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

GB/T 46050-2025

**Manganese and chromium ores - Experimental methods for
checking the precision of sample division**

锰矿石和铬矿石 校核样品缩分精密度的试验方法

(English Translation)

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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 modified to adopt ISO 8530:1986 "Test method for the precision of reduction of manganese and chromium ore samples".

This document has undergone significant structural adjustments compared to ISO 8530:1986. A table comparing the structural numbering changes between the two documents is provided.

See Appendix A.

This document differs significantly from ISO 8530:1986 in several technical aspects. The relevant clauses are indicated in vertical single-line margins.

The lines (I) are marked. A summary of these technical differences and their causes can be found in Appendix B.

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

--- Modify the original formula (3) to formula (4), and modify the original formula (4) to formula (5).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Iron and Steel Association.

This document is under the jurisdiction of the National Technical Committee on Standardization of Pig Iron and Ferroalloys (SAC/TC318).

1 Scope

This document describes a test method for verifying the precision of reduction of natural or processed manganese and chromium ore samples.

This document is applicable to verifying the precision of reduction of natural or processed manganese and chromium ore samples.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

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

This document.

GB/T 1506 Determination of Manganese Content in Manganese Ore by Potentiometric Titration and Ferrous Ammonium Sulfate Titration GB/T 2011 Sampling and Sample Preparation Methods for Bulk Manganese Ore GB/T 8170 Rules for rounding off numerical values and the representation and determination of limiting values GB/T 24228 General Rules for Chemical Analysis of Chromium Ore and Chromium Concentrate GB/T 24230 Determination of Chromium Content in Chromium Ore and Chromium Concentrate by Titration GB/T 24243 Sampling of Chromium Ore GB/T 28898-2012 Evaluation of Measurement Uncertainty in Chemical Composition Analysis of Metallurgical Materials GB/T 44031 General Rules for Chemical Analysis of Manganese Ore ISO 4296-2 Sampling of manganese ore - Part 2: Sample preparation

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4 General Rules

4.1

Test samples shall be reduced in size according to the methods specified in GB/T 2011, GB/T 24243, ISO 4296-2 and other documents.

4.2

The quality characteristics involved in this test method are expressed as the mass fraction of manganese (applicable to manganese ore) or the mass fraction of chromium trioxide.

Test method (applicable to chromium ore). Test methods shall comply with GB/T 1506, GB/T 24228, GB/T 24230, and GB/T 44031.

Note: Consider particle size distribution and other disputed chemical components if necessary.

4.3

The precision of the reduction may deteriorate under the following conditions.

- a) When a large-particle-size sample is excessively reduced into multiple smaller-mass samples at once;
- b) When there are too many reduction processes;
- c) When the precision of the reduction equipment used does not meet the requirements;
- d) When the sample preparation procedure is not fully followed;
- e) When reducing a large sample with excessive mass.