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Book Reviews

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BOOK REVIEWS

"Adhesion of Dust and Powder". Anatolii D. Zimon. Plenum Press, New York 1969. 424 pp. \$32.50.

This is a translation of the Russian original reviewed in the *Journal of Adhesion* 1, 89 (1969). The American version is about 1.5 times as thick and about 20 times as expensive as the Russian. Otherwise, the translation, as far as checked by the reviewer, closely (perhaps too closely) follows the original text. There is still no Author Index but the Subject Index is new and more detailed (that is, also more useful) than in the Russian book.

J. J. Bikerman

"Mechanical Testing of Rubbers and Vulcanizates" [Russian] M. M. Reznikovskii (deceased) and A. I. Lukomskaya. 2nd edition. Khimiya Publishers, Moscow 1968. 500 pp. Rub. 1.87.

Hundreds of test methods are described in this volume; of the 231 illustrations in it only a few present the results of these tests while the overwhelming majority schematically shows the instruments used and the sample shapes recommended. Of necessity, the discussion of each test, although laudably critical, is brief, and the solid scientific basis for its use (if this basis exists) cannot be given.

The book consists of an introduction (dealing mainly with the statistical treatment of test data) and ten chapters on (1) testing of rubbers and vulcanizates mixtures, (2) strength and relaxation of vulcanizates at static loads, (3) hardness of vulcanizates, (4) elasticity and hysteresis, (5) strength under dynamic loading, (6) strength of bond between vulcanizate and vulcanizate, and vulcanizate and other materials, (7) aging of vulcanizates, (8) their resistance to cold, (9) friction and abrasion, and (10) rubber foams.

Chapter 6 is, of course, of particular interest to the readers of this journal but the theory of tack is touched upon on p. 30 and several tackmeters are described on pp. 80-85, both in Chapter 1. In principle, the test methods for either tack or the final strength of bonds are general and not confined to any selected material or group of materials; this book, however, concentrates on rubber goods and pays no attention to analogous methods and related studies on other substances. This, no doubt, is justified by the book title but the presentation still appears a little one-sided to one interested in adhesion and adhesion tests, whatever the composition of the adhesive assembly.

There are about 80 references to chapter 6; of the American methods, ASTM D413-39, ASTM D2138-62T, ASTM D1871-61T, ASTM D2229-63T and ASTM D430-59 are mentioned. Their treatment from the point of view of the science of the strength of materials is not attempted.

J. J. Bikerman