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Irish Standard
I.S. EN ISO 23145-1:2016

Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of bulk density of ceramic powders - Part 1: Tap density (ISO 23145-1:2007)

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National Foreword

I.S. EN ISO 23145-1:2016 is the adopted Irish version of the European Document EN ISO 23145-1:2016, Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of bulk density of ceramic powders - Part 1: Tap density (ISO 23145-1:2007)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 23145-1

April 2016

ICS 81.060.30

Supersedes EN 725-8:2006

English Version

Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of bulk density of ceramic powders - Part 1: Tap density (ISO 23145-1:2007)

Céramiques techniques - Détermination de la masse volumique en vrac des poudres céramiques - Partie 1: Masse volumique après tassement (ISO 23145-1:2007)

Hochleistungskeramik - Bestimmung der Dichte von keramischen Pulvern - Teil 1: Klopfdichte (ISO 23145-1:2007)

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European foreword

The text of ISO 23145-1:2007 has been prepared by Technical Committee ISO/TC 206 “Fine ceramics” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 23145-1:2016 by Technical Committee CEN/TC 184 “Advanced technical ceramics” the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by October 2016, and conflicting national standards shall be withdrawn at the latest by October 2016.

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I.S. EN ISO 23145-1:2016

INTERNATIONAL STANDARD

ISO 23145-1

First edition
2007-09-15

Fine ceramics (advanced ceramics, advanced technical ceramics) — Determination of bulk density of ceramic powders —

Part 1: Tap density

Céramiques techniques — Détermination de la masse volumique des poudres céramiques —

Partie 1: Masse volumique après tassement

Reference number
ISO 23145-1:2007(E)

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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.

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ISO 23145-1 was prepared by Technical Committee ISO/TC 206, *Fine ceramics*.

ISO 23145 consists of the following parts, under the general title *Fine ceramics (advanced ceramics, advanced technical ceramics) — Determination of bulk density of ceramic powders*:

— *Part 1: Tap density*

— *Part 2: Untapped density*

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INTERNATIONAL STANDARD ISO 23145-1:2007(E)

Fine ceramics (advanced ceramics, advanced technical ceramics) — Determination of bulk density of ceramic powders —

Part 1: Tap density

1 Scope

This part of ISO 23145 specifies a procedure to determine the tap density of granulated or ungranulated ceramic powders by a constant-volume measuring method.

2 Normative references

The following referenced documents are indispensable for the application 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 565:1990, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*

3 Principle

The mass of a known volume of the powder is determined after allowing it to fall freely into a stationary container, and then tapping it under specified conditions until saturation of packing is reached. The mass of the powder divided by its volume after the test gives its tap density.

4 Apparatus

4.1 Cylindrical container, of stainless steel (see Figure 1) with a volume of 100 cm^3 and a diameter-to-height ratio of approximately 1.

4.2 Sieve, as specified in ISO 565, with an aperture size of 0,71 mm.

4.3 Balance, with a precision of 0,1 g or 0,01 g.

A balance with a precision of 0,01 g should be used for very fluffy powders, such as aerosil.

4.4 Ring (see Figure 1), which can be fitted to the top of the cylindrical container to increase its height.

4.5 Tapping apparatus, which permits the tapping of the ceramic powder in the cylindrical container and its ring. The tapping stroke should be (10 ± 1) mm and the tapping frequency should be less than 180 taps/min. An example of the tapping apparatus is shown in Figure 2.

The cylindrical container shall not be tilted when it is tapped.

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