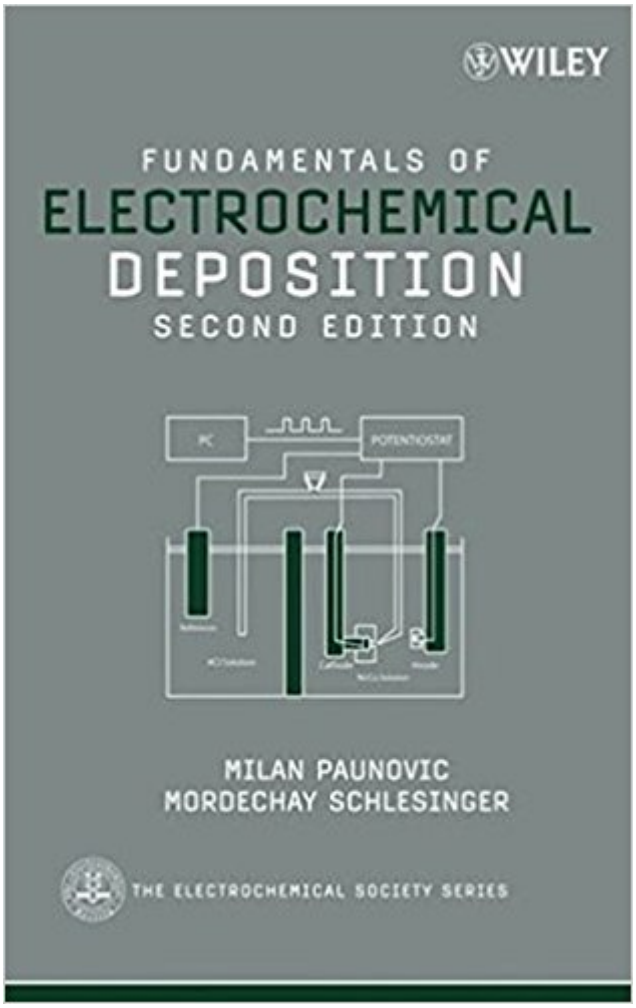
Fundamentals Of Electrochemical Deposition



Synopsis

Excellent teaching and resource material . . . it is concise, coherently structured, and easy to read . . . highly recommended for students, engineers, and researchers in all related fields." -Corrosion on the First Edition of Fundamentals of Electrochemical Deposition From computer hardware to automobiles, medical diagnostics to aerospace, electrochemical deposition plays a crucial role in an array of key industries. Fundamentals of Electrochemical Deposition, Second Edition is a comprehensive introduction to one of today's most exciting and rapidly evolving fields of practical knowledge. The most authoritative introduction to the field so far, the book presents detailed coverage of the full range of electrochemical deposition processes and technologies, including: * Metal-solution interphase * Charge transfer across an interphase * Formation of an equilibrium electrode potential * Nucleation and growth of thin films * Kinetics and mechanisms of electrodeposition * Electroless deposition * In situ characterization of deposition processes * Structure and properties of deposits * Multilayered and composite thin films * Interdiffusion in thin film * Applications in the semiconductor industry and the field of medicine This new edition updates the prior edition to address the new developments in the science and its applications, with new chapters on innovative applications of electrochemical deposition in semiconductor technology, magnetism and microelectronics, and medical instrumentation. Added coverage includes such topics as binding energy, nanoclusters, atomic force, and scanning tunneling microscopy.Example problems at the end of chapters and other features clarify and improve understanding of the material. Written by an author team with extensive experience in both industry and academe, this reference and text provides a well-rounded introduction to the field for students, as well as a means for professional chemists, engineers, and technicians to expand and sharpen their skills in using the technology.

Book Information

Hardcover: 373 pages
Publisher: Wiley-Interscience; 2 edition (July 28, 2006)
Language: English
ISBN-10: 0471712213
ISBN-13: 978-0471712213
Product Dimensions: 6.3 x 0.9 x 9.4 inches
Shipping Weight: 1.4 pounds (View shipping rates and policies)
Average Customer Review: 4.7 out of 5 stars 3 customer reviews

Best Sellers Rank: #2,195,712 in Books (See Top 100 in Books) #71 inÂ Books > Science & Math > Chemistry > Physical & Theoretical > Electrochemistry #85 inÂ Books > Science & Math > Chemistry > Electrochemistry #1915 inÂ Books > Medical Books > Medicine > Internal Medicine > Pathology > Clinical Chemistry

Customer Reviews

"â |an excellent book for explaining electrochemical deposition to students, practicing engineers, or scientistsâ |" (Journal of Metals Online, July 25, 2007) "â |a great book for anyone who wants to learn about the fundamentals of electrochemical deposition." (IEEE Electrical Insulation Magazine, July/August 2007) "The book is a definitive treatment of the subject by two experts in the fieldâ |" (CHOICE, February 2007)

Excellent teaching and resource material . . . it is concise, coherently structured, and easy to read . . . highly recommended for students, engineers, and researchers in all related fields." —Corrosion on the First Edition of Fundamentals of Electrochemical Deposition From computer hardware to automobiles, medical diagnostics to aerospace, electrochemical deposition plays a crucial role in an array of key industries. Fundamentals of Electrochemical Deposition, Second Edition is a comprehensive introduction to one of today’s most exciting and rapidly evolving fields of practical knowledge. The most authoritative introduction to the field so far, the book presents detailed coverage of the full range of electrochemical deposition processes and technologies, including: Metal-solution interphase Charge transfer across an interphase Formation of an equilibrium electrode potential Nucleation and growth of thin films Kinetics and mechanisms of electrodeposition Electroless deposition In situ characterization of deposition processes Structure and properties of deposits Multilayered and composite thin films Interdiffusion in thin film Applications in the semiconductor industry and the field of medicine This new edition updates the prior edition to address the new developments in the science and its applications, with new chapters on innovative applications of electrochemical deposition in semiconductor technology, magnetism and microelectronics, and medical instrumentation. Added coverage includes such topics as binding energy, nanoclusters, atomic force, and scanning tunneling microscopy.Example problems at the end of chapters and other features clarify and improve understanding of the material. Written by an author team with extensive experience in both industry and academe, this reference and text provides a well-rounded introduction to the field for students, as well as a means for professional chemists, engineers, and technicians to expand and sharpen their skills in using the technology.

The book provides very good explainations about all you should know in electrochemical deposition. It may not have as many detials as Modern Electroplating book (by the same authors) but it is easier to read and understand.

This book being the first of its kind in the industry on electrochemical deposition is very informative and interesting. Copper damanscene being the future for CMP has somwhat made this book a neccessity to all personnel working in the micro electronics industry.The book gives a good grounding on electrochemical deposition and the underlying parameters that affect deposition.The only setback is that there is no effort being made to link the findings in the deposition of copper and how it affects the final CMP process.Being a new and first of its kind this is forgivable.

The book covers the major features of all kinds of electrochemical deposition and it is a handy book for all those involved in this kind of depostion studies..

Solutions

Contact Us

DMCA

Privacy

FAQ & Help