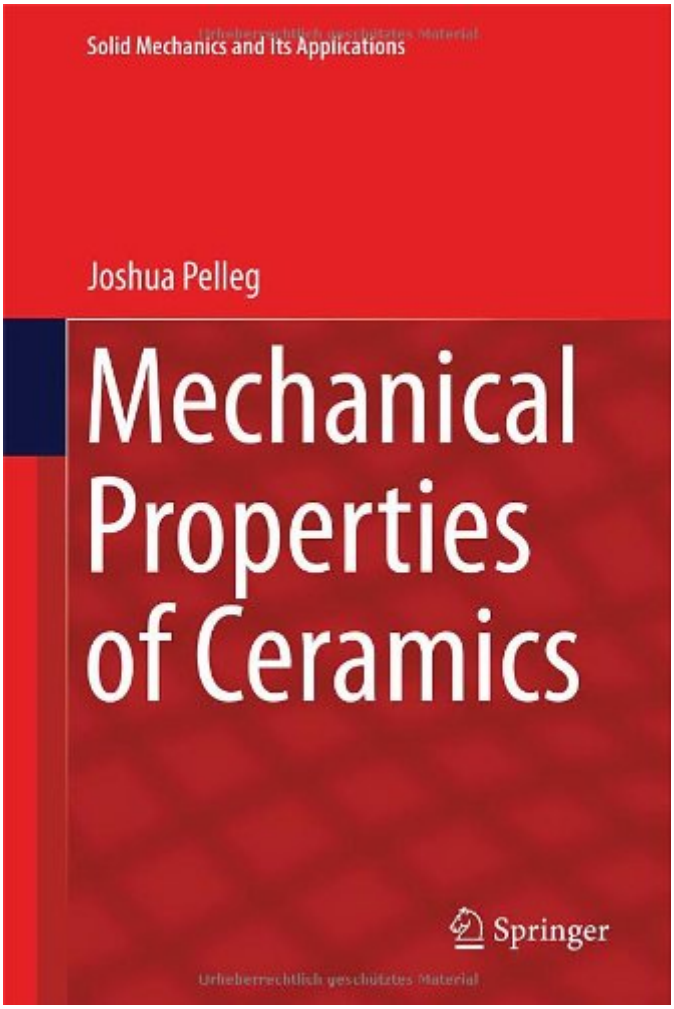
Mechanical Properties of Ceramics (Solid Mechanics and Its Applications) PDF



Mechanical Properties of Ceramics (Solid Mechanics and Its Applications) by Joshua Pelleg ISBN 3319044915

This book discusses the mechanical properties of ceramics and aims to provide both a solid background for undergraduate students, as well as serving as a text to bring practicing engineers up to date with the latest developments in this topic so they can use and apply these to their actual engineering work.

Generally, ceramics are made by moistening a mixture of clays, casting it into desired shapes and then firing it to a high temperature, a process known as 'vitrification'. The relatively late development of metallurgy was contingent on the availability of ceramics and the know-how to

mold them into the appropriate forms. Because of the characteristics of ceramics, they offer great advantages over metals in specific applications in which hardness, wear resistance and chemical stability at high temperatures are essential. Clearly, modern ceramics manufacturing has come a long way from the early clay-processing fabrication method, and the last two decades have seen the development of sophisticated techniques to produce a large variety of ceramic material.

The chapters of this volume are ordered to help students with their laboratory experiments and guide their observations in parallel with lectures based on the current text. Thus, the first chapter is devoted to mechanical testing. A chapter of ductile and superplastic ceramic is added to emphasize their role in modern ceramics (chapter 2). These are followed by the theoretical basis of the subject. Various aspects of the mechanical properties are discussed in the following chapters, among them, strengthening mechanisms, time dependent and cyclic deformation of ceramics. Many practical illustrations are provided representing various observations encountered in actual ceramic-structures of particularly technical significance. A comprehensive list of references at the end of each chapter is included in this textbook to provide a broad basis for further studying the subject. The work also contains a unique chapter on a topic not discussed in other textbooks on ceramics concerning nanosized ceramics.

This work will also be useful as a reference for materials scientists, not only to those who specialize in ceramics.

Mechanical Properties of Ceramics (Solid Mechanics and Its Applications) Review

This Mechanical Properties of Ceramics (Solid Mechanics and Its Applications) book is not really ordinary book, you have it then the world is in your hands. The benefit you get by reading this book is actually information inside this reserve incredible fresh, you will get information which is getting deeper an individual read a lot of information you will get. This kind of Mechanical Properties of Ceramics (Solid Mechanics and Its Applications) without we recognize teach the one who looking at it become critical in imagining and analyzing. Don’t be worry Mechanical Properties of Ceramics (Solid Mechanics and Its Applications) can bring any time you are and not make your tote space or bookshelves’ grow to be full because you can have it inside your lovely laptop even cell phone. This Mechanical Properties of Ceramics (Solid Mechanics and Its Applications) having great arrangement in word and layout, so you will not really feel uninterested in reading.