1. Record Nr. UNINA9910877150403321

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Titolo	Intermetallics / / Gerhard Sauthoff
Pubbl/distr/stampa	Weinheim ; ; New York, : VCH, c1995
ISBN	1-281-75865-5 9786611758653 3-527-61541-5 3-527-61540-7
Descrizione fisica	1 online resource (180 p.)
Disciplina	620.1697 669.94
Soggetti	Alloys Intermetallic compounds
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 index.
Nota di contenuto	Intermetallics; Contents; List of Symbols and Abbreviations; 1 Introduction; 1.1 Definition of Intermetallics and Outline of This Report; 1.2 Historical Remarks; 2 General Considerations; 2.1 Bonding, Crystal Structure, and Phase Stability; 2.2 Bonding Strength and Basic Properties; 2.3 Criteria for Phase Selection; 3 Titanium Aluminides and Related Phases; 3.1 Ti3 AI; 3.1.1 Basic Properties and Phase Diagram; 3.1.2 Microstructure and Mechanical Behavior; 3.1.3 Environmental Effects; 3.1.4 Applications; 3.2 TiAl; 3.2.1 Basic Properties and Phase Diagram 3.2.2 Microstructure and Mechanical Behavior3.2.3 Environmental Effects; 3.2.4 Applications; 3.3 AI3 Ti and Other D022 Phases; 3.3.1 Basic Properties and Phase Diagram; 3.3.2 Microstructure and Mechanical Behavior; 3.4 Trialuminides with the L12 Structure; 3.4.1 Basic Properties and Phase Diagrams; 3.4.2 Microstructure and Mechanical Behavior; 4 Nickel Aluminides and Related Phases; 4.1 Ni3 A1; 4.1.1 Basic Properties and Phase Diagram; 4.1.2 Microstructure and Mechanical Behavior; 4.1.3 Environmental Effects; 4.1.4 Applications; 4.2 Other L12 Phases; 4.2.1 General Remarks 4.2.2 LI2 Phases of Particular Interest4.3 NiAl; 4.3.1 Basic Properties;

4.3.2 Phase Diagram and Martensitic Transformation; 4.3.3 Microstructure and Mechanical Behavior; 4.3.4 Creep; 4.3.5 Environmental Effects; 4.3.6 Alloy Developments and Applications; 4.4 Other B2 Phases; 4.4.1 CoAl; 4.4.2 NiTi; 4.4.3 FeTi, CoTi, CoZr, and CoHf; 4.4.4 FeCo; 4.5 Heusler-Type Phases; 4.6 Nickel - Molybdenum Phases; 5 Iron Aluminides and Related Phases; 5.1 Fe3 Al; 5.2 Fe3AlCx and Related Phases; 5.3 FeAl; 6 Cu-Base Phases; 6.1 CuZn; 6.2 Cu-Zn-Al Shape Memory Alloys; 6.3 Cu-Al-Ni Shape Memory Alloys
6.4 Cu-Au Phases6.5 Cu Amalgams; 7 A15 Phases; 7.1 Basic Properties; 7.2 V3Si; 7.3 V3Ga; 7.4 Nb3Sn; 7.5 Nb3Al; 7.6 Nb3 Si; 7.7 Cr3 Si; 8 Laves Phases; 8.1 Basic Properties; 8.2 Applications; 8.2.1 Superconducting Materials; 8.2.2 Magnetic Materials; 8.2.3 Hydrogen Storage Materials; 8.2.4 Structural Alloys; 9 Beryllides; 10 Rare-Earth Compounds; 10.1 Magnet Materials; 10.2 Hydrogen Storage Materials; 11 Silicides; 11.1 M3Si Phases; 11.2 M2Si Phases; 11.3 M5Si3 Phases; 11.4 MSi Phases; 11.5 Disilicides; 12 Prospects; Acknowledgements; References; Index

Sommario/riassunto

Derived from the highly acclaimed series Materials Science and Technology, this book covers the properties as well as the present and emerging applications of intermetallics. Mechanical characteristics, microstructure as well as the environmental influence on intermetallics are treated in depth. In addition, the prospects and risks inherent in materials development as well as typical applications of intermetallics are critically assessed. It is the author's aim to provide the basis for understanding the physical mechanisms, which influence the properties of the materials and ultimately