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

GB/T 24235-2009

**Iron ores for shaft direct-reduction feedstocks -- Determination
of the low temperature reduction-disintegration index and
degree of metallization**

直接还原炉料用铁矿石 低温还原粉化率和金属化率的测定 气体直接还原法

(English Translation)

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Table of Contents

- Foreword
- 1 Scope
- 2 Normative reference documents
- 3 Principle
- 4 Preparation of samples, and test samples
- 4.1 Sampling and preparation of samples

Foreword

This standard is equivalent to the use of international standards ISO 11257.:2007 "direct reduction furnace charge iron ore low temperature reduction rate of powder and metallization of the direct reduction of the measured gas method "(English version).

For ease of use, this standard has the following editorial and non-technical differences.

--- "this international standard" to "this standard";

--- replace the comma as a decimal point with a decimal point. " - to remove the preamble of international standards;

--- reference documents to the corresponding national standards.

Appendix A of this standard is a normative appendix.

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

This standard by the national iron ore and direct reduction of iron standardization technical committee.

This standard is responsible for drafting units. Baoshan Iron & Steel Co., Ltd.

This standard participates in the drafting unit. Metallurgical Industry Information Standards Institute.

1 Scope

This standard specifies the test of the pulverization and metallization rates of pellets and lumps under conditions similar to the direct reduction of gases method.

2 Normative reference documents

The terms of the following documents are hereby incorporated by reference into this standard. Whichever is the date of the reference file, which is followed by all (Excluding corrigenda) or revisions do not apply to this standard, however, encourage the parties to reach an agreement under this standard Whether you can use the latest version of these files. For undated references, the latest edition applies to this standard.

GB/T 6003.1 Wire Mesh Test Screen (GB/T 6003.1-1997, eqv ISO 3310-1.:1990) GB/T 6003.2 metal perforated plate test sieve (GB/T 6003.2-1997, eqv ISO 3310-2.:1990) GB/T 6730.5 Determination of iron content of iron ore Titanium trichloride reduction method (GB/T 6730.5-2007, ISO 9507.

1990, MOD)

GB/T 6730.6 Methods for chemical analysis of iron ores - Determination of iron content by ferric chloride - sodium acetate volumetric method Methods for chemical analysis of iron ores - The sulfosalicylic acid photometric method for the determination of metallic iron content GB/T 6730.7 GB/T 10122 Sampling and sample preparation of physical test specimens for iron ore (sinter, pellet) GB/T 10322.1 Method for sampling and sampling iron ores (GB/T 10322.1-2000, idt ISO 3082.:1998) GB/T 10322.7 Determination of particle size distribution of iron ore (GB/T 10322.7-2004, idt ISO 4701.:1999) GB/T 20565 Iron Ore and Direct Reduction Iron Terminology (GB/T 20565-2006, ISO 11323.:2002, IDT) ISO 9686 Direct reduction of iron and/or sulfur content - Determination of high - frequency combustion infrared absorption method

3 Principle

A reducing gas consisting of hydrogen, carbon monoxide, carbon dioxide and methane was used at a temperature of 760 ° C for a test sample in a rotary tube for 300min isothermal reduction. Heat the test sample in an inert gas. Screening with a 3.15 mm square hole test screen. use Less than 3.15 mm of the weight of the particles calculated by the percentage of the reduction of the rate of reduction. The chemical analysis of the reduced material is carried out to calculate the gold Localization rate.

4.1 Sampling and preparation of samples

Sampling and sample preparation should be carried out according to GB/T 10322.1.

Pellet grain size composition. 10.0mm ~ 12.5mm 50%, 12.5mm ~ 16.0mm 50%.

The particle size of the lump ore composition. 10.0mm ~ 16.0mm 50%, 16.0mm ~ 20.0mm 50%.

At least 2.0 kg of dry basis screening samples.

Before preparing the test sample, the sample should be dried to constant weight at a temperature of $105^{\circ}\text{C} \pm 5^{\circ}\text{C}$ and cooled to room temperature.

Note: When the two consecutive weighing sample quality difference does not exceed the initial mass of 0.05% of the sample that is constant weight.

GB/T 24235-2009/ISO 11257.:2007