

BOOK REVIEW

Testing of Polymers, Vol. II. J. V. SCHMITZ, Ed. Interscience, New York, 1966. 421 pp. \$19.00.

A short glance at the table of contents of this book gives the impression that the material is presented rather randomly. The preface, then, gives the explanation. This book is not a book in the ordinary sense. It is the second volume of a series, more similar to a periodical in book form than a concise treatise on testing. A third volume in this series has already been published. According to the preface, the series is intended to be continued.

Not only testing procedures as such are discussed, but background material is presented as well. The book includes, for example, a chapter on the processing of numerical test data and another one on thermal and environmental effects on mechanical properties of polymers. The chapter on processing of test data is written without reference to special numerical problems in polymer testing; it is essentially a concise summary of standard methods in error analysis. If one expects to find in the two above-mentioned chapters methods to show the validity of time-temperature superposition for a set of data, one will be disappointed.

This brings the question to mind whether the editor's policy (as stated in the preface) "to allow publication of discussions of various aspects of testing with no systematic attempt to maintain a rigid organization" is the best approach to cover the subject at hand. This policy will probably not enable the contributors to cover the entire area of testing without leaving gaps in between the specialized chapters. It might also be difficult to prevent overlap.

Even though this random arrangement of articles about specialized areas of testing may have some disadvantages, a series of this sort is filling a great gap in the polymer literature. Many polymer scientists and engineers will find it very useful as a reference source. It will be especially useful for someone not specializing in testing. A chemist, for example, who intends to determine some properties of a compound he produced will be able to find some information about the test procedures fast and conveniently.

The single chapters (listed below) are all well written and give a concise survey of the various test methods or the background material. Generally, no reasons are given why certain tests are carried out or what real physical quantity is being determined. It would, of course, be very useful to know the underlying physical or chemical principles involved in the outcome of certain tests, even if only for no other reason than to get some suggestions how to plot the data, extrapolate them, etc.

Most everyone concerned with polymers will find the collection of articles in this (and the other) volume to be a useful reference source.

Contents

- Chapter 1. Stress Relaxation Tests.
By R. L. Bergen, Jr.
- Chapter 2. Processing of Numerical Test Data.
By J. Mandel and T. W. Lashof
- Chapter 3. Testing of Polymers at Cryogenic Temperatures.
By J. H. Lieb and R. E. Mowers
- Chapter 4. Testing for Wetting Properties of Plastics Surfaces.
By J. J. Bikerman
- Chapter 5. Testing Polymers for Radiation Resistance.
By D. J. Metz

- Chapter 6. Thermal and Environmental Effects on Mechanical Properties of Polymers.
By D. H. Kaelble
- Chapter 7. Methods of Test for Hardness and Wear of Plastics.
By J. J. Gouza
- Chapter 8. Tests for Surface Appearance of Plastics.
By R. S. Hunter and L. Boor
- Chapter 9. Testing for the Ozone Resistance of Polymers.
By E. Weiss
- Chapter 10. Flexural Tests.
By H. S. Loveless
- Chapter 11. Flammability Tests.
By L. B. Allen and L. N. Chellis

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