Michael Osterhold

Topics on

Physical Characterization of Organic Coatings

Compilation of Selected Works

Contents

Preface	5
Overview	
Scratch/mar, surface structure and rheology measurements	7
Rheology	
Rheological methods for characterising modern paint systems	15
Viscosity-temperature behaviour of powder coatings	23
Thermal Analysis	
Dynamic mechanical analysis in coatings industry	29
Scratch/Mar	
Methods for characterizing the mar resistance	41
Surface Structure	
Characterization of surface structures by mechanical and optical Fourier spectra	49
Characterizing the surface structure of plastics coatings	55
Characterizing the appearance of medium glossy surfaces	61
Surface Tension	
Importance of surface tension for physical paint properties	65
Surface tension studies of additives in acrylic resin-based powder coatings using the Wilhelmy balance technique	71

Weathering

Influence of weathering on physical properties of clearcoats	77
Defect Analysis	
Analysis of paint defects by mass spectroscopy (LAMMA/ToF-SIMS)	83
FTIR Spectroscopy	
UV curing systems for automotive refinish applications	93
Selected Works - References	99
Scientific Papers	101
Biography	109