Chinastandards.org

chinastandards.org - PREVIEW

NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 6730.83-2022

Iron ores - Determination of loss on ignition - Gravimetric method corrected by hygroscopic water

Issued on: October 12, 2022 **Implemented on: October 12, 2022**

Issued by: SAMR; SAC

Preview: page 1 of 5 shown, full document available. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-6730-83-2022

Chinastandards.org

Table of Contents

Foreword... 3
Introduction... 5
1 Scope... 6
2 Normative References... 6
3 Terms and Definitions... 7
4 Principle... 7
5 Reagents... 7
6 Instruments... 7
7 Preparation of Laboratory Specimens... 7
8 Analytical Procedures... 8
9 Result Calculation and Expression... 9
10 Test Report... 11
Appendix A (informative) Constituent Documents of GB/T 6730... 12
Appendix B (normative) Acceptance Procedures for Specimen Analysis Results... 17
Appendix C (informative) Raw Data of Precision Test... 18

Chinastandards.org · PREVIEW

Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 Directives

for Standardization - Part 1: Rules for the Structure and Drafting of Standardizing Documents.

This is Part 83 of GB/T 6730. See Appendix A for the published parts of GB/T 6730.

This document modifies and adopts ISO 11536:2015 Iron Ores - Determination of Loss on

Ignition - Gravimetric Method.

In comparison with ISO 11536:2015, this document makes the following structural adjustments:

---The chapter "Terms and Definitions" is added to this document;

---Appendix B corresponds to Appendix A in ISO 11536:2015.

The technical differences between this document and ISO 11536:2015, and the causes for these

Preview: page 2 of 5 shown, full document available. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-6730-83-2022

differences are as follows:

---The normative references "GB/T 6730.1" and "GB/T 8170" are added (see Chapter 7 and 9.2.5), so as to adapt to the technical conditions of China;

---The preparation of laboratory specimens is modified (see Chapter 7; Chapter 6 of ISO 11536:2015): the specific requirements are clarified, so as to facilitate the practical operation;

---The method for preparing air balance samples is added (see 8.1; 7.1 of ISO 11536:2015),

because it is necessary to specify the specific requirements for preparing air balance samples;

---The determination of the test end point is modified (see 8.5; 7.5 of ISO 11536:2015), so as to enhance the accuracy of the determination and maintain consistency with the mode of determining the moisture determination end point in GB/T 10322.5;

---The expression of precision (see 9.2.1; 8.2.1 of ISO 11536:2015) and the calculation formula of C value in correctness check (see 9.2.4, 8.2.4 of ISO 11536:2015) are modified, so as to comply with the requirements for precision expression in Chinese national standards;

---The expression of numerical value rounding-off is modified (see 9.2.5; 8.2.5 of ISO 11536:2015), and GB/T 8170 is used to replace the text description of 8.2.5 in ISO 11536:2015.

This document makes the following editorial modifications:

---The title of the Standard is modified;

Iron Ores - Determination of Loss on Ignition - Gravimetric

Method Corrected by Hygroscopic Water

WARNING---the personnel adopting this document shall have practical experience in regular laboratory work. This document does not point out all possible safety issues. The user is responsible for taking appropriate safety and health measures and ensuring compliance with the conditions stipulated in relevant national regulations.

chinastandards.org · PREVIEW

Preview: page 3 of 5 shown, full document available. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-6730-83-2022

1 Scope

This document specifies the method for the determination of loss on ignition in iron ores using

gravimetric method corrected by hygroscopic water.

This document is applicable to natural iron ores, iron concentrations and artificial lumpy iron

ores, with a determination range (mass fraction) of: 1.0% ~ 10.0%.

This document does not apply to the following circumstances:

a) Processed iron ores containing metallic iron (direct reduced iron);

b) Natural or processed iron ores with sulfur content exceeding 0.2%;

c) Natural or processed iron ores with ferrous oxide content exceeding 1.0% (mass

fraction).

chinastandards.org · PREVIEW

2 Normative References

The contents of the following documents constitute indispensable clauses of this document

through the normative references in the text. In terms of references with a specified date, only

versions with a specified date are applicable to this document. In terms of references without a

specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 6730.1 Iron Ores - Preparation of Predried Test Samples for Chemical Analysis (GB/T

6730.1-2016, ISO 7764:2006, MOD)

GB/T 6730.3 Iron Ores - Determination of Hygroscopic Moisture in Analytical Samples -

Gravimetric, Karl Fischer and Mass-loss Methods (GB/T 6730.3-2017, ISO 2596:2006, MOD)

GB/T 8170 Rules of Rounding off for Numerical Values & Expression and Judgement of

Limiting Values

GB/T 10322.1 Iron Ores - Sampling and Sample Preparation Procedures (GB/T 10322.1-2014,

ISO 3082:2009, IDT)

Preview: page 4 of 5 shown, full document available. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-6730-83-2022

3 Terms and Definitions

This document does not have terms or definitions that need to be defined.

4 Principle

The specimen is burned at 1,000 ?C to a constant weight and cooled in a desiccator. Determine

the mass loss of the specimen and express it as a mass fraction relative to the original mass, that

is, the loss on ignition.

5 Reagents

Unless otherwise stated, only approved analytically pure reagents are used during the analysis.

Silica gel desiccant, dry at 105 ?C for 4 h.

6.1 Crucible (porcelain crucible or platinum crucible): with a capacity of 15 mL ~ 25 mL, with

a lid. The crucible and its lid shall be pretreated in a muffle furnace at 1,000 ?C for 60 min.

Before use, the crucible and its lid shall be stored in a vacuum desiccator (see 6.4). If the

platinum crucible used for ignition loss analysis is used for flux melting, the platinum vessels

shall be thoroughly cleaned, so as to prevent cross-contamination.

6.3 Muffle furnace: capable of maintaining a temperature of 1,000 ?C ? 25 ?C and providing

sufficient air circulation, so as to prevent water vapor retention.

6.4 Vacuum desiccator: with an inner diameter of 150 mm ~ 250 mm, with vacuum cock, which

can maintain air pressure balance. The desiccator base plate shall be made of metal, ceramic or

other heat-resistant materials, which will not break when in contact with the crucible at 1,000

?C. The edges of the desiccator shall be coated with a small amount of silicone grease or

Preview: page 5 of 5 shown, full document available. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-6730-83-2022