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First edition  
2009-10-01

Corrected version  
2009-12-01

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## Particle size analysis — Laser diffraction methods

*Analyse granulométrique — Méthodes par diffraction laser*



Reference number  
ISO 13320:2009(E)

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Published in Switzerland

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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 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 13320 was prepared by Technical Committee ISO/TC 24, *Particle characterization including sieving*, Subcommittee SC 4, *Particle characterization*.

This first edition of ISO 13320 cancels and replaces ISO 13320-1:1999.

This corrected version of ISO 13320:2009 incorporates the following correction:

- in Figure A.2, lower graph, the symbols for datapoints corresponding to “1,39 – 0,0i” and “2,19 – 0,0i” have been changed to match the plots to which they refer.

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## Introduction

The laser diffraction technique has evolved such that it is now a dominant method for determination of particle size distributions (PSDs). The success of the technique is based on the fact that it can be applied to various kinds of particulate systems, is fast and can be automated, and that a variety of commercial instruments is available. Nevertheless, the proper use of the instrument and the interpretation of the results require the necessary caution.

Since the publication of ISO 13320-1:1999, the understanding of light scattering by different materials and the design of instruments have advanced considerably. This is especially marked in the ability to measure very fine particles. Therefore, this International Standard has been prepared to incorporate the most recent advances in understanding.