1. Record Nr. UNINA9910462328603321

Titolo	Light metals and their alloys I : technology, microstructure and properties / / edited by A. Botor-Probierz and A. Kiebus
Pubbl/distr/stampa	Durnten-Zurich, Switzerland ; ; Enfield, New Hampshire : , : Trans Tech Publications, , [2011] ©2011
ISBN	3-03813-513-5
Descrizione fisica	1 online resource (182 p.)
Collana	Solid state phenomena, , 1012-0394 ; ; volume 176
Altri autori (Persone)	Botor-ProbierzAgnieszka KiebusAndrzej
Disciplina	669
Soggetti	Light metals - Metallurgy Light metal alloys Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Light Metals and their Alloys I - Technology, Microstructure and Properties; Introduction; Table of Contents; I. Aluminium and Aluminium Alloys; Numerical and Physical Modelling of Aluminium Barbotage Process; Bayern`s Method of Al2O3 Production - Possibilities of Red Mud Disposal and Utilization; Microstructure and Mechanical Properties of Aluminum Processed by Multi-Axial Compression; The Effect of Al-17wt.%Si Alloy Melt Overheating on Solidification Process and Microstructure Evolution; Modern Methods of Aluminum Alloys Welding Mechanical Properties of Aluminium Matrix Composites Reinforced with Glassy Carbon ParticlesAlSi7Mg/SiC and Heterophase SiCP+CG Composite for Use in Cylinder-Piston System of Air Compressor; Interaction of Al-Si Alloys with SiC/C Ceramic Particles and their Influence on Microstructure of Composites; II. Magnesium and Magnesium Alloys; Microstructure and Properties of Sand Casting Magnesium Alloys for Elevated Temperature Applications; Structural Stability of Mg-6Al-2Sr Magnesium Alloy; Characteristics of Eutectic Precipitations in Selected Magnesium Cast Alloys

Solidification Process, Microstructure, Density and Hardness of the Mg-Al Alloys with Zn, Cu, Ni and AlTiB AdditionsRepairing the WE43 Magnesium Cast Alloys; Weldability of the MSRB Magnesium Alloy; X-Ray Microtomography for 3D Microstructure Characterization of Magnesium Matrix Composite Reinforced with Glassy Carbon Particles; Effect of Glassy Carbon Particles on Wear Resistance of AZ91E Matrix Composite; III. Titanium and Titanium Alloys; Assessment of Quality of Ti Alloys Melted in Induction Furnace with Ceramic Crucible; Deformation of Ti-6Al-4V Alloy with Carbon
Benefits and Drawbacks of Hydrogen Effect in Microstructure on Titanium Ti-6Al-4V AlloyKeywords Index; Authors Index

Sommario/riassunto

The aim of this work is to present the latest results of scientific research carried out by staff, in the Faculty of Materials Engineering and Metallurgy at the Silesian University of Technology in Gliwice, who are working in the area of light-metal alloys. The 20 papers are divided into three chapters: Aluminum Alloys, Magnesium Alloys and Titanium Alloys. This will be essential reading matter for anyone working in the same field. Review from Book News Inc.: Researchers in materials engineering and metallurgy at the Silesian University of Technology, Gliwice, Poland, present results of their