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REACTOR  
STRUCTURAL MATERIALS:  
ENGINEERING PROPERTIES  
AS AFFECTED BY  
NUCLEAR REACTOR SERVICE

BY W. K. ANDERSON, C. J. BECK,  
A. R. KEPHART, AND J. S. THEILACKER



Published by the  
AMERICAN SOCIETY FOR TESTING AND MATERIALS  
1916 Race St., Philadelphia 3, Pa.

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*ASTM Special Technical Publication No. 314*

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SPONSORED BY  
COMMITTEE E-10 ON RADIOISOTOPES AND RADIATION EFFECTS



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Price \$4.50; to Members \$3.60

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Library of Congress Catalog Card Number: 62-15595

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Printed in Baltimore, Md.  
May, 1962

## FOREWORD

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One of the objectives of ASTM Committee E-10 on Radioisotopes and Radiation Effects is outlined in a portion of the committee scope: to promote the investigation of the changes in the properties and the constitution of materials as a function of exposure to radiation. As an aid in achieving this objective, the committee periodically sponsors symposia and publications which provide radiation effects information. This volume brings together radiation effects data on metallic materials and has been separated into four parts: Part I on Iron, Carbon Steel and Stainless Steel, Part II on Nickel and Cobalt Alloys, Part III on Aluminum and Titanium, and Part IV on Zirconium Alloys. Committee E-10 is indeed pleased to sponsor this presentation.

It is hoped that this volume will be of considerable value to the readers in acquainting them with radiation effects work being done, particularly that related to the use of these materials in reactor structures. It is expected that as additional data are made available to Committee E-10, they will be published in similar volumes and will supplement the Radiation Effects on Materials series which have been published annually covering the radiation effects symposia sponsored by Committee E-10.

G. W. POMEROY,  
*Vice-Chairman, Committee E-10.*

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NOTE.—The Society is not responsible, as a body, for the statements  
and opinions advanced in this publication.

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THIS PUBLICATION is one of many issued by the American Society for Testing Materials in connection with its work of promoting knowledge of the properties of materials and developing standard specifications and tests for materials. Much of the data result from the voluntary contributions of many of the country's leading technical authorities from industry, scientific agencies, and government.

Over the years the Society has published many technical symposiums, reports, and special books. These may consist of a series of technical papers, reports by the ASTM technical committees, or compilations of data developed in special Society groups with many organizations cooperating. A list of ASTM publications and information on the work of the Society will be furnished on request.

