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Autore	DiCarlo James A.
Titolo	Fabrication routes for continuous fiber-reinforced ceramic composites (CFCC) // James A. DiCarlo and Narottam P. Bansal
Pubbl/distr/stampa	Cleveland, Ohio : , : National Aeronautics and Space Administration, Lewis Research Center, , November 1998
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Collana	NASA/TM ; ; 1998-208819
Soggetti	Ceramic matrix composites Composite materials Fiber composites Ceramic fibers Carbon-carbon composites
Lingua di pubblicazione	Inglese
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Edizione	[1st ed.]
Descrizione fisica	1 online resource (161 p.)
Collana	New directions in religion and literature
Disciplina	820.9382 305.6970941
Soggetti	Religion and literature - England Religion and culture - England Protestantism - England Islamophobia - England
Lingua di pubblicazione	Inglese
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Note generali	Description based upon print version of record.
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Sommario/riassunto	England's Secular Scripture seeks to trace English Islamophobia to its roots in England's Protestant past, and more specifically to its aesthetic and literary rooting in Protestant values. Carruthers argues that English antagonism towards Islam lies in part in the formation of English identities in early modern Reformation Protestantism. The book traces

the transposing, and secularizing, of Reformation doctrines into a 'Protestant aesthetic'; of simplicity, individualism, and rationalism in the literature of Spenser and Milton. Wordsworth, Hardy, Eliot and Orwell, among others, perpetuate this

3. Record Nr.	UNINA9911019643103321
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Titolo	Functional Polymer Foams : Green Fabrication Methods, Performance and Applications
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ISBN	9783527844609 3527844600 9783527844593 3527844597 9783527844586 3527844589
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Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- Author Biography -- Preface -- Acknowledgment and Dedications -- Chapter 1 Introduction -- 1.1 Overview of Polymer Foams -- 1.2 Polymer Foaming Methods -- 1.2.1 Mechanical Foaming -- 1.2.2 Physical Foaming -- 1.2.3 Chemical Foaming -- 1.3 Fundamentals of SCF Foaming -- 1.3.1 Preparation of Homogeneous Solution -- 1.3.2 Cell Nucleation -- 1.3.2.1 Homogeneous Foam Nucleation -- 1.3.2.2 Heterogeneous Foam Nucleation -- 1.3.2.3 Mixed Nucleation Theory -- 1.3.3 Cell Growth -- 1.3.4 Cell Coalescence and Rupture -- 1.3.4.1 The Mechanism of Cell Rupture -- 1.3.4.2 Mechanism of Cell Opening -- 1.3.5 Solidification

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Noise Reduction Foams -- 4.2 Fundamentals of Acoustic Absorption of Polymer Foams -- 4.2.1 Propagation and Absorption of Sound Waves -- 4.2.2 Sound Absorption Principle and Models -- 4.3 Characterization and Influencing Factors for Sound -- 4.3.1 Characterization of Sound Absorption Properties -- 4.3.1.1 Sound Absorption Coefficient (α) Measurement -- 4.3.1.2 Porosity Measurement -- 4.3.1.3 Cell Diameter, Cell Density, and OpenCell Content -- 4.3.1.4 Tortuosity Measurement -- 4.3.1.5 Airflow Resistance Measurement -- 4.3.2 Factors Affecting Sound Absorption Performance -- 4.3.2.1 Effect of Cellular Morphology -- 4.3.2.2 Macro Shape and Geometry of Polymer Foam -- 4.3.2.3 Resistance of Airflow -- 4.3.2.4 Tortuosity Factor -- 4.4 Types of Acoustic Absorption Foams -- 4.4.1 Sound Absorption Ceramic -- 4.4.2 Sound Absorption Metallic Foam -- 4.4.3 Sound Absorption Polymer Foam -- 4.4.4 Sound Absorption Polymer Composite Foam -- 4.5 Fabrication of Acoustic Absorption Polymer Foams -- 4.5.1 Chemical Foaming -- 4.5.2 Supercritical CO₂ Foaming -- 4.5.3 Coating of Foam Skeletons -- 4.5.4 Phase Separation and Particulate Leaching.

References -- Chapter 5 Superhydrophobic Polymer Foams -- 5.1 Overview of Superhydrophobic Polymer Foams -- 5.1.1 Superhydrophobicity in Nature -- 5.1.2 Influencing Factors for Superhydrophobicity -- 5.1.2.1 Surface Energy -- 5.1.2.2 Surface Structure -- 5.1.3 Methods to Engineer Hierarchical Structured Surface -- 5.1.3.1 Surface Treatment Method -- 5.1.3.2 Etching Method -- 5.1.3.3 Phase Separation Method -- 5.1.3.4 Template Replicating -- 5.1.3.5 Electrostatic Spinning -- 5.2 Theoretical Basis of Superhydrophobicity -- 5.2.1 Wetting on a Solid Surface -- 5.2.2 Wetting on Rough Surfaces -- 5.2.3 Cassie-Baxter Model -- 5.2.4 Theoretical Basis for 3D Porous Foams -- 5.3 Characterizations of Superhydrophobic Foams -- 5.3.1 Morphological Characterization -- 5.3.1.1 Scanning Electron Microscope (SEM) -- 5.3.1.2 Atomic Force Microscope (AFM) -- 5.3.1.3 WhiteLight Interferometry (WLI) -- 5.3.2 Surface Chemistry and Wettability Characterization -- 5.3.2.1 Surface Chemistry Characterization -- 5.3.2.2 Surface Wettability Characterization -- 5.3.3 Selective Oil Adsorption Experiments -- 5.3.4 Absorption Capacity of Superhydrophobic Foams -- 5.4 Superhydrophobic Foam Preparation Technology -- 5.4.1 Nanoparticle/Porous Material Complexes -- 5.4.2 Superhydrophobic Foams Prepared by Phase Separation -- 5.4.3 Superhydrophobic Aerogels -- 5.4.4 Superhydrophobic Fibrous Sponge Prepared by Electrospinning -- 5.4.5 Superhydrophobic Foams Fabricated via Supercritical CO₂ Foaming -- 5.5 Advanced Application of Superhydrophobic Polymer Foams -- 5.5.1 SelfCleaning and Antifouling -- 5.5.2 Oil-Water Separation and Oil Absorption -- 5.5.3 Integration with Other Functions -- 5.5.3.1 Superhydrophobic Foams for Electromagnetic Interference (EMI) Shielding -- 5.5.3.2 Superhydrophobic Foams for Piezoresistive Sensors -- 5.5.3.3 Superhydrophobic Foams for Radiative Cooling. -- 5.5.3.4 Superhydrophobic Surfaces for Nanogenerators -- References

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-- 6.3.3 Electrical Conductivity -- 6.3.4 Magnetic Property -- 6.4 Preparation of EMI Shielding Polymer Foams -- 6.4.1 Composition of EMI Shielding Polymer Foams -- 6.4.2 Factors Influence EMI Shielding Performance of Polymer Foams -- 6.4.2.1 Conductivity and Magnetic Properties -- 6.4.2.2 Material Thickness and Resonance Behavior -- 6.4.2.3 Cell Size, Cell Density, and Porosity -- 6.4.3 Foaming Methods for Conductive Polymer Foams -- 6.4.3.1 Chemical Foaming of EMI Shielding CPFs -- 6.4.3.2 Supercritical CO₂ Foaming of EMI Shielding CPFs -- 6.4.4 EMI Shielding CPFs with Special Microstructures -- 6.4.4.1 Reentrant Cell Structure -- 6.4.4.2 Oriented Cell Structure -- 6.4.4.3 Segregated Cell Structure -- 6.4.4.4 Gradient Cell Structure -- 6.4.4.5 Layered Foam Structure -- 6.5 Advanced Research on EMI Shielding Porous Composites -- 6.5.1 EMI Shielding Aerogels -- 6.5.2 EMI Shielding Fibrous Networks -- 6.5.3 MetalBased EMI Shielding Porous Materials -- 6.5.4 Surface Coated/Modified Foams for EMI Shielding -- References -- Chapter 7 Polymer Foams for Tissue Engineering Scaffolds -- 7.1 Overview of Tissue Engineering -- 7.1.1 Basic Elements of Tissue Engineering -- 7.1.2 Tissue Engineering Scaffold Materials. 7.2 Fundamentals of Tissue Engineering.

Sommario/riassunto

A one-of-a-kind exploration of the fundamentals of functional polymer foams, including their fabrication and a variety of their most common applications In Functional Polymer Foams: Green Fabrication Methods, Performance and Applications, distinguished researcher Dr. Hao-Yang Mi delivers an up-to-date and incisive discussion of the fundamentals of functional polymer foams, as well as their fabrication methods and a diverse set of applications. The author covers a variety of the material's applications, including energy absorption, acoustic absorption, superhydrophobic materials, tissue engineering scaffolding, flexible sensors, and solar steam generation. Readers will find comprehensive summaries of the mechanisms, fabrication methods, and relative performance of various polymer foams, as well as:

- * A thorough introduction to functional polymer foams, including the fundamentals of SCF foaming
- * Comprehensive explorations of energy absorbing polymer foams, including mechanisms of action, testing, and characterization
- * Practical discussions of functional polymer foams used in thermal insulation, including their fabrication
- * Complete treatments of acoustic absorption polymer foams and superhydrophobic foams, including advanced applications

Perfect for polymer chemists, materials scientists, and researchers working in the sensor industry, Functional Polymer Foams will also benefit sensor developers and electronics engineers with an interest in the fabrication methods and applications of functional polymer foams.