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

GB/T 10322.5-2024

**Iron ores - Determination of the moisture content of a lot
(English Translation)**

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Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020, Directives for standardization - Part 1.Rules for the structure and drafting of standardizing documents.

This document is Part 5 of GB/T 10322.The following parts have been published under GB/T 10322.

- Iron ores - Sampling and sample preparation procedures;
- Iron ores - Experimental methods for evaluation of quality variation;
- Iron ores - Experimental methods for checking the precision of sampling;
- Iron ores - Experimental methods for checking the bias of sampling;
- Iron ores - Determination of the moisture content of a lot;
- Iron ores for blast furnace feedstocks - Determination of the decrepitation index;
- Iron ores and direct reduced iron - Determination of size distribution by sieving;

-- Iron ores - Single-point determination of specific surface area - Nitrogen adsorption method.

This document replaces GB/T 10322.5-2016 Iron ores - Determination of the moisture content of a lot. Compared with GB/T 10322.5-2016, the main technical changes are as follows.

- a) Change the normal reference method for determining the moisture content (see 7.2.2; 7.2.2 of the 2016 edition);
- b) Add alternative methods for determining the moisture content (see 7.3);
- c) Change the accuracy requirements for the weighing device (see 5.3; 5.3 of the

2016 edition);

- d) Change the calculation and presentation of results (see Chapter 9; Chapter 9 of the 2016 edition).

This document is identical to ISO 3087.2020, Iron ores - Determination of the moisture content of a lot.

1 Scope

This document specifies a method for the determination of the moisture content of a lot of iron ore.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO3082, Iron ores - Sampling and sample preparation procedures

Note: GB/T 10322.1-2023, Iron ores - Sampling and sample preparation procedures (ISO 3082.2017, IDT)

ISO 3085, Iron ores - Experimental methods for checking the precision of sampling

Note: GB/T 10322.3-2000, Iron ores - Experimental methods for checking the

precision of sampling (ISO 3085.1996, IDT)

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 11323 apply.

4 Principle

Dry the test portion in air at 105 °C and measure the loss in mass. Express the moisture content as the mass loss relative to the original mass of the sample as a mass fraction (%).

5 Apparatus

Equipped with a temperature indicator and control apparatus capable of regulating the temperature at any point in the oven at 105 °C ± 5 °C and so designed as to maintain this temperature with a current of air to ensure efficient drying but without any loss of sample, and fitted with a fan that allows for both the circulation and change of air.

6 Sample preparation

Test samples that have been taken and prepared in accordance with ISO 3082 shall be used. The mass of a test portion, in relation to its nominal top size, is specified in Table 1, in accordance with ISO 3082.

7 Test procedure

Carry out one moisture measurement per test portion on the number of test portions specified in Table 2, in accordance with the conditions of preparation of the test sample. In order to minimize losses of moisture to the atmosphere, it is necessary to perform all the initial weighings of the test portions as quickly as possible after obtaining those test portions.

The moisture determination shall be conducted in accordance with 7.2.2 or, optionally for ores with 8 % or more of combined water, in accordance with 7.2.3.

8 Verification

Regular checking of apparatus and procedures is essential to verify the test results. Checks shall be carried out prior to the commencement of a routine test in accordance with this document and at regular intervals thereafter. The frequency of checking is a matter for each laboratory to determine. A detailed record of all verification activities shall be maintained for the following items.

9 Calculations and expression of results

The result of the determination of the moisture content, w_i , expressed as a mass fraction (%), for each test portion, is given by Formula (1) and reported to the second decimal place.

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