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Founding - Continuous cast iron bars

Táto norma obsahuje anglickú verziu európskej normy.  
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EUROPEAN STANDARD

**EN 16482**

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Supersedes EN 16482:2014

English Version

**Founding - Continuous cast iron bars**

Fonderie - Barres de fonte par coulée continue

Gießereiwesen - Gusseisen-Strangguss

This European Standard was approved by CEN on 15 April 2024.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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**EN 16482:2024 (E)****European foreword**

This document (EN 16482:2024) 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of an identical text or by endorsement, at the latest by January 2025, and conflicting national standards shall be withdrawn at the latest by January 2025.

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 16482:2014.

The following modifications were implemented in this new edition:

- new normative references;
- new reference to ASTM A536-84 (2009), *Standard Specification for Ductile Iron Castings* in the text and Bibliography;
- modification of Table 2 “Tensile properties of continuous cast spheroidal graphite cast iron bars”, where two Grades were modified to fulfil requirements also of ASTM A536-84 (2009): EN-GJS-450-12C and EN GJS 550-6C;
- new Table 4 “Minimum impact energy values measured on V-notched test pieces machined from cast samples for ferritic grades of the ferritic to pearlitic group” in 7.4 (imported from EN 1563:2018);
- new Table 5 “Straightness of continuous cast bars” in 7.7;
- new 7.8 “Ultrasonic testing”;
- new Figure 1 and Table 6 “Dimensions of grey cast iron tensile test pieces”;
- new Figure 2 “Dimensions of spheroidal graphite cast iron tensile test pieces”;
- modification of Table A.1 “Guidance values for Brinell hardness”;
- modification of Table B.2 “Machining allowances for continuous cast iron bars”;
- modification of Table D.2 “Examples of mechanical properties measured on continuous cast iron bars with a diameter of 160 mm”.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, Türkiye and the United Kingdom

**EN 16482:2024 (E)****Introduction**

EN 1561 and EN 1563 classify grey cast irons and spheroidal graphite cast irons respectively, which are cast in sand moulds or moulds of comparable thermal behaviour.

This document classifies grey cast iron and spheroidal graphite cast iron bars, which are produced by the continuous casting process.

Due to the high cooling rate during solidification and further cooling, both graphite and matrix structure differ from those obtained by sand casting and consequently the mechanical properties in relation to section thickness [8], [9].

The mechanical properties of continuous cast iron bars are evaluated on machined test pieces prepared from samples cut from the bars.

However, for many applications, tensile strength or hardness are not the only interesting or determining properties. Other mechanical or physical properties can be decisive for the use of grey cast iron or spheroidal graphite cast iron, for example: thermal capacity, thermal diffusivity, damping capacity, thermo-cycle fatigue and toughness.

Additional technical data for grey cast irons is given in EN 1561 and for spheroidal graphite cast irons in EN 1563 and Annex D of this document.

## 1 Scope

This document specifies the grades of grey cast iron and spheroidal graphite cast iron bars, which have been produced by the continuous casting process.

This document specifies the characterizing properties of grey cast iron bars by either:

- a) the tensile strength measured on machined test pieces prepared from samples cut from the bars, or
- b) the hardness measured on the bars.

If agreed by the manufacturer and the purchaser, the combination of both tensile strength from option a) and hardness from option b) can be specified.

This document specifies the characterizing properties of spheroidal graphite cast iron bars by the tensile strength measured on machined test pieces prepared from samples cut from the bars.

This document specifies 4 grades of grey cast iron and 14 grades of spheroidal graphite cast iron by a classification based on tensile strength and 4 grades of grey cast iron by a classification based on Brinell hardness.

This document specifies also the straightness of the bars.

This document does not cover technical delivery conditions for iron castings (see EN 1559-1 and EN 1559-3).

## 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.

EN 10204, *Metallic products — Types of inspection documents*

EN ISO 945-1, *Microstructure of cast irons — Part 1: Graphite classification by visual analysis (ISO 945-1)*

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

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

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**