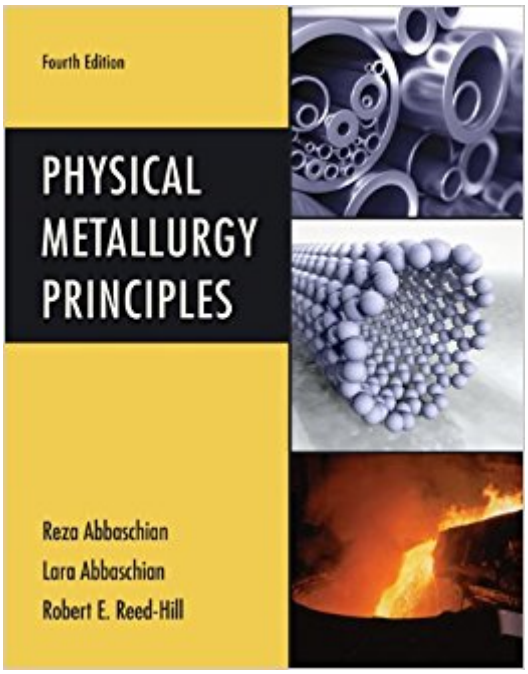
Physical Metallurgy Principles



Synopsis

This comprehensive, student friendly text is intended for use in an introductory course in physical metallurgy and is designed for all engineering students at the junior or senior level. The approach is largely theoretical but all aspects of physical metallurgy and behavior of metals and alloys are covered. The treatment used in this textbook is in harmony with a more fundamental approach to engineering education. An extensive revision has been done to insure that the content remains the standard for metallurgy engineering courses worldwide.Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Book Information

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Customer Reviews

This book is honestly one of the worst books that I have encountered in my academic career. It offers very little explanation on actual concepts, calculations, and relevancy of topics. In addition, the provided pictures are confusing, and the suggested homework problems refer to concepts and terms that are not explained in the text. I have had to continually refer to other textbooks to understand the material and complete homework problems. While this book may be useful for researchers, I would not recommend this book to anyone that is starting to learn Physical

Metallurgy.

Working with metals is not a commonly known topic. This book does a tremendous job in providing great information on the subject at hand.

Great book. It was my textbook in graduate school 14 years ago.

It has been three years since I had taken a material science-like course. So, I had hoped, that by opening this book, I would relearn the concepts I had forgotten.Focus:An intense look at the physcial metallurgy of metals, beginning with methods, going to crystallography, phase diagrams, and focusing on specific metals (iron-carbon, steels, etc.).Good:This book goes into great details. Metallography, crystallography are explained, many concepts are in great depth.Bad:This is absolutely not a good book if you don't know much on the subject or are rusty (like me). A lot of time is spent on the intricacies on microscopy. Many of the concepts are presented in too much detail. I feel that instead of learning about the properties of materials and material selection that I spend most of the time learning about every detail involved in the creation of dislocations. While this is very informative, as an engineer, I need to be able to select apropos materials, not spout how an electron microscope works or the fine details in edge dislocation. Homework problems are odd. And would it hurt if the pictures could have been colored?Overall:Again, good reference. Bad at teaching or reteaching you material science.

The author leaves much to be desired in this book. Often times you read a chapter and without even being prompted by questions, you are able to formulate very significant and elementary questions that were never addressed in the chapter. That is unacceptable. Some information is hinted at in illustrations but never confirmed in text, thus leading the reader to ponder if the illustration is over-reaching.The worst part is the problems. Problem solving is how you learn science. This author CLEARLY generated the post-chapter questions as an afterthought with very little effort. MANY of the questions in this book can be answered either by commonsense, or by using the information given in the problem (for example here is x, here is y, what is f=x*y^2.)This book was used in my graduate intro to materials science course. It was a joke. I'm a book learner and feel pretty competent in gauging the quality of a test. This is garbage. There HAS to be better books than this.Comparing this to David Griffiths Intro to electrodynamics (undergrad) and Robert T DeHoff's Thermodynamics in Materials Science (graduate) .....I don't even know how to finish this sentence,

as there exists no analogy for such an immeasurable separation of quality.

as expected

Great Book for starters although there are certain places where the explanation is not sufficient. But it does introduce one to many concepts in this area over which the interested reader might build up.

The original book (1st and 2nd edition) was written solely by Professor Robert Reed-Hill, where many important philosophy, structure, esp. figures have already been well established. As to the 3rd edition, it is improved, including fracture mechanics, solidification, TEM and SEM material characterization, grain boundaries and dislocations etc, so it is still good one. The 3rd edition is written by Professor Robert Reed-Hill (1st author) and the Reza Abbaschian (2nd author), and is also a good book.However, as to the 4th edition, it is disappointing since it is almost identical to 3rd edition- major change is the removal of 2 chapters and technically it cannot be even regarded as a new edition.By then, the original author, Professor Reed-Hill has passed away (~2001). However, the 2nd author of 3rd edition, Reza Abbaschian was listed as 1st author. Despite to very little change of 4th edition, there is a 3rd author Lara Abbaschian coming in, and ranked as 2nd author. Thus, the original author Professor Reed-Hill is moved to the place of 3rd author. The 2nd author Ms. Abbaschian, based on the frontpage of the book, is from an affiliation of business, other than academic institution.All in all, due to these series of disappointing issues, and the extremely high price as a college book, I would NOT recommend this book any longer. The 3rd edition, instead, is a classic.

Earths, Second Edition Metal Forming: Mechanics and Metallurgy Welding Metallurgy and Weldability of Nickel-Base Alloys Material Science and Metallurgy Metallurgy and Materials PE Exam Solved Problems Practical Metallurgy and Materials of Industry (5th Edition) The Technology of Metallurgy Elementary Metallurgy and Metallography