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| Soggetti | Metals Composite materials Building materials Metals and Alloys Composites Structural Materials |
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| Nota di contenuto | Introduction to Lightweight Metallic Materials -- Instrumental Characterization of Light Weight Metal Alloys and Composites -- Severe plastic deformation processing of aluminum alloys -- Solid-state welding of aluminum alloys -- Aluminum metal matrix composite for automotive and aircraft applications -- Aluminum metal matrix composite for automotive and aircraft applications -- Heat treatment of aluminum metal matrix composites -- Surface engineered (coating or modification) aluminum alloys for automotive, aircraft, and industrial applications -- Severe plastic deformation processing of magnesium alloys -- Solid-state welding of magnesium alloys. . |
| Sommario/riassunto | This book covers the most important aspects of lightweight metal alloys including history, physical metallurgy, overview of production technologies, alloy development, compositing, post-processing (heat treatment, surface engineering, bulk-deformation), and joining methodologies. It discusses the microstructural evolution, fractography, morphology of corroded and worn surface to enable easy understanding of the mechanism. The topics covered in this book |

include lightweight metallic materials, instrumental characterization of light weight metal alloys and composites, severe plastic deformation processing of aluminum alloys, solid-state welding of aluminum alloys, aluminum metal matrix composite for automotive and aircraft applications, and heat treatment of aluminum metal matrix composites. The book is highly useful for students, researchers, academicians, scientists, and engineers working on lightweight materials.
