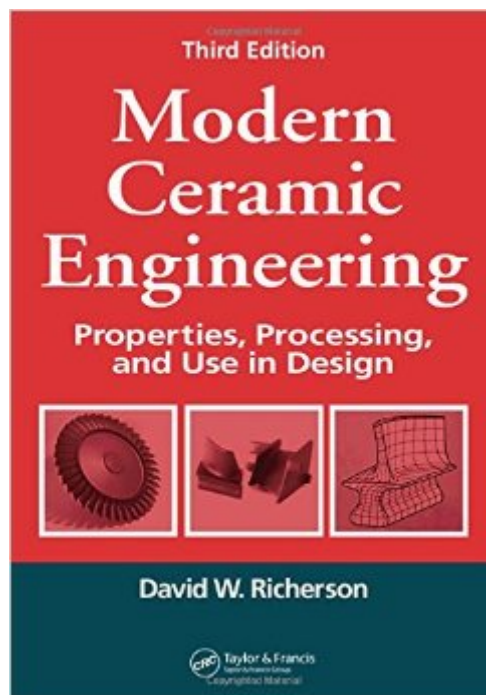


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# Modern Ceramic Engineering: Properties, Processing, And Use In Design, 3rd Edition (Materials Engineering)



## Synopsis

Ceramic materials have proven increasingly important in industry and in the fields of electronics, communications, optics, transportation, medicine, energy conversion and pollution control, aerospace, construction, and recreation. Professionals in these fields often require an improved understanding of the specific ceramics materials they are using. Modern Ceramic Engineering, Third Edition helps provide this by introducing the interrelationships between the structure, properties, processing, design concepts, and applications of advanced ceramics. This student-friendly textbook effectively links fundamentals and fabrication requirements to a wide range of interesting engineering application examples. A follow-up to our best-selling second edition, the new edition now includes the latest and most important technological advances in the field. The author emphasizes how ceramics differ from metals and organics and encourages the application of this knowledge for optimal materials selection and design. New topics discuss the definition of ceramics, the combinations of properties fulfilled by ceramics, the evolution of ceramics applications, and their importance in modern civilization. A new chapter provides a well-illustrated review of the latest applications using ceramics and discusses the design requirements that the ceramics must satisfy for each application. The book also updates its chapter on ceramic matrix composites and adds a new section on statistical process control to the chapter on quality assurance. Modern Ceramic Engineering, Third Edition offers a complete and authoritative introduction and reference to the definition, history, structure, processing, and design of ceramics for students and engineers using ceramics in a wide array of industries.

## Book Information

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## Customer Reviews

This text is outdated and extremely simplified. The ideal reader is someone who has never had a materials science course. You won't get much out of this textbook if you're looking for a detailed presentation of ceramic science and engineering.

I am offering my comments in my capacity as a course instructor. The reason why I recommend this book to my students is because it gives an excellent understanding of industrial applications of ceramic materials. The author has done a great job putting together his industrial experience. Most of the textbooks are written by university professors, who are sometimes ignorant about the industrial practices. This is more true in the rapidly changing field of materials science and engineering in general, and ceramics in particular. After having gone through all the ceramics related books that are currently available in the market, I feel *Modern Ceramic Engineering (Materials Engineering)* by David Richerson is the best option as a ceramic engineering textbook. The only drawback of this book is that it lacks smooth flow of ideas. Author could generate more interest among the readers by providing more schematics and by avoiding the paragraphs with cluttered information.

This is the 1992 edition of *Modern Ceramic Engineering*. I was looking for an inexpensive copy of a textbook on the subject and I found it. I am sure small changes in the later editions would be needed for a formal class on the subject. This older edition is just fine for an overview on the subject. This version satisfied my curiosity of the subject and the price was much less than the latest version. My combination of needing a good overview and a bargain price leads me to rate it with 4 stars.

I am taking an Intro to Ceramics course; this is the book we use. The book is actually really interesting. The author sometimes even sounds tongue-in-cheek about things! The subject matter ranges over a wide array of manufacturing processes, quality assurance, and material properties. He also throws in a lot of information about phase diagrams and grain structure/growth. I myself am not a materials engineer, but I found the book engrossing (very strange for me!). I did the study guide questions, which I thought were very well written, and the questions at the end of the text. Two drawbacks only: 1) no answers to the study guide questions/back of the chapter questions, and 2)

all the pictures are in black and white.

This book is definitely one of the best in Ceramic Science and Engineering. It serves the very best the interest of students, academics and professionals from a vast variety of disciplines who is working or starts working or somehow has an interest with ceramic materials. It initiates with the very basics from atomic bonding and crystalline structures, and then proceeds with processing, materials properties and performances, service life predictions, and failure analysis and mechanisms in an interconnected manner. The language is simple to follow, and the case studies are very well selected to fully understand the applications of each individual matters examined in the respective chapters.

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