1. Record Nr. UNINA9910697686303321

Titolo	Antibody sensors [[electronic resource]]
Pubbl/distr/stampa	[Idaho Falls, Idaho] : , : Idaho National Laboratory, , [2005?]
Descrizione fisica	2 unnumbered pages : digital, PDF file
Collana	[Fact sheet]
Soggetti	Identification - Research - Idaho Body fluids - Analysis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from title screen (viewed on Oct. 1, 2008). "05-GA50193-54."

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Titolo	Ceramic matrix composites : materials, modeling and technology / / edited by Narottam P. Bansal, Jacques Lamon ; contributors, Pierre Ladeveze [and thirteen others]
Pubbl/distr/stampa	Hoboken, New Jersey : , : The American Ceramic Society : , : Wiley, , 2015 ©2015
ISBN	1-118-83289-2 1-118-83299-X 1-118-83296-5
Descrizione fisica	1 online resource (715 p.)
Classificazione	TEC021000TEC009070SCI013030
Disciplina	620.1/4
Soggetti	Ceramic-matrix composites Materials compostos Materials ceràmics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Ceramic Matrix Composites; Contents; Preface; Contributors; PART 1 Fibers: Interface and Architecture; CHAPTER 1 Reinforcement of Ceramic Matrix Composites: Properties of SiC-Based Filaments and Tows; 1.1 Introduction; 1.2 Processing of SiC-Based Filaments; 1.3 Fracture Characteristics of Single Filaments; 1.3.1 Statistical Strength Distributions; 1.3.2 Weibull Distribution of Failure Strengths; 1.3.3 Determination of Weibull Statistical Parameters; 1.3.4 Normal Distribution; 1.4 Multifilament Tows; 1.4.1 The Bundle Model 1.4.2 Filaments-Tows Relations: Tow-Based Testing Methods for Determination of Single Filament Properties1.5 Mechanical Behavior at High Temperatures; 1.5.1 Strength Degradation and Oxidation at High Temperature; 1.5.2 Static Fatigue Under Constant Load at Intermediate Temperatures: Subcritical Crack Growth; 1.6 Summary; References; CHAPTER 2 Carbon Fibers; 2.1 Introduction/Production Routes; 2.2 Structure of Carbon Fibers; 2.2.1 Levels 1 and 2, Atomic level; 2.2.2 Level 3, Lower Nanometer Range; 2.2.3 Level 4, Upper Nanometer Range; 2.2.4 Level 5, 10-m Range 2.3 Stiffness and Strength of Carbon Fibers2.4 Concluding Remarks and Future Directions; Acknowledgments; References; CHAPTER 3 Influence of Interfaces and Interphases on the Mechanical Behavior of Fiber-Reinforced Ceramic Matrix Composites; 3.1 Introduction; 3.2 Role of Interfacial Domain in CMCs; 3.2.1 Crack Initiation at Interfaces; 3.2.2 Crack Deflection at Interfaces; 3.2.3 Approaches to Crack Deflection at Interfaces; 3.2.4 Deflection Criteria Based on the Cook and Gordon Mechanism; 3.2.5 Influence of Material Elastic Properties on Crack Deflection; 3.3 Influence of Deflected Cracks 3.4 Strengthened Interfaces and Interphases3.5 Various Concepts of Weak Interfaces/Interphases; 3.6 Determination of Interfacial Properties; 3.6.1 The Interfacial Tensile Strength; 3.6.2 Interfacial Shear Strength or Stress; 3.7 Interface Selection; 3.8 Conclusions; References; CHAPTER 4 Textile Reinforcements: Architectures, Mechanical Behavior, and Forming; 4.1 Introduction; 4.2 Textile Composite Reinforcements; 4.2.1 Multiscale Materials: Fibers, Tows, Fabrics; 4.2.2 Architecture and Geometry of the Unit Woven Cell; 4.2.3 Experimental Analysis of the Mechanical Behavior 4.2.4 Mechanical Behavior Modeling4.3 Reinforcements of Ceramic Composites; 4.3.1 Silicon Carbide Fibers; 4.3.2 Textile Reinforcement; 4.3.3 Infiltration of the Textile Preform; 4.4 Preforming Simulation; 4.4.1 Fishnet Algorithm; 4.4.2 Continuous FE Approaches; 4.4.3 Hypoelastic Behavior: Simulation of a Double-Dome Forming; 4.4.4 Composite Reinforcement Forming Using a Semidiscrete Approach; 4.5 Conclusion; References; PART 2 Composite Materials; CHAPTER 5 Carbon/Carbons and Their Industrial Applications; 5.1 Introduction; 5.2 Manufacturing of CarbonCarbons; 5.2.1 Carbon Fiber Reinforcements 5.2.2 Matrix Systems
Sommario/riassunto	"This book is a comprehensive source of state-of-the-art information on ceramic matrix composites (CMC). It covers ceramic and carbon fibers, the fiber-matrix interface, processing, properties and industrial applications of CMC systems, architecture, mechanical behavior at room and elevated temperatures, environmental effects and protective coatings, foreign object damage, modeling, life prediction, integration, and joining. The book is intended for researchers, as well as teachers and students in ceramic science and engineering, materials science and engineering, and aeronautical, mechanical, and civil or aerospace

engineering"--