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

GB/T 470-2026

Replacing GB/T 470-2008

Zinc ingots

锌锭

(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 replaces GB/T 470-2008 "Zinc Ingots". Compared with GB/T 470-2008, apart from structural adjustments and editorial changes, the main differences are...

The technological changes are as follows.

a) The limits for impurities lead and cadmium in Zn99.995 have been changed. Lead has been changed from " $\leq 0.003\%$ " to " $\leq 0.0030\%$ ", and cadmium from " $\leq 0.002\%$ ".

Change to " $\leq 0.0020\%$ " (see 5.1, 3.2 of the 2008 version);

b) The physical specifications for large zinc ingots have been expanded (see 5.2);

c) The test method has been changed (see 6.1, 4.1 of the 2008 edition);

d) Chemical composition sampling of large zinc ingots has been added (see 7.4.2.2);

e) The interpretation of test results has been changed (see 7.5, 5.5 in the 2008 edition);

f) The color markings for zinc ingot grades have been removed (see 6.1.2 in the 2008 edition).

This document is modified to adopt ISO 752:2004 "Zinc ingots".

Compared with ISO 752:2004, this document has undergone many structural adjustments. A comparison table of the structural numbering changes between the two documents can be found here.

Appendix A.

The technical differences between this document and ISO 752:2004, and the reasons therefor, are as follows.

a) The terminology definitions in ISO 752:2004 (see Chapter 3 of ISO 752:2004) have been deleted to align with commonly used terms and definitions in my country.

Meaning, increasing operability;

b) The limits for impurities Pb, Cd, Fe, and Cu in Zn99.95 have been changed, as have the limits for impurities Pb and Cu in Zn99.99 and Zn99.95 impurities.

Limits for Pb (see 5.1.1) should be set to suit my country's technological conditions;

c) The physical specifications (see 5.2) have been changed to suit my country's trade requirements;

d) Appearance quality requirements have been increased (see 5.3) to meet the needs of downstream users in my country;

e) Added the clause. "If the buyer has special requirements for the chemical composition, physical specifications, and surface quality of the zinc ingots, these shall be determined through negotiation between the supplier and the buyer." (See 5.4) to adapt to my country's trade needs;

f) The test methods adopted GB/T 12689 and GB/T 26042 (see 6.1) to adapt to my country's technical conditions and increase operability;

g) Weighing methods and appearance quality testing methods (see 6.2 and 6.3) have been added to meet my country's trade needs;

h) Inspection and acceptance procedures have been added (see 7.1) to adapt to my country's trade requirements;

i) The batching method has been changed (see 7.2) to adapt to my country's trade needs;

j) The inspection items have been changed (see 7.3) to adapt to my country's trade requirements;

k) The sampling method did not adopt ISO.20081 (see 7.4.1 and 7.4.2) to adapt to my country's technical conditions and increase operability;

l) The determination of test results adopted GB/T 8170 (see 7.5.1) to adapt to my country's technical conditions and increase operability;

m) The markings have been changed (see 8.1) to adapt to my country's technical conditions and increase operability;

n) Changes were made to transportation and storage (see 8.2) to adapt to my country's trade needs;

o) The accompanying documents (see 8.3) have been amended to suit our country's trade requirements;

p) The relevant grade comparison (see Chapter 11 of ISO 752:2004) has been removed to adapt to my country's import and export trade and increase operability.

The following editorial changes have been made to this document.

---Includes errata from ISO 752:2004/Cor1.2006; the relevant clauses are indicated by vertical double margins.

The lines (||) are marked;

---The brand name has been changed (see 8.1).

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 Nonferrous Metals Industry Association.

This document is under the jurisdiction of the National Technical Committee on Standardization of Nonferrous Metals (SAC/TC243).

1 Scope

This document specifies the classification, technical requirements, test methods, inspection rules, marking, packaging, transportation, storage, and accompanying documents and orders for zinc ingots.

Invoice details.

This document applies to the production of zinc concentrate or mixed lead-zinc concentrate as the main raw material, using distillation, rectification, or electrowinning methods, and through continuous or non-continuous processes.

Zinc ingots produced using continuous casting technology.

Note: Mainly used in industries such as galvanizing, alloying, chemical, and electrical.

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 8170 Rules for rounding off numerical values and the representation and

determination of limiting values GB/T 12689 (all parts) Chemical analysis methods for zinc and zinc alloys GB/T 26042 Analysis methods for zinc and zinc alloys - Photoelectric emission spectrometry

3 Terms and Definitions

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

4 Classification

Zinc ingots are classified into five grades according to their chemical composition. Zn99.995, Zn99.99, Zn99.95, Zn99.5, and Zn98.5.

5.1 Chemical composition

5.1.1

The chemical composition of zinc ingots shall conform to the provisions of Table 1.