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Determination of particle size distribution by gravitational liquid sedimentation methods —

Part 1:
General principles and guidelines

Détermination de la distribution granulométrique par les méthodes de sédimentation par gravité dans un liquide —

Partie 1: Principes généraux et lignes directrices

Reference number
ISO 13317-1:2001(E)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 13317 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 13317-1 was prepared by Technical Committee ISO/TC 24, *Sieves, sieving and other sizing methods*, Subcommittee SC 4, *Sizing by methods other than sieving*.

ISO 13317 consists of the following parts, under the general title *Determination of particle size distribution by gravitational liquid sedimentation methods*:

— *Part 1: General principles and guidelines*

— *Part 2: Fixed pipette method*

— *Part 3: X-ray gravitational technique*

Annexes A to D of this part of ISO 13317 are for information only.

Introduction

Gravitational sedimentation particle size analysis methods are among those in current use for determining size distribution of many powders. Typically, the gravitational methods apply to samples in the 0,5 µm to 100 µm size range and where the sedimentation condition for a Reynolds number < 0,25 is satisfied.

No single method of size analysis can be specified to cover the many different types of material encountered, but it is possible to recommend procedures that may be applied in the majority of cases. The purpose of this part of ISO 13317 is to obtain uniformity in procedure for any gravitational method selected to facilitate comparisons of size analysis made in different laboratories.

Gravitational sedimentation methods may be undertaken:

— as part of a research project involving an investigation of the particle size distribution of a material;

— as part of a control procedure for the production of a material where the particle size distribution is important;

— as the basis of a contract for the supply of material specified to be within stated specification limits.