



SLOVENSKI STANDARD
SIST EN ISO 21078-1:2008
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Ugotavljanje borovega (III) oksida v ognjevzdržnih izdelkih - 1. del: Ugotavljanje celotnega borovega oksida v oksidnih materialih keramike, stekla in glazur (ISO 21078-1:2008)

Determination of boron(III) oxide in refractory products - Part 1: Determination of total boric oxide in oxidic materials for ceramics, glass and glazes (ISO 21078-1:2008)

Bestimmung des Gehaltes an Bor(III)-oxid in feuerfesten Erzeugnissen - Teil 1: Bestimmung des Gesamtgehaltes an Bor(III)-oxid in oxidischen Werkstoffen für Keramik, Glas und Glasuren (ISO 21078-1:2008)

Dosage de l'oxyde de bore(III) dans les produits réfractaires - Partie 1: Détermination de l'oxyde de bore(III) total dans les matériaux oxydants pour les céramiques, les verres et les émaux (ISO 21078-1:2008)

Ta slovenski standard je istoveten z: EN ISO 21078-1:2008

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ICS 81.040.01; 81.060.01

English Version

Determination of boron (III) oxide in refractory products - Part 1:
Determination of total boron (III) oxide in oxidic materials for
ceramics, glass and glazes (ISO 21078-1:2008)

Dosage de l'oxyde de bore (III) dans les produits
réfractaires - Partie 1: Détermination de l'oxyde de bore (III)
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Bestimmung des Gehaltes an Bor(III)-oxid in feuerfesten
Erzeugnissen - Teil 1: Bestimmung des Gesamtgehaltes an
Bor(III)-oxid in oxidischen Werkstoffen für Keramik, Glas
und Glasuren (ISO 21078-1:2008)

This European Standard was approved by CEN on 28 December 2007.

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Foreword

This document (EN ISO 21078-1:2008) has been prepared by Technical Committee ISO/TC 33 "Refractories" in collaboration with Technical Committee CEN/TC 187 "Refractory products and materials" 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of an identical text or by endorsement, at the latest by July 2008, and conflicting national standards shall be withdrawn at the latest by July 2008.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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**Determination of boron(III) oxide in
refractory products —**

Part 1:

**Determination of total boron(III) oxide in
oxidic materials for ceramics, glass and
glazes**

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Dosage de l'oxyde de bore(III) dans les produits réfractaires —

*Partie 1: Détermination de l'oxyde de bore(III) total dans les matériaux
oxydants pour les céramiques, les verres et les émaux*

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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 21078-1 was prepared by Technical Committee ISO/TC 33, *Refractories*, in collaboration with Technical Committee CEN/TC 187, *Refractory products and materials*.

ISO 21078 consists of the following parts, under the general title *Determination of boron(III) oxide in refractory products*:

- Part 1: *Determination of total boron(III) oxide in oxidic materials for ceramics, glass and glazes*
- Part 2: *Acid extraction method for the determination of boron(III) oxide in binder components*

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Determination of boron(III) oxide in refractory products —

Part 1:

Determination of total boron(III) oxide in oxidic materials for ceramics, glass and glazes

1 Scope

This part of ISO 21078 specifies methods of determining boron(III) oxide in refractory products and raw materials, in mass fractions of 0,01 % or greater. It is applicable to the determination of total boron(III) oxide in oxidic materials for ceramics, glass and glazes.

The determination of boron(III) oxide is carried out using one of the following four methods:

- a) alkaline titrimetry, which is applied to samples containing more than 0,5 % by mass of boron(III) oxide;
- b) azomethine H absorption spectrophotometry, which is applied to samples containing from 0,01 % by mass to 2,5 % by mass of boron(III) oxide;
- c) curcumin absorption spectrophotometry (rothocyanine method), which is applied to samples containing from 0,01 % by mass to 1,0 % by mass of boron(III) oxide;
- d) inductively coupled plasma atomic emission spectrometry (ICP-AES), which is applied to samples containing from 0,01 % by mass to 15 % by mass of boron(III) oxide.

NOTE 1 The method can be extended to 30 % boron(III) oxide using modified oxidic fluxes.

NOTE 2 Interlaboratory test results for this part of ISO 21078 are given in Annex A.

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 31-0, *Quantities and units — Part 0: General principles*

ISO 836, *Refractories — Vocabulary*

ISO 3310-1, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

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

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