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Metallic powders — Determination of flow rate by means of a calibrated funnel (Hall flowmeter)

Poudres métalliques — Détermination du temps d'écoulement au moyen d'un entonnoir calibré (appareil de Hall)

Reference number
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Foreword

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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)*.

This fifth edition, which cancels and replaces the fourth edition (ISO 4490:2014), has been revised to include a precision statement together with some other minor clarifications.

Metallic powders — Determination of flow rate by means of a calibrated funnel (Hall flowmeter)

1 Scope

This document specifies a method for determining the flow rate of metallic powders, including powders for hard metals, by means of a calibrated funnel (Hall flowmeter).

The method is applicable only to powders which flow freely through the specified test orifice.

2 Normative references

There are no normative references in this document.

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

Measurement of the time required for 50 g of a metallic powder to flow through the orifice of a calibrated funnel of standardized dimensions.

5 Apparatus

5.1 Calibrated funnel, the dimensions of which are shown in Figure 1. The funnel shall be made of a non-magnetic, corrosion-resistant metallic material with sufficient wall thickness and hardness to withstand distortion and excessive wear.

5.2 Stand and horizontal vibration-free base, which shall support the funnel rigidly. An example is shown in Figure 2.

5.3 Balance of sufficient capacity, capable of weighing the test portion to an accuracy of ±0,05 g.

5.4 Timing device, capable of measuring the elapsed time to an accuracy of ±0,1 s.

5.5 Reference grit, a reference powder[1)] used for calibration of the funnel, shall be used.

1) Material complying with 5.5 can be purchased as "Chinese emery grit" from ACuPowder International, LLC, 901 Lehigh Avenue, Union, NJ 07083, USA. This information is given for the convenience of users of this document and does not constitute an endorsement by ISO of the company named above. Equivalent products may be used if they can be shown to lead to the same results.