

Metallic powders - Determination of flowrate by means of a calibrated funnel (Gustavsson flowmeter) (ISO 13517:2013)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

**Metallic powders - Determination of flowrate by means of a
calibrated funnel (Gustavsson flowmeter) (ISO 13517:2013)**

Poudres métalliques - Détermination du temps
d'écoulement au moyen d'un entonnoir calibré (cône
d'écoulement de Gustavsson) (ISO 13517:2013)

Metallpulver - Ermittlung der Durchflussrate mit Hilfe eines
kalibrierten Trichters (Gustavsson flowmeter) (ISO
13517:2013)

This European Standard was approved by CEN on 1 March 2013.

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Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

This document (EN ISO 13517:2013) has been prepared by Technical Committee ISO/TC 119 "Powder metallurgy".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2013, and conflicting national standards shall be withdrawn at the latest by November 2013.

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Endorsement notice

The text of ISO 13517:2013 has been approved by CEN as EN ISO 13517:2013 without any modification.

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Metallic powders — Determination of flowrate by means of a calibrated funnel (Gustavsson flowmeter)

1 Scope

This International Standard specifies a method for determining the flow rate of metallic powders, including powders for hardmetals and mixes of metallic powders and organic additives such as lubricants, by means of a calibrated funnel (Gustavsson flowmeter).

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

2 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.

3 Apparatus

3.1 Calibrated funnel, with the dimensions shown in [Figure 1](#) (see [Clause 4](#)). The dimensions shown for the flowmeter funnel, including the orifice, are not to be considered controlling factors. Calibration with emery, as specified in [Clause 4](#), determines the working flow rate of the funnel.

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.¹⁾

3.2 Stand and horizontal vibration-free base, to support the funnel rigidly, e.g. as indicated in [Figure 2](#)¹⁾.

3.3 Balance, of sufficient capacity, capable of weighing the test portion to an accuracy of $\pm 0,05$ g.

3.4 Stopwatch, capable of measuring the elapsed time to an accuracy of $\pm 0,1$ s.

3.5 Chinese emery grit, a reference powder used for calibration of the funnel.¹⁾

1) Apparatus complying with 3.1 and 3.2, and standard Chinese emery grit can be purchased from ACuPowder International, LLC, 901 Lehigh Avenue, Union, NJ 07083, USA. This information is given for the convenience of users of this International Standard 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.