

## **Contents of Volume 1**

### **PART I. GENERAL PAPERS**

<b>Surface Contamination: An Overview . . . . .</b>	<b>3</b>
K. L. Mittal	
<b>Relationship Between Surface Energy and     Surface Contamination . . . . .</b>	<b>47</b>
T. Matsunaga	
<b>Investigation of the Interaction of Certain     Low Energy Liquids with Polytetrafluoroethylene     and Its Implications in the Contamination     of Polymeric Surfaces . . . . .</b>	<b>57</b>
F. Galembeck, S. E. Galembeck, H. Vargas, C. A. Ribeiro, L. C. M. Miranda, and C. C. Ghizoni	
<b>A Study of the Effects of Relative Humidity     on Small Particle Adhesion to     Surfaces . . . . .</b>	<b>73</b>
W. J. Whitfield	
<b>Particulate Removal in Microelectronics     Manufacturing . . . . .</b>	<b>83</b>
D. A. Brandreth and R. E. Johnson, Jr.	
<b>Electrostatic Effects in the Adhesion of     Powder Layers . . . . .</b>	<b>89</b>
J. A. Cross	
<b>Causes and Cures of Dirty Windows . . . . .</b>	<b>103</b>
P. B. Adams	
<b>Surface Contamination by Ion Bombardment . . . . .</b>	<b>113</b>
K. Shimizu and H. Kawakatsu	

Surface Contamination and Corrosion in Pyrotechnic Actuators . . . . .	129
R. G. Jungst, R. K. Quinn, T. M. Massis, R. N. Roberts, and R. E. Whan	
Decomposition of Hydrogen Peroxide Cleaning Solutions by Selectively Plated Leadframes and Its Implications with Respect to Circuit Yield . . . . .	149
R. G. Fekula, W. J. Flood, and D. L. Rehrig	
Ellipsometric Observations of Aluminum Hydroxide Films Grown in Water Vapor . . . . .	165
W. E. J. Neal and A. S. Rehal	
Contamination on Zinc and Aluminum Surfaces After Extended Urban Exposures . . . . .	183
G. B. Munier, L. A. Psota, B. T. Reagor, B. Russiello, and J. D. Sinclair	
$^{238}\text{PuO}_2$ Surface Contamination of Radioisotopic Heat Sources . . . . .	195
D. R. Schaeffer and C. O. Brewer	
Microbial Contamination of Surfaces . . . . .	211
J. W. Costerton and G. G. Geesey	
Surface Cleaning in Thin Film Technology . . . . .	223
D. M. Mattox	

## PART II. CLEANING OF SURFACES

UV/Ozone Cleaning of Surfaces: A Review . . . . .	235
J. R. Vig	
Plasma Cleaning of Surfaces . . . . .	255
W. W. Balwanz	
Surface Contamination Removal from Solid State Devices by Dry Chemical Processing . . . . .	271
H. B. Bonham and P. V. Plunkett	
Surface Cleaning by Low-Temperature Bombardment with Hydrogen Particles: An AES Investigation on Copper and Fe-Cr-Ni Steel Surfaces . . . . .	287
R. Bouwman, J. B. van Mechelen, and A. A. Holscher	

Some Promising Applications of Ion Milling in Surface Cleaning . . . . .	297
S. I. Petvai and R. H. Schnitzel	
Glass Cleaning and Characterization of Cleanliness . . . . .	313
L. L. Hench and E. C. Ethridge	
A Systematic Approach to Glass Cleaning . . . . .	327
P. B. Adams	
Techniques for Removing Contaminants from Optical Surfaces . . . . .	341
I. F. Stowers and H. G. Patton	
Cleaning of Polymer Surfaces . . . . .	351
J. A. Koutsky	
Removal of Fluid Contaminants by Surface Chemical Displacement . . . . .	359
R. N. Bolster	
Cleaning Issues Related to Soldering . . . . .	369
H. H. Manko	
Nonionic Contamination Prevention -- The Next Step Toward Guaranteed Printed Wiring Assembly Reliability . . . . .	377
W. G. Kenyon	
Techniques for Removing Surface Contaminants in Thin Film Depositon . . . . .	393
B. Bhushan	
Cleaning and Surface Preparation Technology and Other Factors Related to Coatings Produced by Flame Spraying . . . . .	407
Y. A. Kharlamov, M. S. Hassan, and R. N. Anderson	
Contaminated Concrete Surface Layer Removal . . . . .	443
J. M. Halter and R. G. Sullivan	
Preparation and Characterization of Clean Mineral Surfaces . . . . .	457
P. Somasundaran and B.M. Moudgil	
The Preparation of Clean Water Surfaces for Fluid Mechanics . . . . .	477
J. C. Scott	

Techniques to Obtain Atomically Clean Surfaces . . . . .	499
J. Verhoeven	
About the Contributors . . . . .	513
Subject Index . . . . .	xvii