

Sixty-fifth Annual Meeting Papers

Symposium on

MASONRY TESTING



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

ASTM Special Technical Publication No. 320

SYMPOSIUM ON MASONRY TESTING

Presented at the
SIXTY-FIFTH ANNUAL MEETING
AMERICAN SOCIETY FOR TESTING AND MATERIALS
New York, N. Y., June 28, 1962



Reg. U. S. Pat. Off.

ASTM Special Technical Publication No. 320

Price \$6.50; to Members \$5.20

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

© BY AMERICAN SOCIETY FOR TESTING AND MATERIALS 1963

Library of Congress Catalog Number: 63-12702

Printed in Baltimore, Md.
February, 1963

FOREWORD

The papers and discussions in this Symposium on Masonry Testing were presented at two sessions of the Sixty-fifth Annual Meeting of the Society held in New York City, June 28-29, 1962.

The Symposium was sponsored by Committee C-12 on Mortars for Unit Masonry, Committee C-15 on Manufactured Masonry Units, and Committee E-6 on Methods of Testing Building Constructions. M. H. Allen, Structural Clay Products Research Foundation, Geneva, Ill., served as symposium committee chairman. Members of the committee were R. F. Legget, National Research Council of Canada, H. C. Plummer, Structural Clay Products Inst., Washington, D. C., and J. W. Whittemore, Virginia Polytechnic Inst. Mr. Allen and P. M. Woodworth, The Waylite Co., Chicago, Ill., served as chairmen of the two sessions held at the Annual Meeting.

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

CONTENTS

	PAGE
Introduction—M. H. Allen.....	1
Norwegian Test Methods for Rain Penetration Through Masonry Walls—Øivind Birkeland and Sven D. Svendsen.....	3
Factors Affecting Bond Strength and Resistance to Moisture Penetration of Brick Masonry—T. Ritchie and J. I. Davison.....	16
Testing High-Bond Clay Masonry Assemblages—C. B. Monk, Jr.....	31
Discussion.....	66
Effects of Aggregate Grading on Properties of Masonry Mortar—Delmar L. Bloem..	67
Discussion.....	91
Dimensional Changes of Masonry in Relation to Soundness of Bricks and Mortar— T. Ritchie.....	93
Discussion.....	106
Dimensional Changes Due to Moisture in Bricks and Brickwork—J. S. Hosking and H. V. Hueber.....	107
Factors Affecting Bond of Mortar to Brick—Leo Kampf.....	127
Discussion.....	141

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.