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Nota di contenuto	Polymer Composites; Contents; The Editors; Preface; List of Contributors; Part One: Introduction to Polymer Composites; 1 Advances in Polymer Composites: Macro- and Microcomposites - State of the Art, New Challenges, and Opportunities; 1.1 Introduction; 1.2 Classification of Composites; 1.2.1 Polymer Matrix Composites; 1.2.1.1 Factors Affecting Properties of PMCs; 1.2.1.2 Fabrication of Composites; 1.2.1.3 Applications; 1.2.1.4 Recent Advances in Polymer Composites; 1.3 Interface Characterization; 1.3.1 Micromechanical Technique; 1.3.2 Spectroscopic Tests; 1.3.3 Microscopic Techniques 1.3.4 Thermodynamic Methods1.4 New Challenges and Opportunities; References; 2 Shock and Impact Response of Glass Fiber-Reinforced Polymer Composites; 2.1 Introduction; 2.2 Analytical Analysis; 2.2.1 Wave Propagation in Elastic-Viscoelastic Bilaminates; 2.2.2 Solution at Wave Front: Elastic Precursor Decay; 2.2.3 Late-Time Asymptotic

Solution; 2.3 Plate-Impact Experiments on GRPs; 2.3.1 Material: Glass Fiber-Reinforced Polymer; 2.3.2 Plate-Impact Shock Compression Experiments: Experimental Configuration
2.3.2.1 t-X Diagram (Time versus Distance) and S-V Diagram (Stress versus Velocity) for Plate-Impact Shock Compression Experiments 2.3.3 Plate-Impact Spall Experiments: Experimental Configuration; 2.3.3.1 t-X Diagram (Time versus Distance) and S-V Diagram (Stress versus Velocity) for Plate-Impact Spall Experiments; 2.3.4 Shock-Reshock and Shock-Release Experiments: Experimental Configuration; 2.3.4.1 t-X Diagram (Time versus Distance) for Shock-Reshock and Shock-Release Experiments; 2.4 Target Assembly; 2.5 Experimental Results and Discussion; 2.5.1 Plate-Impact Shock Compression Experiments
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3.3 Micromechanics-Based Analysis

Sommario/riassunto

The first systematic reference on the topic with an emphasis on the characteristics and dimension of the reinforcement. This first of three volumes, authored by leading researchers in the field from academia, government, industry, as well as private research institutions around the globe, focuses on macro and micro composites. Clearly divided into three sections, the first offers an introduction to polymer composites, discussing the state of the art, new challenges, and opportunities of various polymer composite systems, as well as preparation and manufacturing techniques. The second part
