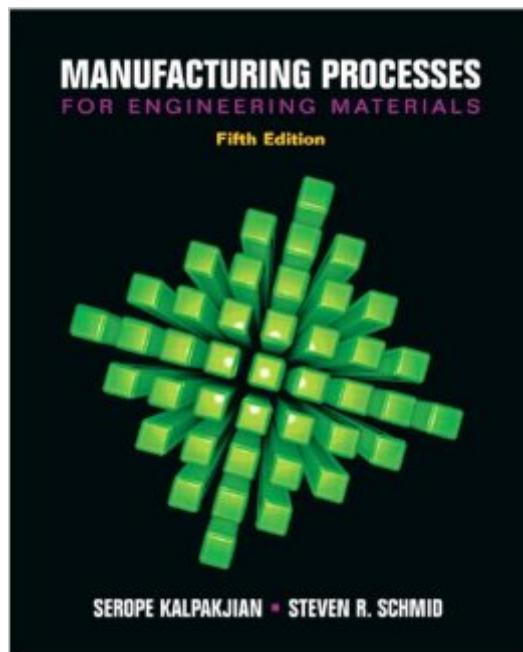


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# Manufacturing Processes For Engineering Materials (5th Edition)



## Synopsis

Well organized and clearly written, this book uses a sound analytical approach to explain manufacturing processes; it enables the reader to understand and appreciate the complex interrelationships between the diverse topics in this field. The book carefully presents the fundamentals of materials processing along with their relevant applications, so that the reader can clearly assess the capabilities, limitations, and potentials of manufacturing processes and their competitive aspects. Using real-world examples and well-wrought graphics, this book covers a multitude of topics, including the mechanical behavior of materials; the structure and manufacturing properties of metals; surfaces, dimensional characteristics, inspection, and quality assurance; metal-casting processes including heat treatment; bulk deformation processes; sheet-metal forming processes; material removal processes; polymers, reinforced plastics, rapid prototyping and rapid tooling; metal powders, ceramics, glasses, composites, and superconductors; joining and fastening processes; microelectronic and micromechanical devices; automation; computer-integrated systems; and product design. For manufacturing engineers, metallurgists, industrial designers, material handlers, product designers, and quality assurance managers.

## Book Information

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## Customer Reviews

The book did not go in as much detail as my professor did, but that really is not that big of a problem. I plan on keeping this book since it is relatively cheap (cost-wise) and has a ton of useful information in it. I would definitely recommend this book as a shelf reference book (not to carry

around since it is extremely heavy). Great book....I highly recommend picking it up if you are a materials scientist/engineer or have any overlapping field of study that concerns processing at all (every physical product requires processing).

While this book is a fantastic overview of all things materials and their many, many, many different methods of processing, the text is beyond dry when it comes to actual readability. A few weeks could have been set aside in the writing process to make the text far less formulaic and repetitive than it is currently, but that effort was obviously not made. However, it's impossible to fault a textbook for being dry, and that's the only reason the single star was docked. The descriptions of the manufacturing processes and their applications, on the other hand, were detailed and helpful, and the book is recommended in that regard.

A good first primer for the material at hand. Much of the information in this book is in regards to machining, casting, and related topics such as roughness. The rest of the topics will get a paragraph or page. If you need information on a specific process additional texts are required.

This book is very frustrating to learn from. The chapters are assembled with no rhyme or reason with completely different topics covered in the same chapter. If you are going to do the review questions, plan on getting an additional reference such as Machinery's Handbook as this text lacks the tabulated values required to do the assigned problems. There are several misprints throughout the book as well.

The picture is of the English Edition. I received the international edition. False Advertising. There was also no mention of it being the international Edition in the Description. If I wanted the international Edition, I would have bought a cheaper one. I spent more thinking I was getting what was advertised in the description and in the picture as this was what I needed for class. I paid more money for something I could have gotten for \$20 because I wanted something that would best help me in class.

I was forced to buy this book as a mechanical engineer undergrad. Several years later working in industry, and I'm glad I didn't sell it back. It sits on my shelf at work, where it gets referenced frequently by all members of my department. It ranks up with the most useful books on our shelves, next to APQP manuals and casting defect guides. If this book doesn't have an explanation of what

you need - it at least gives you an idea of what kind of search terms you can use to dig around in other sources.

Being a junior mechanical engineering student, this text is what's used for the lecture. I use this textbook a lot and it is very helpful: all of the processes are well explained, why they should/should not be used in situations. Also this book makes a good effort to take the raw material and mix with facts beyond just when to use a process to get you actually interested in manufacturing. For example how investment casting (aka lost wax process) allowed people to create intricate statues. Every week a quiz was given and studying for an hour with the book and notes helped me ace it every time. \*\*This semester I had expected that manufacturing would be the driest class; in fact this is one of the classes that I most enjoyed. I'm sure it was partly due to my professor but this book certainly didn't hurt.

This book was used for an undergraduate mechanical engineering class. Overall, the book was poorly organized. It drones on about topics and reads like a professor that frequently goes off on a tangent. Perhaps this would be a good reference book if you have some expertise in the subject, but it's a very poor choice for an introductory class to manufacturing processes. Page 202 of the 5th edition is a good example of issues I saw. The authors bring up Reynolds number in the paragraph preceding "Flow characteristics". If you don't know what Reynolds number is, you're left confused. But, you give up and move on to find out that it's (thankfully) defined just several lines down. But that's not it. In the definition of Reynolds number, you're made to believe that it defines fluid flow turbulence and not laminar flow. Then you find out that Reynolds number can be used to represent laminar flow (values under 2000). So, does it represent laminar flow of fluids or not?? (Then you reread it and realize they're referring to Reynolds number for gating systems and feel stupid for 2 seconds and then remember that you're a future engineer and, therefore, can't be stupid.) Of course if you have experience in fluid mechanics, you'd already know about Reynolds number and its relations to BOTH turbulence and laminar flow. But, I nonetheless wanted to use this as an example of the poor organization of the book that is perhaps invisible to those with experience in the subject. Not that students have a choice when it comes to textbooks, but be warned! This book is (perhaps) good for reference, but bad for learning. I hope you have a good professor, but I've got one that drones on like he's talking to industry experts.

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