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Magnesium and magnesium alloys — Magnesium alloy ingots and castings

Magnésium et alliages de magnésium — Lingots et pièces moulées en alliage de magnésium

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www. iso. org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso. org/iso/foreword. html.

This document 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 third edition cancels and replaces the second edition (ISO 16220:2005), which has been technically revised by the addition of new alloys. It also incorporates the amendment ISO 16220:2005/Amd.1:2007.

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Introduction

This document classifies the magnesium alloys into a number of grades suitable for the applications to which they might be used.

Some of the alloys referenced in this document can be the subject of a patent or of patent applications and their listing herein is not to be construed in any way as the granting of a licence under such patent rights.

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Magnesium and magnesium alloys — Magnesium alloy ingots and castings

1 Scope

This document specifies the chemical composition of magnesium alloy ingots and castings. It also specifies the mechanical properties of separately cast samples of these alloys (see Clause 7). By agreement, it also specifies the mechanical properties of magnesium alloy castings determined from samples cut from a casting.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE For information on equivalent International Standards see Annex A.

ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method*

ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

ISO 80000-1:2009, *Quantities and units — Part 1: General*

EN 1559-5, *Founding — Technical condition of delivery — Part 5: Additional requirements for magnesium alloy castings*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

4 Material designation

4.1 General

The material shall be designated as given in Tables 1 to 5.

4.2 Temper designation

The following symbols for temper designation shall be used.

— F: as-cast; applies to products that require no heat treatment following the casting processes.

— T4: solution heat-treated and naturally aged; applies to products that have no further treatment after solution heat treatment.

— T5: as-cast and artificially aged; applies to products that are cooled from the casting process, and then artificially aged to improve mechanical properties or dimensions.

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