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Measurement of Interfacial Micromechanics in Fiber-Reinforced Ceramic Matrix Composites; Interfacial Frictional Shear Stresses in Ceramic Matrix Composites; A Comparison of Single- and Multi-Fiber Pushout Techniques; Development of an Interfacial Test System for the Determination of Interfacial Properties in Fiber-Reinforced Ceramic Composites; Evaluation of the Interfacial Mechanical Properties in Fiber-Reinforced Ceramic Composites; Evaluation of Thermal Residual Stresses in SiC/MLAS and SiC/SiC Composites by the Microindentation Push-Down Test; Evaluation of the Elastic and Plastic Properties of Si₃N₄ by Depth-Sensing Indentation; Shear Test and Shear Strength of Ceramic Composites; Fiber Twist Test Apparatus To Measure Composite Interface Properties; Method for Obtaining Thermal Expansion Values for Low-Expansion Fibers Using a DuPont TMA; Loading Effect on Interfacial Properties of Fiber-Reinforced Borosilicate Glass Composites; High-Temperature Interfacial Shear Strength Testing of Ceramic Matrix Composites; Fatigue Crack Growth in Advanced Ceramic Materials; Design, Lifetime, and Reliability of Composites; Rough Fiber Pullout in Brittle Matrix Composites: Experiments and Simulations; Interfacial Sliding Stress Transfer Mechanism of Fiber-Reinforced Ceramic Matrix Composites; Fatigue and Fracture of an SiC/CAS Continuous-Fiber-Reinforced Glass-Ceramic Matrix Composite at Ambient and Elevated Temperatures; Fracture Process Zone in SiCw/Al₂O₃; Room Temperature Tensile Strength of AlN; Thermomechanical Fatigue of Nicalon/KAS Under In-Phase and Out-of-Phase Cyclic Loadings; Life Prediction Methodologies and Data for Ceramic Materials in Advanced Application-A Basis for Standards; Silicon Nitride Tensile Strength Database from CTP Processing for Reliability Project

Sommario/riassunto

This volume is part of the Ceramic Engineering and Science Proceedings (CESP) series. This series contains a collection of papers dealing with issues in both traditional ceramics (i.e., glass, whitewares, refractories, and porcelain enamel) and advanced ceramics. Topics covered in the area of advanced ceramic include bioceramics, nanomaterials, composites, solid oxide fuel cells, mechanical properties and structural design, advanced ceramic coatings, ceramic armor, porous ceramics, and more.
