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

GB/T 6730.56-2019

**Iron ores - Determination of aluminum content - Flame atomic
absorption spectrometric method**

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Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 Principle
- 4 reagents and materials

Foreword

GB/T 6730 "Iron Ore" is divided into dozens of parts.

This part is part 56 of GB/T 6730.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 6730.56-2004 "Iron content determination of iron ore by flame atomic absorption spectrometry", and

Compared with GB/T 6370.56-2004, the main technical changes except editorial changes are as follows.

- Revised the expression of the performance requirements of the atomic absorption spectrometer (see 5.3, 5.3 of the.2004 edition);
- Revised the preparation requirements for pre-dried samples (see 6.2, 6.2 of.2004 edition);
- Modified the preparation volume of the test solution (see 7.4.3, 7.4.3 of the.2004 version);
- Added Table 1 calibration solution and note (see 7.4.4);
- Increased the requirements for zero adjustment of the instrument and the number of test solutions (see 7.4.5);
- Modified the formula of precision regression equation (see 8.2.1, 8.2.1 of.2004 edition);
- Revised the acceptance formula of the analytical value (see 8.2.4, 8.2.4 of the.2004 edition).

This section uses the redrafting method to modify the use of ISO /T R4688-1.2017 "Iron ore aluminium determination Part 1. Flame atom

Absorption spectroscopy.

This section has a structural change compared to ISO /T R4688-1.2017, removing the terminology and definitions in ISO /T R4688-1.2017

In the chapter "Yi", the numbering of the chapters in this section is renumbered in the order of ISO /T R4688-1.2017; the chapter "Reagents" is adjusted.

The order and number of the clauses in order to meet the requirements of our country's standards.

The technical differences between this part and ISO /T R4688-1.2017 and their reasons are as follows.

---About the normative reference documents, this part has made technical adjustments to adapt to China's technical conditions, adjustments

The situation is reflected in Chapter 2, "Regulatory References", and the specific adjustments are as follows.

* Added references to GB/T 6379.1, GB/T 6379.2, GB/T 6682, GB/T 6730.1, GB/T 7728, GB/T 8170, GB/T 10322.1, GB/T 12806, GB/T 12807, GB/T 12808 (see Chapter 2);

--- Modified the precision equation formula to meet the practical requirements of China's standard writing requirements and standards (see 8.2.1).

This section also made the following editorial changes.

--- The standard name was changed to "Measurement of iron ore aluminum content by flame atomic absorption spectrometry";

--- Removed the informative Appendix C of ISO /T R4688-1.2017 to be consistent with the formula for the precision equation.

This part was proposed by the China Iron and Steel Association.

This part is under the jurisdiction of the National Iron Ore and Direct Reduced Iron Standardization Technical Committee (SAC/TC317).

This section drafted by. Baoshan Iron and Steel Co., Ltd., Shanxi Jianlong Industrial Co., Ltd., Metallurgical Industry Standard Information Institute.

1 Scope

This part of GB/T 6730 specifies the determination of aluminum by flame atomic absorption spectrometry.

This section applies to natural iron ore, iron concentrates and lump ore, including the determination of aluminum content in sintered products. Measuring range (mass score).

0.10%~5.0%.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 6379.1 Accuracy of measurement methods and results (accuracy and precision) Part 1. General and definitions (GB/T 6379.1-

2004, ISO 5725-1.1994, IDT)

GB/T 6379.2 Accuracy of measurement methods and results (accuracy and precision) Part 2. Determination of standard method of measurement

Basic methods of sexuality and reproducibility (GB/T 6379.2-2004, ISO 5725-2.1994, IDT)

GB/T 6682 Analytical laboratory water specifications and test methods (GB/T 6682-2008, ISO 3696.1987, MOD)

GB/T 6730.1 Preparation of pre-dried samples for iron ore analysis (GB/T 6730.1-2016, ISO 7764.2006, MOD)

GB/T 7728 Metallurgical products - Chemical analysis - General rules for flame atomic absorption spectrometry

GB/T 8170 Numerical Rounding Rules and Representation and Determination of Limit Values

GB/T 10322.1 Iron ore sampling and sample preparation method (GB/T 10322.1-2014, ISO 3082.2009, IDT)

GB/T 12806 laboratory glass instrument single standard line capacity bottle (GB/T 12806-2011, ISO 1042.1998, NEQ)

GB/T 12807 laboratory glass instrument indexing pipette (GB/T 12807-1991, ISO 835-1981, NEQ)

GB/T 12808 laboratory glass instrument single standard line pipette

3 Principle

The sample was dissolved with hydrochloric acid and a small amount of nitric acid, evaporated to silica to dehydrate, the salts were dissolved, and filtered. Burning residue with hydrofluoric acid and sulfur

The silica was removed by acid evaporation, and further melted with sodium carbonate. After cooling, the salts were dissolved in the filtrate. Oxidation on atomic absorption

spectrometer

The absorbance of the solution was measured at a wavelength of 396.2 nm using a nitrogen-acetylene flame. The measured absorbance of the aluminum of the test solution and the absorption of the aluminum calibration solution

The degree of aluminum is determined by comparison.

4 reagents and materials

In the analysis, unless otherwise stated, only approved analytical reagents and secondary water in accordance with GB/T 6682 or equivalent in purity are used.