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**Coating powders —**

Part 2:

**Determination of density by gas  
comparison pycnometer (reference  
method)**

*Poudres pour revêtement —*

*Partie 2: Détermination de la masse volumique à l'aide d'un  
pycnomètre à gaz (méthode de référence)*

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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.

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](http://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](http://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](http://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*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 139, *Paints and varnishes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 8130-2:1992), which has been technically revised. The main changes compared to the previous edition are as follows:

- the scope has been revised editorially;
- the terms and definitions clause ([Clause 3](#)) has been added;
- the gas has been changed from air or helium to helium or nitrogen;
- the procedure has been aligned with actual practice;
- the acceptable difference between two results ([Clause 9](#)) is given as a percentage;
- the text has been editorially revised and the normative references have been updated.

A list of all 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](http://www.iso.org/members.html).

# Coating powders —

## Part 2:

# Determination of density by gas comparison pycnometer (referee method)

## 1 Scope

This document specifies a method for the determination of density for all types of coating powders using a gas comparison pycnometer.

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

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 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/>

## 4 Principle

The density is calculated from the mass and the volume of the test portion. The volume of a weighed test portion is determined by measuring the volume of gas displaced within a receptacle when the test portion is introduced. This is achieved by measuring the pressure difference which arises due to the displacement of the gas.

## 5 Materials

**5.1 Helium or nitrogen**, minimum Grade 4,8, in a steel cylinder.

Other high purity gases may be used provided that the product under test is not affected and this deviation from the method is noted in the test report.

## 6 Apparatus

Ordinary laboratory apparatus, together with a gas comparison pycnometer for the automatic or manual determination of density.