

ICS 73.060.10
CCS D 31



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

GB/T 24204-2025

Replacing GB/T 24204-2009

**Iron ores for blast furnace feedstocks - Determination of
low-temperature reduction-disintegration indices - Dynamic
method**

高炉炉料用铁矿石 低温还原粉化率的测定 动态试验法

(English Translation)

Issued on: June 30, 2025

Implemented on: January 1, 2026

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

Table of Contents

Preface
1 Scope
2 Normative references
3 Terms and Definitions
4 Principle
5 Sampling, sample preparation and test sample preparation
6 Devices
7 Test conditions
8 Test Step
9 Presentation of results
10 Test Report
11 Check
Appendix A (Normative) Test Result Acceptance Process
Reference

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 24204-2009 "Dynamic test method for determination of low temperature reduction pulverization rate of iron ore for blast furnace charge" and Compared with GB/T 24204-2009, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) Added a chapter on "Terms and Definitions" (see Chapter 3);
- b) The four sizes of test sieves, 16mm, 12.5mm, 10mm and 11.2mm, have been deleted (see 5.6 of the 2009 edition);
- c) The sieving step of "separating the free carbon precipitated during the reduction process" has been deleted (see 7.3 of the 2009 edition);
- d) Added the use of mechanical screening (see 8.3);
- e) Added recommendations for ensuring consistency of screening results among multiple laboratories when comparing results (see 8.3).

This document is equivalent to ISO 13930:2015 "Iron ore for blast furnace charge - Dynamic determination of low-temperature reduction pulverization rate".

The following minimal editorial changes have been made to this document.

--- To coordinate with the existing standard, the name of the standard is changed to "Dynamic test for determination of low temperature reduction pulverization rate of iron ore for blast furnace charge" Law";

---Change "CH4" to "N2" and correct the error in the original ISO text (see 7.2.1);

--- Added the notes to Table 1 (see Table 1);

---Added references.

1 Scope

This document specifies a dynamic test method for the relative measurement of the reduction pulverization index of iron ore during reduction in the low temperature reduction zone of a blast furnace.

This document applies to lump ore and thermally bonded pellets.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

Note: GB/T 10322.1-2023 Iron ore sampling and sample preparation methods (ISO 3082:2017, IDT) ISO 3310-1 Test sieves - Technical requirements and inspection - Part 1: Test sieves with woven wire mesh Note. GB/T 6003.1-2022 Test sieves - Technical requirements and inspection - Part 1: Wire mesh test sieves (ISO 3310-1:2016, MOD) ISO 3310-2 Test sieves - Technical requirements and inspection - Part 2: Test sieves made of perforated metal Note. GB/T 6003.2-2024 Test sieves - Technical requirements and inspection - Part 2: Metal perforated plate test sieves (ISO 3310-2:2013, IDT) Note. GB/T 20565-2022 Terminology for iron ore and direct reduced iron (ISO 11323:2010, IDT)

3 Terms and Definitions

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

4 Principles

The test samples of a certain particle size range were heated in a rotating reaction tube at a temperature of 500°C with hydrogen (H₂), carbon monoxide (CO), carbon dioxide the reduced sample was isothermally reduced for 60 min using a reducing gas consisting of CO₂ and nitrogen (N₂).

The 0.5mm square hole sieve was used for screening. The ore mass of ore with diameters greater than 6.30mm, less than 3.15mm and less than 0.5mm was compared with that after reduction.

The percentage of the total mass of the test sample is expressed as three low temperature dusting indices (LTD).