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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