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## Carbon and low alloy cast steels for general applications

*Aciers moulés au carbone et faiblement alliés d'usage général*

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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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 11, *Steel castings*.

This third edition cancels and replaces the second edition (ISO 14737:2015), which has been technically revised. The main changes compared to the previous edition are as follows:

- new Note was inserted in the Scope; previous Note 1 for [Annex B](#) was renumbered as Note 2;
- “Terms and Definitions” added as new [Clause 3](#); subsequent Clauses were renumbered;
- footnote “a” to limit Cr, Mo, Ni, V, and Cu was added to GE200, GS200, GE240, and GS240 in [Table 1](#). This makes it consistent with EN 10293;
- correction of thickness,  $t$ , for G10MnMoV6-3 in [Table 2](#);
- correction of tempering temperature range for G25NiCrMo2-2.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

# Carbon and low alloy cast steels for general applications

## 1 Scope

This document specifies requirements for carbon and low alloy cast steel grades for general applications.

NOTE 1 [Annex A](#) provides guidance on welding.

NOTE 2 [Annex B](#) gives information on ISO grade designation and available UNS numbers which are similar to the ISO grade designation.

## 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.

ISO 148-1, *Metallic materials — Charpy pendulum impact test — Part 1: Test method*

ISO 4990, *Steel castings — General technical delivery requirements*

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

## 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:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

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

## 4 General conditions for delivery

Steel castings supplied in accordance with this document shall conform to the applicable requirements of ISO 4990, including the supplementary requirements that are indicated in the inquiry and purchase order.

## 5 Chemical composition

The chemical composition shall conform to the values given in [Table 1](#).

## 6 Heat treatment

The type of heat treatment is left to the discretion of the manufacturer unless otherwise agreed upon at the time of inquiry and order. Heat treatment described in [Table 2](#) is for information only.

## 7 Mechanical properties

Mechanical properties are given in [Table 2](#) and are subject to an agreement at the time of inquiry and order.

Unless otherwise specified (see ISO 4990), the thickness of the test block shall be 28 mm minimum.

Properties at thicknesses greater than the maximum thickness in [Table 2](#) may be lower and are subject to an agreement between manufacturer and purchaser.

## **8 Test methods**

**8.1** The tensile test shall be performed in accordance with ISO 6892-1.

**8.2** The impact test shall be performed in accordance with ISO 148-1.

## **9 Supplementary requirements**

A list of supplementary requirements which may be used at the option of the purchaser is given in ISO 4990.

## **10 Marking**

Marking shall be as specified in ISO 4990.

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