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Soggetti	Aerospace engineering Astronautics Structural materials Manufactures Aerospace Technology and Astronautics Structural Materials Manufacturing, Machines, Tools, Processes
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Part – I METALLIC MATERIALS -- Chapter 1: Magnesium Alloys -- Chapter 2: Aluminium Alloys for Aerospace Applications -- Chapter 3: Aluminium – Lithium Alloys -- Chapter 4: Titanium Sponge Production and Processing for Aerospace Applications -- Chapter 5: Titanium Alloys: Part A - Physical Metallurgy and Processing -- Chapter 6: Titanium Alloys: Part B – Alloy Development, Properties and Applications -- Chapter 7: Aero Steels: Part A - Low Alloy Steels -- Chapter 8: Aero Steels: Part B – High Alloy Steels -- Chapter 9: Nickel-based Superalloys -- Chapter 10: Structural Intermetallics -- Chapter 11: Bronzes for Aerospace Applications -- Chapter 12: Niobium and Other High Temperature Refractory Metals for Aerospace Applications -- Part – II COMPOSITES -- Chapter 13: GLARE®: A Versatile Fibre Metal Laminate (FML) Concept -- Chapter 14: Carbon Fibre Polymer Matrix Structural Composites -- Chapter 15: C/C and C/SiC Composites for Aerospace Applications -- Chapter 16: Ceramic Matrix Composites (CMCs) for Aerospace Applications -- Chapter 17: Nanocomposites

Potential for Aero Applications -- Part – III SPECIAL MATERIALS -- Chapter 18 Monolithic Ceramics for Aerospace Applications -- Chapter 19: Nano-Enabled Multi-functional Materials for Aerospace Applications -- Chapter 20: MAX PHASES: New Class of Carbides & Nitrides for Aerospace Structural Applications -- Chapter 21: Shape Memory Alloys (SMAs) for Aerospace Applications -- Chapter 22: Detonation Sprayed Coatings for Aerospace Applications -- Chapter 23: Piezoceramic Materials and Devices for Aerospace Applications -- Chapter 24: Stealth Materials and Technology for Airborne Systems -- Chapter 25: Paints for Aerospace Applications -- Chapter 26: Elastomers and Adhesives for Aerospace Applications.

Sommario/riassunto

This book is a comprehensive compilation of chapters on materials (both established and evolving) and material technologies that are important for aerospace systems. It considers aerospace materials in three Parts. Part I covers Metallic Materials (Mg, Al, Al-Li, Ti, aero steels, Ni, intermetallics, bronzes and Nb alloys); Part II deals with Composites (GLARE, PMCs, CMCs and Carbon based CMCs); and Part III considers Special Materials. This compilation has ensured that no important aerospace material system is ignored. Emphasis is laid in each chapter on the underlying scientific principles as well as basic and fundamental mechanisms leading to processing, characterization, property evaluation and applications. A considerable amount of materials data is compiled and presented in appendices at the end of the book. This book will be useful to students, researchers and professionals working in the domain of aerospace materials.