

Horizon Software Tinius Olsen

This introductory text is an important resource for new engineers, chemists, students, and chemical industry personnel to understand the technical aspects of polypropylene which is the 2nd largest synthetics polymer in manufactured output. The book considers the following topics: What are the principal types of polypropylene and how do they differ? What catalysts are used to produce polypropylene and how do they function? What is the role of cocatalysts and how have they evolved over the years? How are industrial polypropylene catalysts tested and the resultant polymer evaluated? What processes are used in the manufacture of polypropylene? What are the biopolymer alternatives to polypropylene? What companies are the major industrial manufacturers of polypropylene? What is the environmental fate of polypropylene?

This book describes the domain of research and investigation of physical, chemical and biological attributes of flowing water, and it deals with a cross-disciplinary field of study combining physical, geophysical, hydraulic, technological, environmental interests. It aims to equip engineers, geophysicists, managers working in water-related arenas as well as advanced students and researchers with the most up to date information available on the state of knowledge about rivers, particularly their physical, fluvial and environmental processes. Information from various but also interrelated areas available in one volume is the main benefit for potential readers. All chapters are prepared by leading experts from the leading research laboratories from all over the world.

Salen Metal Complexes as Catalysts for the Synthesis of Polycarbonates from Cyclic Ethers and Carbon Dioxide, by Donald J. Darensbourg.- Material Properties of Poly(Propylene Carbonates), by Gerrit. A. Luinstra and Endres Borchardt.- Poly(3-Hydroxybutyrate) from Carbon Monoxide, by Robert Reichardt and Bernhard Rieger. - Ecoflex® and Ecovio®: Biodegradable, Performance-Enabling Plastics, by K. O. Siegenthaler, A. Künkel, G. Skupin and M. Yamamoto.- Biodegradability of Poly(Vinyl Acetate) and Related Polymers, by Manfred Amann and Oliver Minge.- Recent Developments in Ring-Opening Polymerization of Lactones, by P. Lecomte and C. Jérôme.- Recent Developments in Metal-Catalyzed Ring-Opening Polymerization of Lactides and Glycolides: Preparation of Poly(lactides, Polyglycolide, and Poly(lactide-co-glycolide), by Saikat Dutta, Wen-Chou Hung, Bor-Hunn Huang and Chu-Chieh Lin.- Bionolle (Polybutylenesuccinate), by Yasushi Ichikawa, Tatsuya Mizukoshi.- Polyurethanes from Renewable Resources, by David A. Babb.-

Properties, Catalysis Processes
Advanced Materials & Processes

Volume 1

Manufacturing Engineering

Introduction to Aerospace Materials

Venezelos and the War

This volume presents a selection of papers from the 2nd International Conference on Computational Methods in Manufacturing (ICMM 2019). The papers cover the recent advances in computational methods for simulating various manufacturing processes like machining, laser welding, laser bending, strip rolling, surface characterization and the development of new methods and the application and efficacy of existing computational methods in manufacturing sector. This volume will be of interest to researchers in both industry and academia working on computational methods in manufacturing.

The theme of conference is Emerging Technologies for Sustainability. Sustainability tends to be problem driven and oriented towards guiding decision making. The goal is to raise the global standard of living without increasing the use of resources beyond global sustainable levels. The conference is intended to act as a platform for research research findings and propose new solutions in policy formulation, design, processing and application of green materials, material selection, analysis, green manufacturing, testing and synthesis, thereby contributing to the creation of a more sustainable world.

“Covering both new and proven techniques in this rapidly changing field, this best-selling book helps you provide solutions to many common occlusal and TMD problems. Clear descriptions ensure that you develop a complete understanding of normal occlusion and masticatory function, allowing you to better appreciate and manage abnormal book’s conservative, cost-effective approach, you’ll achieve your treatment goals while keeping the best interests of your patients in mind.”--BOOK JACKET.

Metal Progress

Moving Spaces. Enacting Dance, Performance, and the Digital in the Museum

Proceedings of the Annual International Conference on Emerging Research Areas (AICERA 2019), July 18-20, 2019, Kottayam, Kerala

Bio-Based Plastics

Select Proceedings of ICAPIE 2019

Chemical Engineering

A review of open channel turbulence, focusing especially on certain features stemming from the presence of the free surface and the bed of a river. Part one presents the statistical theory of turbulence. Part two addresses the coherent structures in open-channel flows and boundary layers.

This open access book presents papers displayed in the 2nd International Conference on Energy and Sustainable Futures (ICESF 2020), co-organised by the University of Hertfordshire and the University Alliance DTA in Energy. The research included in this book covers a wide range of topics in the areas of energy and sustainability including: • ICT and control of energy in energy research• renewable energy and energy storage. The book offers a holistic view of topics related to energy and sustainability, making it of interest to experts in the field, from industry and academia.

Water-Worked Bedload: Hydrodynamic and Mass TransportMDPI

A Sketch of Personalities and Politics

Mechanical Behavior of Materials

AISE Steel Technology

Advances in Manufacturing and Industrial Engineering

Engineering Methods for Deformation, Fracture and Fatigue

Modern Plastics Worldwide

The state-of-the-art in water-worked bed hydraulics can only be examined through a careful exploration of the experimental (both laboratory and field) results via theoretical development. This book is primarily focused on the research aspects that involve a comprehensive knowledge of sediment dynamics in turbulent flows, as the most up-to-date research findings in the field are presented. It begins with two reviews on bedload transport and water-work bed experimental studies. The sediment dynamics is then analyzed from a classical perspective by applying the mean bed shear approach and additionally incorporating a statistical description for the role of turbulence. The work finally examines the local scour problems at hydraulic structures and results from field studies. It is intended as a course guide for field professionals, keeping up with modern technological developments. Therefore, as a simple prerequisite, readers should have a basic knowledge of hydraulics to an undergraduate level.

Comprehensive in scope and readable, this book explores the methods used by engineers to analyze and predict the mechanical behavior of materials. Author Norman E. Dowling provides thorough coverage of materials testing and practical methods for forecasting the strength and life of mechanical parts and structural members.

Written in easy-to-read and -use format, this book updates and revises its bestselling predecessor to become the most complete, comprehensive resource on plastics testing. This book has an emphasis on significance of test methods and interpretation of results. The book covers all aspects of plastics testing, failure analysis, and quality assurance - including chapters on identification analysis, failure analysis, and case studies. The book concludes with a substantial appendix with useful data, charts and tables for ready reference. Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file.

Media Innovations

Foundry Management & Technology

A Multidisciplinary Study of Change

Management of Temporomandibular Disorders and Occlusion

Proceedings of AIMTDR 2018

This work has been selected by scholars as being culturally important and is part of the knowledge base of civilization as we know it. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. To ensure a quality reading experience, this work has been proofread and republished using a format that seamlessly blends the original graphical elements with text in an easy-to-read typeface. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

Designed for a first course in strength of materials, Applied Strength of Materials has long been the bestseller for Engineering Technology programs because of its comprehensive coverage, and its emphasis on sound fundamentals, applications, and problem-solving techniques. The combination of clear and consistent problem-solving techniques, numerous end-of-chapter problems, and the integration of both analysis and design approaches to strength of materials principles prepares students for subsequent courses and professional practice. The fully updated Sixth Edition. Built around an educational philosophy that stresses active learning, consistent reinforcement of key concepts, and a strong visual component, Applied Strength of Materials, Sixth Edition continues to offer the readers the most thorough and understandable approach to mechanics of materials.

The structural materials used in airframe and propulsion systems influence the cost, performance and safety of aircraft, and an understanding of the wide range of materials used and the issues surrounding them is essential for the student of aerospace engineering. Introduction to aerospace materials reviews the main structural and engine materials used in aircraft, helicopters and spacecraft in terms of their production, properties, performance and applications. The first three chapters of the book introduce the reader to the range of aerospace materials, focusing on recent developments and requirements. Following these introductory chapters, the book moves on to discuss the properties and production of metals for aerospace structures, including chapters covering strengthening of metal alloys, mechanical testing, and casting, processing and machining of aerospace metals. The next ten chapters look in depth at individual metals including aluminium, titanium, magnesium, steel and superalloys, as well as the properties and processing of polymers, composites and wood. Chapters on performance issues such as fracture, fatigue and corrosion precede a chapter focusing on inspection and structural health monitoring of aerospace materials. Disposal/recycling and materials selection are covered in the final two chapters. With its comprehensive coverage of the main issues surrounding structural aerospace materials, Introduction to aerospace materials is essential reading for undergraduate students studying aerospace and aeronautical engineering. It will also be a valuable resource for postgraduate students and practising aerospace engineers. Reviews the main structural and engine materials used in aircraft, helicopters and space craft in terms of their properties, performance and applications Introduces the reader to the range of aerospace materials, focusing on recent developments and requirements, and discusses the properties and production of metals for aerospace structures Chapters look in depth at individual metals including aluminium, titanium, magnesium, steel and superalloys

Proceedings of the 4th IAHR Europe Congress (Liege, Belgium, 27-29 July 2016)

Turbulence in Open Channel Flows

Proceedings of the 7th International Conference on Industrial Engineering (ICIE 2021)

Greater Delaware Valley

Bio-Based Polymers for Engineered Green Materials

Fibrous Composites in Structural Design

With daily signals, Nature is communicating us that its unconscious wicked exploitation is no more sustainable. Our socio-economic system focuses on production increasing without considering the consequences. We are intoxicating ourselves on a daily bases just to allow the system to perpetuate itself. The time to switch into more natural solutions is come and the scientific community is ready to offer more natural product with comparable performance then the market products we are used to deal with. This book collects a broad set of scientific examples in which research groups from all over the world, aim to replace fossil fuel-based solutions with biomass derived materials. In here, some of the most innovative developments in the field of bio-materials are reported considering topics which goes from biomass valorization to the synthesis of high performing bio-based materials.

This book highlights recent findings in industrial, manufacturing and mechanical engineering, and provides an overview of the state of the art in these fields, mainly in Russia and Eastern Europe. A broad range of topics and issues in modern engineering is discussed, including the dynamics of machines and working processes, friction, wear and lubrication in machines, surface transport and technological machines, manufacturing engineering of industrial facilities, materials engineering, metallurgy, control systems and their industrial applications, industrial mechatronics, automation and robotics. The book gathers selected papers presented at the 7th International Conference on Industrial Engineering (ICIE), held in Sochi, Russia, in May 2021. The authors are experts in various fields of engineering, and all papers have been carefully reviewed. Given its scope, the book will be of interest to a wide readership including mechanical and production engineers, lecturers in engineering disciplines, and engineering graduates.

Innovation is about change, and media products and services are changing. The processes of production and distribution of media are changing. The ownership and financing of media are changing. The roles of users are changing. And our ideas about media are changing. This book argues that innovation theory provides better tools for media researchers who wish to understand and explain current developments in the media landscape ? tools that not only allow them to see completely new things, but also to investigate aspects of new media that would otherwise not be as accessible. The various chapters of the book present selected studies that together illustrate how a more explicit focus on innovation and innovation theory can provide new insights into and generates knowledge about how media innovations develop, the sociocultural conditions of such innovations, the role of technology, and power relations in media developments.

Rivers – Physical, Fluvial and Environmental Processes

Catalog No. 23

Industrial Fabric Products Review

Select Papers from ICMM 2019

We’re Losing Our Minds

Energy and Sustainable Futures

The Fourth Conference on Fibrous Composites in Structural Design was a successor to the First-to-Third Conferences on Fibrous Composites in Flight Vehicle Design sponsored by the Air Force (First and Second Conferences, September 1973 and May 1974) and by NASA (Third Conference, November 1975) which were aimed at focusing national attention on flight vehicle applications of a new class of fiber reinforced materials, the advanced composites, which afforded weight savings and other advantages which had not been previously available. The Fourth Conference, held at San Diego, California, 14-17 November 1978, was the first of these conferences to be jointly sponsored by the Army, Navy and Air Force together with NASA, as well as being the first to give attention to non-aerospace applications of fiber reinforced composites. While the design technology for aerospace applications has reached a state of relative maturity, other areas of application such as military bridging, flywheel energy storage systems, ship and surface vessel components and ground vehicle components are in an early stage of development, and it was an important objective to pinpoint where careful attention to structural design was needed in such applications to achieve maximum structural performance payoff together with a high level of reliability and attractive economics.

This book presents selected peer-reviewed papers from the International Conference on Advanced Production and Industrial Engineering (ICAPIE 2019). It covers a wide range of topics and latest research in mechanical systems engineering, materials engineering, micro-machining, renewable energy, industrial and production engineering, and additive manufacturing. Given the range of topics discussed, this book will be useful for students and researchers primarily working in mechanical and industrial engineering, and energy technologies.

In an increasingly urbanized world, water systems must be designed and operated according to innovative standards in terms of climate adaptation, resource efficiency, sustainability and resilience. This grand challenge triggers unprecedented questions for hydro-environment research and engineering. Shifts in paradigms are urgently needed in the way we view (circular) water systems, water as a renewable energy (production and storage), risk management of floods, storms, sea level rise and droughts, as well as their consequences on water quality, morphodynamics (e.g., reservoir sedimentation, scour, sustainability of deltas) and the environment. Addressing these issues requires a deep understanding of basic processes in fluid mechanics, heat and mass transfer, surface and groundwater flow, among others.

Principles and Applications (with Companion CD-ROM) , 2nd Edition

Introduction to Industrial Polypropylene

Water-Worked Bedload: Hydrodynamic and Mass Transport

Rapid Prototyping

Handbook of Plastics Testing and Failure Analysis

Synthetic Biodegradable Polymers

Latest Edition: 3D Printing and Additive Manufacturing: Principles and Applications (with Companion Media Pack). Fourth edition of Rapid Prototyping. Rapid Prototyping (RP) has revolutionized the landscape of how prototypes and products are made and small batch manufacturing carried out. This book gives a comprehensive coverage of RP and rapid tooling processes, data formats and applications. A CD-ROM, included in the book, presents RP and its principles in an interactive way to augment the learning experience. Special features: Most comprehensive coverage of more than 30 RP Systems Understanding of RP through applicationsIn-depth revelation of the basic principles behind major RP techniquesDiscussion of important issues such as STL file problems of RP partsInteractive CD-ROM to demonstrate the major RP techniquesRP company background information and contact addresses

This volume presents research papers on additive manufacturing (popularly known as 3D printing) and joining which were presented during the 7th International and 28th All India Manufacturing Technology, Design and Research conference 2018 (AIMTDR 2018). The contents of this volume present the latest technological advancements for improving the efficiency, accuracy and speed of the additive manufacturing process and in fusion and solid-state welding technologies, including fused deposition modelling, poly jet 3D printing, weld deposition based technology, selective laser melting and important welding technologies being covered. This volume will be of interest to academicians, researchers, and practicing engineers alike.

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.

Select Proceedings of CPIE 2019

Advances in Additive Manufacturing and Joining

Rethinking American Higher Education

Proceedings of 2nd ICESF 2020

Emerging Technologies for Sustainability

Metallurgy for the Non-Metallurgist, Second Edition

The completely revised Second Edition of Metallurgy for the Non-Metallurgist provides a solid understanding of the basic principles and current practices of metallurgy. The new edition has been extensively updated with broader coverage of topics, new and improved illustrations, and more explanation of basic concepts. It is a "must-have" ready reference on metallurgy! America is being held back by the quality and quantity of learning in college. Many graduates cannot think critically, write effectively, solve problems, understand complex issues, or meet employers' expectations. The only solution - making learning the highest priority in college - demands fundamental change throughout higher education.

The field of bio-based plastics has developed significantly in the last 10 years and there is increasing pressure on industries to shift existing materials production from petrochemicals to renewables. Bio-based Plastics presents an up-to-date overview of the basic and applied aspects of bioplastics, focusing primarily on the thermoplastic polymers for material use. Emphasizing materials currently in use or with significant potential for future applications, this book looks at the most important biopolymer classes such as polysaccharides, lignin, proteins and polyhydroxyalkanoates as raw materials for bio-based plastics, as well as materials derived from bio-based monomers like lipids, poly(lactic acid), polyesters, polyamides and polyolefins. Detailed consideration is also given to the market and availability of renewable raw materials, the importance of bio-based content and the aspect of biodegradability. Topics covered include: Starch Cellulose and cellulose acetate Materials based on chitin and chitosan Lignin matrix composites from natural resources Polyhydroxyalkanoates Poly(lactic acid) Polyesters, Polyamides and Polyolefins from biomass derived monomers Protein-based plastics Bio-based Plastics is a valuable resource for academic and industrial researchers who are interested in new materials, renewable resources, sustainability and polymerization technology. It will also prove useful for advanced students interested in the development of bio-based products and materials, green and sustainable chemistry, polymer chemistry and materials science. For more information on the Wiley Series in Renewable Resources, visit www.wiley.com/go/rrs

Advances in Computational Methods in Manufacturing

Applied Strength of Materials

Regional Industrial Buying Guide

Materials and Applications

Foundry

Plastics World