
Iron ores — Determination of copper —
Part 2:
Flame atomic absorption spectrometric
method

Minerais de fer — Dosage du cuivre —

Partie 2: 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.

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 5418-2 was prepared by Technical Committee ISO/TC 102, *Iron ore and direct reduced iron*, Subcommittee SC 2, *Chemical analysis*.

This first edition cancels and replaces ISO 4693:1986, which has been technically revised. It has been updated to alter the manner in which precision data are presented.

ISO 5418 consists of the following parts, under the general title *Iron ores — Determination of copper*:

- *Part 1: 2,2'-Biquinolyl spectrophotometric method*
- *Part 2: Flame atomic absorption spectrometric method*

Iron ores — Determination of copper —

Part 2:

Flame atomic absorption spectrometric method

WARNING — This part of ISO 5418 may involve hazardous materials, operations and equipment. This part of ISO 5418 does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this part of ISO 5418 to establish appropriate health and safety practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This part of ISO 5418 specifies a flame atomic absorption spectrometric method for the determination of the mass fraction of copper in iron ores.

This method is applicable to a mass-fraction range of 0,004 % to 0,8 % of copper in natural iron ores, and iron ore concentrates and agglomerates, including sinter products.

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

A test portion is decomposed by treatment with hydrochloric, nitric and hydrofluoric acids. The solution is evaporated with perchloric acid and diluted, and any insoluble residue is filtered.

The copper concentration of the solution is measured by atomic absorption spectrometry using an air-acetylene flame.