
**Chemical analysis of refractories —
General requirements for wet chemical
analysis, atomic absorption spectrometry
(AAS) and inductively coupled plasma
atomic emission spectrometry (ICP-AES)
methods**

*Analyse chimique des matériaux réfractaires — Exigences générales
pour les méthodes d'analyse chimique par voie humide, par
spectrométrie d'absorption atomique (AAS) et par spectrométrie
d'émission atomique avec plasma induit par haute fréquence (ICP-AES)*



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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 26845 was prepared by Technical Committee ISO/TC 33, *Refractories*.

It is to be used in conjunction with ISO 10058-1, ISO 10058-2 and ISO 10058-3, ISO 20565-1, ISO 20565-2 and ISO 20565-3, ISO 21079-1, ISO 21079-2 and ISO 21079-3, and ISO 21587-1, ISO 21587-2 and ISO 21587-3.

Introduction

This International Standard gives the general requirements common to the standards used for the chemical analysis of refractories and refractory products, i.e.:

ISO 10058, *Chemical analysis of magnesite and dolomite refractory products (alternative to the X-ray fluorescence method)*:

- Part 1: Apparatus, reagents, dissolution and gravimetric silica
- Part 2: Wet chemical analysis
- Part 3: Flame atomic absorption spectrometry (FAAS) and inductively coupled plasma emission spectrometry (ICP-AES)

ISO 20565 *Chemical analysis of chrome-bearing refractory products and chrome-bearing raw materials (alternative to the X-ray fluorescence method)* —

- Part 1: Apparatus, reagents, dissolution and gravimetric silica
- Part 2: Wet chemical analysis
- Part 3: Flame atomic absorption spectrometry (FAAS) and inductively coupled plasma emission spectrometry (ICP-AES)

ISO 21079 *Chemical analysis of refractories containing alumina, zirconia and silica — Refractories containing 5 % to 45 % of ZrO₂ (alternative to the X-ray fluorescence method)* —

- Part 1: Apparatus, reagents and dissolution
- Part 2: Wet chemical analysis
- Part 3: Flame atomic absorption spectrometry (FAAS) and inductively coupled plasma emission spectrometry (ICP-AES)

ISO 21587 *Chemical analysis of aluminosilicate refractory products (alternative to the X-ray fluorescence method)* —

- Part 1: Apparatus, reagents, dissolution and gravimetric silica
- Part 2: Wet chemical analysis
- Part 3: Inductively coupled plasma and atomic absorption spectrometry methods

These International Standards give wet chemical, AAS and ICP methods for the analysis of refractory materials and products. They are to be used as an alternative to ISO 12677, when the laboratory does not have an XRF instrument or its instrument does not meet the requirements of ISO 12677: *Chemical analysis of refractory products by XRF — Fused cast bead method*.

Chemical analysis of refractories — General requirements for wet chemical analysis, atomic absorption spectrometry (AAS) and inductively coupled plasma atomic emission spectrometry (ICP-AES) methods

1 Scope

This International Standard specifies apparatus, reagents, sampling, sample preparation, terms and definitions, basic procedures, loss on ignition and reporting of results applicable to the following standards, which are used for the chemical analysis of refractory products and raw materials by wet chemical, AAS and ICP-AES:

ISO 10058-1, ISO 10058-2 and ISO 10058-3;

ISO 20565-1, ISO 20565-2 and ISO 20565-3;

ISO 21079-1, ISO 21079-2 and ISO 21079-3;

ISO 21587-1, ISO 21587-2 and ISO 21587-3.

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 5022, *Shaped refractory products — Sampling and acceptance testing*

ISO 6286, *Molecular absorption spectrometry — Vocabulary — General — Apparatus*

ISO 6353-1:1982, *Reagents for chemical analysis — Part 1: General 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*

ISO 6955, *Analytical spectroscopic methods — Flame emission, atomic absorption, and atomic fluorescence — Vocabulary*

ISO 8656-1, *Refractory products — Sampling of raw materials and unshaped products — Part 1: Sampling scheme*