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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 32177-2015

Determination of boron oxide in refractory materials

耐火材料中B₂O₃的测定

(English Translation)

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Table of Contents

Introduction

1 Scope

2 Normative references

3 Instrument

4 Sample Preparation

5 General

Determination of B₂O₃ 6 refractories (base titration)

Determination of B₂O₃ 7 refractories (inductively coupled plasma emission spectrometry)

Determination of B₂O₃ 8 refractories (curcumin spectrophotometry)

9 Determination of refractory material B₂O₃ (azomethine -H acid spectrophotometry)

10 Determination of the refractory binder B₂O₃

9 11 test reports

Appendix A (normative) Acceptance value analysis program

Annex B (informative) This standard reg reg number and ISO 21078 control number

Annex C (informative) The ISO 21078 standard and the technical differences and their causes

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

2008 "Determination of boron oxide refractories - Part 1.. Tao This standard is to modify the use of ISO 21078-1 method using redrafted Porcelain, glass, boron oxide glaze with a total of trioxide determination. "and ISO 21078-2 2006" refractory oxide of boron 2 Part I. Determination of Acid Leaching boron binding agent boron trioxide. " this standard and ISO 21078-1:2008 and ISO 21078-2:2006, compared with more adjustments in the structure, listed in Appendix B of this Standard and ISO 21078-1:2008 and ISO 21078-2:2006 chapter numbering control list.

This standard and ISO 21078-1:2008 and ISO 21078-2:2006 technical differences exist compared to the terms of these differences have been involved through Over the outside margin vertical line (-) blank positions were marked. It is listed in Appendix C of this standard and ISO 21078-1:2008 and ISO 21078-2:2006 and the list of technical differences in the reasons.

Information on normative references, this standard has been adjusted technical differences, in order to adapt our technical conditions, adjust the set as reflected in Chapter 2, "Normative references", the specific adjustments are as follows.

- increase the reference GB/T 8170;
- increase the reference GB/T 10325;
- increase the reference GB/T 17617;
- Delete ISO 31-0;
- Delete ISO 836;
- Delete ISO 3310-1;
- Delete ISO 3696;
- Delete ISO 6353-2;
- Delete ISO 6353-3.

Please note that some of the content of this document may involve patents. Release mechanism of the present document does not assume responsibility for the identification of these patents.

This standard by the National Standardization Technical Committee Refractories (SAC/TC193) and focal points.

This standard was drafted. Sinosteel Luoyang Institute of Refractories Co., Ltd., China Metallurgical coke-resistant (Dalian) Engineering Technology Co., Beijing Lier High Temperature Materials Co., Ltd.

1 Scope

This standard specifies the method for the determination of total B₂O₃ refractory mass fraction. This standard applies to the determination of the total refractories of B₂O₃, Other ceramic materials, glass, glaze the total B₂O₃ can also refer to this standard were measured. Different detection methods suitable content range See

Table 1.

Table 1 Detection Scope

Determination of B₂O₃ range (mass fraction) /% Base titration ≥ 0.5 Inductively Coupled Plasma Atomic Emission Spectrometry $\geq 0.01 \sim \leq 15$ Curcumin spectrophotometric $\geq 0.01 \sim \leq 1.0$ Azomethine -H acid spectrophotometry $\geq 0.01 \sim \leq 2.5$

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 8170 repair value expressed about the rules and limit values
judgment GB/T 10325, shaped refractory products acceptance sampling inspection rules (GB/T 10325-2012, ISO 5022-1979, NEQ) GB/T 17617 refractory raw materials and monolithic refractories sampling (GB/T 17617-1998, ISO 8656-1. 1988, NEQ)

3 Instrument

3.1

the crucible (sodium fusible material, such as alumina, nickel).

3.2

Bunsen burner.

3.3

pH meter. glass electrode, accurate to 0.01 units.

3.4

platinum crucible.

3.5

platinum dish.

Note: by adding a small amount of hydrofluoric acid and sulfuric acid and on the hob heating steam boron, and then thoroughly washed with water and dried.

3.6

Muffle furnace. capable of controlling the temperature of 600 °C ~ 1050 °C.

3.7

Spectrophotometer.

3.8

Inductively Coupled Plasma Atomic Emission Spectrometer. B element with spectral analysis.

4.1 Sampling

According to GB/T 10325 and GB/T 17617 collecting laboratory samples.