
**Metallic powders — Determination of
particle size by dry sieving**

*Poudres métalliques — Détermination de la granulométrie par
tamisage à sec*



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Foreword

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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).

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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 119, *Powder metallurgy*, Subcommittee SC 2, *Sampling and testing methods for powders (including powders for hardmetals)*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/SS M11, *Powder metallurgy*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 4497:1983), which has been technically revised. The main changes compared to the previous edition is as follows:

- inclusion of a precision statement.

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.

Metallic powders — Determination of particle size by dry sieving

1 Scope

This document specifies a method of determining the particle size distribution of metallic powders by dry sieving into size fractions.

The method is applicable to dry, unlubricated metallic powders, but not applicable to powders in which the morphology differs markedly from being equiaxial, for example flake-type powders.

The method is not applicable to metallic powders having a particle size wholly or mostly under 45 μm .

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 565, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*

ISO 2591-1, *Test sieving — Part 1: Methods using test sieves of woven wire cloth and perforated metal plate*

ISO 3310-1, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*

3 Terms and definitions

No terms and definitions are listed in this document.

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 metallic powder are separated into particle size fractions by shaking through a set of wire cloth test sieves. The test sieves shall be stacked in consecutive order of size of aperture openings.

The fractions retained on each sieve and the fraction passing the finest sieve are weighed.

5 Test equipment

5.1 Calibrated cloth sieves.

A calibrated series of non-magnetic wire cloth sieves, having different nominal aperture sizes shall be used. Each sieve cloth shall be mounted in a non-magnetic metal frame having a nominal diameter of 200 mm and a nominal depth within the range 25 mm to 50 mm.

NOTE ISO 3310-1 specifies a nominal depth of 50 mm or 25 mm.