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**Magnesium and magnesium alloys —  
Unalloyed magnesium — Chemical  
composition**

*Magnésium et alliages de magnésium — Magnésium non allié —  
Composition chimique*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 8287 was prepared by Technical Committee ISO/TC 79, *Light metals and their alloys*, Subcommittee SC 5, *Magnesium and alloys of cast or wrought magnesium*.

This second edition cancels and replaces the first edition (ISO 8287:1984), which has been technically revised.

## Introduction

This International Standard classifies commercially available cast unalloyed magnesium into a number of grades suitable for the applications to which they might be put. The grades listed in this International Standard are identical to those in EN 12421:1998, *Magnesium and magnesium alloys — Unalloyed magnesium*.

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# Magnesium and magnesium alloys — Unalloyed magnesium — Chemical composition

## 1 Scope

This International Standard specifies the chemical composition of cast unalloyed magnesium. It specifies classification, designation and marking.

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 31-0:1992, *Quantities and units — Part 0: General principles*.

ISO 2092:1981, *Light metals and their alloys — Code of designation based on chemical symbols*.

## 3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

### 3.1

#### **unalloyed magnesium**

magnesium with a minimum purity of 99,0 % by mass

### 3.2

#### **cast unalloyed magnesium**

unalloyed magnesium cast in a variety of shapes

## 4 Information to be supplied by the purchaser

The enquiry and order shall define the product required and shall contain the following information:

- a) material designation;
- b) product shape;
- c) quantity (for example number, mass, etc.);
- d) any requirements for declarations of conformity;
- e) any additional requirements agreed between the manufacturer and the purchaser.

## 5 Designation

The material shall be designated by the appropriate symbols given in Table 1.

## 6 Manufacture

The manufacturing process shall be left to the discretion of the manufacturer unless otherwise agreed at the time of ordering.

NOTE The manufacturing process covers all operations up to the delivery of the product.

## 7 Chemical composition

The chemical composition of cast unalloyed magnesium shall conform to the requirements for the appropriate material given in Table 1.

Unless otherwise specified in the enquiry and order, the chemical composition of the cast unalloyed magnesium shall relate to that of samples taken from the melt at the time of pouring.

## 8 General condition of the product

The product shall have a clean surface in accordance with the agreement between the manufacturer and the purchaser, and shall be free from visible and internal defects to a level also agreed between the manufacturer and the purchaser.

## 9 Testing

Analysis to ensure conformity with the chemical composition requirements given in Table 1 shall be carried out on samples taken by the manufacturer and representative of the material delivered.

## 10 Rounding of results

In recording the results of the chemical analysis, the result obtained for any property specified in this International Standard shall be expressed to the same number of decimal places as the corresponding value in this International Standard. Rounding shall be carried out as specified in ISO 31-0:1992, annex B, clauses B.2 and B.3. In clause B.3, it is left to the discretion of the manufacturer as to whether to use rule A or B, unless the use of one of the rules has been agreed at the time of acceptance of the order.

## 11 Declaration of conformity and inspection documents

If agreed between the manufacturer and the purchaser or when specified on the order, the manufacturer shall provide a declaration of product conformity or an inspection document listing the results of the analysis of the chemical elements given in Table 1, and of any other element which may have been previously agreed.