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

Part 2:

**Acid extraction method for the
determination of boron(III) oxide in binder
components**

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

*Partie 2: Méthode d'extraction acide pour le dosage de l'oxyde de
bore(III) dans les composants de liant*



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Foreword

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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 21078-2 was prepared by Technical Committee ISO/TC 33, *Refractories*.

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

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

Determination of boron(III) oxide in refractory products —

Part 2:

Acid extraction method for the determination of boron(III) oxide in binder components

1 Scope

This part of ISO 21078 specifies procedures of chemical analysis for the determination of boron(III) oxide used as a binder component added to aluminosilicate refractories, using an acid extraction method.

It is applicable for refractories containing less than 1 % (mass fraction) of boron(III) oxide.

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, *Terminology for refractories*

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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 836 and the following apply.

3.1

dry unshaped refractories

dry particles and/or powder of unshaped refractories

4 Preparation of the test sample

4.1 Refractory brick or its raw material

Sampling is carried out in accordance with the contract between the user and producer. A specified quantity taken from a lot of the sample is crushed to pass through a 6,7 mm sieve (see ISO 3310-1) and reduced to about 100 g by riffing or quartering. Then all the reduced sample is ground to pass through a 300 µm sieve (see ISO 3310-1).

4.2 Unshaped refractories

Prepare two approximately 100 g portions of the sample for analysis (both dry and wet), and crush to pass through a 300 µm sieve (see ISO 3310-1), in accordance with the following procedure in 4.3 to 4.5.