Handbook Pulp And Paper Process

Since its first development in the 1970s, Process Integration (PI) has become an important methodology in achieving more energy efficient processes. This pioneering handbook brings together the leading scientists and researchers currently contributing to PI development, pooling their expertise and specialist knowledge to provide readers with a comprehensive and up-to-date guide to the latest PI research and applications. After an introduction to the principles of PI, the book reviews a wide range of process design and integration topics ranging from heat and utility systems to water, recycling, waste and hydrogen systems. The book considers Heat Integration, Mass Integration and Extended PI as well as a series of applications and case studies. Chapters address not just operating and capital costs but also equipment design and operability issues, through to buildings and supply chains. With its distinguished editor and international team of expert contributors, Handbook of Process Integration (PI) is a standard reference work for managers and researchers in all energy-intensive industries, as well as academics with an interest in them, including those designing and managing oil refineries, petrochemical and power plants, as well as paper/pulp, steel, waste, food and drink processors. This pioneering handbook provides a comprehensive and up-to-date guide to the latest process integration research and applications. Reviews a wide range of process design and integration topics ranging from heat and utility systems to water, recycling, waste and hydrogen systems. Chapters also address equipment design and operability issues, through to buildings and supply chains.

Process to Product is written by industry professional Brian Herskowitz, an award-winning writer, producer, director with twenty-five years of teaching experience. The book guides the student writer through the process of screenwriting, simply and clearly, from the development of an idea through the finished, polished script. Easy to understand with in-depth examples and helpful exercises, this book puts the reader on the path to the best screenplay they can create.

Biermann's Handbook of Pulp and Paper: Raw Material and Pulp Making, Third Edition is a comprehensive reference for industry and academia covering the entire gamut of pulping technology. This book provides a thorough introduction to the entire technology of pulp manufacture; features chapters covering all aspects of pulping from wood handling at the mill site through pulping and bleaching and pulp drying. It also includes a discussion on bleaching chemicals, recovery of pulping spent liquors and regeneration of chemicals used and the manufacture of side products. The secondary fiber recovery and utilization and current advances like organosolv pulping and attempts to close the cycle in bleaching plants are also included. Hundreds of illustrations, charts, and tables help the reader grasp the concepts being presented. This book will provide professionals in the field with the most up-to-date and comprehensive information on the state-of-the-art techniques and aspects involved in pulp making. It has been updated, revised and extended. Alongside the traditional aspects of pulping and papermaking processes, this book also focuses on biotechnological methods, which is the distinguishing feature of this book. It includes wood-based products and chemicals, production of dissolving pulp, hexenuronic acid removal, alternative chemical recovery processes, forest products biorefinery. The most significant changes in the areas of raw material preparation and handling, pulping and recycled fiber have been included. A total of 11 new chapters have been added. This handbook is essential reading for all chemists and engineers in the paper and pulp industry. Provides comprehensive coverage on all aspects of pulp making Covers the latest science and technology in pulp making Includes traditional and biotechnological methods, a unique feature of this book. Presents the environmental impact of pulp and papermaking industries. Sets itself apart as a valuable reference that every pulp and papermaker/engineer/chemist will find extremely useful.

This book presents the aspects of cellulose obtained in correlation with its integration into the new concept of biorefining. The authors detail the individual steps of pulp manufacture as well as properties and fiber characterization techniques for paper, cellulose derivatives and processing by-products. This book is of interest to scientists and advanced students working in the fields of renewable resources and biorefining.

This book gives emphasis to wood fiber raw materials, alternative sources of fibers for paper production, environmental issues, paper quality improvement and cost of paper production. Varieties of non-wood raw materials, including kenaf, rice straw, empty fruit bunches of palm trees, bamboo, bagasse, etc., are considered in this book. The process of fiber treatment also varied to meet paper quality improvement. Different organosolv processes of fiber treatment are discussed. Considering contemporary issues, one particular chapter analyzes the environmentally friendly way of processing non-wood fibers for paper production. The book also contains a chapter on the by-product raw materials of paper production and their profitable applications.

Handbook of Industrial Mixing will explain the difference and uses of a variety of mixers including gear mixers, top entry mixers, side entry mixers, bottom entry mixers, on-line mixers, and submerged mixers. The Handbook discusses the trade-offs among various mixers, concentrating on which might be considered for a particular process. Handbook of Industrial Mixing explains industrial mixers in a clear concise manner, and also: * Contains a CD-ROM with video clips showing different type of mixers in action and a overview of their uses. * Gives practical insights by the top professional in the field. * Details applications in key industries. * Provides the professional with information he did receive in school.

Biermann's Handbook of Pulp and Paper Volume 1: Raw Material and Pulp Making Elsevier

Biermann's Handbook of Pulp and Paper: Paper and Board Making, Third Edition provides a thorough introduction to paper and board making, providing paper technologists recent information. The book emphasizes principles and concepts behind papermaking, detailing both the physical and chemical processes. It has been updated, revised and extended. Several new chapters have been added. Papermaking chemistry has found an adequate scope covering this important area by basics and practical application. Scientific and technical advances in refining, including the latest developments have been presented. The process of stock preparation describes the unit processes. An exhaustive overview of Chemical additives in Pulp and Paper Industry is included. Paper and pulp processing and additive chemicals are an integral part of the total papermaking process from pulp slurry, through sheet formation, to effluent disposal. Water circuits with loop designs and circuit closure are presented. The chapter on paper and board manufacture covers the different sections in the paper machine and also fabrics, rolls and roll covers, and describes the different types of machines producing the various paper and board grades. Coating is dealt with in a separate chapter covering color formulation and preparation and also coating application. Paper finishing gives an insight into what happens at roll sitting and handling. The chapter on environmental impact includes waste water treatment and handling, air emissions, utilization and solid residue generation and mitigation. The major paper and board grades and their properties, are described. Biotechnological methods for paper processing are also presented. This handbook is essential reading for Applied Chemists, Foresters, Chemical Engineers, Wood Scientists, and Pulp and Paper technologist/Engineers, and anyone else interested or involved in the pulp and paper industry. Provides comprehensive coverage on all aspects of papermaking. Covers the latest science and technology in papermaking.
Includes traditional and biotechnological methods, a unique feature of this book. It presents the environmental impact of papermaking industries. It sets itself apart as a valuable reference that every pulp and papermaker/engineer/chemist will find extremely useful. The Handbook of Thin Film Deposition Techniques: Principles, Methods, Equipment and Applications, Second Edition explores the technology behind the spectacular growth in the silicon semiconductor industry and the continued trend in miniaturization over the last 20 years. This growth has been fueled in large part by improved thin film deposition techniques and the development of highly specialized equipment to enable this deposition. This second edition explains the growth of sophisticated, automatic tools capable of measuring thickness and spacing of submicron dimensions. The book covers PVD, laser and E-beam assisted deposition, MBE, and ion beam methods to bring together all of the physical vapor deposition techniques. The book also includes coverage of chemical mechanical polishing that helps to attain the flatness that is required by modern lithography methods and new materials used for interconnect dielectric materials, specifically organic polyimide materials. The definitive industry reference on the paper and paperboard/packaging sector. Now in a fully revised and updated second edition, this book discusses all the main types of packaging based on paper and paperboard. It considers the raw materials, the manufacture of paper and paperboard, and the basic properties and features on which packaging made from these materials depends for its appearance and performance. The manufacture of twelve types of paper and paperboard-based packaging is described, together with their end-use applications and the packaging machinery involved. The impact of pack design is stressed, as well as how the materials offered packaging designers opportunities for innovative and innovative design solutions. Environmental factors, including resource sustainability, societal and waste management issues are addressed in a dedicated chapter. The book is directed at readers based in companies which manufacture packaging grades of paper and paperboard, companies involved in the design, printing and production of packaging, and companies which manufacture inks, coatings, adhesives and packaging machinery. It will be essential reading for students of packaging technology and technologists working in food manufacturing who are users of paper and paperboard packaging products. Praise for the First Edition 'This book is a valuable addition to the library of any forward-looking company by providing in-depth coverage of all aspects of packaging which involves the most ecologically acceptable material, namely paper and paperboard.'—International Journal of Dairy Technology ...a welcome contribution to a field where coverage was previously limited to subject-specific books... or to single chapters in textbooks on broader aspects of packaging technology.'—Packaging Technology and Science In its Second Edition, Handbook of Pulping and Papermaking is a comprehensive reference for industry and academia. The book offers a concise yet thorough introduction to the process of papermaking from the production of wood chips to the final testing and use of the paper product. The author has updated the extensive bibliography, providing the reader with easy access to the pulp and paper literature. The book emphasizes principles and concepts behind papermaking, detailing both the physical and chemical processes. A comprehensive introduction to the physical and chemical processes in pulping and papermaking Contains an extensive annotated bibliography Includes 12 pages of color plates The pulp and paper industry continues to expand at a phenomenal rate and it has an important role to play on the Indian economy. This imposes a difficult problem of selection. Since the amount of material that can be included in a single volume is obviously limited, careful thought has been given to the selection with the purpose of presenting that material which will be of the greatest interest to the greatest numbers. Paper is one of the major components of urban solid waste (household and commercial waste) and has a potential resource value when collected and reused. Recycling of the waste paper has been a practice that has prevailed in the paper industry since its inception and therefore continues. The preservation of forests and increasing environmental awareness has focused research on exploration of new fibrous resources and less toxic pulping and bleaching processes. The use of non-woody already accounts for 9.1% of total world papermaking capacity. A variety of non-wood plant fibres are used for papermaking. Paper converting refers to the processing of raw paper to produce improved grade of paper or a finished paper article. There are two types of paper converting: wet converting and dry converting. The Indian paper industry has close linkages with economic growth as higher industrial output leads to increased demand for industrial paper for packaging, increased marketing spend benefits the newsprint and value added segments, and increased education and office activities increase demand for writing and printing paper. It is estimated that there is an economic growth of 8.5% for India which will benefit the demand for paper. This book basically comprises of bio refiner mechanical pulping of bast type fibres, use of trichromatic colourimetry for measurement of brightness and whiteness of bleached pulps, finishing and converting, coating equipment, chemical and additives in papermaking, mixed pulping of jute stick and other agricultural residues etc. This book also comprises of the list of manufacturers, suppliers of plant & machinery and allied products, list of manufacturers and suppliers of raw materials, imported pulp manufacturers & suppliers imported pulp, Indian agents for imported pulp etc. This informative book will be helpful for paper technologist, paper chemists and scientists related to paper field. A book about a brilliant invention - the bicycle. A book about the joys of cycling, a book that peels back the myths of the cycling fraternity. A book about being a boy on a bike or a girl on a bike. A book that states that the bicycle is for everybody to enjoy not just the Carbon Fiber Cowboys and the Lycra Loonies Preschoolers will have hours of fun with this activity-packed book. There are puzzles to complete, simple mathematics, find objects, alphabets and more. A great way for kids to learn while having fun. DSaaf - Data Science as a Framework. The purpose of this Framework is to establish a best practice and a benchmark in the field of Data Science and Big Data Analytics to ensure consistency of understanding and application. As a Framework, its structure and layout enables professional and academic institutions to create a learning program that suits their specific target audience and provides them with key transferable skills and knowledge across vertical industrial sectors. Pulp and Paper Industry: Microbiological Issues in Papermaking features in-depth and thorough coverage of microbiological issues in papermaking and their consequences and the current state of the different alternatives for prevention, treatment and control of biofilm/slime considering the impact of the actual technological changes in papermaking on the control programmes. The microbial issues in paper mill systems, chemistry of deposits on paper machines, the strategies for deposit control and methods used for the analysis of biofouling are all dealt in this book along with various growth prevention methods. The traditional use of biocides is discussed taken into account the new environmental regulations regarding their use. Finally, discusses the trends regarding the future of the microbiological control in papermaking systems. In-depth coverage of microbiological issues in papermaking and their consequences Discusses eco-efficient processes (green processes) for biofilm/slime control Offers a thorough review of the current literature with links to the primary literature Comprehensive indexing Author is an authority in the pulp and paper industry Pulp and Paper Industry: Energy Conservation presents a number of energy-efficient technologies and practices that are cost-effective and available for implementation today. Emerging energy-efficient technologies and future prospects in this field are also dealt with. Qualitative and quantitative results/data on energy savings for various steps of pulp and paper making process are presented. There is no specific book on this topic. This will be a comprehensive reference in the field. Through and in-depth coverage of energy-efficient technologies and practices in paper and pulp industry Presents cost-effective and available for implementation today technologies Discusses Biotechnological processes, especially enzymatic processes in the pulp and paper
industry to reduce the energy consumption and improve the product quality. Presents qualitative and quantitative results/data on energy savings for various steps of pulp and paper making process.

Biological treatment of wastewater is a low-cost solution for remediation of wastewater. This book focuses on the bioremediation of wastewater, its management, monitoring, role of biofilms on wastewater treatment and energy recovery. It emphasizes on organic, inorganic and micropollutants entering into the environment after conventional wastewater treatment facilities of industrial, agricultural and domestic wastewaters. The occurrence of persistent pollutants poses deleterious effects on human and environmental health. Simple solution for recovery of energy as well as water during biological treatment of wastewater is a viable option. This book provides necessary knowledge and experimental studies on emerging bioremediation processes for reducing water, air and soil pollution.

Nevertheless, as computer engineering organizations demanded more growth from the production process, they initiated a transformation of the production infrastructure by creating multitasking production devices, automation and Internet communication. This production infrastructure was comprised by 4 new components: (1) Waterfall was changed to the Iterative production framework method, (2) single function base production devices were changed to multifunctional production devices, (3) singular specialization based Division of Labor forces were changed to multifunctional based Division of Labor forces, and finally, (4) the manual individual based production process became a multitasking based production process. This was followed by a transformation of the hierarchy management infrastructure to a macro-matrix management infrastructure, along with the replacement of the pyramid organizational structure with the upside-down and linear organizational structure.

This book covers all aspects of physical vapor deposition (PVD) process technology from the characterizing and preparing the substrate material, through deposition processing and film characterization, to post-deposition processing. The emphasis of the book is on the aspects of the process flow that are critical to economical deposition of films that can meet the required performance specifications. The book covers subjects seldom treated in the literature: substrate characterization, adhesion, cleaning and the processing. The book also covers the widely discussed subjects of vacuum technology and the fundamentals of individual deposition processes. However, the author uniquely relates these topics to the practical issues that arise in PVD processing, such as contamination control and film growth effects, which are also rarely discussed in the literature. In bringing these subjects together in one book, the reader can understand the interrelationship between various aspects of the film deposition processing and the resulting film properties. The author draws upon his long experience with developing PVD processes and troubleshooting the processes in the manufacturing environment, to provide useful hints for not only avoiding problems, but also for solving problems when they arise. He uses actual experiences, called "war stories", to emphasize certain points. Special formatting of the text allows a reader who is already knowledgeable in the subject to scan through a section and find discussions that are of particular interest. The author has tried to make the subject index as useful as possible so that the reader can rapidly go to sections of particular interest. Extensive references allow the reader to pursue subjects in greater detail if desired. The book is intended to be both an introduction for those who are new to the field and a valuable resource to those already in the field. The discussion of transferring technology between R&D and manufacturing provided in Appendix 1, will be of special interest to the manager or engineer responsible for moving a PVD product and process from R&D into production. Appendix 2 has an extensive listing of periodical publications and professional societies that relate to PVD processing. The extensive Glossary of Terms and Acronyms provided in Appendix 3 will be of particular use to students and to those not fully conversant with the terminology of PVD processing or with the English language.


Paper recycling in an increasingly environmentally conscious world is gaining importance. Increased recycling activities are being driven by robust overseas markets as well as domestic demand. Recycled fibers play a very important role today in the global paper industry as a substitute for virgin pulps. Paper recovery rates continue to increase year after year. Recycling technologies have been improved in recent years by advances in pulping, flotation, deinking and cleaning/screening, resulting in the quality of paper made from secondary fibres approaching that of virgin paper. The process is a lot more eco-friendly than the virgin-papermaking process, using less energy and natural resources, produce less solid waste and fewer atmospheric emissions, and helps to preserve natural resources and landfill space. Currently more than half of the paper is produced from recovered papers. Most of them are used to produce brown grades paper and board but for the last two decades, there is a substantial increase in the use of recovered papers to produce, through deinking, white grades such as newsprint, tissue, market pulp. By using recycled paper, companies can take a significant step toward reducing their overall environmental impacts. This study deals with the technical and environmental aspects of recycled paper and board production processes. Covers in great depth the aspects of recycling technologies Covers the latest science and technology in recycling Provides up-to-date, authoritative information and cites many mills experiences and pertinent research Includes the use of biotech methods for deinking, refining, and improving drainage.

Papermaking is a fascinating art and technology. The second edition of this successful 2 volume handbook provides a comprehensive view on the technical, economic, ecologic and social background of paper and board. It has been updated, revised and largely extended in depth and width including the further use of paper and board in converting and printing. A wide knowledge basis is a prerequisite in evaluating and optimizing the whole process chain to ensure efficient paper and board production. The same is true in their application and end use. The book covers a wide range of topics: " Raw materials required for paper and board manufacturing such as fibers, chemical additives and fillers " Processes and machinery applied to prepare the stock and to produce the various paper and board grades including automation and trouble shooting " Paper converting and printing processes, book preservation " The different paper and board grades as well as testing and analysing fiber suspensions, paper and board products, and converted or printed matters " Environmental and energy factors as well as safety aspects. The handbook will provide professionals in the field, e.g. papermakers as well as converters and printers, laymen, students, politicians and other interested people with the most up-to-date and comprehensive information on the state-of-the-art techniques and aspects involved in paper making, converting and printing.

"The Art of Paper-Making" by Alexander Watt. Published by Good Press. Good Press publishes a wide range of titles that encompasses every genre. From well-known classics & literary fiction and non-fiction to forgotten?or yet undiscovered gems?of world literature, we issue the books that need to be read. Each Good Press edition has been meticulously edited and formatted to boost readability for all e-readers.
and devices. Our goal is to produce eBooks that are user-friendly and accessible to everyone in a high-quality digital format.

This book provides the most up-to-date information available on various biotechnological processes useful in the pulp and paper industry. Each of the twenty chapters covers a specific biotechnological process or technique, discussing the advantages, limitations, and future prospects of the most important and popular processes used in the industry. Topics covered include tree improvement, pulping, bleaching, deinking, fiber modification, biosolids management, and biorefining.

A comprehensive reference book for those with interest in, or need to know, how operations in the world’s factories work, and how common products, components, and materials are made.

Who am I? This question has defied answer since time immemorial! World famous psychologists and scientists have tried to find an answer to this question without success. In fact, you know me very well. You meet me daily, live with me, work with me, for work, supervise me, make me work for you; and my mistakes cause disasters, in which you and I perish! You meet me as a father, mother, brother, sister, husband, wife, friend, lover, employer, employee... the list is endless. No venture or activity can ever be accomplished without me. You need me. You cannot get anything done without me. It is I with whom you want a relationship; who creates the greatest love story or heartbreak; makes any undertaking a success or a failure; is the single largest cost item in any company's balance sheet; and matters the most in any activity. Yet, I am least understood and cared! Your inability to understand me leads to most of the organizational and interpersonal problems, even accidents and disasters, in the world today. Disasters, in relationships - between families, friends, colleagues and lovers; in work-place interactions leading to organizational conflicts; in development or implementation of policies, procedures or processes I cannot be relied upon to follow, leading to accidents; these result from your inability to understand me. I cannot be managed or controlled. I can only be led, motivated, mentored and developed. Love me, or hate me, you cannot live without me! You got me and the sooner you understand me, the better will it be for both of us! I am a human, and this... is my story.

The pulp and paper industry comprises companies that use wood as raw material and produce pulp, paper, board and other cellulose based products. The pulp and paper sector presents one of the energy intensive and highly polluting sectors within the Indian economy and is therefore of particular interest in the context of both local and global environmental discussions. Increases in productivity through the adoption of more efficient and cleaner technologies in the manufacturing sector will be most effective in merging economic, environmental, and social development objectives. Papers are mostly used product starting from writing to packaging. It plays an important role in commercial field as well as in academic field also. Without paper nothing is expressible and reliable, so paper is part and parcel of our life. Adequate amount of raw materials for processing paper and pulp is available. Bamboo is the main raw material for Indian paper industry. New bamboo areas even at high cost are being trapped. Some of the examples of high yield pulping process are mechanical process, semi chemical process, alkaline chemical process, sulfite process, etc. Physical strength properties of paper depend on the quality of raw material, its pulping, bleaching and subsequent paper making processes. Technology has made it easy to process these raw materials in an economic and lucrative way to meet the global demand. Raw materials like, straw, bagasse, wood, bamboo is almost available in most of the places. So it is great opportunity for the entrepreneurs to start up such kind of industry. Paper Industry has tremendously up suched in India in the last 20 to 30 yrs. The Paper industry is a priority sector for foreign collaboration and foreign equity participation up to 100% receives automatic approval by Reserve Bank of India. Several fiscal incentives have also been provided to the paper industry, particularly to those mills which are based on non conventional raw material. Some of the fundamentals of the book are bleaching of bamboo cold, high yield semi chemical pulping of mixture of bamboo and mixed hardwoods, sulphate semi chemical process, kraft green liquor semi chemical process, neutral sulphite semi chemical process, thermo mechanical pulps for newsprint, zeta potential concept in paper sizing, sodium carbonate in alkali extraction during bleaching bamboo , maintenance engineering in pulp and paper industry, design and application of refiners in stock preparation, paper machine effluent etc. This book explains about the various raw material, their processing and utilization and also the possible waste treatment of such paper and pulp making industry. To draw attention for manufacturing quality product with all possible latest technologies is the main purpose of this book. The book is very resourceful for new entrepreneurs, technocrats, existing units and research scholars.

This book is about the fundamentals of live sound engineering and is intended to supplement the curriculum for the online classes at the Production Institute (www.productioninstitute.com/students). Nonetheless, it will be invaluable for beginning sound engineers and technicians anywhere who seek to expand their knowledge of sound reinforcement on their own. Written with beginners and novices in churches and convention centers in mind, this book starts by teaching you professional terminology and the processes of creating production related documents used to communicate with other sound engineers, vendors and venues. Subjects such as Signal Path and AC (alternating current) power safety and distribution are closely examined. These two subjects are closely related to the buzzing, humming and other noise related phenomena that often plague sound reinforcement systems. Chapters include an in-depth review of both analog and digital mixing consoles, their differences and similarities, and the gain structure fundamentals associated with the proper operation of either type of mixing console. Audio dynamic processors such as compressors, limiters and noise gates and their operation are explained in detail. Audio effects like delay and reverb are examined so that you can learn the basics of "sweetening" the mix to create larger and more emotive soundscapes and achieve studio-like outcomes in a live sound environment. Advanced mixing techniques, workflow, and the conventional wisdom used by professional audio engineers are explained so you don't have to spend years trying to figure out how these processes are achieved. Last but not least, a comprehensive review of acoustic feedback, and how to eliminate it from stage monitors and main speaker systems are detailed in a step by step process. This book will be especially helpful to volunteer audio techs in houses of worship, convention centers and venues of all types. It will bridge the gap between the on-the-job training that beginners receive and the knowledge and conventional wisdom that professional sound engineers employ in their daily routine.

Pulp and Paper Industry: Chemical Recovery examines the scientific and technical advances that have been made in chemical recovery, including the very latest developments. It looks at general aspects of the chemical recovery process and its significance, black liquor evaporation, black liquor combustion, white liquor preparation, and lime reburnning. The book also describes the technologies for chemical recovery of nonwood black liquor, as well as direct alkali regeneration systems in small pulp mills. In addition, it includes a discussion of alternative chemical recovery processes, i.e. alternative causticization and gasification processes, and the progress being made in the recovery of filler, coating color, and pigments. Furthermore, it discusses the utilization of new value streams (fuels and chemicals) from residuals and spent pulping liquor, including related environmental challenges. Offers thorough and in-depth coverage of scientific and technical advances in chemical recovery in pulp making Discusses alternative chemical recovery processes, i.e.,
alternative causticization and gasification processes Covers the progress being made in the recovery of filler, coating color, and pigments Examines utilization of new value streams (fuels and chemicals) from residuals and spent pulping liquor Discusses environmental challenges (air emissions, mill closure) Presents ways in which the economics, energy efficiency, and environmental protection associated with the recovery process can be improved

The book provides the most up-to-date information available on various biotechnological processes useful in the pulp and paper industry. The first edition was published in 2011, covering a specific biotechnological process or technique, discussing the advantages, limitations, and prospects of the most important and popular processes used in the industry. Many new developments have taken place in the last five years, warranting a second edition on this topic. The new edition contains about 35% new material covering topics in Laccase application in fibreboard; biotechnology in forestry; pectinases in papermaking; stickies control with pectinase; products from hemicelluloses; value added products from biorefinery lignin; use of enzymes in mechanical pulping.

Handbook of Chemical Vapor Deposition: Principles, Technology and Applications provides information pertinent to the fundamental aspects of chemical vapor deposition. This book discusses the applications of chemical vapor deposition, which is a relatively flexible technology that can accommodate many variations. Organized into 12 chapters, this book begins with an overview of the theoretical examination of the chemical vapor deposition process. This text then describes the major chemical reactions and reviews the chemical vapor deposition systems and equipment used in research and production. Other chapters consider the materials deposited by chemical vapor deposition. This book discusses as well the potential applications of chemical vapor deposition in semiconductors and electronics. The final chapter deals with ion implantation as a major process in the fabrication of semiconductors. This book is a valuable resource for scientists, engineers, and students. Production and marketing managers and suppliers of equipment, materials, and services will also find this book useful.

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