1. Record Nr. UNINA9910456157103321

Titolo	The chemistry of inkjet inks [[electronic resource] /] / editor, Shlomo Magdassi
Pubbl/distr/stampa	New Jersey ; ; London, : World Scientific, c2010
ISBN	1-282-76031-9 9786612760310 981-281-822-7
Descrizione fisica	1 online resource (356 p.)
Altri autori (Persone)	MagdassiShlomo <1954->
Disciplina	667.5
Soggetti	Printing ink Ink-jet printing Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Contents; Preface; Part I: Basic Concepts; 1. Inkjet Printing Technologies Alan Hudd; INTRODUCTION; CURRENT AND EMERGING MARKETS; Industrial Inkjet Explained; Technology Trends; Challenges; REFERENCES; 2. Ink Requirements and Formulations Guidelines Shlomo Magdassi; INK PREPARATION AND COMPOSITION; INK DURING STORAGE; Ink Stability; Viscosity; Surface Tension; pH and Electrolytes; Dielectric Properties and Conductivity; Dye/Pigment Content; Foaming and Defoamers; INK-PRINTHEAD PERFORMANCE; Drop Latency and Recoverability; Recoverability; Ori.ce Plate State; Ink Supply and Clogging Drop FormationMaterials Compatibility; INK ON SUBSTRATES; SUMMARY; REFERENCES; 3. Equilibrium Wetting Fundamentals Abraham Marmur; INTRODUCTION; WETTING OF IDEAL SURFACES; WETTING OF REAL SURFACES; SUMMARY AND CONCLUSIONS; Assessment of Surface Tension of the Solid; Designing Wetting Processes; REFERENCES; 4. The Behaviour of a Droplet on the Substrate Patrick J. Smith; INTRODUCTION; Droplet Impact; Evaporation of a Sessile Droplet of Solvent at Room Temperature; Evaporation of a Sessile Droplet of Suspension at Room Temperature

Controlling Ink Behaviour on Unstructured Substrates for Droplets and ArraysThe Behaviour of Lines of Droplets on Substrate; CONCLUSIONS; REFERENCES; 5. Tailoring Substrates for Inkjet Printing Moshe Frenkel; INTRODUCTION; Inkjet Inks & Print Quality; PRINT QUALITY SOLUTIONS; Matching Ink & Substrate; Inkjet Substrate; The Principles; The Technology; a. Microporous coatings; b. Swellable coatings; c. FujiFilm; Technology Limitations; Heated Substrate; "Bi-Component Ink" or "Reactive Ink"; Technology Approaches; SUMMARY; REFERENCES; Part II: Formulation and Materials for Inkjet Inks
6. Pigments for Inkjet Applications Alex Shakhnovich and James BelmontINTRODUCTION; CARBON BLACK; Morphology; Surface Chemistry of Carbon Black; ORGANIC PIGMENTS; DISPERSION METHODS FOR INKJET PIGMENTS (NANOSIZED DISPERSIONS); SURFACE MODIFICATION; Carbon Black; Attached Organic Groups; Organic Pigments; REFERENCES; 7. Formulation and Properties of Waterborne Inkjet Inks Christian Schmid; INTRODUCTION; FIRING INK FROM THE PRINT HEAD; Drop Ejection Cycle; Drop Break-up; Ink on the Ori.ce Plate - Puddling; Resistor Fouling - Kogation and Decel; Nozzle Plugging - Decap
Other Things that Block NozzlesINK ON PAPER; Drop Impact onto Paper; Optical Density; Image Permanence - Light Fastness; Bleed; Paper Cockle and Curl; Water Fastness and Abrasion Durability; EXAMPLE - BLACK INK FOR PLAIN PAPER; ACKNOWLEDGMENT; REFERENCES; 8. Solvent-Based Inkjet Inks Josh Samuel and Paul Edwards; FORMULATING SOLVENT INKS FOR CONTINUOUS INKJET PRINTERS; Introduction; CIJ Technology and Ink Formulation; Early Ink Formulation History; CIJ Application Areas; CIJ Ink Formulations; Colorants; Polymers; Conductivity Salts; Surfactants; Carrier Solvent FORMULATING SOLVENT INKS FOR PIEZO DROP-ON-DEMAND PRINT HEADS

Sommario/riassunto

Modern printing is based on digitizing information and then representing it on a substrate, such as paper, pixel by pixel. One of the most common methods of digital printing is through inkjet printers. The process of inkjet printing is very complicated, and the ink used must meet certain chemical and physicochemical requirements including those related to storage stability; jetting performance; color management; wetting; and adhesion on substrates. Obviously, these requirements - which represent different scientific disciplines such as colloid chemistry, chemical engineering, and physics - in