1. Record Nr. UNINA9910820360703321

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Titolo	Advanced structural ceramics / / Bikramjit Basu [and] Kantesh Balani
Pubbl/distr/stampa	Hoboken, N.J., : Wiley, 2011
ISBN	9786613294609 9781283294607 1283294605 9781118037294 1118037294 9781118037300 1118037308 9781118037287 1118037286
Edizione	[1st ed.]
Descrizione fisica	1 online resource (502 p.)
Altri autori (Persone)	BalaniKantesh
Disciplina	620.1/4
Soggetti	Ceramic materials Ceramic-matrix composites
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Advanced Structural Ceramics; Contents; Preface; Foreword; About the Authors; Section One: Fundamentals of Nature and Characteristics of Ceramics; Chapter 1: Ceramics: Definition and Characteristics; 1.1 MATERIALS CLASSIFICATION; 1.2 HISTORICAL PERSPECTIVE; DEFINITION AND CLASSIFICATION OF CERAMICS; 1.3 PROPERTIES OF STRUCTURAL CERAMICS; 1.4 APPLICATIONS OF STRUCTURAL CERAMICS; REFERENCES; Chapter 2: Bonding, Structure, and Physical Properties; 2.1 PRIMARY BONDING; 2.1.1 Ionic Bonding; 2.1.2 Covalent Bonding; 2.1.3 Pauling's Rules; 2.1.4 Secondary Bonding; 2.2 STRUCTURE 2.2.1 NaCl-type Rock-Salt Structure2.2.2 ZnS-Type Wurtzite Structure; 2.2.3 ZnS-Type Zinc Blende Structure; 2.2.4 CsCl Cesium Chloride Structure; 2.2.5 CaF2 Fluorite Structure; 2.2.6 Antifluorite Structure; 2.2.7 Rutile Structure; 2.2.8 Al2O3 Corundum Structure; 2.2.9 Spinel Structure; 2.2.10 Perovskite Structure; 2.2.11 Ilmenite Structure; 2.2.12

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3.1.4 Irwin's Theory3.1.5 Concept of Fracture Toughness; 3.2 CRACKING IN BRITTLE MATERIALS; 3.3 STRENGTH VARIABILITY OF CERAMICS; 3.4 PHYSICS OF THE FRACTURE OF BRITTLE SOLIDS; 3.4.1 Weakest Link Fracture Statistics; 3.5 BASIC MECHANICAL PROPERTIES; 3.5.1 Vickers Hardness; 3.5.2 Instrumented Indentation Measurements; 3.5.3 Compressive Strength; 3.5.4 Flexural Strength; 3.5.5 Elastic Modulus; 3.5.6 Fracture Toughness; 3.5.6.1 Long Crack Methods; 3.5.6.2 Fracture Toughness Evaluation Using Indentation Cracking; 3.6 TOUGHENING MECHANISMS; REFERENCES; Section Two: Processing of Ceramics
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7.1.5 Thermal and Electrical Insulation

Sommario/riassunto

This book covers the area of advanced ceramic composites broadly, providing important introductory chapters to fundamentals, processing, and applications of advanced ceramic composites. Within each section, specific topics covered highlight the state of the art research within one of the above sections. The organization of the book is designed to provide easy understanding by students as well as professionals interested in advanced ceramic composites. The various sections discuss fundamentals of nature and characteristics of ceramics, processing of ceramics, processing and properties of toughe