

STP 1119

***Analysis of Paints and Related
Materials: Current Techniques for
Solving Coatings Problems***

William C. Golton, editor

ASTM Publication Code Number (PCN)
04-011190-14



ASTM
1916 Race Street
Philadelphia, PA 19103

Contents

Overview	vii
----------	-----

ANALYSIS AND CHARACTERIZATION OF WHOLE PAINT

Modern Analytical Techniques for Coating and Coating Materials— ULRICH SCHERNAU, BERNHARD HUESER, AND KARIN WEBER	3
Mass Spectrometric Techniques for Coatings Characterization— WILLIAM J. SIMONSICK, JR.	22

ANALYSIS AND CHARACTERIZATION OF PAINT COMPONENTS

HPLC Analysis for Epoxy Coatings Resins— DAVID P. SHEIH AND DONALD E. BENTON	41
Application of Size Exclusion Chromatography to Polymers and Coatings— CHENG-YIH KUO AND THEODORE PROVDER	57
X-Ray Techniques for Coatings Analysis— A. MONROE SNIDER, JR.	82
Practical Applications of Gas Chromatography in the Paint and Coatings Industry— FRANCIS X. YOUNG	105

CURE CHARACTERIZATION, DURABILITY, AND COATING PROBLEMS

Applications of FTIR to Paint Analysis— JACK H. HARTSHORN	127
Chemical Characterization of Cross-Linked Polyurethane Films— L. G. J. VAN DER VEN, G. D. B. VAN HOUWELINGEN, AND R. R. LAMPING	148
Principles and Applications of Photoelectron and Ion Spectroscopy for the Analysis of Polymer Surfaces— JOSEPH A. GARDELLA, JR.	157

PAINT FAILURE AND DEFECTS

FTIR Techniques for the Analysis of Coating Problems: Solid Sampling Accessories— ANNE M. MILLON AND JAMES M. JULIAN	173
Failure Analysis of Applied Coatings— KENNETH B. TATOR AND DWIGHT G. WELDON	196