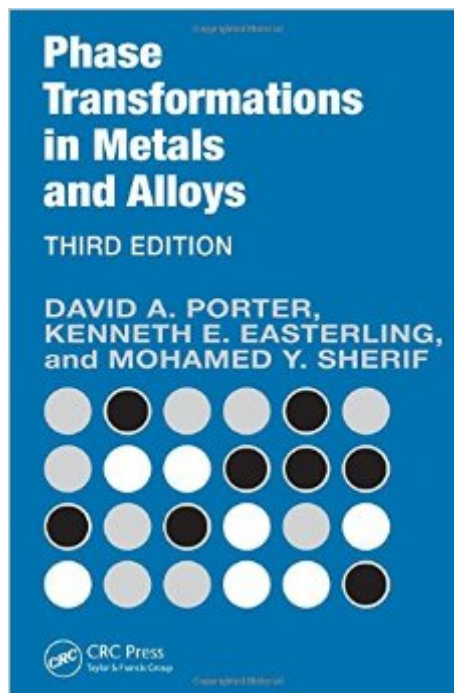




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# Phase Transformations In Metals And Alloys, Third Edition (Revised Reprint)



## Synopsis

Expanded and revised to cover developments in the field over the past 17 years, and now reprinted to correct errors in the prior printing, Phase Transformation in Metals and Alloys, Third Edition provides information and examples that better illustrate the engineering relevance of this topic. It supplies a comprehensive overview of specific types of phase transformations, supplemented by practical case studies of engineering alloys. New in the Third Edition:

- Computer-aided calculation of phase diagrams
- Recent developments in metallic glasses
- The Scheil method of calculating a CCT diagram from a TTT diagram
- Expanded treatment of the nucleation and growth of polygonal ferrite and bainite
- New case studies covering copper precipitation hardening of very low carbon bainitic steel and very fine carbide-free bainite
- Detailed treatment of strain-induced martensite

provides a theoretical background to transformation-induced plasticity (TRIP) steels. Unique Presentation Links Theory to Application Adding new case studies, detailed examples, and exercises drawn from current applications, the third edition keeps the previous editions' popular easy-to-follow style and excellent mix of basic and advanced information, making it ideal for those new to the field. The book's unique presentation links basic understanding of theory with application in a gradually progressive yet exciting manner. Based on the author's teaching notes, the book takes a pedagogical approach and provides examples for applications and problems that can be readily used for exercises.

PowerPoint illustrations available with qualifying course adoptions

## Book Information

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## Customer Reviews

Raah Steel Research Center, Finland University of Exeter, UK SFK Research Center, Nieuwegein, The Netherlands

This book had errors in printing and in the text work. Equations have incorrect numbers and often times there is a reference to a figure that does not exist. There were multiple page binding discrepancies as well as some of the pages being cut in the wrong place which left a portion of the book skewed so that equations and text ran off the page. Color me unimpressed. It is not stated in the description, but this book is distributed by ANE Books in Daryaganj, New Delhi (India). Please be aware that they have a track record for bad prints and are the most likely suspect in the errors surrounding my copy. Going to ask for a full refund on this purchase, unfortunately.

I had the second edition of Porter and Easterling and lost it between moves. I thought the new edition would be updated and have some great new information in it. I was REALLY wrong. The new author has removed some good information that was in the previous edition and the errors in this edition are appalling. Equations are derived incorrectly or the final equation is wrong. It is clear that no one went through this new edition and edited it. If you are going to purchase the book, I would recommend getting the second edition. I am not sure if the end of the chapter problems are the same, but it really isn't worth buying. I wish I could return this and buy the second edition.

This is the quintessential introduction text on phase diagrams and phase transformations in materials science. The first chapter is one of the easiest to understand deliveries of free energy descriptions and phase diagrams I've come across. Each chapter is well thought out and touches on many important concepts in materials science and engineering. Even though the target is for metals and alloys many ideas can be extend towards ceramics and some polymers. Once more, all math treatment is done in the most simple and straight forward way. This blessing however is a slight drawback if your looking for a graduate treatment of the topic, although there are many other great texts out there that cover this. Like many of the other reviewers this text does have a fair amount of typos and errors but I don't feel it discredits the content. I also think that the full detailed solutions to the chapter problems is very useful when using this textbook for self study. I strongly recommend this in any materials scientists library.

We used this textbook for a graduate level course. My first observation was that a lot of the content

in this book was copied from other sources without directly giving credit to the original authors. One example is where Reed-Hill credits an original paper whereas these authors just copied it from Reed-Hill and omitted the citation. There are other examples where they copied content directly from Shewmon. As mentioned above, some content is copied from other sources and this wouldn't be as bad if it weren't for the fact that in most cases they copied the end result without fully explaining the concepts behind it. This can take a lot of your time away from you if you try to derive a formula on your own. I was usually forced to refer to other books when I found myself having a hard time understanding a section or a formula. Sometimes an attempt at an explanation is made but it is not sufficient to explain how the author arrived at the formula or concept. If you are accustomed to textbooks that show you how formulas are derived, this isn't the textbook for you. To make matters worse, some formulas throughout the book are incorrect (and it's the 3rd edition!). The arrangement of the book can sometimes get confusing and you often have to backup and re-read sections to make sure that you are not mixing concepts. I often had to go back to other textbooks and read their sections on a subject and then re-read this book (and then it finally made sense). For my kinetics of phase transformations course, which was very rigorous, I had to supplement this book with other textbooks: Physical Metallurgy Principles by Robert E. Reed-Hill & Reza Abbaschian, Diffusion in Solids by Paul Shewmon, and various research papers or lecture notes to fully understand all of the concepts.

The edition I received was riddled with errors. I am amazed that the publisher actually let the book be printed! There are errors in many of the formulas and every few paragraphs you will find a misspelled word or a word with symbols rather than letters! Make sure you look for the newest or the revised edition if you plan to purchase.

I bought this book for a course in Phase Transformations and have been using it to help myself prepare for exams. While it does give a decently thorough treatment of the subjects it covers, along with a helpful list of references at the end of the chapters, the in-text errors are abundant and are both typographical and mathematical. At least it helps me stay alert while reading, and my knowledge of topics is aided when I confirm that a mathematical error exists, but the shoddiness of the editing is such that I do seriously doubt that anyone read through a printed copy before giving it the "okay" for publication. Some errors are consistent and widespread ("hcp" replaced with "hap", Greek " $\mu$ "s replaced with "m") so the reader should be able to pick up on these quickly enough, and others are even amusing (the Greek " $\beta$ " was replaced with "(3" on one occasion). Bottom

line: the editing in this book is the worst I have ever seen, bar none.

Buyer beware! As pointed out by other reviewers the 3rd edition of this title has an inexcusable number of printing errors. Its almost as if a very poor OCR program was used to scan an earlier edition and no human actually reviewed the results. Errors such as replacing a 'theta' with a '6' or '9' are almost laughable. The people at CRC Press should be ashamed of themselves for putting out such a poor product. The book is almost unreadable with the number of errors it contains. Save yourself the trouble and look for a 2nd edition.

Worst ever. Stay away from garbage!

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