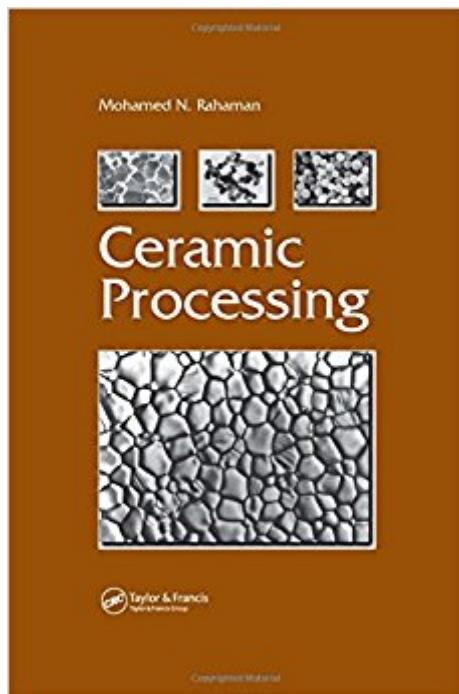


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Ceramic Processing



Synopsis

Materials scientists continue to develop stronger, more versatile ceramics for advanced technological applications, such as electronic components, fuel cells, engines, sensors, catalysts, superconductors, and space shuttles. From the start of the fabrication process to the final fabricated microstructure, Ceramic Processing covers all aspects of modern processing for polycrystalline ceramics. Stemming from chapters in the author's bestselling text, Ceramic Processing and Sintering, this book gathers additional information selected from many sources and review articles in a single, well-researched resource. The author outlines the most commonly employed ceramic fabrication processes by the consolidation and sintering of powders. A systematic approach highlights the importance of each step as well as the interconnection between the various steps in the overall fabrication route. The in-depth treatment of production methods includes powder, colloidal, and sol-gel processing as well as chemical synthesis of powders, forming, sintering, and microstructure control. The book covers powder preparation and characterization, organic additives in ceramic processing, mixing and packing of particles, drying, and debinding. It also describes recent technologies such as the synthesis of nanoscale powders and solid freeform fabrication. Ceramic Processing provides a thorough foundation and reference in the production of ceramic materials for advanced undergraduates and graduate students as well as professionals in corporate training or professional courses.

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University of Illinois at Urbana-Champaign, USA "This book is an invaluable addition to the literature on making ceramics. It covers the various steps in manufacture of ceramic components in sufficient depth to be useful to researchers, but in an accessible fashion for teaching undergraduates and graduate students. It will also find a place on the bookshelves of anyone involved with commercial ceramic manufacturers."Ã¢ ª ª William E Lee, Imperial College London, United Kingdom

"Ceramic processing by Rahaman is an excellent text that introduces undergrad student to the complex and highly varied topic of making ceramics from molecules or powder to the final product. It is furthermore an excellent resource for graduate students and professionals. The chapters are easy to read and understand, yet in depth and high quality. I highly recommend this book to anyone who wants to know more about the field of ceramic processing."Ã¢ ª ª Wolfgang Sigmund,

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processing techniques are concerned. The book can be used as either a text book for students or a good reference for researchers in this field." Jingzhe Pan, University of Leicester, United Kingdom --This text refers to an alternate Hardcover edition.

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