

**Reinforcement of Elastomers.** GERARD KRAUS, Ed. Interscience, New York, 1965. xv + 611. \$19.50.

While several hundred papers have been published on the subject of elastomer reinforcement in the past decade, there has not been a single volume available which could be recommended as a reference for those recently concerned with this important aspect of rubber technology. *Reinforcement of Elastomers*, edited by Gerard Kraus and published by Interscience, very adequately provides this reference. In addition to "newcomers," those who have been active in the field will also find it most interesting reading.

The first nine chapters cover the theoretical and experimental aspects of reinforcement, while the remaining eight chapters cover the production and applications of reinforcing fillers. Each chapter has been written by recognized authorities in the field and all have carried out their commission most adequately. As the Editor points out in the Preface, differences of opinion and interpretation will occasionally be encountered in the first nine chapters. This is to be anticipated in a field as complex and still as far from "closed" as elastomer reinforcement. The present reviewer leans toward the views expressed by Rehner in Chapter 9, to the effect that a final elucidation of reinforcement awaits clarification of the phenomenon of vulcanization.

The chapter by Hess on microscopy of reinforced rubber stocks is particularly lucid and interesting.

Merton Studebaker has provided an excellent chapter on compounding with carbon black. It should prove invaluable to those recently concerned with this important aspect of rubber technology. The inclusion of practical information on "noncarbon" fillers, particularly the silicas, is very timely. Information on these reinforcing pigments has not been as readily available as that for carbon blacks. While the chapters on "noncarbon" fillers emphasize the fact that reinforcement is not a property unique to carbon black, the last two chapters on carbon black-polyethylene compounds make it evident that reinforcement in its broadest sense is not confined to elastomers.

The Appendix contains valuable information, previously not readily available, relating to the production and producers of reinforcing fillers.

Although 22 authors have contributed to this volume, the style throughout is generally uniform; indicative of the excellent task of editing which Dr. Kraus has performed. *Reinforcement of Elastomers* is a valuable and long needed contribution to the literature of rubber technology. Dr. Kraus and his authors are to be complimented for their excellent efforts.

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