

Handbook Of Natural Fibres Types Properties And Factors Affecting Breeding And Cultivation Woodhead Publishing Series In Textiles

Growing awareness of environmental issues has led to increasing demand for goods produced from natural products, including natural fibres. The two-volume Handbook of natural fibres is an indispensable tool in understanding the diverse properties and applications of these important materials. Volume 1: Types, properties and factors affecting breeding and cultivation is an essential guide to a wide range of natural fibres, and highlights key techniques for their improvement. Part one reviews key types and fundamental properties of natural textile fibres. The production, identification and testing of a range of cotton, bast, silk and wool fibres are discussed, alongside bioengineered natural textile fibres. Part two goes on to explore the improvement of natural fibre properties and production through breeding and cultivation, beginning with a discussion of fibrous flax and cotton. Improved natural fibre production through the prevention of fungal growth is explored, along with the use of genetic engineering and biotechnology to enhance desirable characteristics. Finally, the wider impact of natural textile production is discussed, using wild silk enterprise programs as an example. With its distinguished editor and international team of expert contributors, the two volumes of the Handbook of natural fibres are essential texts for professionals and academics in textile science and technology. Provides an essential guide to a wide range of natural fibres and highlights key techniques for their improvement Reviews key types and fundamental properties of natural textile fibres, addressing the production, identification and testing of a range of cotton, bast, silk and wool fibres Explores the improvement of natural fibre properties and production through breeding and cultivation, beginning with a discussion of fibrous flax and cotton A comprehensive survey of the natural fibres animal, vegetable and mineral on which we depended for our textiles until comparatively recently.

In today's world, bioplastics are becoming increasingly prominent owing mainly to scarcity of oil, increase in the cost of petroleum-based commodities, and growing environmental concerns with the dumping of non-biodegradable plastics in landfills. This book summarizes the field of bioplastics by illustrating how they form a unique class of research area that integrates pure and applied sciences such as chemistry, engineering and materials science, to initiate solutions. Compelling science demystifies this complex and often ambiguous branch of study for benefit of all those concerned with bioplastics.

This major textbook is designed for students studying textiles and fashion at higher and undergraduate level, as well as those needing a comprehensive and authoritative overview of textile materials and processes. The first part of the book reviews the main types of natural and synthetic fibres and their properties. Part two provides a systematic review of the key processes involved first in converting fibres into yarns and then transforming yarns into fabrics. Part three discusses the range of finishing techniques for fabrics. The final part of the book looks specifically at the transformation of fabric into apparel, from design and manufacture to marketing. With contributions from leading experts in their fields, this major book provides the definitive one-volume guide to textile manufacture. Provides comprehensive coverage of the types and properties of textile fibres to yarn and fabric manufacture, fabric finishing, apparel production and fashion Focused on the needs of college and undergraduate students studying textiles or fashion courses Each chapter ends with a summary to emphasise key points, a comprehensive self-review section, and project ideas are also provided

Natural fibre composite is an emerging material that has great potential to be used in engineering application. Oil palm, sugar palm, bagasse, coir, banana stem, hemp, jute, sisal, kenaf, roselle, rice husk, betel nut husk and cocoa pod are among the natural fibres reported to be used as reinforcing materials in polymer composites. Natural fibre composites were used in many industries such as automotive, building, furniture, marine and aerospace industries. The advantages of natural fibre composites include low cost, renewable, abundance, light weight, less abrasive and they are suitable to be used in semi or non-structural engineering components. Research on various aspects of natural fibre composites such as characterization, determination of properties and design have been extensively carried out. However, publications that reported on research of manufacture of natural fibre composites are very limited. Specifically, although manufacturing methods of components from natural fibre composites are similar to those of components from conventional fibre composites such as glass, carbon and Kevlar fibres, modification of equipment used for conventional fibre composites may be required. This book fills the gap of knowledge in the field of natural fibre composites for the research community. Among the methods reported that are being used to produce components from natural fibre composites include hand lay-up, compression moulding, filament winding, injection moulding, resin transfer moulding, pultrusion and vacuum bag moulding. This book is also intended to address some research on secondary processing such as machining and laser welding of natural fibre composites. It is hoped that publication of this book will provide the readers new knowledge and understanding on the manufacture of natural fibre composites.

The Handbook of Natural Fibres, Second Edition, Volume One: Types, Properties and Factors Affecting Breeding and Cultivation covers every aspect of natural fibers, their breeding, cultivation, processing and applications. This volume features fundamental discussions of each fiber, covering different stages of breeding and cultivation. Natural fibrous resources, both lignocellulosic and protein ones, are renewable, biodegradable, and nontoxic, making them an important source of sustainable textile solutions. A broad range of natural fibers are covered in this book, including cotton, jute, kenaf, flax, hemp, sisal, ramie, curaua, pineapple, bamboo, coir, sheep wool, and more. Provides detailed instructions for how to carry out the latest scientific methods for identifying natural fibers Explains properties of natural fibers that will be of interest to readers in growth fields like biocomposites and nanofibers Includes a rare overview of emerging natural fibers and their uses, along with sources of further information

Given its importance to consumer safety, fire resistant textiles are one of the fastest growing sectors in industrial textiles. Handbook of fire resistant textiles provides a comprehensive review of the considerable advances that have occurred in the field of fire resistant textiles in recent years. It draws together scientific and technical expertise from around the world to produce an important source of current knowledge on fire resistant textiles and their use for protection in hostile environments. Part one provides an overview of fire resistant textiles. Chapters discuss burning and combustion mechanisms of textile fibers, chemical modification of natural and synthetic fibers to improve flame retardancy, multi-component flame resistant coating techniques for textiles, care and maintenance of fire resistant textiles, along with the safety, health and environmental aspects of flame retardants. Part two covers different types of fire resistant fibers and fabrics, including flame retardant cotton, wool, ceramic fibers and blends, composites and nonwovens. Part three reviews standards, regulations, and characterization of fire resistant textiles. Part four includes case studies of major applications of fire resistant textiles. The Handbook of fire resistant textiles is an invaluable resource for a broad spectrum of professionals in the textiles and apparel industries, including textile and garment manufacturers, engineers, researchers, designers, developers and buyers. Provides a comprehensive review of the considerable advances that have occurred in the field of fire resistant textiles in recent years Discusses burning and combustion mechanisms of textile fibers and chemical modification of natural and synthetic fibers to improve flame retardancy Covers different types of fire resistant fibers and fabrics, including flame retardant cotton, wool, ceramic fibers and blends, composites and nonwovens

The use of natural fibres as reinforcements in composites has grown in importance in recent years. Natural Fibre Composites summarises the wealth of significant recent research in this area. Chapters in part one introduce and explore the structure, properties, processing, and applications of natural fibre reinforcements, including those made from wood and cellulosic fibres. Part two describes and illustrates the processing of natural fibre composites. Chapters discuss ethical practices in the processing of green composites, manufacturing methods and compression and injection molding techniques for natural

fibre composites, and thermoset matrix natural fibre-reinforced composites. Part three highlights and interprets the testing and properties of natural fibre composites including, non-destructive and high strain rate testing. The performance of natural fibre composites is examined under dynamic loading, the response of natural fibre composites to impact damage is appraised, and the response of natural fibre composites in a marine environment is assessed. Natural Fibre Composites is a technical guide for professionals requiring an understanding of natural fibre composite materials. It offers reviews, applications and evaluations of the subject for researchers and engineers. Introduces and explores the structure, properties, processing, and applications of natural fibre reinforcements, including those made from wood and cellulosic fibres Highlights and interprets the testing and properties of natural fibre composites, including non-destructive and high strain rate testing Examines performance of natural fibre composites under dynamic loading, the response of natural fibre composites to impact damage, and the response of natural fibre composites in a marine environment

Despite the increased variety of manufactured fibres available to the textile industry, demand for cotton remains high because of its suitability on the basis of price, quality and comfort across a wide range of textile products. Cotton producing nations are also embracing sustainable production practices to meet growing consumer demand for sustainable resource production. This important book provides a comprehensive analysis of the key scientific and technological advances that ensure the quality of cotton is maintained from the field to fabric. The first part of the book discusses the fundamental chemical and physical structure of cotton and its various properties. Advice is offered on measuring and ensuring the quality of cotton fibre. Building on these basics, Part two analyses various means for producing cotton such as genetic modification and organic production. Chapters focus on spinning, knitting and weaving technologies as well as techniques in dyeing. The final section of the book concludes with chapters concerned with practical aspects within the industry such as health and safety issues and recycling methods for used cotton. Written by an array of international experts within the field, Cotton: science and technology is an essential reference for all those concerned with the manufacture and quality control of cotton. Summarises key scientific and technological issues in ensuring cotton quality Discusses the fundamental chemical and physical structure of cotton Individual chapters focus on spinning, knitting and weaving technologies

Through step-by-step instructions and color-saturated photographs, textile designer Sasha Duerr explains the basics of making and using natural plant dye, from gathering materials and making the dyes to simple ideas for how to use them. --from publisher description

Dyeing is one of the most effective and popular methods used for colouring textiles and other materials. Dyes are employed in a variety of industries, from cosmetic production to the medical sector. The two volumes of the Handbook of textile and industrial dyeing provide a detailed review of the latest techniques and equipment used in the dyeing industry, as well as examining dyes and their application in a number of different industrial sectors. Volume 2 deals with major applications of dyes and is divided into two parts. Part one covers textile applications, with chapters dealing with the dyeing of wool, synthetic and cellulosic fibres, and textile fibre blends. In part two, industrial applications of dyes are examined, with topics including dyes used in food and in the cosmetics industry. With its distinguished editor and contributions from some of the world's leading authorities, the Handbook of textile and industrial dyeing is an essential reference for designers, colour technologists and product developers working in a variety of sectors, and will also be suitable for academic use. Provides a detailed review of the latest techniques and equipment used in the dyeing industry Industrial applications of dyes are examined, with topics including dyes used in food and in the cosmetics industry Is appropriate for a variety of different readers including designers, colour technologists, product developers and those in academia

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Covering a broad range of polymer science topics, Handbook of Polymer Synthesis, Characterization, and Processing provides polymer industry professionals and researchers in polymer science and technology with a single, comprehensive handbook summarizing all aspects involved in the polymer production chain. The handbook focuses on industrially important polymers, analytical techniques, and formulation methods, with chapters covering step-growth, radical, and co-polymerization, crosslinking and grafting, reaction engineering, advanced technology applications, including conjugated, dendritic, and nanomaterial polymers and emulsions, and characterization methods, including spectroscopy, light scattering, and microscopy.

The huge consumption of earth's natural resources and the reliance on industrial manufactured products have produced significant impacts on the environment. As such, new strategies must be adopted in order to support the protection and continued development of numerous natural resources. Mechanical Properties of Natural Fiber Reinforced Polymers: Emerging Research and Opportunities is a critical scholarly resource that examines green energy sources and material enhancements that will help to solve ecological problems. Featuring coverage on a broad range of topics, such as harvesting techniques, origins of natural fibers, and modeling for textile composites, this book is geared towards engineers, researchers, scholars, and graduate students in the fields of materials science and engineering.

Fabric for Fashion: The Complete Guide is the only book specifically for fashion designers to explain the behaviour and properties of different fabrics. Fashion design is largely determined by how the fabrics work, move, feel and look. The most successful fashion designers are those who understand their materials, who match design skill with technical knowledge. This book bridges that gap by providing a mix of practical information and industry vocabulary, visually examining generic fabric types, discussing the characteristics of fabrics and showing how to exploit materials to push the boundaries of design. With stunning colour photographs that show how fashion designers, both past and present, have worked with fabrics, the book's prime objective is to stimulate creative exploration of the relationship of fabrics to fashion.

This volume comprises select peer-reviewed contributions from the International Conference on Production and Industrial Engineering (CPIE) 2019. The contents focus on latest research in production and manufacturing engineering including case studies with analytical models and latest numerical approaches. The topics covered include micro, nano, and non-conventional machining, additive manufacturing, casting and forming, joining processes, vibrations and acoustics, materials and processing, product design and development, industrial automation, CAD/CAM and robotics, and sustainability in manufacturing. The book can be useful for students, researchers, and professionals working in manufacturing and production engineering, and other allied fields.

This comprehensive single volume handbook covers every aspect of reinforcement science, from hands-on subjects, such as manual 'lay-up' processing, to theoretical discussions concerning rheology and

modeling. Taken from the recently published six volume International Encyclopedia of Composites, this reference volume offers scholarly and practical knowledge of distinguished industry-experts, academics, and government researchers in one accessible and informative handbook. Fibers, processes, and composite reinforcement types, as well as relevant miscellaneous subjects such as property relationships, manufacturing, hybrid reinforcements, and modeling are given detailed treatment. Engineers, materials scientists, and technologists will find the Composite Reinforcement Handbook an invaluable tool.

The first edition of Handbook of Technical Textiles has been an essential purchase for professionals and researchers in this area since its publication in 2000. With revised and updated coverage, including several new chapters, this revised two volume second edition reviews recent developments and new technologies across the field of technical textiles. Volume 2 – Technical Textile Applications offers an indispensable guide to established and developing areas in the use of technical textiles. The areas covered include textiles for personal protection and welfare, such as those designed for ballistic protection, personal thermal and fire protection, and medical applications; textiles for industrial, transport and engineering applications, including composite reinforcement and filtration; and the growing area of smart textiles. Comprehensive handbook for all aspects of technical textiles Provides updated, detailed coverage of processes, fabric structure, and applications Ideal resource for those interested in high-performance textiles, textile processes, textile processing, and textile applications Many of the original, recognized experts from the first edition update their respective chapters

The Handbook of Fiber Chemistry, Third Edition provides complete coverage of scientific and technological principles for all major natural and synthetic fibers. Incorporating new scientific techniques, instruments, characterization, and processing methods, the book features important technological advances from the past decade, particularly in fiber production and novel applications. It contains the latest data and insight into the chemistry and structural properties made possible by these advances. Authored by leading experts in the field of fiber science, most chapters in this third edition of a bestseller are either new or extensively updated. Chapters on synthetic fibers detail their formation from monomers, while those on natural fibers cover extraction and purification methods. Each chapter encompasses definitions, morphology, and fine structure; properties, testing, processing methods, and equipment; and the conversion into marketable products. Taking into account the recent expansion and diversification of markets for various fibers, this book also offers a solid foundation in the principles used for developing new fibers, including biologically and electronically active fibers. The Handbook of Fiber Chemistry, Third Edition offers a better understanding of the structure–property relationships of fibers and fiber-related phenomena. It is an ideal volume for scientists, technologists, and engineers working to develop novel and innovative products and technologies using natural and synthetic fibers.

Fibres usually experience tensile loads whether they are used for apparel or technical structures. Their form, which is long and fine, makes them some of the strongest materials available as well as very flexible. This book provides a concise and authoritative overview of tensile behaviour of a wide range of both natural and synthetic fibres used both in textiles and high performance materials. After preliminary chapters that introduce the reader to tensile properties, failure and testing of fibres, the book is split into two parts. Part one examines tensile properties and failure of natural fibres, such as cotton, hemp, wool and silk. Part two discusses the tensile properties and failure of synthetic fibres ranging from polyamide, polyester and polyethylene fibres to carbon fibres. Many chapters also provide a general background to the fibre, including the manufacture, microstructure, factors that affect tensile properties as well as methods to improve tensile failure. With its distinguished editor and array of international contributors, Handbook of tensile properties of textile and technical fibres is an important reference for fibre scientists, textile technologists and engineers, as well as those in academia. Provides an overview of tensile behaviour of a wide range of both natural and synthetic fibres Examines tensile characteristics, tensile failure of textiles fibres and factors that affect tensile properties Discusses microstructures and each type of fibre from manufacture to finished product

Textile manufacturing is an important subject in textile programs and processing industries. The introduction of manmade and synthetic fibers, such as polyester, nylon, acrylic, cellulose, and Kevlar, among others, has greatly expanded the variety of textile products available today. In addition, new fiber development has brought about new machines for producing yarns, fabrics, and garments. Textile Manufacturing Processes is a collection of academic and research work in the field of textile manufacturing. Written by experts, chapters cover topics such as yarn manufacturing, fabric manufacturing, and garment and technical textiles. This book is useful for students, industry workers, and anyone interested in learning the fundamentals of textile manufacturing.

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Even though the fibre or textile technology is nearly as old as human civilization itself, the process of meaningful unfolding and proper understanding of the fibre science as one of the major branches of polymer science is only of very recent origin and development. This book has been designed with the idea of combining the science and technology of natural and man-made fibres and integrating the vast subject area from the view point of material science and technology with special reference to fibres and textiles constituting a major class of polymeric materials of every-day use.

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desirable characteristics in natural fibres. Volume two focuses on key processing techniques for the improvement and broader application of natural fibres. Provides an essential guide to a wide range of natural fibres and highlights key techniques for their improvement Reviews key types and fundamental properties of natural textile fibres, addressing the production, identification and testing of a range of cotton, bast, silk and wool fibres Focuses on key processing techniques for the improvement and broader application of natural fibres

Handbook of Natural Fibres Volume 1: Types, Properties and Factors Affecting Breeding and Cultivation Woodhead Publishing

Due to their complexity and diversity, understanding the structure of textile fibres is of key importance. This authoritative two-volume collection provides a comprehensive review of the structure of an extensive range of textile fibres. Volume 2 begins by reviewing natural fibres such as cellulosic, cotton, protein, wool and silk fibres. Part two considers regenerated cellulosic, protein, alginate, chitin and chitosan fibres. The final part of the book discusses inorganic fibres such as glass, carbon and ceramic fibres as well as specialist fibres such as thermally and chemically-resistant fibres, optical and hollow fibres. Chapters review how fibre structure contributes to key mechanical properties. A companion volume reviews the structure of manufactured polymer fibres. Edited by leading authorities on the subject and with a team of international authors, the two volumes of the Handbook of textile fibre structure is an essential reference for textile technologists, fibre scientists, textile engineers and those in academia. Discusses how fibre structure contributes to key mechanical properties Reviews natural fibres such as cellulosic, cotton and silk fibres and considers various regenerated fibres Examines inorganic fibres including glass and carbon as well as specialist fibres such as chemically-resistant and optical fibres

Natural Fiber-Reinforced Biodegradable and Bioresorbable Polymer Composites focuses on key areas of fundamental research and applications of biocomposites. Several key elements that affect the usage of these composites in real-life applications are discussed. There will be a comprehensive review on the different kinds of biocomposites at the beginning of the book, then the different types of natural fibers, bio-polymers, and green nanoparticle biocomposites are discussed as well as their potential for future development and use in engineering biomedical and domestic products. Recently mankind has realized that unless the environment is protected, he himself will be threatened by the over consumption of natural resources as well as a substantial reduction in the amount of fresh air produced in the world. Conservation of forests and the optimal utilization of agricultural and other renewable resources like solar, wind, and tidal energy, have become important topics worldwide. With such concern, the use of renewable resources—such as plant and animal-based, fiber-reinforced polymeric composites—are now becoming an important design criterion for designing and manufacturing components for a broad range of different industrial products. Research on biodegradable polymeric composites can contribute, to some extent, to a much greener and safer environment. For example, in the biomedical and bioengineering fields, the use of natural fiber mixed with biodegradable and bioresorbable polymers can produce joint and bone fixtures to alleviate pain in patients. Includes comprehensive information about the sources, properties, and biodegradability of natural fibers Discusses failure mechanisms and modeling of natural fibers composites Analyzes the effectiveness of using natural materials for enhancing mechanical, thermal, and biodegradable properties

The field of fibre rope technology has witnessed incredible change and technological advance over the last few decades. At the forefront of this change has been the development of synthetic fibres and modern types of rope construction. This handbook updates the history and structural mechanics of fibre rope technology and describes the types and properties of modern rope-making materials and constructions. Following an introduction to fibre ropes, the Handbook of fibre rope technology takes a comprehensive look at rope-making materials, rope structures, properties and mechanics and covers rope production, focusing on laid strand, braided, low-twist and parallel yarn ropes.

Terminations are also introduced and the many uses of rope are illustrated. The key issues surrounding the inspection and retirement of rope are identified and rope testing is thoroughly examined. The final two chapters review rope markets, distribution and liability and provide case studies from the many environments in which fibre rope is used. The Handbook of fibre rope technology is an essential reference for everyone assisting in the design, selection, use, inspection and testing of fibre rope. A comprehensive look at rope-making materials and structures, properties and mechanics Covers rope production including laid strand, braided, low-twist and parallel yarn ropes and rope terminations Rope testing is examined in depth, as well as the key issues surrounding rope retirement

Dye wool without chemicals How to dye wool with acid dyes Gene's tips and techniques for dyeing yarn and wool yardage Essential for all wool fiber artists, especially those working in rug hooking, wool applique, or quilting with wool Learn how to marbleize, spot dye, marry colors, and casserole dye to make exquisite wool

Concern about global warming has led to renewed interest in the more sustainable use of natural fibres in composite materials. This important book reviews the wealth of recent research into improving the mechanical properties of natural-fibre thermoplastic composites so that they can be more widely used. The first part of the book provides an overview of the main types of natural fibres used in composites, how they are processed and, in particular, the way the fibre-matrix interface can be engineered to improve performance. Part two discusses the increasing use of natural-fibre composites in such areas as automotive and structural engineering, packaging and the energy sector. The final part of the book discusses ways of assessing the mechanical performance of natural-fibre composites. With its distinguished editor and team of contributors, Properties and performance of natural-fibre composites is a valuable reference for all those using these important materials in such areas as automotive and structural engineering. Provides an overview of the types of natural fibres used in composites Discusses fibre-matrix interface and how it can be engineered to improve performance Examines the increasing use of natural-fibre composites in automotive and structural engineering and the packaging and energy sector

This book collects selected high quality articles submitted to the 2nd International Conference on Natural Fibers (ICNF2015). A wide range of topics is covered related to various aspects of natural fibres such as agriculture, extraction and processing, surface modification and functionalization, advanced structures, nano fibres, composites and nanocomposites, design and product development, applications, market potential, and environmental impact. Divided into separate sections on these various topics, the book presents the latest high quality research work addressing different approaches and techniques to improve processing, performance, functionalities and cost-effectiveness of natural fibre and natural based products, in order to promote their applications in various advanced technical sectors. This book is a useful source of information for materials scientists, teachers and students from various disciplines as well as for R& D staff in industries using natural fibre based materials.

Concentration on renewable resources, sustainability and replacement of oil based products are driving forces to reassess the potential of natural resources including natural colorants. The growing consumer interest in purchasing “green” products, which exhibit an improved environmental profile, can be seen as the break-through force needed to reintroduce natural colorants into the modern markets. Written by scientists with specialised knowledge in the field, Handbook of Natural Colorants provides a unique source of information, summarising the present knowledge of natural colorants in depth. Supporting researchers in this emerging field of sustainable chemistry, it provides easy access to the theory and practice of natural colorants from different viewpoints, including agricultural, economic and legislative aspects. Topics covered include: History of coloration technology Present position of natural colorants Regional plant source availability Specific application techniques Chemical properties that professional dyers and chemists have to consider Agricultural sourcing of dyes with an emphasis on renewable resources Discussions on energy and material balance issues arising from the sourcing of materials Production aspects of colorants, leading on to the key applications Environmental and economic aspects Also included are the pros and cons of natural dyestuffs, presenting some promising results and evaluating the potential use of vegetable dyes as alternatives to chemical-based ones with a focus on green chemistry

The Handbook of Natural Fibres: Volume Two, Processing and Applications, Second Edition provides detailed coverage of the latest processing techniques and industrial applications of a wide range of natural fibers. Natural fibrous resources, both lignocellulosic and protein ones, are renewable, biodegradable, and nontoxic, making them an important source of sustainable textile solutions. A broad range of sources of natural fibers are covered in the book, including flax, hemp, bast, jute, coir, linen, cotton and silk. This wealth of expert information provides a uniquely detailed reference for the processing, characterization, selection and application of natural fibers. Connects natural fibers to a wide range of industries, including construction, automotive, packaging and medical Helps readers appraise natural fibers on the basis of their mechanical, electrokinetic, antimicrobial or flame retardant qualities Provides a rare glimpse of emerging manufacturing methods for silk

Because we are living in an era of Green Science and Technology, developments in the field of bio- and nano- polymer composite materials for advanced structural and medical applications is a rapidly emerging area and the subject of scientific attention. In light of the continuously deteriorating environmental conditions, researchers all over the world have focused an enormous amount of scientific research towards bio-based materials because of their cost effectiveness, eco-friendliness and renewability. This handbook deals with cellulose fibers and nano-fibers and covers the latest advances in bio- and nano- polymer composite materials. This rapidly expanding field is generating many exciting new materials with novel properties and promises to yield advanced applications in diverse fields. This book reviews vital issues and topics and will be of interest to academicians, research scholars, polymer engineers and researchers in industries working in the subject area. It will also be a valuable resource for undergraduate and postgraduate students at institutes of plastic engineering and other technical institutes.

Edited by a leading expert in the field with contributions from experienced researchers in fibers and textiles, this handbook reviews the current state of fibrous materials and provides a broad overview of their use in research and development. Volume One focuses on the classes of fibers, their production and characterization, while the second volume concentrates on their applications, including emerging ones in the areas of energy, environmental science and healthcare. Unparalleled knowledge of high relevance to academia and industry.

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