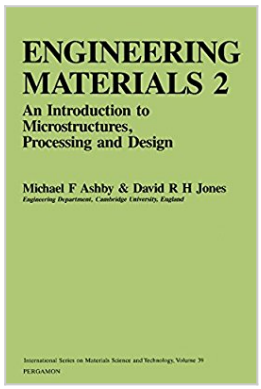

Engineering Materials 2: An Introduction to Microstructures, Processing and Design: v. 2 (International Series on Materials Science and Technology)

By Michael F. Ashby, D. R. H. Jones

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Provides a thorough explanation of the basic properties of materials; of how these can be controlled by processing; of how materials are formed, joined and finished; and of the chain of reasoning that leads to a successful choice of material for a particular application. The materials covered are grouped into four classes: metals, ceramics, polymers and composites. Each class is studied in turn, identifying the families of materials in the class, the microstructural features, the processes or treatments used to obtain a particular structure and their design applications. The text is supplemented by practical case studies and example problems with answers, and a valuable programmed learning course on phase diagrams.

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Editorial Review

Review
...unique and interesting...It contains good illustrations, useful information in tabular form, and references for background reading and for further reading...The book is highly recommended as a textbook for a second course in engineering materials. It is also recommended as a reference book for practicing engineers and for libraries.
Applied Mechanics Review, Volume 40, Number 8
An excellent approach to the subject with a good selection of case studies to aid understanding of theory.
M R Cochrane, Department of Materials Technology, Brunel University
A quick review of the book gives an excellent impression of clarity, detail and copious quantities of case study material. I will recommend it to Materials Science students, for lecture and tutorial work, and to service taught engineers. I would estimate that, as with Engineering Materials you will enjoy high sales for this volume.
Dr M P Ansell, School of Materials Science, University of Bath
We have used volume 1 as a course text for a long while and it has been most successful. But we have long felt the need for a second volume to cover the topics which are now included in the new book. The approach adopted is most suitable to our needs, and we can expect that both volumes will be extensively used by our students.
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Journal of Electrochem. Soc. India
No one has realized the importance of studying natural materials more than Ashby - what a debt materials sciences owes to this outstanding scientist. His two textbooks written with Jones, Engineering Materials 1 and 2, are still amongst the best available.
British Book News

From the Publisher
Materials are grouped into four classes: Metals, Ceramics, Polymers and Composites, and each are examined in turn. The chapters are arranged in groups, with a group of chapters to describe each of the four classes of materials. Each group first introduces the major families of materials that go to make up each materials class. The main microstructural features of the class are then outlined and the reader is shown how to process or treat them to get the structures (properties) that are desired. Each group of chapters is illustrated by case studies designed to help the reader understand the basic material. This book has been written as a second level course for engineering students. It provides a concise introduction to the microstructures and processing of materials and shows how these are related to the properties required in engineering design.

From the Back Cover

Engineering Materials 2 is one of the leading self-contained course texts for more advanced students of materials science and mechanical engineering, and is the companion to the renowned introductory text *Engineering Materials 1: An Introduction to Properties, Applications & Design*. This book provides a detailed understanding of the fundamental properties of engineering materials: how they are controlled by processing, then formed, joined and finished, and how all of these factors influence the selection and design of materials in real-world engineering applications. New material and features in the updated third edition include a new chapter on materials failures, expanded design coverage, and additional exercises and examples with more real design situations.

• Best-selling materials properties textbook with a world-renowned author team • New student-friendly format, with enhanced pedagogy including more case studies, worked examples and student questions

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