

1. Record Nr.	UNISA996209753603316
Titolo	Advances in ceramic coatings and ceramic-metal systems [[electronic resource]] : a collection of papers presented at the 29th international conference on advanced ceramics and composites, January 23-28, 2005, Cocoa Beach, Florida / / editors, Dongming Zhu, Kevin Plucknett
Pubbl/distr/stampa	Westerville, OH, : American Ceramic Society, 2005
ISBN	1-282-31503-X 9786612315039 0-470-29123-0 0-470-29162-1
Descrizione fisica	1 online resource (430 p.)
Collana	Ceramic Engineering and Science Proceedings ; ; v.322
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Disciplina	600 620.14
Soggetti	Ceramic coating Ceramic materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Advances in Ceramic Coatings and Ceramic-Metal Systems; Contents; Preface; New Thermal Barrier Coatings Based on PyrochlordYSZ Double Layer Systems; Mechanical and Thermal Properties of Advanced Oxide Materials for Higher-Temperature Coatings Applications; Sintering, Phase Stability, and Thermal Conductivity of Plasma-Sprayed Gd2O3-Stabilized ZrO2; Curvature Studies of Unconstrained Thermal Barrier Composites; Manufacture and Properties of Segmented Thermal Barrier Coatings; Effect of Scattering on the Heat Transfer Behavior of a Typical Semitransparent TBC Material on a Substrate Determination of the Fracture Toughness of Thermally Grown Oxide (TGO) in a Thermal Barrier SystemOn the Thermal Cycling and Evolution of Surface Morphology for Thermally Cycled NiCoCrAlY Bondcoats; Stress Distribution in APS-TBCs Under Thermal Cycling Loading Conditions; Damage Process of Thermal Barrier Coating Subjected to Thermal Cycling Under High Heat Flux; Investigation of Thermal Fatigue

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 Systems Thermal 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 Steel Thermal Barrier Coatings Structures; Development and Evaluation of Ceramic Components and EBCs for GasTurbine

Crack Driving Forces in a Multilayered Coating System for Ceramic Matrix Composites Substrates Producing 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; Al₂O₃ and SiO₂ Coatings for Improving the Wear Resistance of Glass Panes Characterization of Spin-Coated Terbium-Doped Strontium Cerate Thin Film Membranes Cermet 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.
