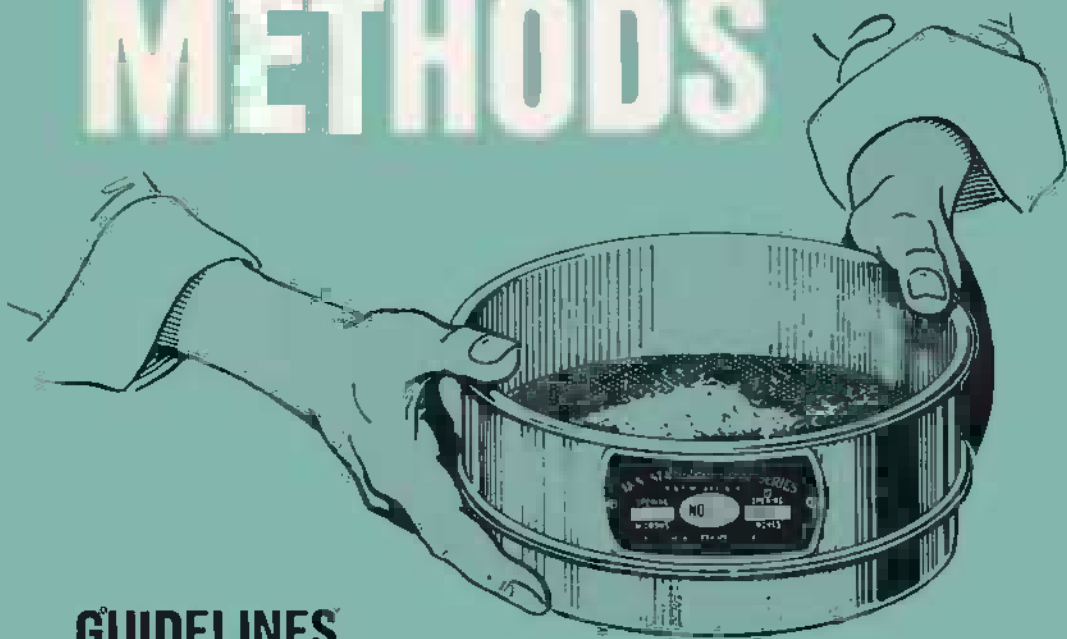


MANUAL ON



TEST SIEVING METHODS



**GUIDELINES
FOR ESTABLISHING
SIEVE ANALYSIS PROCEDURES**



STP 447 A

American Society for Testing and Materials

MANUAL ON TEST SIEVING METHODS

Prepared by ASTM Committee E-29
as Guidelines for Establishing
Sieve Analysis Procedures

1972 EDITION

With editorial changes to conform to 1970
revisions of USA Standard Sieve Series
specifications (ASTM E-11, E-161, and E-323)

ASTM SPECIAL TECHNICAL PUBLICATION 447 A
04-447010-23



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

© BY AMERICAN SOCIETY FOR TESTING AND MATERIALS 1972
Library of Congress Catalog Card Number: 69-17122

NOTE

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

Printed in Baltimore, Md.
January 1972

Printed in Philadelphia, Pa.
December 1981

Foreword

This manual on test sieving methods is intended for use as a supplement to and not a substitute for the many published ASTM standards relating to the sieve analysis of materials. There has been a need for a manual that would bring together from many sources proved methods for making reliable sieve analyses to serve as a guide for the novice and a reference for the more advanced. Some of the material in both the text and the tables is published here for the first time.

Test Sieving Methods was compiled by W. C. Mahlig, product manager, The W. S. Tyler Company, Mentor, Ohio, and A. E. Reed, consultant, La Jolla, Calif., with valuable assistance from H. W. Daeschner, Shell Development Co., Emeryville, Calif., and D. L. Bloem, Director of Engineering, National Sand and Gravel Assn. and National Ready Mixed Concrete Assn., Silver Spring, Md.; all are members of ASTM Committee E-29 on Particle Size Measurement.

Related ASTM Publications

Manual on Quality Control of Materials, STP 15 C (1951)

Contents

Introduction	1
1. Wire Cloth Sieves	2
2. Perforated Plate Sieves	2
3. Precision Electroformed Sieves	3
4. Matched Sieves	3
5. Samples and Sampling	4
6. General Test Sieving Procedure	10
7. Hand Sieving Method	10
8. Mechanical Sieve Shaker Method	12
9. Wet Testing	16
10. Combined Wet and Dry Testing	18
11. Weighing	18
12. Calculation	19
13. Graphic Presentation of Test Results	21
14. Care and Cleaning of Test Sieves	23
15. Miscellaneous Suggestions	26
Appendix	
Table 1—U. S. standard sieve series (ASTM Designation E 11)	28
Table 2—U. S. standard perforated plate sieves (ASTM Designation E 323)	30
Table 3—Precision electroformed sieves (ASTM Designation E 161)	31
Suggestions on Procedures for Making Sieve Analysis with Precision Electroformed Sieves	31
Table 4—Suggested bulk volume of test sample for sieve analysis with 8-in. and 20-mm round sieves	33
Table 5—Typical bulk densities of various particulate materials	34
Table 6—List of ASTM published standards on sieve analysis procedures for specific materials or industries	35
Table 7—List of ASTM published standards on sampling of particulate materials	38
Nomenclature	39
References	43

