

ICS 77.150.20

CCS H 61



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

GB/T 3499-2023

Replacing GB/T 3499-2011

Magnesium ingots

原生镁锭

(English Translation)

Issued on: December 28, 2023

Implemented on: July 1, 2024

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

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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 3499-2011 "Pristine Magnesium Ingots": Compared with GB/T 3499-2011, except for structural adjustments and editorial changes in addition, the main technical changes are as follows:

- a) The scope of application has been expanded and the content of electrolytic magnesium production by brine method has been added (see Chapter 1, Chapter 1 of the:2011 edition);
- b) The product classification has been changed and two brands, Mg99:995 and Mg99:95C, have been added (see Chapter 4, 3:1 of the:2011 edition);
- c) The limit values of impurity elements for the two brands Mg99:99 and Mg99:98 have been changed (see 5.1, 3:2:1 of the:2011 edition);
- d) Changed the sampling and sample preparation for chemical composition analysis (see 7.4:1, 5:4 of the:2011 version);
- e) Packaging requirements have been changed (see 8.2, 6:2 of the:2011 version);
- f) Changes in transportation requirements (see 8.3, 6:3 of the:2011 edition):

This document is modified to adopt ISO 8287:2021 "Chemical Composition of Primary Magnesium Ingots of Magnesium and Magnesium Alloys":

Compared with ISO 8287:2021, this document has many structural adjustments:
Comparison list of structure number changes between the two files See Appendix A:

Compared with ISO 8287:2021, this document has many technical differences: Use vertical single words in the outer margin of the clauses involved:

They are marked with a line (|): A list of these technical differences and their causes is shown in Appendix B:

The following editorial changes have been made to this document:

---In order to coordinate with the existing standards, the name of the standard is changed to "Pristine Magnesium Ingots";

--- Added informative references to GB/T 32792 (see 8.3);

---Added Appendix A (informative) "Comparison between this document and ISO 8287:2021 structure number";

---Added Appendix B (informative) "Technical differences between this document and ISO 8287:2021 and their reasons";

---Added Appendix C (informative) "Examples of Appearance Quality Defects of Raw Magnesium Ingots";

---Added references:

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

1 Scope

This document stipulates the product classification, technical requirements, test methods, inspection rules, marking, packaging, transportation, storage and quality certificate of primary magnesium ingots:

The contents of the instruction manual and order form (or contract), etc:

This document applies to primary magnesium ingots produced by refining and purifying crude magnesium produced by the silothermal method and primary magnesium ingots produced by brine electrolysis:

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:

GB/T 8170 Numerical rounding rules and expression and determination of limit values

GB/T 13748 (all parts) Chemical analysis methods for magnesium and magnesium alloys

3 Terms and definitions

There are no terms or definitions to be defined in this document:

4 Product categories

Raw magnesium ingots are divided into 8 grades according to their chemical composition:
Mg99:995, Mg99:99, Mg99:98, Mg99:95A, Mg99:95B, Mg99:95C, Mg99:90, Mg99:80:

5 Technical requirements

5.1

Chemical composition the chemical composition of primary magnesium ingots should comply with the requirements in Table 1: