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THE EFFECT OF RADIATION
ON THE MECHANICAL PROPERTIES
OF POLYMERS,

A Bibliography of the Unclassified Literature,
1955 to September 1962

by

The University of New Mexico

JULY 1963

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Table of Contents

Introduction	5
1. Polyacrylates	7
a. General	7
b. Poly (methymethacrylate)	7
2. Polyamides	9
3. Polybutadienes and Copolymers	11
a. Poly (butadiene)	11
b. Acrylonitrile - Butadiene Copolymers (Nitriles)	11
c. Styrene - Butadiene Copolymers	13
4. Polycarbonates	14
5. Cellulosics	15
a. Pure	15
b. Regenerated Cellulose	15
c. Cellulose Esters	16
6. Epoxy Resins	17
7. Polyesters	18
8. Polyethers	19
9. Polyethylenes	20
a. Poly (ethylene)	20
b. Poly (monochlorotrifluoroethylene)	26
c. Poly (tetrafluoroethylene)	26
d. Chlorosulfonated Polyethylene	30
10. Natural Rubber	31
11. Neoprene	32
12. Phenolics	34
13. Polypropylene	35
14. Rubbers - Miscellaneous	36
a. General Reviews and Compilations	36
b. Butyl Rubbers	40
c. Sulfide Rubbers	40
d. "Viton" Rubbers	40
15. Silicones	42
a. Poly (siloxane)	42
b. Fluorinated Silicones	45

16.	Polystyrenes	46
	a. Poly (styrene)	46
	b. Poly (α -methylstyrene)	46
17.	Urethanes	47
18.	Polyvinylidenes	48
	a. Poly (vinylidene chloride)	48
	b. Poly (vinylidene fluoride)	48
19.	Polyvinyls	49
	a. Poly (vinylacetate)	49
	b. Poly (vinylalcohol)	49
	c. Poly (vinylchloride)	49
	d. Poly (vinylfluoride)	51
20.	Miscellaneous Systems	52
21.	General Reviews and Compilations of Data	53
22.	Books	56
23.	Dynamic Measurements	57

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INTRODUCTION

The following bibliography reviews the unclassified literature of radiation effects on the mechanical properties of polymers. Neutron, gamma-ray, X-ray, electron, ultraviolet, and mixed (pile) radiation beams are considered. The bibliography is divided according to the various polymer types. Therefore one reference may be listed in several places. Sources which give data for many systems are put under one separate heading. Books containing data of radiation effects on mechanical properties of polymers are listed. A final division is made of radiation effects on the dynamic mechanical properties; an area of special interest to the author. Approximately 294 different sources are listed.

The majority of the bibliography was obtained from Chemical Abstracts (1955 to June, 1960), Nuclear Science Abstracts (1957 through August, 1962), and the Engineering Index (1955 through 1961). The Physics Abstracts, Chemical Titles, and U. S. Government Research Reports were examined for the period of 1960 to September, 1962. Chemical Contents and the International Aerospace Abstracts of 1961 to September, 1962 were also checked.

No attempt was made to analyze the data of the many articles because of the time and expense that would be involved to obtain this literature. The reader is referred to the work by R. W. King at Battelle (see 21. General Reviews and Compilations). Also, Harrington has summarized many results of his extensive work in Nucleonics (see 21. General Reviews and Compilations).

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