
Coating powders —

Part 13:
**Particle size analysis by laser
diffraction**

Poudres pour revêtement —

Partie 13: Analyse granulométrique par diffraction laser





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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

This second edition cancels and replaces the first edition (ISO 8130-13:2001), which has been technically revised.

The main changes compared to the previous edition are as follows:

- clauses on precautions, accuracy, reference materials and error sources have been added;
- the requirements concerning the analyser (5.1) are more detailed and description of the testing (8.3) has been extended;
- the test report has been amended to be more detailed;
- the text has been editorially revised and the normative references have been updated.

A list of all the parts in the ISO 8130 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Coating powders —

Part 13: Particle size analysis by laser diffraction

1 Scope

This document specifies a method for the determination of the equivalent-sphere particle size distribution of coating powders by laser diffraction, for particles of the size range from 1 µm to 300 µm.

NOTE There is a possibility that particle sizes >300 µm need the use of a different optical model.

This document is specific for the measurement of coating powders and also draws attention to ISO 13320, which provides guidance on instrument qualification and particle size distribution.

Laser diffraction is not suitable for determining oversize material, which can be verified by sieve analysis as described in ISO 8130-1 or by dynamic image analysis as described in ISO 13322-2.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 291, *Plastics — Standard atmospheres for conditioning and testing*

ISO 8130-14, *Coating powders — Part 14: Vocabulary*

ISO 9276-1, *Representation of results of particle size analysis — Part 1: Graphical representation*

ISO 9276-2, *Representation of results of particle size analysis — Part 2: Calculation of average particle sizes/diameters and moments from particle size distributions*

ISO 9276-4, *Representation of results of particle size analysis — Part 4: Characterization of a classification process*

ISO 13320, *Particle size analysis — Laser diffraction methods*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8130-14, ISO 13320 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

obscuration

percentage or fraction of incident light that is attenuated due to extinction (scattering and/or absorption) by the particles during a laser diffraction measurement