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Titolo	Mechanical properties and performance of engineering ceramics and composites [[electronic resource] ] : a collection of papers presented at the 29th International Conference on Advanced Ceramics and Composites, January 23-28, 2005, Cocoa Beach, Florida // editor, Edgar Lara-Curzio ; general editors, Dongming Zhu, Waltraud M. Kriven
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Collana	Ceramic engineering and science proceedings, , 0196-6219 ; ; v. 26/ 2
Altri autori (Persone)	Lara-CurzioEdgar <1963-> ZhuDongming KrivenWaltraud M
Disciplina	620.14
Soggetti	Ceramic materials Ceramics Composite materials
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Mechanical Properties and Performance of Engineering Ceramics and Composites; Contents; Effect of Active Fillers on Ceramic Joints Derived from Pre-ceramic Polymers; Preface; Creating a Vision for the Future of Advanced Ceramics; Measurement of Fiber Coating Thickness Variation; Model of Deviation of Cracks at Interfaces or Within Interphases; Preparation and Characterization of Magnesium-Silicon Based Oxide Coating on High-Crystalline SiC Fiber as an Interphase in SiC/SiC Composite; Polyborosilazane-Derived Ceramic Fibers in the Si-B-C-N Quaternary System for High-Temperature Applications Microtextural and Microstructural Evolution in Poly[(Alkylamino) Borazine]- Derived Fibers During their Conversion into Boron Nitride Fibers Investigations on Growth of Textured and Single Crystal Oxide Fibers Using a Quadrupole Lamp Furnace; Thermo-Mechanical

Properties of Super Sialon Sic Fibers; High Temperature Tensile Testing Method for Monofilament Ceramic Fibers; Computer Modeling of Crack Propagation Using Fractal Geometry; Geometry of Edge Chips Formed at Different Angles; Threshold Stress During Crack-Healing Treatment of Structural Ceramics Having the Crack-Healing Ability Ablation of Carbon/Carbon Composites: Direct Numerical Simulation and Effective Behavior Modeling of Deformation and Damage Evolution of CMC With Strongly Anisotropic Properties; A Novel Test Method for Measuring Mechanical Properties at the Small-Scale: The Theta Specimen; Nondestructive Evaluation of Machining and Bench-Test Damage in Silicon-Nitride Ceramic Valves; NDE for Characterizing Oxidation Damage in Reinforced Carbon-Carbon Used on the NASA Space Shuttle Thermal Protection System  
Determination of Elastic Moduli and Poisson Coefficient of Thin Silicon-Based Joint Using Digital Image Correlation Use of Rupture Strength Testing in Examining the Thermal Cycle Behavior of Various Types of Planar Solid Oxide Fuel Cell Seals; Characteristics of Sealed Parts Under Internal Pressure in Super High Pressure Mercury Discharge Lamps; Synthesis of Titanium Aluminate -Alumina Compositions for Low TEC Applications; Structuring Ceramics Using Lithography; The Notion of Densification Front in CVI Processing with Temperature Gradients Fabrication and Characterization of MGC Components for Ultra High Efficiency Gas Turbine Comparison of Sodium Caprylate and Sodium Stearate and the Effects of Their Hydrocarbon Chain Lengths on Adsorption Behavior and Alumina Paste Rheology; Formulation of Additives for Water-Based Tape Casting of Ceramics; A Non-Linear Programming Approach for Formulation of Three-Component Ceramics as a Function of Physical and Mechanical Properties; Microstructural and Mechanical Properties of Directionally Solidified Ceramic in Al<sub>2</sub>O<sub>3</sub>-Al<sub>2</sub>TiO<sub>5</sub> System  
Study of the Relationship Between the Young's Modulus and Microstructure of Vacuum Plasma Sprayed Boron Carbide

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Sommario/riassunto

Over 45 papers included in this collection present the latest advances in research and development on the processing, mechanics and mechanical properties of advanced ceramics and composites. The focus is on the underlying fundamental linkages between microstructure and properties, and the ability to achieve desired properties through innovative processing techniques including design, modeling, evaluation and life-prediction of structural components, ceramics and composites.

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