

**Spetsiaalne tehniline keraamika.
Keraamiliste pulbermaterjalide
katsemeetodid. Osa 1: Lisandite
määramine alumiiniumis**

Advanced technical ceramics - Methods of test for
ceramic powders - Part 1: Determination of
impurities in alumina

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 725-1:2000 sisaldab Euroopa standardi EN 725-1:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 725-1:2000 consists of the English text of the European standard EN 725-1:1997.</p> <p>This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: See standardi EN 725 osa määrab kindlaks meetodid naatrium-, kaalium-, raud-, räni-, kaltsium- ja magneesiumoksiidide kui kahjulike lisandite sisalduse määramiseks alumiiniumis, kasutades aatomiabsorptsioonspektroskoopia (AAS) või induktiivsidestunud plasma (ICP) seadmeid.</p>	<p>Scope:</p>
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ICS 81.060.10

Võtmesõnad: aatomiabsorptsioonspektrofotomeetria, alumiiniumoksiid, kaaliumoksiidid, kaltsiumoksiidid, keemiline analüüs, keraamika, lisandid, magneesiumsulfaat, naatriumoksiidid, pulbermaterjalid, raudoksiidid, ränioksiidid, sisalduse määramine

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Descriptors: Ceramics, powder, testing, impurities.

English version

Advanced technical ceramics

Methods of test for ceramic powders

Part 1: Determination of impurities in alumina

Céramiques techniques avancées –
Méthodes d'essai pour poudres cérami-
ques – Partie 1: Détermination des impu-
retés dans l'alumine

Hochleistungskeramik – Prüfverfahren für
keramische Pulver – Teil 1: Bestimmung
von Verunreinigungen in Aluminiumoxid-
pulver

This European Standard was approved by CEN on 1997-02-24.

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.

The European Standards exist 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Standard has been prepared 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 September 1997, and conflicting national standards shall be withdrawn at the latest by September 1997.

EN 725 consists of 11 Parts:

- Part 1 : Determination of impurities in alumina
- Part 2 : Determination of impurities in barium titanate (ENV)
- Part 3 : Determination of oxygen content of non-oxides by thermal extraction
- Part 4 : Determination of oxygen content of non-oxides by XRF analysis (ENV)
- Part 5 : Determination of particle size distribution
- Part 6 : Determination of specific 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 reactivity on sintering (ENV)

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This Part of EN 725 specifies methods for the determination of elements of sodium, potassium, iron, silicon, calcium and magnesium present as impurities in alumina using atomic absorption (AAS) or inductively coupled plasma (ICP) instruments. For each element present as impurities, the methods are applicable to the following ranges, calculated as oxides:

Sodium oxide	20 ppm to 6000 ppm
Potassium oxide	20 ppm to 100 ppm
Ferric oxide	20 ppm to 300 ppm
Silica	50 ppm to 2000 ppm
Calcium oxide	20 ppm to 700 ppm
Magnesium oxide	5 ppm to 1000 ppm

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and in the publications listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

ECSC/CI 9	Chemical analysis of ferrous materials - Operational guidelines for the application of flame atomic absorption spectrometry in standard methods for the chemical analysis of iron and steel.
ISO 3696	Water for analytical laboratory use - Specification and test methods.
ISO 5725	Precision of test methods - Determination of repeatability and reproducibility for a standard test method by inter-laboratory tests.
ISO/DIS 13527	Chemical analysis of ferrous materials - Guidelines on the use of inductively coupled plasma atomic emission spectroscopy

3 Principle

The test sample is decomposed by using either a fusion method or an acid dissolution method. The acid dissolution method cannot be used for the determination of silicon. The solution is transferred to a volumetric flask and diluted to a known volume, and the elements are determined by AAS or ICP (see clause 1).