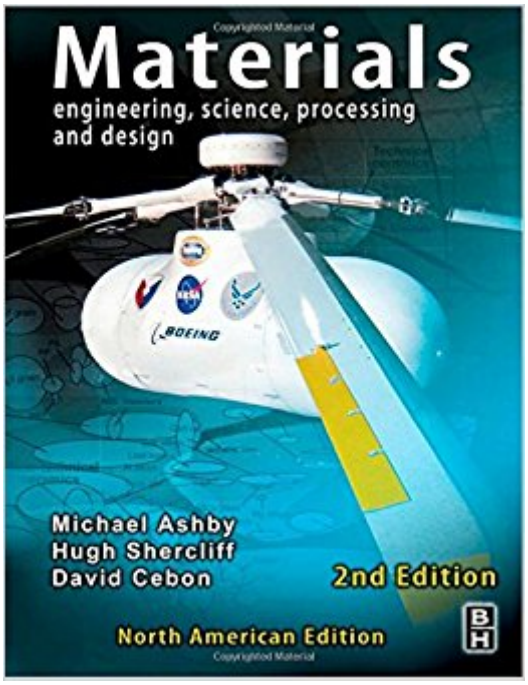
Materials North American Edition W/Online Testing: Materials - North American Edition, Second Edition: Engineering, Science, Processing And Design



Synopsis

Materials: Engineering, Science, Processing and Design, Second Edition, was developed to guide material selection and understanding for a wide spectrum of engineering courses. The approach is systematic, leading from design requirements to a prescription for optimized material choice. This book presents the properties of materials, their origins, and the way they enter engineering design. The book begins by introducing some of the design-limiting properties: physical properties, mechanical properties, and functional properties. It then turns to the materials themselves, covering the families, the classes, and the members. It identifies six broad families of materials for design: metals, ceramics, glasses, polymers, elastomers, and hybrids that combine the properties of two or more of the others. The book presents a design-led strategy for selecting materials and processes. It explains material properties such as yield and plasticity, and presents elastic solutions for common modes of loading. The remaining chapters cover topics such as the causes and prevention of material failure; cyclic loading; fail-safe design; and the processing of materials.* Design-led approach motivates and engages students in the study of materials science and engineering through real-life case studies and illustrative applications * Highly visual full color graphics facilitate understanding of materials concepts and properties * Chapters on materials selection and design are integrated with chapters on materials fundamentals, enabling students to see how specific fundamentals can be important to the design process * Links with the Cambridge Engineering Selector (CES EduPack), the powerful materials selection software. See www.grantadesign.com for information NEW TO THIS EDITION: "Guided Learning" sections on crystallography, phase diagrams and phase transformations enhance studentsÃ¢â ¬â„¢ learning of these key foundation topics Revised and expanded chapters on durability, and processing for materials properties More than 50 new worked examples placed throughout the text

Book Information

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Customer Reviews

Professor Mike Ashby is well known for producing readily understandable materials education texts, and for the innovative use of graphical representation for material properties. This book, now in its second edition, is no exception and explains materials engineering from a design-led approach, as opposed to the more traditional science-led approach. Ã¢â ¬Â¦ Useful for reinforcing student learning is the inclusion of over 50 new worked examples, distributed throughout the book. Completely new are the self-contained Guided Learning Units or sections at the end of the book on crystallography, and phase diagrams and phase transformations, including exercises (and unlike the rest of the book with answers). There are also useful links to interactive Ã¢â ¬Ëœonline Ã¢â ¬â„¢ tutorials and assessment, reinforcing the strong selfteaching aspects of the book. Ã¢â ¬Â¦ [T]he book is aimed primarily at students and teachers of materials science and engineering, although engineering practitioners involved with materials and their selection will also find the extensive use of applications both useful and relevant. -Engineering Designer, (Reviewed by Professor Kevin Edwards)

Royal Society Research Professor Emeritus at Cambridge University and Former Visiting Professor of Design at the Royal College of Art, London, UKMike Ashby is sole or lead author of several of ElsevierÃ¢â ¬â„¢s top selling engineering textbooks, including Materials and Design: The Art and Science of Material Selection in Product Design, Materials Selection in Mechanical Design, Materials and the Environment, and Materials: Engineering, Science, Processing and Design. He is also coauthor of the books Engineering Materials 1&2, and Nanomaterials, Nanotechnologies and Design.Hugh Shercliff is a Senior Lecturer in Materials in the Department of Engineering at the University of Cambridge. He is a co-author of Michael Ashby's Materials, Third Edition (Butterworth-Heinemann, 2013), and a contributor on aluMATTER, an e-learning website for engineers and researchers sponsored by the European Aluminium Association.Professor of Mechanical Engineering, Cambridge University, UK

Dry, awkward formatting, curious layout, many poorly explained diagrams with very small print on

them, and habitually presents equations without clearly explaining what all the terms in the equations mean or what the equation is called. A textbook should be at least sort of useful without having a professor physically at your elbow to explain what is meant by everything in it. Don’t even think about skipping class, no matter how sick you are, if this is what you’ll have to try to catch up with.

Had to return this book as my prof. suddenly changed to the 3rd edition, but being that the two editions are the 90% the same, I would recommend going in another direction. Any typos or mistakes in this book are probably not corrected in the 3rd edition.

It deals with major two steps of the design-material and process.The author introduces a chart which is very helpful in knowing the property of the material.Step by step approach is appreciable.It deals with the case studies in each chapter.But the topics are vague when he deals with many formulae without any proof.We do not know where it came from.Overall the book is good for design people.

Supplier did an excellent job - however the book itself is not overly useful. Coupled with errors, overall I was more comfortable looking at class notes instead of the book.

did not like the book , but cool experiment in class lol

I am the buyer of the book, not the user of the book, so I can’t give feedback on it.The newer edition is out, it’s expensive as hell, I’m just glad the professor gave the students the option to use Edition 2!

I bought all my books online because I’d rather get screwed at my own home instead of out in public.

Cons:Engineers expect a text to distill material into concise forms. This textbook, full of rudimentary figures and unclear equations, couldn’t be more indirect. The added lack of applied examples and end of chapter problems make this text useless.Pros:The book trumpets the CES software, and the software is good.Conclusion:The book is not a vehicle of learning, but is instead likely a vehicle for selling the CES software. Superficially, it seems like Granta Incorporated, maker of CES, teamed up

with esteemed author Ashby to publish a worthless tome advancing its product! If your teacher doesn't teach this material well, and all you have is this text, run away.

Materials North American Edition w/Online Testing: Materials - North American Edition, Second Edition: engineering, science, processing and design Materials: Engineering, Science, Processing and Design (Materials 3e North American Edition w/Online Testing) Materials: Engineering, Science, Processing and Design (Materials 3e with Online Testing) Freezing Colloids: Observations, Principles, Control, and Use: Applications in Materials Science, Life Science, Earth Science, Food Science, and Engineering (Engineering Materials and Processes) Biomimetic Materials And Design: Biointerfacial Strategies, Tissue Engineering And Targeted Drug Delivery (Manufacturing Engineering & Materials Processing) Materials, Third Edition: engineering, science, processing and design; North American Edition Materials: engineering, science, processing and design; North American Edition Engineering Materials 2: An Introduction to Microstructures, Processing and Design (International Series on Materials Science and Technology) (v. 2) Daniels and Worthingham's Muscle Testing: Techniques of Manual Examination and Performance Testing, 9e (Daniels & Worthington's Muscle Testing (Hislop)) DNA Testing Guide Book: Utilize DNA Testing to Analyze Family History Genealogy, Classify and Measure Ethnic Ancestry Research, And Discover Who You Are ... DNA Testing, Ancestry, Ancestry Research) Modern Ceramic Engineering: Properties, Processing, and Use in Design, 3rd Edition (Materials Engineering) Engineering Materials 2, Fourth Edition: An Introduction to Microstructures and Processing (International Series on Materials Science and Technology) Engineering Materials 3: Materials Failure Analysis: Case Studies and Design Implications (International Series on Materials Science and Technology) (v. 3) Hacking: Basic Security, Penetration Testing and How to Hack (hacking, how to hack, penetration testing, basic security, arduino, python, engineering Book 1) A Guide to Wear Problems and Testing for Industry (Materials and Processing Technology) Processing Techniques and Tribological Behavior of Composite Materials (Advances in Chemical and Materials Engineering) Product Design for Manufacture and Assembly, Third Edition (Manufacturing Engineering and Materials Processing) Modern Ceramic Engineering: Properties, Processing, and Use in Design, 2nd Edition (Engineered Materials) Materials Processing: A Unified Approach to Processing of Metals, Ceramics and Polymers Elements of Polymer Science & Engineering, Second Edition: An Introductory Text and Reference for Engineers and Chemists (The Elements of Polymer Science and Engineering)