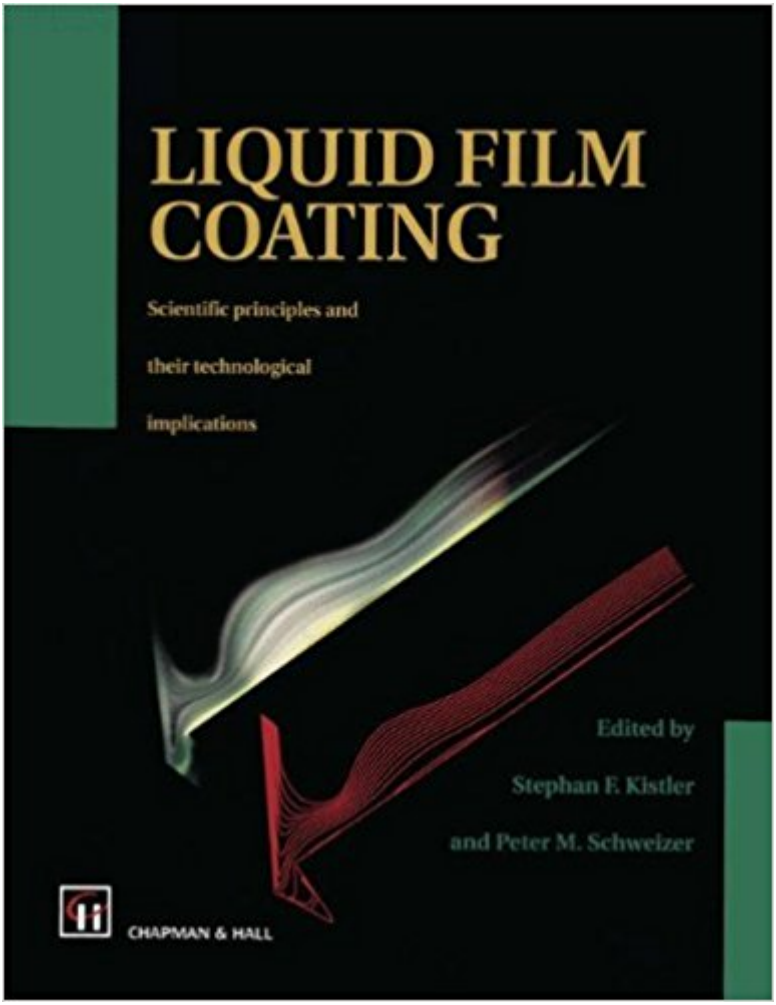
Liquid Film Coating: Scientific Principles And Their Technological Implications



Synopsis

In spite of all the activity in coating process wide range of available methods or to invent a research, there is no preceding comprehensive new one. Then, of course, the details of the text that summarizes results obtained in various coatingequipmentmustbespecifiedanddesigned, placesaroundtheworldandpublishedindifferent and feasibility of the process selected must be technicaljournals. Inparticular, thereisnosingle demonstrated for a desired range of operating textthatsystematicallyinterpretsallthe physical conditions. For anexistingproduct, on theother mechanisms that control coating processes, and hand, the most pressing issues are often to that explains implications ofscientific principles expand the range of successful operation, for on industrial coating applications. This is not to instance to higher coating speeds, thinner wet saythatnobooksorreviewsoncoatingtechnology layers, or more layers coated simultaneously; to have been written in the past. However, they all eliminate coating imperfections or defects that focus oneithercoatingequipment(Higgins 1965; degrade product quality; and to increase the Booth 1970; Weiss 1977; Satas 1984); on just a yield, or the fraction ofsalable material from an fewparticularcoatingmethods(Middleman 1977; entire lot coated. Coating engineers, together Ruschak 1985);oronparticularaspectsofcoating with formulation chemists, also respond to technology such as numerical methods (Kistler never-endingquests to improve the performance and Scriven 1983), process control (Frost and ofthe final products which, in some instances in Gutoff 1991), or wettability (Blake 1984; Berg very subtle ways and in others to a significant 1993). The recent volumes edited by Cohen and extent, depend on careful control of the micro- Gutoff(1992)and Benkreira(1993)emergedfrom structure or surface properties imparted on the shortcourseson coating technology. They cover coatedlayersbythecoatingflowprocessupstream.

Book Information

Paperback: 783 pages

Publisher: Springer; Softcover reprint of the original 1st ed. 1997 edition (October 26, 2012)

Language: English

ISBN-10: 9401062463

ISBN-13: 978-9401062466

Product Dimensions: 7.6 x 1.7 x 9.6 inches

Shipping Weight: 3.3 pounds (View shipping rates and policies)

Average Customer Review: 5.0 out of 5 stars 3 customer reviews

Best Sellers Rank: #1,097,168 in Books (See Top 100 in Books) #45 inÃ Â Books > Engineering &

Transportation > Engineering > Chemical > Coatings, Ceramics & Glass #299 inÃ Â Books > Engineering & Transportation > Engineering > Materials & Material Science > Polymers & Textiles #365 inÃ Â Books > Science & Math > Chemistry > Physical & Theoretical > Physical Chemistry

Customer Reviews

This is an excellent text for anyone who wants to take a deep dive into the fluid mechanics and mechanical technologies that govern modern coating processes. The text begins with rigorous definitions of fluid flow (Navier-Stokes, Cauchy Momentum, etc) and gradually relates the mathematics to the coating processes as a whole as the books goes on. The math is pretty intense in the beginning with an abundance of vector and tensor calculus. Without some level of familiarity with these concepts, the reader won't get the most out of this text. When deriving the process models later in the book, the authors do a good job of pointing out the weaknesses of each model and the caution that must be used when applying them. The book does a very nice job of relating critical operating conditions with dimensionless parameters common in fluid mechanics (IE: Reynolds Number) to outline a wide variety of observed behaviors in a steady-state coating process.The are only a few things that I dislike about the book. One is the lack of diagrams in some of the more application-based sections, which makes following the line by line derivations for the coating model somewhat difficult. The notation is not always present in the section where the proofs are derived but it is usually located at the end of the section or chapter. The technologies section is nowadays a bit obsolete with some of the listed technologies only in niche use now. Still, a nice overview is provided of each technology the book examines.As a whole the text is a must-have for anyone who wants a deep understanding of the liquid-based phenomena of the coating process. Scientists and Engineers within the industry would benefit tremendously from even reviewing only a few sections.

Only the chapter on design is more relevant for me now. But overall a very useful book for coating people.

Most of the books in the field are out of print (Coating Equipment and ProcessesÃ Â andÃ Â Coating and laminating machines: A guide to the design, selection, and usage of coating and laminating machinesare two of the classics but they are very technological.Ã Â Modern Coating and Drying Technology (Advances in Interfacial Engineering Series)is more scientific than the earlier works, but this book really reviews the science as well as

the technology. The chapter on rheology is more geared to paints than continuous web coating and a few of the chapters are nearly obsolete (e.g., slide coating has become a niche technology with the demise of silver halide photography), but it is unlikely that this book will ever be equalled much less surpassed. If you want to understand coating, this book is a must.

Liquid Film Coating: Scientific principles and their technological implications E-Juice Recipes: Shake and Vape E-Liquid Recipes For Your Electronic Cigarette, E-Hookah G-Pen: Quick and tasty E-liquid recipes that you can enjoy today. ... E-liquid recipes for DIY E-juicers. Book 3) Liquid Transportation Fuels from Coal and Biomass: Technological Status, Costs, and Environmental Impacts (America's Energy Future) Davis's Comprehensive Handbook of Laboratory and Diagnostic Tests With Nursing Implications (Davis's Comprehensive Handbook of Laboratory & Diagnostic Tests With Nursing Implications) Davis's Comprehensive Handbook of Laboratory and Diagnostic Tests With Nursing Implications (Davis's Comprehensive Handbook of Laboratory & Diagnostic Tests W/ Nursing Implications) Liquid Soapmaking: Tips, Techniques and Recipes for Creating All Manner of Liquid and Soft Soap Naturally! Electrochemical Supercapacitors: Scientific Fundamentals and Technological Applications The Film Encyclopedia 7th Edition: The Complete Guide to Film and the Film Industry Landau Theory Of Phase Transitions, The: Application To Structural, Incommensurate, Magnetic And Liquid Crystal Systems (World Scientific Lecture Notes in Physics) The Scientific Endeavor: A Primer on Scientific Principles and Practice Paint Flow and Pigment Dispersion: A Rheological Approach to Coating and Ink Technology Liquid Metal: The Science Fiction Film Reader Diabetes Unpacked: Just Science and Sense. No Sugar Coating Coating and Drying Defects: Troubleshooting Operating Problems Modern Coating and Drying Technology Micro Irrigation Management: Technological Advances and Their Applications (Innovations and Challenges in Micro Irrigation) User's Guide to Powder Coating, Fourth Edition BASF Handbook on Basics of Coating Technology a Guide to High-performance Powder Coating Recent Vertebrate Carcasses and Their Paleobiological Implications