

ICS 73.060.10

CCS D 31



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

GB/T 10322.9-2023

**Iron ores - Determination of specific surface area - Test method
using air-permeability apparatus(Blaine)**

Issued on: September 7, 2023

Implemented on: April 1, 2024

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Foreword

Introduction

1 Scope

2 Normative reference documents

3 Terms and definitions

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1. Structure and Drafting Rules of Standardization Documents"

Drafting.

This document is Part 9 of GB/T 10322. GB/T 10322 has published the following parts.

- Iron ore sampling and sample preparation methods;
- Experimental methods for evaluating quality fluctuations of iron ore;
- Experimental method for checking sampling precision of iron ore;
- Experimental methods for checking sampling deviations in iron ore;
- Determination of moisture content of iron ore delivery batches;
- Determination of thermal cracking index of iron ore used as blast furnace charge;
- Screening determination of particle size distribution of iron ore and direct reduced iron;
- Single-point determination of iron ore specific surface area by nitrogen adsorption method;
- Determination of iron ore specific surface area by the Breton permeability method.

This document is equivalent to ISO 21283:2018 "Determination of specific surface area of iron ore - Breton method".

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

Introduction

Iron ore is the main raw material of the steel industry. In the steel field standard system, a series of standards for iron ore sampling, sample preparation, and physical test methods

are

Accuracy is a very important part and plays an important role in ensuring the quality of iron ore products. This series of method standards serve iron ore

The production, trade and application of stone provide technical support for the high-quality development of my country's steel industry.

The GB/T 10322 series of standards respectively stipulates sampling and sample preparation methods, experimental methods for assessing quality fluctuations, and methods for checking sampling precision.

Experimental methods, experimental methods for checking sampling deviations, determination of moisture content of delivery batches, determination methods of thermal cracking index, screening test of particle size distribution

Single-point determination method of specific surface area (nitrogen adsorption method), determination method of specific surface area (Bureau's gas permeability method).

In 2000, GB/T 10322 released a series of five national standards for iron ore sampling and preparation for the first time. With the development of technology in the iron ore field and

Based on the actual needs of production, through the formulation and revision of the standards, a series of standards consisting of 9 parts has been formed.

- Iron ore sampling and sample preparation methods;
- Experimental methods for evaluating quality fluctuations of iron ore;
- Experimental method for checking sampling precision of iron ore;
- Experimental methods for checking sampling deviations in iron ore;
- Determination of moisture content of iron ore delivery batches;
- Determination of thermal cracking index of iron ore used as blast furnace charge;
- Screening determination of particle size distribution of iron ore and direct reduced iron;
- Single-point determination of iron ore specific surface area by nitrogen adsorption method;
- Determination of iron ore specific surface area by the Breton permeability method.

Determination of specific surface area of iron ore

Bertrand Breathing Method

Warning---This document may involve the use of hazardous materials, operations, and equipment. This document does not address all security issues related to this

Suggestions are made on all issues. The user is responsible for using appropriate security

and protective measures before using this document.

1 Scope

This document describes a test method for the determination of the specific surface area of iron ore using the Breton gas permeability tester.

This document is suitable for measuring the specific surface area of pellet materials. The measuring range is. 400cm²/g~2500cm²/g.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations

For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

Note. GB/T 10322.1-2023 Iron ore sampling and preparation methods (ISO 3082.2017, IDT)

Note. GB/T 20565-2022 Iron ore and direct reduced iron terminology (ISO 11323.2010, IDT)

Note. GB/T 40401-2021 Measuring skeletal density gas volume displacement method (ISO 12154.2014, IDT)

3 Terms and definitions

The terms and definitions defined in ISO 11323 and below apply to this document.

3.1

Blaine surface area; BSA

The total surface area per unit mass of pellets.

Note. Usually expressed in cm²/g.

3.2

Pellets peletfeed

Iron ore concentrate for pellet production.

Note. Usually contains at least 80% particles with a particle size less than 0.150mm.

3.3

skeletondensity

The ratio of the sample mass to the sample volume, where the sample volume includes the particle closed pore volume (if present), but does not include the particle open pore volume and the gaps between particles.

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