

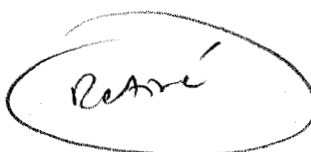
INTERNATIONAL STANDARD



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Test sieving



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FOREWORD

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Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

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It has been approved by the Member Bodies of the following countries :

Australia	Germany	Switzerland
Belgium	India	Turkey
Chile	Ireland	United Kingdom
Czechoslovakia	Romania	U.S.A.
Egypt, Arab Rep. of	South Africa, Rep. of	
France	Spain	

The Member Body of the following country expressed disapproval of the document on technical grounds :

Canada

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CONTENTS

	Page
1 Scope and field of application	1
2 Material to be sieved	1
3 Apparatus	2
4 Procedure	3
5 Presentation of results	7

Test sieving

1 SCOPE AND FIELD OF APPLICATION

This International Standard discusses the main factors affecting test sieving and the results obtained, and specifies general principles to be followed concerning apparatus, procedure and presentation of results.

2 MATERIAL TO BE SIEVED

Materials to be test sieved range from very coarse lumps such as stone and coal to very fine materials such as pigments and clay, and vary in their physical and chemical properties. Information about the properties of a material is helpful in judging its sieving characteristics, and as far as possible these properties should be ascertained and noted in the test report. The more important properties affecting sieving are discussed below.

Because of the considerable variety of the material properties encountered, it is not possible to specify a single method of test sieving which applies to all materials. The sieving method appropriate to a material should be stated in the ISO document or national standard dealing with that material.

2.1 Physical and chemical properties

2.1.1 Density

The following kinds of density are important in test sieving :

- Effective particle density : Mass of a particle divided by the volume of the particle including open and closed pores.
- Apparent bulk density : The mass of the charge divided by its volume at the moment when it is placed on the sieving medium.

The effective particle density can affect the duration of sieving, whilst the apparent bulk density can influence the quantity of material to be taken for sieving.

2.1.2 Friable nature

Some materials are liable to size reduction during sieving due to their friable nature. This property should be taken

into account in the handling of the material during sampling and test sieving.

2.1.3 Abrasive properties

Some materials, for example emery powders, are abrasive and wear out the sieves and change the apertures in the course of a prolonged sieving operation. It is desirable to ascertain whether or not the material is abrasive before commencing the test, and to check the conformity of the apertures of the sieving medium against the permitted tolerances.

2.1.4 Moisture

The following points are of importance :

2.1.4.1 Surface moisture

Surface moisture is important because it affects the way a material will flow on a sieve.

2.1.4.2 Internal moisture

If there is a change of internal moisture during sieving, the masses of the fractions will be affected.

2.1.4.3 Hygroscopic properties

Some materials readily absorb moisture and cannot safely be allowed to come into equilibrium with the laboratory atmosphere. In such cases they should be handled and sieved in such a way as to reduce their contact with the atmosphere to a minimum.

2.1.4.4 Changes on drying

It is important to know whether the properties of a material are changed by any proposed drying process, for example whether it is liable to break down or cake.

2.1.5 Particle shape

The duration and results of sieving can be considerably affected by the shape of the particles.