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6.3. Effect of electronic structure of the oxide6.4. Effects of oxygen; 6.5. Alloying elements; 6.6. Wetting of fluorides; 6.7. Concluding remarks; Chapter 7. Wetting properties of metal/non-oxide ceramic systems; 7.1. Metals on predominantly covalent ceramics; 7.2. Metals on metal-like ceramics; Chapter 8. Wetting properties of metal/carbon systems; 8.1. Non-reactive systems; 8.2. Reactive systems; 8.3. Concluding remarks; Chapter 9. Wetting by glasses and salts; 9.1. The glassy state; 9.2. Wetting behaviour; Chapter 10. Wetting when joining; 10.1. Flow into capillary gaps
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Appendix F. Surface energies of cubic diamond structure compoundsAppendix G. Enthalpy of mixing of binary liquid alloys; Appendix H. Secondary wetting; Appendix I. Evaluation of the work of adhesion of Ni on SiC; List of symbols; Selective Index; Acknowledgements

Sommario/riassunto

The purpose of this book is to bring together current scientific understanding of wetting behaviour that has been gained from theoretical models and quantitative experimental observations. The materials considered are liquid metals or inorganic glasses in contact with solid metals or ceramics at temperatures of 200-2000oC. Wetting has been a significant scientific concern for the last two centuries and reference will be made to classical work by nineteenth century scientists such as Dupre, Laplace and Young that was validated by observations of the behaviour of chemically inert