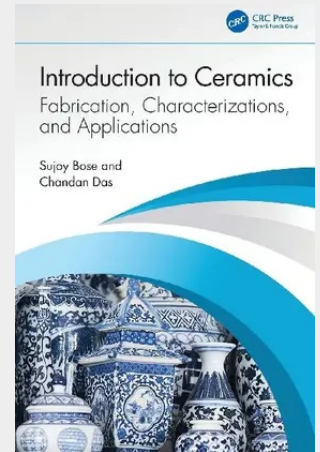


Introduction to Ceramics

Fabrication, Characterizations, and Applications

The field of ceramics has applications in diverse fields including electronic engineering, electrical engineering, biochemical engineering, automobile engineering and defense sector. This textbook discusses ceramic raw materials, properties of ceramics, fabrication techniques of ceramics and testing of ceramics. It comprehensively discusses mechanical properties, thermal properties, optical properties, electrical properties and magnetic properties of ceramics. The text covers structural characteristics, properties and applications of advanced ceramic materials and examines their difference from the conventional ceramics. A separate chapter discusses testing methods of ceramics including testing of raw materials, testing of physical properties, testing of mechanical strength and testing of electrical properties in dept. This textbook begins by discussing ceramic raw materials, proceeds with conventional ceramics, continues with properties and fabrication techniques of ceramic materials, testing of ceramics and ends with covering advanced ceramics. This book features: - Covers ceramics from traditional to advanced - Discusses fabrication, characterization and applications of ceramics in detail - Examines mechanical properties, thermal properties, optical properties, electrical properties and magnetic properties of ceramics in detail - Covers structural characteristics, properties and applications of carbides, nitrides, oxides and borides - Discusses processing techniques including mechanical separation and magnetic separation of ceramics It will help serve as ideal study material for senior undergraduate and graduate students in the field of chemical engineering, materials science and engineering, and ceramic technology.

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