FOREWORD

Activated and Liquid Phase Sintering of Refractory Metals and Their Compounds

This symposium was held on March 9, 1983, at the TMS-AIME meeting in Atlanta, Georgia. It addressed materials science underpinning the technologically important processes of liquid phase and activated sintering of metals, ceramics, and ceramic-metal composites. Five of the following papers discuss aspects of liquid phase sintering—a summary of densification and structural development (by T. H. Courtney), modeling of the filling of isolated pores (by H. H. Park, *et al.*), Ostwald ripening of a high-volume fraction dispersed phase (by Voorhees, *et al.*), identification of interphase boundary precipitates using electron microscopy (by B. C. Muddle), and carbide transformations in wear-resistant stellite alloys (P. J. McGinn, *et al.*). Two additional papers focus on activated sintering—the retardation of grain boundary mobility by inert particles (by P. E. Zovas, *et al.*), and the influence of gases on first-stage sintering (by M. Krehl, *et al.*).

Four presentations at the symposium will be published elsewhere. Titles and authors of these are listed below; abstracts can be found in the *Journal of Metals*, December 1982, Volume 34, number 12.

Elementary Mechanisms of Liquid Phase Sintering

by W. J. Huppmann and W. A. Kaysser

Transient Liquid Phase Sintering of Titanium Alloys

by B. R. Patterson

Comparative Sinterability of Combustion Synthesized Titanium Carbide

by B. Manley and Z. A. Munir

Activated Sintering of Refractory Metals by Transition Metal Additions

by R. M. German

The significant scientific and technological interest in this symposium is reflected in the many requests for reprints of the presentations. These papers are being published as a group both to respond to these inquiries as well as to serve as a compilation of recent (but by no means complete) work in this important area.

The papers were refereed, consistent with *Metallurgical Transactions* policy. We appreciate the assistance of the key readers and reviewers for their efforts, as well as the help of Edwin Ruh for facilitating publication of these proceedings. The symposium was sponsored by the Refractory Metals Committee of AIME.

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