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Nota di contenuto	Cellular Ceramics; Foreword; Contents; Preface; List of Contributors; Part 1 Introduction; 1.1 Cellular Solids - Scaling of Properties; 1.1.1 Introduction; 1.1.2 Cellular or "Lattice" Materials; 1.1.3 Bending-Dominated Structures; 1.1.3.1 Mechanical Properties; 1.1.3.2 Thermal Properties; 1.1.3.3 Electrical Properties; 1.1.4 Maxwell's Stability Criterion; 1.1.5 Stretch-Dominated Structures; 1.1.6 Summary; 1.2 Liquid Foams - Precursors for Solid Foams; 1.2.1 The Structure of a Liquid Foam; 1.2.2 The Elements of Liquid Foam Structure; 1.2.3 Real Liquid Foams; 1.2.4 Quasistatic Processes 1.2.5 Beyond Quasistatics 1.2.6 Summary; Part 2 Manufacturing; 2.1 Ceramic Foams; 2.1.1 Introduction; 2.1.2 Replication Techniques; 2.1.2.1 Slurry Coating and Combustion of Polymer Foams; 2.1.2.2 Pyrolysis and CVD Coating of Polymer Foams; 2.1.2.3 Structure of Reticulated Ceramics; 2.1.3 Foaming Techniques; 2.1.3.1 Incorporation of an External Gas Phase; 2.1.3.2 In Situ Gas Evolution; 2.1.3.3

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Sommario/riassunto

Cellular ceramics are a specific class of porous materials which includes among others foams, honeycombs, connected fibers, robocast structures and assembled hollow spheres. Because of their particular structure, cellular ceramics display a wide variety of specific properties which make them indispensable for various engineering applications. An increasing number of patents, scientific literature and international conferences devoted to cellular materials testifies to a rapidly growing interest of the technical community in this topic. New applications for cellular ceramics are constantly bein
