

of Book: Handbook of Thin Film Process Technology

External Publication Status: published

Copyright: © 1998 - 2003 IOP Publishing

Audience: Experts Only

Title of Book: Handbook of Thin Film Process Technology

Date of Publication (YYYY-MM-DD): 2001

Abstract / Description: The Handbook of Thin Film Process Technology is a practical handbook for the thin film scientist, engineer and technician. The main work is regularly updated with new material, and this volume is a special issue on substrate cleaning which will be of interest to industrial and academic researchers in the semiconductor and optics industry in addition to owners of the main Handbook. This supplement includes recipes which give precise instructions for the cleaning of specific substrates, for specific film depositions, or using specific techniques. In addition, general articles evaluate the cleaning procedure, covering the usual contaminants, handling and storage of substrates, chemicals (for instance the importance of the pH of solution, particle deposition), DI quality (level of contamination, water drops), what is removed, drying (e.g. the Marangoni effect), and the surface of the substrate before deposition (composition, morphology, hydrophilic, hydrophobic). Keywords: G1 Cleaning of silicon for ULSI and CVD (Huang); G2 Chemical composition and morphology of silicon surfaces (K Jacobi); G3 Surface analyses of substrates for microelectronic device fabrication (Berbezier); plus nine recipes for film deposition for electronic applications: Wet chemical cleaning of Si for IC manufacturing (Christernson and Butterbaugh); Cleaning of SiC and Al₂O₃ substrates for MBE and MOCVD deposition of AlN, GaN and InAlGaN (Kouvetakis); Cleaning of II-VI substrates for for MBE and MOCVD deposition (N Magnea); Dry cleaning of silicon (plasma, UV-ozone, atomic H) (I Eisele); Vapor phase cleaning (Butterbaugh); Wet chemical etching of GaS and InP for MOCVD deposition of III-V (Mason); Wet chemical etching of Si for MBE and GSMBE of Si and SiGeC (ex-situ and in-situ) (Le Thanh); Wet chemical etching of Si for CVD of Si and SiGeC (Tillack).

Place of Publication: Bristol, UK

Full Name of Book-Editor(s): Glocker, David A.; Shah, S. Ismat

Communicated by: Gerhard Ertl

Affiliations:

Fritz-Haber-Institut/Physical Chemistry

Identifiers:

ISBN:978-0750303118;ISBN:0750303115

About this book. "Handbook of Thin Film Technology" covers all aspects of coatings preparation, characterization and applications. Different deposition techniques based on vacuum and plasma processes are presented. Methods of surface and thin film analysis including coating thickness, structural, optical, electrical, mechanical and magnetic properties of films are detailed described. The several applications of thin coatings and a special chapter focusing on nanoparticle-based films can be found in this handbook. A complete reference for students and professionals interested in the science and Book Description. The Handbook of Thin Film Process Technology is a practical handbook for the thin film scientist, engineer and technician. This handbook is regularly updated with new material, and this volume is a special issue on reactive sputtering which will be of interest to a wide range of industrial and academic researchers in addition to owners of the main Handbook. Some recent developments in the reactive sputtering field are covered, including unbalanced magnetron sputtering and pulsed reactive sputtering. 1. Physical Depositon Techniques 2. Chemical Depositon Techniques 3. Processing Technologies 4. Real-Time Diagnostics 5. Surface Modification in Vacuum 6. Superlattices and Multi-Layered Structures 7. Materials. View More. View Less. "The handbook covers the whole scope of the subject of thin film technologies it will be a very useful addition to the library for all involved in the science of thin film technologies and their applications. Strong recommend!" - - The C.A.M.S.T. Record. "The handbook is not so much a book as a reference library [it] represents a remarkable assembly of current, largely first-hand, knowledge. Although the emphasis is on the processes and materials that lead to applications and devices, enough basic physics and chemistry is provided for non-specialists to find their wa A practical survey of thin film technologies aimed at engineers and managers involved in all stages of the process: design, fabrication, quality assurance and applications. Covers core processes and applications in the semiconductor industry and new developments in the photovoltaic and optical thin film industries. The new edition takes covers the transition taking place in the semiconductor world from Al/SiO₂ to copper interconnects with low-k dielectrics. Written by acknowledged industry experts from key companies in the semiconductor industry including Intel and IBM. Foreword by Gordon E. M

A practical survey of thin film technologies aimed at engineers and managers involved in all stages of the process: design, fabrication, quality assurance and applications. Covers core processes and applications in the semiconductor industry and new developments in the photovoltaic and optical thin film industries. The new edition takes covers the transition taking place in the semiconductor world from Al/SiO₂ to copper interconnects with low-k dielectrics. Written by acknowledged industry experts from key companies in the semiconductor industry including Intel and IBM. Foreword by Gordon E. M Volume: 18 Issue: 4. Handbook of thin film deposition - processes and technologies, 2nd edition [Book Review]. Publisher: IEEE. Cite This. Cite This. PDF. J.J. Shea. All Authors. Over this time, there has been enormous growth in technical talent and knowledge in thin-film technology, much of which is summarized in this handbook. Authors. Keywords. Metrics. References. References is not available for this document. IEEE Personal Account. Handbook of Thin-Film Deposition Processes and Techniques / [edited]. by Krishna Seshan. - - 2nd edition. HANDBOOK OF SEMICONDUCTOR WAFER CLEANING TECHNOLOGY: edited by Werner Kern HANDBOOK OF SPUTTER DEPOSITION TECHNOLOGY: by Kiyotaka Wasa and Shigeru Hayakawa HANDBOOK OF THIN FILM DEPOSITION PROCESSES AND TECHNIQUES, Second Edition: edited by Krishna Seshan HANDBOOK OF VACUUM ARC SCIENCE AND TECHNOLOGY: edited by Raymond L. Boxman, Philip J. Martin, and David M. Sanders HANDBOOK OF VLSI MICROLITHOGRAPHY, Second Edition: edited by John. This book takes a snapshot of the state of the art in various technologies relating to thin films. Thin film deposition & vacuum technology. By Stefan Cannon Lofgran. A senior thesis submitted to the faculty of Brigham Young University Idaho. The study and development of thin films via physical vapor deposition has played a significant role in the development of optical coatings, semiconductors, and solar cells. Closely related to the study of thin films is the development of vacuum technology and systems capable of reaching pressures suitable for growing uniform films at reasonable deposition rates. This paper explores the method of physical vapor deposition known as thermal evaporation via resistive or Joule heating as a means for growing thin aluminum (Al) films on a mineral glass substrate. The Handbook of Thin Films Materials is a comprehensive reference focusing on processing techniques, characterization methods, and physical properties of these thin film materials. Year: 2001. You can write a book review and share your experiences. Other readers will always be interested in your opinion of the books you've read. Whether you've loved the book or not, if you give your honest and detailed thoughts then people will find new books that are right for them. 1.

"The handbook covers the whole scope of the subject of thin film technologies it will be a very useful addition to the library for all involved in the science of thin film technologies and their applications. Strong recommend!" - - The C.A.M.S.T. Record. "The handbook is not so much a book as a reference library [it] represents a remarkable assembly of current, largely first-hand, knowledge. Although the emphasis is on the processes and materials that lead to applications and devices, enough basic physics and chemistry is provided for non-specialists to find their way. Volume: 18 Issue: 4. Handbook of thin film deposition - processes and technologies, 2nd edition [Book Review]. Publisher: IEEE. Cite This. Cite This. PDF. J.J. Shea. All Authors.Â Over this time, there has been enormous growth in technical talent and knowledge in thin-film technology, much of which is summarized in this handbook. Authors. Keywords. Metrics. References. References is not available for this document. IEEE Personal Account. â€œHandbook of Thin Film Technologyâ€ covers all aspects of coatings preparation, characterization and applications. Different deposition techniques based on vacuum and plasma processes are presented. Methods of surface and thin film analysis including coating thickness, structural, optical, electrical, mechanical and magnetic properties of films are detailed described. The several applications of thin coatings and a special chapter focusing on nanoparticle-based films can be found in this handbook. A complete reference for students and professionals interested in the science and technology of th... Handbook of Thin Film by Glocker A. Glocker. Other editions. Want to Read savingâ€| Error rating book. Refresh and try again. Rate this book. Clear rating.Â A unique feature of the Handbook is its presentation of recipe-type informa The Handbook of Thin Film Process Technology is a practical handbook for the thin film scientist, engineer and technician. It covers all the most important thin film deposition techniques, as well as important aspects of film processing and the major diagnostic techniques for in-process monitoring. A unique feature of the Handbook is its presentation of recipe-type information (i.e., important deposition system details and process parameters) for a range of common materials and processes.

PLEASE SEND THE FOLLOWING: () copies Handbook of Thin Film Process Technology, ISBN 07503 031 15 Usual price £350/\$499
Discount price to purchasers of Recipes for Optical Materials supplement: £300/\$450 Postage & packing: UK add £5.50; ROW add
£7.50; USA & Canada add US\$7.50 Total book purchase plus postage & packing @ 1998 IOP Publishing Ltd. Handbook of Thin
Film Process Technology. X3.2:9. Optical Materials Target. Handbook of Fermented Food and Beverage Technology, Second Edition:
Handbook Handbook of Crystal Growth. Thin Films and Epitaxy: Materials, Processes, and Technology. Volume. 1,346
Pages 2016 115.15 MB 643 Downloads New! of Crystal Growth. Thin Films and Epitaxy: Materials, Processes, and Technology.
Volume III, Part Thin Films Science and Technology: Volume 7. Thin Films by Chemical Vapour Deposition. 697 Pages 2016 14.62
MB 603 Downloads New! The fundamental concept of the book is to explain how to make thin film solar cells from Handbook of
Deposition Technologies for Films and Coatings, Third Edition: Science, Applications. 923 Pages 2009 29.64 MB 1,221
Downloads New! functionality and reduce costs. THIN FILM MATERIALS TECHNOLOGY Sputtering of Compound Materials by
Kiyotaka Wasa Yokohama City University Yokohama, Japan Makoto Kitabatake Matsushita Electric Industrial Co., Ltd. Kyoto, Japan
Hideaki. More information. 2. Deposition process. Properties of optical thin films produced by reactive low voltage ion plating (RLVIP)
Antje Hallbauer Thin Film Technology Institute of Ion Physics & Applied Physics University of Innsbruck Investigations. More
information. Conductivity of silicon can be changed several orders of magnitude by introducing impurity atoms in silicon crystal lattice.
CMO Handbook of Thin-Film Technology. Editors Prof. Dr. Hartmut Frey Esslingen, Germany. The Handbook of Thin-Film Technology
presents a collection of current knowledge on coating technologies and their applications. Additionally methods for determining the
properties of thin films are also covered. We are very grateful to Mrs. Dipl.-Ing. Carmen Frey for preparing and drawing the figures of this
book. Plasma treatment methods in principle are not part of thin film coating processes. With these processes the surface of the bulk
materials determining their properties are changed. Properties in the range near the solid surface can be completely changed by ion
implantation.