



**SLOVENSKI STANDARD**  
**SIST EN ISO 18753:2006**  
**01-julij-2006**

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Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of absolute density of ceramic powders by pycnometer (ISO 18753:2004)

Hochleistungskeramik - Bestimmung der absoluten Dichte keramischer Pulver mit einem Pycnometer (ISO 18753:2004)

**iTeh STANDARD PREVIEW**

Céramiques techniques - Détermination de la masse volumique absolue des poudres céramiques a l'aide d'un pycnomètre (ISO 18753:2004)

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**Ta slovenski standard je istoveten z: EN ISO 18753:2005**

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**ICS:**

81.060.30

**SIST EN ISO 18753:2006**

**en**

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English Version

Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of absolute density of ceramic powders by pycnometer (ISO 18753:2004)

Céramiques techniques - Détermination de la masse volumique absolue des poudres céramiques à l'aide d'un pycnomètre (ISO 18753:2004)

Hochleistungskeramik - Bestimmung der absoluten Dichte keramischer Pulver mit einem Pycnometer (ISO 18753:2004)

This European Standard was approved by CEN on 19 September 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

## Foreword

The text of ISO 18753:2004 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 18753:2005 by Technical Committee CEN/TC 184 "Advanced technical ceramics" the secretariat of which is held by BSI.

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 April 2006, and conflicting national standards shall be withdrawn at the latest by April 2006.

This document supersedes EN 725-7:1995.

CEN/TC 184 has prepared EN 725 Advanced technical ceramics — Methods of test for ceramic powders in twelve parts as follows:

Part 1: *Determination of impurities in alumina*

Part 2: *Determination of impurities in barium titanate*

Part 3: *Determination of oxygen content of non-oxides by thermal extraction*

Part 4: *Determination of oxygen content of non-oxides by XRF analysis*

Part 5: *Determination of particle size distribution*

Part 6: *Determination of specific surface area*

Part 7: *Determination of absolute density*

Part 8: *Determination of tapped density*

Part 9: *Determination of untamped bulk density*

Part 10: *Determination of compaction properties*

Part 11: *Determination of the densification on natural sintering*

Part 12: *Chemical analysis of zirconia*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

### Endorsement notice

The text of ISO 18753:2004 has been approved by CEN as EN ISO 18753:2005 without any modifications.

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advanced technical ceramics) —  
Determination of absolute density of  
ceramic powders by pycnometer**

*Céramiques techniques — Détermination de la masse volumique  
absolue des poudres céramiques à l'aide d'un pycnomètre*

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 18753 was prepared by Technical Committee ISO/TC 206, *Fine ceramics*.

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# Fine ceramics (advanced ceramics, advanced technical ceramics) — Determination of absolute density of ceramic powders by pycnometer

## 1 Scope

This International Standard specifies a method for determining the particle density of fine ceramic powders using liquid pycnometry.

## 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 758, *Liquid chemical products for industrial use — Determination of density at 20 °C*

ISO 3507, *Laboratory glassware — Pycnometers*

ISO 6353-2, *Reagents for chemical analysis — Part 2: Specifications — First series*

ISO 6353-3, *Reagents for chemical analysis — Part 3: Specifications — Second series*

ISO 8213, *Chemical products for industrial use — Sampling techniques — Solid chemical products in the form of particles varying from powders to coarse lumps*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **particle density**

density of an individual particle of powder

NOTE When an enclosed space occurs inside the particle, the space is considered to be part of the individual particle.

### 3.2

#### **pycnometry**

method of measuring particle density using a pycnometer

## 4 Preparation of measurement

### 4.1 Sampling

A representative sample for analysis shall be taken in accordance with ISO 8213.