

Book Review

Sintering and Related Phenomena

G. C. Kuczynski, N. A. Hooton, C. F. Gibbon
(editors)

Pp IX + 894 (Gordon and Breach, 1968)
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This volume contains the Proceedings of the Second Conference in the series on special topics in the Science of Ceramics organised by University of Notre Dame in June 1965, in conjunction with three other American Universities. The first conference of this series was held at North Carolina State University, 1964, on the topic of grain-boundaries in ceramic materials. The major part of this present conference is therefore confined to the sintering of ceramics, and in particular, oxides; this limitation was justified in the Preface on the grounds that studies of the sintering process in ionic solids give a deeper insight into diffusional processes in solids, than would studies on metallic systems. However, several papers on powder metallurgy are included.

The Proceedings are logically divided into three sections: Diffusion and Solid State Reactions, Sintering (including hot-pressing) and Activated Sintering. Although no new sintering models were presented, several papers ably demonstrated that the existing models and experimental techniques have been refined sufficiently to give reasonable agreement, in oxide systems, between self diffusion coefficients and diffusion coefficients calculated from sintering kinetics, when the kinetics follow a volume diffusion mechanism. In addition to academic studies on sintering models, the Proceedings contains information for the technologist, particularly in the field of hot-pressing.

The inclusion of twelve outstanding reviews ensures that these published Proceedings will constitute a valuable reference book for those interested in the fabrication of powders. The value of the Proceedings is further extended by the inclusion of the discussion following both the review and contributed papers – editors of Conference Proceedings, please note.

D. I. MATKIN

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Edited by R. F. WINTERS

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