



**NSAI**  
Standards

Irish Standard  
I.S. EN 1753:2019

# Magnesium and magnesium alloys - Magnesium alloy ingots and castings

**I.S. EN 1753:2019**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):*

*NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.*

*This document is based on:*

EN 1753:2019

*Published:*

2019-09-25

*This document was published  
under the authority of the NSAI  
and comes into effect on:*

2019-10-14

ICS number:

77.150.20

NOTE: If blank see CEN/CENELEC cover page

NSAI  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

Sales:  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

## National Foreword

I.S. EN 1753:2019 is the adopted Irish version of the European Document EN 1753:2019, Magnesium and magnesium alloys - Magnesium alloy ingots and castings

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

**Compliance with this document does not of itself confer immunity from legal obligations.**

*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

This page is intentionally left blank

**EUROPEAN STANDARD**

**EN 1753**

**NORME EUROPÉENNE**

**EUROPÄISCHE NORM**

September 2019

ICS 77.150.20

Supersedes EN 1753:1997

English Version

## **Magnesium and magnesium alloys - Magnesium alloy ingots and castings**

Magnésium et alliages de magnésium - Lingots et  
pièces moulées en alliages de magnésium

Magnesium und Magnesiumlegierungen - Blockmetalle  
und Gussstücke aus Magnesiumlegierungen

This European Standard was approved by CEN on 5 August 2019.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

<b>Contents</b>	<b>Page</b>
<b>European foreword.....</b>	<b>3</b>
<b>Introduction .....</b>	<b>4</b>
<b>1 Scope .....</b>	<b>5</b>
<b>2 Normative references .....</b>	<b>5</b>
<b>3 Terms and definitions .....</b>	<b>5</b>
<b>4 Designation.....</b>	<b>6</b>
<b>5 Order information .....</b>	<b>7</b>
<b>6 Manufacture .....</b>	<b>7</b>
<b>7 Requirements .....</b>	<b>7</b>
<b>8 Sampling.....</b>	<b>20</b>
<b>9 Test methods .....</b>	<b>22</b>
<b>10 Retests.....</b>	<b>24</b>
<b>11 Inspection documentation.....</b>	<b>24</b>
<b>Annex A (informative) Comparison of material designations for magnesium alloy ingots and castings according to EN 1754 [5] and ISO 16220 [4].....</b>	<b>25</b>
<b>Annex B (informative) Additional information regarding the manganese and iron content.....</b>	<b>28</b>
<b>Annex C (informative) Additional information regarding maximum content of alloying and trace elements in ingots and castings.....</b>	<b>29</b>
<b>Annex D (informative) Significant technical changes between this European Standard and the previous edition .....</b>	<b>30</b>
<b>Bibliography.....</b>	<b>31</b>

## **European foreword**

This document (EN 1753:2019) has been prepared by Technical Committee CEN/TC 190 “Foundry technology”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2020, and conflicting national standards shall be withdrawn at the latest by March 2020.

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

This document supersedes EN 1753:1997.

Within its programme of work, Technical Committee CEN/TC 190 requested CEN/TC 190/WG 9 “Cast magnesium” to revise:

EN 1753:1997, *Magnesium and magnesium alloys — Magnesium alloy ingots and castings*

Annex D provides details of significant technical changes between this European Standard and the previous edition.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **EN 1753:2019 (E)**

### **Introduction**

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

Sixteen new grades as specified in National [1] [2] [3] or International Standards [4] have been added.

In this standard a new designation system by number, as established in EN 1754 [5], is given.

**NOTE** This designation system by number is based on the structure and rules of EN 10027-2 [6] and so corresponds with the European numbering system for steel and other materials.



## 1 Scope

This document specifies the grades and the corresponding requirements for cast alloyed magnesium materials.

This document specifies two groups of cast magnesium alloy grades by a classification based on the chemical composition. The first group deals with grades for magnesium alloy ingots. The second group deals with grades for magnesium alloy castings.

This document also specifies mechanical properties measured on test pieces machined from cast samples.

This document does not cover technical delivery conditions for magnesium alloy castings (see EN 1559-1 [7] and EN 1559-5 [8]).

## 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.

<std>EN 10204, *Metallic products - Types of inspection documents*</std>

<std>EN ISO 6506-1, *Metallic materials - Brinell hardness test - Part 1: Test method (ISO 6506-1)*</std>

<std>EN ISO 6892-1, *Metallic materials - Tensile testing - Part 1: Method of test at room temperature (ISO 6892-1)*</std>

<std>EN ISO 80000-1:2013, *Quantities and units - Part 1: General (ISO 80000-1:2009 + Cor 1:2011)*</std>

## 3 Terms and definitions

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

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 <https://www.iso.org/obp>

### 3.1

#### **cast sample**

quantity of material cast to represent the cast material

Note 1 to entry: This includes separately cast samples, side by side cast samples and cast-on samples.

[SOURCE: EN 1563:2018, definition 3.5]

### 3.2

#### **separately cast sample**

sample cast in a separate mould under representative manufacturing conditions and material grade

[SOURCE: EN 1563:2018, definition 3.6]

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- Looking for additional Standards? Visit Intertek Inform Infostore
  - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-