b>Confined Flame Treatment: The Process and Its Applications .....</b>	418
<i>Stefano Mancinelli</i>	

<b>Selection of the Best On-Line Gauging Sensor Technology for Complex Extrusion Coating Process .....</b>	454
<i>Jim Wickert</i>	
<b>The Importance of Product and Process and Characterization in Defect Reduction.....</b>	499
<i>Edward Cohen</i>	
<b>Improving Reproducibility of Pressure Sensitive Test Methods .....</b>	539
<i>Coleen Smith</i>	
<b>Choosing a Heat Seal: A Comparison .....</b>	571
<i>Jessica Bodine</i>	
<b>Enhancing Your Barrier Properties With PVdC Latex Coatings .....</b>	598
<i>Larry Jopko</i>	

## Volume 2

<b>Re-Energizing your Converting Equipment .....</b>	639
<i>Steven Ryan</i>	
<b>Temperature or Air Flow: Which is More Beneficial? .....</b>	687
<i>Mike Sellers</i>	
<b>Troubleshooting Web-Handling Problems Inside Flotation Dryers.....</b>	709
<i>Dan Bemi</i>	
<b>Impact of Flotation Nozzle Design on Web Handling.....</b>	760
<i>Richard Wimberger</i>	
<b>Understanding Laminate Slitting.....</b>	801
<i>Dominique Gallou</i>	
<b>Reducing Cost with Proper Slit Roll Handling.....</b>	853
<i>Fred Gum</i>	
<b>Tension Setting Guidelines and Some Important Exceptions .....</b>	882
<i>David Roisum</i>	
<b>Multilayer Films and Platelets for Biomedical Applications.....</b>	920
<i>Kent Coulter</i>	
<b>Continuous R2R Coating Methodology to Manufacture Precision Microstructures for Displays, High-Brightness LEDs, Traffic Signs, Solar Concentrators and other Light Management Products.....</b>	945
<i>Robert Pricone</i>	
<b>Novel Roll-to-Roll Manufacturing Techniques for Patterning Conductive Layers.....</b>	966
<i>Robert Praino</i>	
<b>Doped Ceramic Thin Films: A New Approach to In-Line Depositions .....</b>	998
<i>John Felts</i>	
<b>Nano-Composites Polymer Optical Coatings .....</b>	1021
<i>Tom Faris</i>	
<b>Challenges and Requirements for Flexible Displays and Microelectronics .....</b>	1047
<i>Paul Wickboldt</i>	
<b>Metallized Papers &amp; Films - Developments in the Global Market .....</b>	1089
<i>Bill Llewellyn</i>	
<b>Comparison Between Vacuum and Non-Vacuum Processes .....</b>	1129
<i>Roger Phillips</i>	

<b>Some Practical Constraints, Rules of Thumb, and Physical Limits to RFID Antennas as We Know Them Now .....</b>	1176
<i>Richard Swisher</i>	
<b>Superlattice Coatings for Device, Structural and Protective Applications.....</b>	1219
<i>Peter Martin</i>	
<b>Volume 3</b>	
<b>Additive versus Subtractive Processes for Flex. Microelectric .....</b>	1274
<i>Wolfgang Decker</i>	
<b>Gains in Metalizing Economics through Improved Evaporator Boat Design .....</b>	1289
<i>Ramamoorthy Ramasamy</i>	
<b>Process Stabilisation and Control Via Intelligent Sensing.....</b>	1308
<i>Dermot Monaghan</i>	
<b>A Flexible Active-matrix Electronic Paper Display Driven with Amorphous Oxide Semiconductors .....</b>	1342
<i>Manabu Ito</i>	
<b>Sputter Metallizing of Polyimide Film for Flexible Printed Circuit.....</b>	1385
<i>Hans Maidhof</i>	
<b>New Evaporation Boat .....</b>	1413
<i>Jun-ichi Susaki</i>	
<b>Metal Adhesion on Polyester Films .....</b>	1441
<i>Ed Culbertson</i>	
<b>Chemical Analysis of the Polyester/Metal Surface of a Delamination Failure.....</b>	1462
<i>Eldridge Mount</i>	
<b>Vacuum Coated Products - Environment Saint or Sinner .....</b>	1489
<i>Bill Llewellyn</i>	
<b>Ink Jet for In-Vacuum Patterning - A Look at the Feasibility.....</b>	1516
<i>Charlie Bishop</i>	
<b>Metallizing Machine Vacuum Pumps - Operation Principles and Maintenance Considerations .....</b>	1541
<i>Greg Tullo</i>	
<b>Metallizer Performance Evaluations - Capacity Improvements .....</b>	1584
<i>Eldridge Mount</i>	
<b>Electron Beam Induced Bias for High Speed, High Quality Coating of Ultra Thin Capacitor Web .....</b>	1607
<i>Stephan Küper</i>	
<b>Contribution of Plasma in Vacuum Al Metallized Polyester Film .....</b>	1634
<i>B.N. Gupta</i>	
<b>Aluminum Wire in Metallizing .....</b>	1663
<i>Kevin Hunter</i>	
<b>Vacuum Metallization of Paper and Outgassing Materials .....</b>	1691
<i>Fabiano Rimediotti</i>	
<b>The Mechanical Properties of Metal Oxide Coated Polyester Films.....</b>	1727
<i>Bernard Henry</i>	

<b>High Rate Deposition of Silicon Dioxide Coatings by New Plasma Enhanced CVD Source Technology .....</b>	1755
<i>John Madocks</i>	
<b>Metallized Aluminum with Superior Corrosion Resistance.....</b>	1777
<i>Angelo Yializis</i>	
<b>Design, Fabrication, and Integration of Thin-Films for Sensing, Shielding and Power Storage .....</b>	1800
<i>Kent Coulter</i>	
<b>Highly Efficient Solar Absorbers Produced by Large Area Electron Beam Deposition.....</b>	1822
<i>Jörg Faber</i>	
<b>Clear Barrier Films - Process, Performance and Opportunity .....</b>	1851
<i>Andrew Skinner</i>	
<b>Reactive Sputtering of Al<sub>2</sub>O<sub>3</sub> with a Rotating Magnetron and the Associated Hysteresis Behaviour .....</b>	1880
<i>Roger de Gryse</i>	
<b>Permeation Analysis of Ultra Thin Hybrid Organic/Inorganic Gas Barrier Coatings on Polymers.....</b>	1908
<i>B. Singh</i>	
<b>Author Index</b>	