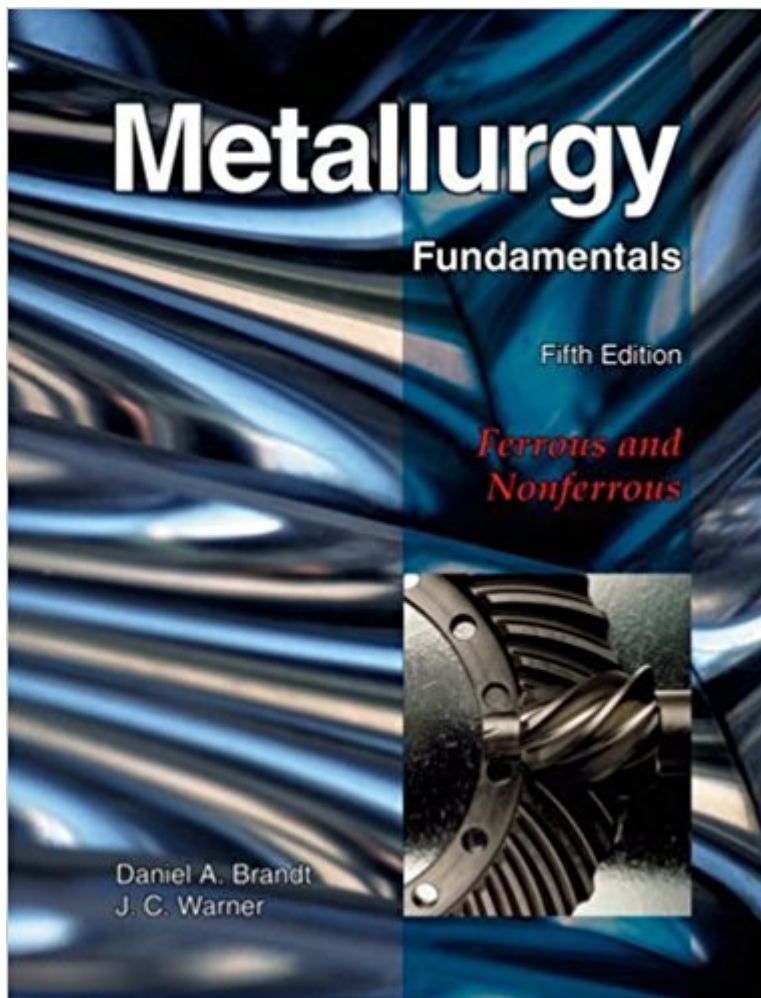


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# Metallurgy Fundamentals



## Synopsis

Metallurgy Fundamentals provides the student with instruction on the basic properties, characteristics, and production of the major metal families. Clear, concise language and numerous illustrations make this an easy-to-understand text for an introductory course in metallurgy. Over 450 tables, diagrams, and photographs show both the theoretical and practical aspects of metallurgy.

## Book Information

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## Customer Reviews

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I am a PhD metallurgist and a professor at a major research university. I was looking for books for a new class. The other 1-2 star reviews are quite correct. This is a decent book for lay people, and perhaps for mechanical engineers. The concepts are covered in a very superficial way, barely even at what I would call an application level. There are numerous errors in terminology, and the micrographs purporting to show various microstructures look like they've been run through a fax a

few times. The authors cover things like isothermal cooling diagrams, but don't even mention the much more useful continuous cooling curves, which are far superior for comparing with real-world quenching and annealing operations. There is a great deal in crystal structures and slip that is unnecessary for the lay reader and far too simplistic for an undergrad mat sci student - I kept wondering who the audience was for this book. Finally, the authors are WAAAYYY too enamored with hardness, and state things about what hardness values tell you about material properties that are just flat wrong.

I'm teaching myself blacksmithing and welding and I like to understand the why and the how behind the concepts and book does a nice job of explaining the how and why metals "work" and gives a really decent description of what is happening to the metal when you perform different heat treating processes. Not an in depth technical or scientific explanation but a good explanation written in easy to understand terms with a good use of pictures. Definitely an intro-level look at metals and metallurgy but for someone that doesn't have a strong chemistry background this might help understand some of the concepts in a way that makes sense.

This book is straight and to the point. It is not filled up with a lot of fluff that you have to read through. I am getting an A in the class.. and I have not had to spend excess hours reading through ridiculous fluff and large chapters. I plan on keeping this after the class for reference as it contains important charts and other information to refer back to when you are actually working in the welding or other related fields.

Overall, I enjoyed this book. The treatment of all steps of the steel-making process is thorough, and well-written for a new-comer to the topic. I especially liked the numerous photos/diagrams and step-by-step explanations and examples for how to read the various graphs (I-T, phase diagrams, etc.). These are items which are core to understanding, and where much of the knowledge/learning is embedded, but which often receive insufficient discussion in more-advanced texts (true for many disciplines). In general, the earlier sections of the book devoted to steel were better-written, while the later sections on non-ferrous metals seemed less complete in terms of explaining the extraction/manufacture process steps. In particular, I would have liked a little more labels on photos, especially for machinery, so that the components can be understood in terms of their contribution to overall function. Most of the photos are labeled adequately (overwhelmingly so), but sometimes it seemed like a picture was being shown for filler rather than discussion. List: Fig. 1-6, demonstration

of tool wear Fig. 6-25, oxygen lance Fig. 6-40, reversing slab mill Figs. 11-1,2, annealing furnaces Figs. 15-6,9,12, pack-carburizing furnace Fig. 15-15, flame hardening system Fig. 17-4, pipe extrusion Fig. 19-6 galvanization Fig. 19-11, die casting Fig. 19-13, wave soldering To sum up: this book is easy enough to follow to be a fun read, but contains enough depth to serve as a pretty good reference. Happy with my purchase!

The complex nature of the book's subject matter was worded well for a person who is starting to expand their knowledge in the field. I would have liked colour photos but realise that when the book was first published colour photos were not common practice in technical journals. A similar book which covered Stainless Steel in this level of detail would also be a good reference.

Very nice book. Had to get it for my class. Sadly a couple of the pages were messed up. This is a new book.

pretty good , and the other reviewer was correct on the mistakes. Otherwise pretty good.

The book is in better than perfect shape. It had most of the review questions already finished for me.

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