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Voorbeeld

Nederlandse norm

NEN-ISO 15633

(en)

Iron ores - Determination of nickel - Flame atomic absorption spectrometric method (ISO 15633:2009, IDT)

ICS 73.060.10
februari 2009

Als Nederlandse norm is aanvaard:

- ISO 15633:2009, IDT

OOOR
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Normcommissie 342093 "Chemische analyse van metalen"

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**Iron ores — Determination of nickel —
Flame atomic absorption spectrometric
method**

*Minerais de fer — Dosage du nickel — Méthode par spectrométrie
d'absorption atomique dans la flamme*



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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.

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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 15633 was prepared by Technical Committee ISO/TC 102, *Iron ore and direct reduced iron*, Subcommittee SC 2, *Chemical analysis*.

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Introduction

The objective of a proposed revision of ISO 9685:1991 was to extend the lower limit for a flame atomic absorption spectrometric method determination of both chromium and nickel in iron ores down to 0,001 %. However, due to bias, the method for nickel could not be approved for referee purposes.

The 22nd meeting of ISO/TC 102/SC 2 decided to progress the document as a non-referee method.

For Referee
Preview

Probleem
Preview

Iron ores — Determination of nickel — Flame atomic absorption spectrometric method

WARNING — This International Standard may involve hazardous materials, operations and equipment. This International Standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this International Standard to establish appropriate health and safety practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard specifies a flame atomic absorption spectrometric method for the determination of the nickel mass fraction of iron ores.

This method is applicable to mass fractions of nickel between 0,001 % and 0,1 % in natural iron ores, iron ore concentrates and agglomerates, including sinter products.

This method is not appropriate for referee purposes.

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 648, *Laboratory glassware — One-mark pipettes*

ISO 1042, *Laboratory glassware — One-mark volumetric flasks*

ISO 3082, *Iron ores — Sampling and sample preparation procedures*

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

ISO 7764, *Iron ores — Preparation of predried test samples for chemical analysis*

3 Principle

The test portion of iron ore is decomposed by treatment with hydrochloric and nitric acids.

The major portion of iron in the filtrate is removed by extraction with 4-methylpentan-2-one.

The insoluble residue is ignited and silicon dioxide is removed by evaporation with hydrofluoric and sulfuric acids. The residue is fused with a mixture of sodium carbonate and sodium tetraborate, and then dissolved with hydrochloric acid and combined with the main solution.

The solution is aspirated into the flame of an atomic absorption spectrometer using an air-acetylene burner.

The absorbance values obtained are compared with those obtained from the calibration solutions.

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