

ICS 73.060.10

CCS D 31



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

GB/T 24239-2009

**Direct reduced iron and hot briquetted iron -- Sampling and
sample preparation**

直接还原铁和热压铁块 取样和制样方法

(English Translation)

Issued on: July 15, 2009

Implemented on: April 1, 2010

**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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Foreword

This standard is equivalent to the international standard ISO 10835.:2007 "Sampling and sample preparation methods for direct reduced iron and hot-pressed iron blocks" (English version).

For ease of use, the following editorial and non-technical changes have been made to this standard.

- "This International Standard" was changed to "this Standard";
- Replace the comma "," with a decimal point "." As a decimal point;
- Delete the foreword of international standards;
- The reference file is modified to the corresponding national standard.

Appendix A of this standard is an informative appendix, and Appendix B and Appendix C are normative appendixes.

This standard is proposed by China Iron and Steel Industry Association.

This standard is under the jurisdiction of the National Iron Ore and DRI Standardization

Technical Committee.

1 Scope

In order to determine the chemical composition, moisture content and physical characteristics of the delivery batch, this standard specifies mechanical sampling and manual sampling during the transfer process.

And preparation methods, including.

- a) basic principles;
- b) the basic principles of sampling and preparation;
- c) Basic requirements for the design, installation and operation of the sampling system.

The method specified in this standard is applicable to the alignment of mechanical samplers or belt conveyors and other ore transportation equipment for safety stop sampling.

Load and unload samples from delivery batches of reduced iron (DRI) and hot-pressed iron (HBI). In this standard, DRI includes reducing pellets and reducing Lump ore.

Warning. This standard may involve the safe operation of hazardous substances and equipment, but the standard does not explain the relevant safety issues in use.

It is the responsibility of the user of the standard to establish appropriate safety procedures and to determine their scope of application before use. DRI and low density or high chalking HBI can react with water and air to generate hydrogen and thermal energy. The heat generated can cause combustion. It should comply with relevant rules or regulations.

To ensure the safety of the operator.

2 Normative references

The clauses in the following documents are quoted as the clauses of this standard after being referenced. For dated references, Some amendments (excluding the content of errata) or revised versions are not applicable to this standard, however, all parties that have reached an agreement in accordance with this standard are encouraged to research Investigate whether the latest version of these files is available. For undated references, the latest version applies to this standard.

GB/T 6005 Basic dimensions of sieve openings for test sieve wire mesh, perforated sheet and electroformed sheet (GB/T 600-2008, ISO 565.:1990, MOD) GB/T 103222.2 Experimental method for evaluating quality fluctuations of iron ore (GB/T 10222.2-2000, idt ISO 3084.:1998) GB/T 103222.4 Experimental method for checking sampling deviation of iron ore (GB/T 10222.4-2000, idt ISO 3086.:1998) GB/T 103222.5 Determination of

moisture content in iron ore delivery lots (GB/T 10322.2.5-2000, idt ISO 3087.:1998) GB/T 10322.7 Screening determination of particle size distribution of iron ore GB/T 20565 Terminology of iron ore and direct reduced iron (GB/T 20655-2006, ISO 11323.:2002, IDT) ISO 3534-1.:2006 Statistical vocabulary and symbols. Part 1. Probability and basic statistical terms.

ISO 3085.:2002 Test methods for sampling, sample preparation and measurement precision of iron ore check

3 Terms and definitions

This standard refers to the following definitions in GB/T 20565.

A discontinuous amount of iron ore or direct reduced iron formed to evaluate quality characteristics.

GB/T 24239-2009/ISO 10835.:2007 3.2 A device for sampling or sample reduction specifically operates the amount of iron ore collected or the amount of direct reduced iron at a time.

A representative relatively small amount of iron ore or direct reduced iron is taken from a batch to be evaluated for quality characteristics.

A sample consisting of fewer than the total number of copies required for one large sample.

Consists of all samples, which fully represent a batch of samples with all quality characteristics.

A sample prepared to meet all specified conditions of a test.

Virtually all of the samples used for a specific test.

For a batch of ore, a sampling method is adopted to collect samples from a specified part of the layer and in an appropriate proportion.

Note: Examples of layers are divided by time, mass or space, including sampling time interval (for example 5 min), mass interval (for example 1000t), Cargo holds, train vehicles or containers.

Sampling method for collecting samples from a batch of ore at regular intervals.

3.10

A sampling method that takes samples at equal quality intervals and makes them as consistent as possible.

3.11

Samples collected at free time in the free fall material stream or in the conveyor, the amount of each sample is proportional to the material flow rate when the sample is taken
Proportional sampling method.

3.12

A method for reducing the size of a sample or a portion of a sample that has a fixed proportion to the weight of the sample after each division.

3.13

Regardless of the change in the quality of the reduced sample or portion, the sample or portion reduction method with almost the same quality after the division is retained.

Note: This method requires quantitative sampling, which basically means that the coefficient of mass variation is less than 20%.

3.14

A sample is divided into several parts as samples to measure the quality characteristics.

GB/T 24239-2009/ISO 10835.:2007 3.15 After one sample is used to determine one quality characteristic, then all of the same sample is used to determine one or several other quality characteristics.

3.16

This particle size uses the minimum sieve size of DRI remaining on the square-hole test sieve conforming to the R20 series in GB/T 6005 of not more than 5%.

To represent.

3.17

This particle size is based on the minimum sieve hole size of HBI remaining on the square hole test sieve conforming to the R20 series in GB/T 6005, which is not more than 5% to represent.

4.1 Basic requirements

The basic requirement for a correct sampling plan is that all DRI or HBI parts in the delivery lot have equal opportunities to be taken and become Partial or large sample. Any deviation from this basic requirement will affect accuracy and precision. An incorrect sampling plan Representative test samples cannot be reliably provided.

To meet the above requirements, the best sampling location is the transfer point between belt conveyors. Here you can easily set up a fixed room Take the full section of the DRI or HBI at intervals to ensure a representative test sample. Similarly, if it is possible from the conveyor belt (see Chapter 9) the full length of the full cross-section of the DRI and HBI is taken, and the sample can also be sampled from a stationary conveyor.

Sampling is not allowed on cargo ships, stockpiles, trucks, containers and silos, as it is not possible to reach the bottom of the sampling equipment to take out the full section A