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Autore	Barsoum M. W
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6.12 Ti2InC, Zr2InC, (Ti0.5,Hf0.5)2InC, and (Ti0.5,Zr0.5)2InC6.13 Sulfur Dioxide, SO2; 6.14 Anhydrous Hydrofluoric, HF, Gas; 6.15 Chlorine Gas; 6.16 Summary and Conclusions; Appendix A: Oxidation of Tin+1AlXn When Alumina Does Not Form a Protective Layer; References; 7 Chemical Reactivity; 7.1 Introduction; 7.2 Diffusivity of the M and A Atoms; 7.3 Reactions with Si, C, Metals, and Intermetallics; 7.4 Reactions with Molten Salts; 7.5 Reactions with Common Acids and Bases; 7.6 Summary and Conclusions; 7.A Appendix; References; 8 Dislocations, Kinking Nonlinear Elasticity, and Damping
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Sommario/riassunto

In this comprehensive yet compact monograph, Michel Barsoum, one of the pioneers in the field and the leading figure in MAX phase research, summarizes and explains, from both an experimental and a theoretical viewpoint, all the features that are necessary to understand and apply these new materials. In so doing, he covers elastic, electrical, thermal, chemical and mechanical properties in different temperature regimes, concluding with a treatment of MAX phase composites and potential as well as current applications. By bringing together, in a unified, self-contained manner, all the informa