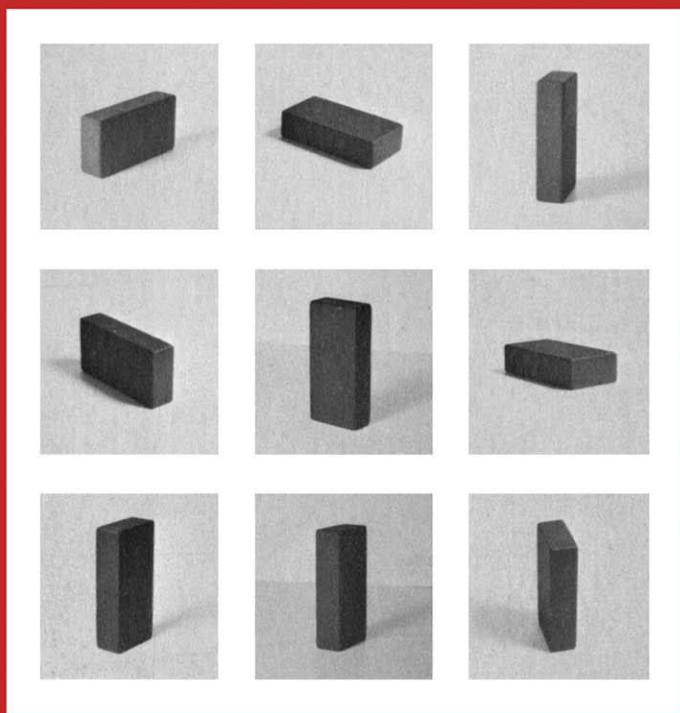


american society for testing and materials



nondestructive testing



of
**NUCLEAR
GRAPHITE**

NONDESTRUCTIVE TESTING OF NUCLEAR GRAPHITE

A symposium
presented at the
Seventieth Annual Meeting
AMERICAN SOCIETY FOR
TESTING AND MATERIALS
Boston, Mass., 25-30 June, 1967

ASTM SPECIAL TECHNICAL PUBLICATION NO. 439

List price \$8.00; 20 percent discount to members



published by the
AMERICAN SOCIETY FOR TESTING AND MATERIALS
1916 Race Street, Philadelphia, Pa. 19103

© BY AMERICAN SOCIETY FOR TESTING AND MATERIALS 1968
Library of Congress Catalog Card Number: 68-16730

NOTE

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

Foreword

The papers in the Symposium on Nondestructive Testing of Nuclear Graphite were presented at the Seventieth Annual Meeting of ASTM held in Boston, Mass., 25–30 June 1967. Co-sponsors of this symposium were Committees C-5 on Manufactured Carbon and Graphite Products and E-7 on Nondestructive Testing. G. H. Tenney and G. G. Hoffman of the Los Alamos Scientific Laboratory presided as co-chairmen.

Related ASTM Publications

Effects of High-Energy Radiation on Inorganic Substances, STP 400 (1966), \$5.25

The Effects of Radiation on Structural Metals, STP 426 (1967), \$52.00

Contents

Introduction	1
Infrared Testing of Bonds Between Graphite and Protective Coatings— D. R. GREEN AND C. K. DAY	4
Nondestructive Testing of Graphite at the Los Alamos Scientific Labo- ratory—B. L. BLANKS, N. B. EDENBOROUGH, D. E. ELLIOTT, AND R. M. FORD	18
Application of Alcohol Penetrant for Evaluation of Surface Porosity of Graphite Inserts for Rocket Nozzles—J. A. HENDRON	37
Discussion	47
Prediction of Strength of Graphitic Material by Nondestructive Test Techniques—L. H. FANELLI AND R. D. MCKOWN	48
Contact Microradiography of Graphite—L. R. BUNNELL	61
A Novel Infrared Nondestructive Testing Technique for Determining the Thermal Conductivity of Graphite—A. W. SCHULTZ	70
Strength Predictions for Graphite: A Review of Prior Work at AVCO SSD—C. H. HASTINGS	87
Low Voltage Radiographic and Microradiographic Techniques for Graphite—R. W. MCCLUNG	97

THIS PUBLICATION is one of many issued by the American Society for Testing and 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.

