

ICS 73.060.10

CCS D 31



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

GB/T 6730.3-2017

**Iron ores -- Determination of hygroscopic moisture in analytical
samples -- Gravimetric, Karl Fischer and mass-loss methods**

Issued on: October 14, 2017

Implemented on: July 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China, Standardization
Administration of the People's Republic of China**

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100 (1)

Foreword

GB/T 6730 "iron ore" is divided into dozens of sections.

This section GB/T 6730 Part 3.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section instead of GB/T 6730.3-1986 "iron ore chemical analysis method for gravimetric analysis of moisture content in the sample", the

Part compared with GB/T 6730.3-1986, in addition to some editorial changes, the main technical changes are as follows.

--- The standard name was changed to "Determination of moisture content in iron ore analysis samples by weight method, Karl Fischer method and mass loss method";

--- The 1986 version of Chapter 1 to Chapter 6 of all the weight method of the contents of the merger in Chapter 3 "Method 1. Gravimetric" among them;

--- Added "warning" "2 Normative references" and "7 Test Report" chapter and content, the original chapter number has been adjusted accordingly;

--- Added "Method 2. Karl Fischer titration" "Method 3. Karl Fischer Coulomb" and "Method 4. Mass Loss Method";

--- Based on the original weight method to increase the "quality of the sample water hygroscopic correction" part.

This section uses the redrafted law Amendment uses ISO 2596.2006 "Determination of moisture absorption in iron ore analysis sample weight method, the card

Farea Hugh and the Law of Quality Loss ", this section compared with ISO 2596.2006, there are structural changes, including.

--- The ISO 2596.2006 reference should appear in the standard text of the device diagram from the appendix to the text, correspondingly deleted

Recall A ~ Appendix G, the reference to each figure is replaced by the text and added the clause number. The original appendix H is modified to appendix A;

--- Reference 6.2.4 and 6.2.5 in ISO 2596.2006 order exchange;

--- 6.5.1 under ISO 6.596.2006, add 6.5.1.1, the original 6.5.1.1 modified to 6.5.1.2;

--- The determination of the process of moving the sample thickness to the corresponding Table 1 to Table 4.

This section compared with ISO 2596.2006, the main technical changes are as follows.

--- On the normative references, this section made a technical difference with the adjustment to adapt to China's technical conditions, adjust the situation

Concentration reflected in the second chapter "Normative references", the specific adjustments are as follows.

* ISO 760 quoted in ISO 2596.2006 deleted;

* Replace ISO 3082 with GB/T 10322.1 equivalent to international documents.

--- Added "test report" chapter of the content;

--- The reference in ISO 2596.2006 3.5.3,3.5.4,4.5.5,5.5.3,5.5.4,6.5.1,6.5.2 note into the text;

--- In the first chapter before the addition of "warning" section.

This part is proposed by China Iron and Steel Association.

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

This part of the drafting unit. Ningbo Inspection and Quarantine Science and Technology Research Institute, Shanghai Entry-Exit Inspection and Quarantine, Metallurgical Industry Information Standards Research

Institute.

1 Scope

GB/T 6730 provisions of this part of the gravimetric method, Karl Fischer titration, Karl Fischer coulometry and mass loss method for the determination of moisture

Moisture.

This section applies to natural or processed iron ore samples moisture absorption

measurement. Determination of the range (mass fraction) .0.05% ~

4.5%. The following iron ore moisture absorption should be corrected to calculate the chemical composition of its dry.

- a) processed ores containing metallic iron (direct reduced iron);
- b) Natural or processed ores with a sulfur content greater than 0.2%;
- c) Natural or processed ores with a combined water content greater than 2.5%.

Note 1. The trade of iron ore moisture content with reference to GB/T 10322.5 procedures for determination.

Note 2.a), b) and c) outside the scope of the natural or processed ores, the determination of ingredients can be used to correct hygroscopic water this section or the use of GB/T 6730.1 treated

Pre-dried samples were measured.

Note 3. It can be assumed that the loss on ignition is the combined water content.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article

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

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

3.1 principle

Air-balanced sample moisture absorption measurement, the sample is placed in a drying tube, 105 degrees C +/- 2 degrees C heating, with 100mL/min ~

Dry nitrogen purge at.200 mL/min. Water vapor into the purge gas, through the anhydrous magnesium perchlorate drying tube, was absorbed rich

Set, the quality of the drying tube is the sample moisture absorption moisture content.

3.2 Reagents and materials

3.2.1 desiccant, anhydrous magnesium perchlorate $Mg(ClO_4)_2$, the particle size of 0.80mm ~ 1.25mm, so that the carrier gas through which the pressure is lower than

$5\mu g(H_2O)/L$. The desiccant's ability to adsorb water (expressed as "moisture absorption capacity") directly affects the stability of the blank test results,

The precision and accuracy of test results.

According to formula (1) calculation, the desiccant and carrier gas in the residual moisture content calculated desiccant moisture absorption capacity (C_c) (mass fraction), the value

Expressed in%.

$C_c =$

$m_1 \times L \times N$

$m_2 \times 1000 \times$

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