

develop modern glass-ceramic materials with features unknown to either ceramics or glasses or in other materials such as metals or organic polymers. The book is readable with ease and the quality of production is superb. A large spectrum of readers right from students to application engineers can derive benefits. The authors are correct in saying that the contents of the book may be classified somewhere between a technical monograph, text book and a reference book. The references are exhaustive and include important Japanese ones too. In brief, the book covers processing/structure/ properties relationship of glass-ceramic systems in a unified manner, not so far available in the English language. The book is a must for any ceramic /materials scientist or engineer, who is eager to know the basics and applications of glass – ceramics.

G.S.Upadhyaya

**An Introduction to Ceramic Engineering Design,  
Ed. D.E.Clark, D.C.Folz, and T.D.McGee, American Ceramic  
Society, Westerville, Ohio, USA, 2002, pp.446,  
ISBN 1-57498-131-5.**

So far practically all books on ceramics are covered with scientific or technological aspects, but none on real design. The present book is a much awaited one. The editors claim it to be useful for undergraduate students in materials / ceramic science and engineering .The reviewer feels that its utility is going to be for post graduate students too including practicing engineers.

The book contains 19 chapters authored by 24 scientists/ engineers. The chapters can be divided into three Groups. Group I ( chapter 1-8) covers concepts and principles of engineering design, materials selection methodology, role of thermal stresses in ceramic design. Group II ( chapter 9-17) covers real material / product design aspects viz. reusable space vehicles, glass fiber, nuclear waste containments, whitewares, orthopedic joints, ceramic-metal joints, piezoelectric devices and thermochemical applications. The last Group of chapters includes two general papers on 'Integrated process design at the University of Florida' and 'Protecting Properties Rights'. An appendix entitled 'National Academy of Engineering's Top 20 Engineering Achievements' is very useful in showing the impact of advanced ceramics in modern engineering.

Each chapter ends with a list of suggested readings, followed by questions. The questions are of qualitative and quantitative nature and are a must for any ceramic engineering student. Within many chapters there are illustrative examples.

Being a multiauthored book, uniformity of style and rigour are at times missing .However, this does not detract the significance of the book. The book is a must for any ceramic engineer or designer.

G.S.Upadhyaya

ISBN: 978-1-574-98131-5 October 2002 Wiley-Blackwell 456 Pages. Print. Starting at just \$133.00. David E. Clark is the editor of *An Introduction to Ceramic Engineering Design*, published by Wiley. Diane C. Folz is the editor of *An Introduction to Ceramic Engineering Design*, published by Wiley. Table of contents. *Concepts and Principles of Engineering Design* (D.E. Clark, D.C. Folz and T.D. McGee). *Ethical Issues in Design* (M.L. Cummings). *Materials Selection Methodology* (W.J. Lackey). *Statistical Design* (H. El-Shall and K.G. Christmas). *Use of Computers in Design of Ceramic Bodies and Processes* (D.R. Dinger). *Developing a Design Protocol for Load-Bearing Applications* (J.J. Mecholsky Jr.).