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	Autore	Destuynder, Philippe
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Oxidation of Intermetallics; Preface; List of Contributors; Contents; Part I Introduction; 1 State of Intermetallics Development; 2 Research on Oxidation and Embrittlement of Intermetallic Compounds in the U.S.; 3 Oxidation of Intermetallics - Japanese Activity; Part II Ni-Aluminides; 4 The Oxidation of NiAl and FeAl; 5 Sulfidation Behaviour of Nickel Aluminides; 6 The Influence of Chromium on the Oxidation of β-NiAl at 1000 °C; 7 Oxidation of β-NiAl, Undoped and Doped with Ce,Y, Hf; 8 TEM Investigations on the Oxidation of NiAl; 9 Failure of Alumina Scales on NiAl Under Graded Scale Loading 10 The Corrosion Behaviour of NiAl in Molten Carbonate at 650 °CPart III Fe-Aluminides; 11 Oxidation of β-FeAl and Fe-Al Alloys; 12 The Oxidation Behaviour of ODS Iron Aluminides; 13 High Temperature Corrosion Behaviour of Iron Aluminides and Iron- Aluminium-Chromium Alloys; 14 Oxidation-Sulphidation of Iron Aluminides; 15 Metal Dusting of Fe₃Al and (Fe, Ni)₃Al; Part IV Ti-Aluminides; 16 Determination of Thermodynamic Activities in the Alloys of the Ti-Al System and Prediction of the Oxidation Behaviour of the Alloys; 17 The Initial Stages in the Oxidation of TiAl 18 Development and Microstructure of the Al-Depleted Layer of Oxidized TiAl19 Beneficial and Detrimental Effects of Nitrogen on the Oxidation Behaviour of TiAl-Based Intermetallics; 20 Influence of Moisture on the Oxidation of -TiAl; 21 Ion Implantation as a Tool to Study the Oxidation Behaviour on TiAl-Based Intermetallics; 22 Protection of Titanium Aluminides by FeCrAlY Coatings; 23 Hot Salt Corrosion of Titanium Aluminides; Index
Sommario/riassunto	Over the last ten years vast efforts were made in the research and development of intermetallic compounds to attain improved high temperature strength and low temperature ductility. These new structural materials are used in several high-temperature applications like engines and turbines. Oxidation and corrosion resistance are as important for the current applications of these materials as mechanical properties. This book gives a sound review of the present knowledge of the oxidation kinetics and mechanisms of intermetallics. Especially Ti-, Ni- and Fe-aluminides are treated in detail b