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**Magnesium and magnesium alloys —  
Returns — Requirements, classification  
and acceptance**

*Magnésium et alliages de magnésium — Retours — Exigences,  
classification et acceptation*

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## Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 23079 was prepared by Technical Committee ISO/TC 79, *Light metals and their alloys*, Subcommittee SC 5, *Magnesium and alloys of cast or wrought magnesium*.

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# Magnesium and magnesium alloys — Returns — Requirements, classification and acceptance

## 1 Scope

This International Standard specifies general requirements, classification and acceptance for the different classes of magnesium returns.

## 2 Terms and definitions

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

### 2.1

#### **coating**

any surface layer except a natural oxide layer

EXAMPLES Oil, paint, metal coating.

### 2.2

#### **contaminant**

physical or chemical component of magnesium returns which, if not properly monitored and managed, negatively affects the quality of the returns as a raw material for certain applications or shows hazardous properties during certain operations

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#### **insert**

component consisting of metal or other materials which may be moulded into position or put into a finished product or article

EXAMPLES Bearing, screw thread insert.

### 2.4

#### **returns, pl**

raw material, destined for trade and industry, mainly consisting of magnesium and/or magnesium alloys, resulting from the collection or recovery of

- metal that arises at various stages of fabrication, or
- products after use,

to be used for the production of wrought or cast alloys and for other production processes

### 2.5

#### **turnings, pl**

returns consisting of grains, chips, curls, flakes, etc. resulting from machining or other operations

### 3 Ordering information

The ordering information shall define the magnesium returns and should cover aspects such as the following, in order to achieve a transparent transaction:

- the number of this International Standard (ISO 23079);
- recycling classes, with reference to the relevant subclause of this International Standard (see Clause 5 and Annex A);
- condition of the returns, e.g. moisture and any contamination with other materials, size, physical characteristics of pieces or particles, whenever meaningful and if not covered by class definition (see Clause 7);
- gross mass;
- information about the origin of the returns;
- condition in which the returns shall be delivered (loose, baled, etc.);
- required chemical composition, if not otherwise specified;
- certification and control documents;
- shipment documents required by law;
- other requirement as agreed.

### 4 General requirements

#### 4.1 General

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Relevant characteristics of magnesium returns not specified in this International Standard shall be subject to agreement between the purchaser and the supplier. If returns might contain any hazardous contaminants, the purchaser shall be notified and his agreement to receive the returns shall be obtained before shipment.

#### 4.2 Condition of returns

If not otherwise agreed or specified, the returns shall be supplied as bulk returns. The returns shall be correctly packed and labelled to ensure safe transportation.

#### 4.3 Foreign materials

If not otherwise specified, the returns shall be free from foreign material, e.g. aluminium-based material.

#### 4.4 Mass tolerances

If not otherwise agreed, the difference between the consigned quantity and the ordered quantity shall not exceed  $\pm 5\%$ .

#### 4.5 Chemical composition

Returns classified by one alloy shall meet the requirements of chemical composition for that alloy. Returns classified by two or more alloys shall meet the chemical composition agreed between purchaser and the supplier.