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Life Prediction of Thermal Barrier Coating; Microstructure and Phase Constituents of the Thermally Grown Oxide in Thermal Barrier Coatings The Role of Cyclic Mechanical Loading and Thermal Gradients in Damage Behavior of Thermal Barrier Coating SystemsThermal Wave Imaging Application in Thermal Barrier Coatings; Nondestructive Evaluation of Thermal Barrier Coatings by Mid-Infrared Reflectance Imaging; Damage Detection of Thermal Barrier Coatings by Electrochemical Impedance Spectroscopy; Thermal Behaviour of Thermal Barrier Coatings and SteeV Thermal Barrier Coatings Structures; Development and Evaluation of Ceramic Components and EBCs for GasTurbine
Crack Driving Forces in a Muhilayered Coating System for Ceramic Matrix Composites SubstratesProducing Surface Coatings on Silicon Nitride by Pack Cementation; Metal-Organic Chemical Vapor Deposition of Environmental Barrier Coatings for All-Oxide Ceramic Matrix Composites; The Oxidation of Aluminum Silicon Carbide; Solid-Particle Erosion of Thin Films Deposited on Ceramics; Ceramic and Cermet Coatings for Cylinder Liners in Ultra-Light Weight Engines; A1203 and Si02 Coatings for Improving the Wear Resistance of Glass Panes Characterization of Spin-Coated Terbium-Doped Strontium Cerate Thin Film MembranesCermet and Hard Metal Coatings for Advanced Large Diesel Engines with Reduced Pollutant Emissions; Stabilization of Ethanol Based Ceramic Suspensions for Electrophoretic Deposition; The Role of Wetting and Reactivity in Infiltration of Ceramic-Metal Composites; Enhanced Wettability by Copper Electroless Coating of Carbon Nanotubes; Fabrication of Strengthened and Toughened Intra-Type Ceramic Matrix Nanocomposites Using a Soaking Method Fabrication and Damping Behavior of Barium Titanate Reinforced Copper Matrix Composites

Sommario/riassunto

This volume includes 46 contributed articles from the Advanced Ceramic Coatings for Structural, Environmental and Functional Applications and the International Symposium on Advances in Ceramic-Metal Systems symposia. Topics include processing and microstructure design, mechanical and thermal properties, advanced testing and non-destructive evaluation, wear, erosion and corrosion behavior, functional properties and modeling. A significant portion of the contributed articles focus on current state-of-the-art industrial applications of ceramic coatings and ceramic-metal composites.