



Multiphased Ceramic Materials

By Tuan, Wei-Hsing / Guo, Jin-Kun

Book Condition: New. Publisher/Verlag: Springer, Berlin | Processing and Potential | Summary of the recent progress in ceramics research. Several novel concepts for materials selection and microstructural design are presented, as are experimental results that substantiate the ideas. | 1 Multi-phase Materials.- 1.1 Introduction.- 1.2 The Basic Concept of Multi-phase Materials.- 1.2.1 Blurring the Boundaries Between Various Phases.- 1.2.2 Applying Nano-technology.- 1.2.3 Applying Advanced Fabrication Processes.- 1.2.4 Marketability and Reliability.- 1.2.5 Material Design.- 1.3 The Need for Multi-phase Materials.- 1.4 Research Objectives.- References.- 2 New Concepts in the Design of Tough Ceramics.- 2.1 Introduction.- 2.2 Experiments.- 2.3 Results and Discussion.- 2.3.1 Transformation Toughening Mechanism.- 2.3.2 Plastic Deformation Mechanism.- 2.3.3 Interactions Between Transformation and Toughening Plastic Deformation.- 2.4 Conclusions.- Acknowledgement.- References.- 3 Interface Design of Tough Ceramics: Si₃N₄/BN Fibrous Monolithic Ceramic.- 3.1 Introduction.- 3.2 Measurement of Interfacial Toughness.- 3.3 Preparation of Si₃N₄/BN Fibrous Monolithic Ceramic.- 3.3.1 Fabrication of Si₃N₄/BN Fibrous Monolithic Ceramic.- 3.3.2 Mechanical Properties at Elevated Temperatures.- 3.3.2.1 Creep Resistance.- 3.3.2.2 Thermal Shock Behavior.- 3.4 Conclusions.- Acknowledgement.- References.- 4 Microstructural Design : Si/SiC Composites Derived from Wood.- 4.1 Introduction.- 4.2 Experimental Work.- 4.2.1 Starting Materials.- 4.2.2 Fabrication Process.- 4.2.3 Testing.- 4.3 Results and Discussion.- 4.3.1 XRD Analysis and Phase Composition.- 4.3.2...

Reviews

This type of publication is every little thing and got me to seeking in advance and much more. I could possibly comprehend every little thing out of this created e publication. I am happy to explain how this is the finest pdf we have study in my very own life and can be he greatest ebook for actually.

-- **Miss Berenice Weimann Jr.**

Completely among the finest ebook We have ever go through. I really could comprehend every little thing using this created e pdf. I am pleased to let you know that this is actually the greatest ebook i actually have read through inside my own daily life and might be he very best ebook for ever.

-- **Gordon Kertzmann**