

საქართველოს სტანდარტი

ჩამოსხმა-აუსფერიტული სფეროიდული გრაფიტის შემცველი თუჯი

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English Version

Founding - Ausferritic spheroidal graphite cast irons

Fonderie - Fontes ausferritiques à graphite sphéroïdal

Gießereiwesen - Ausferritisches Gusseisen mit Kugelgraphit

This European Standard was approved by CEN on 24 September 2011.

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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.

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Foreword

This document (EN 1564:2011) 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of an identical text or by endorsement, at the latest by May 2012, and conflicting national standards shall be withdrawn at the latest by May 2012.

This document supersedes EN 1564:1997.

Within its programme of work, Technical Committee CEN/TC 190 requested CEN/TC 190/WG 7 "Spheroidal graphite, silicon molybdenum and austempered ductile iron" to revise EN 1564:1997.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive 97/23/EC, see informative Annex ZA, which is an integral part of this document.

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

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Introduction

Ausferritic spheroidal graphite cast iron is a cast alloy, iron, carbon and silicon based, the carbon being present mainly in the form of spheroidal graphite particles.

NOTE 1 Ausferritic spheroidal graphite cast iron is also known as austempered ductile iron (ADI).

Compared with the spheroidal graphite cast irons as specified in EN 1563 [1], this material combines higher strength and toughness properties as a result of the ausferritic matrix structure.

This European Standard classifies ausferritic spheroidal graphite cast irons in accordance with the mechanical properties of the material.

The mechanical properties of these ausferritic spheroidal graphite cast irons depend on the graphite and the matrix structure.

The required structure is obtained by selecting the appropriate composition and subsequent processing.

The mechanical properties of the material can be evaluated on machined test pieces prepared from cast samples or samples cut from a casting.

Five grades of ausferritic spheroidal graphite cast iron are defined by the mechanical properties measured on machined test pieces prepared from cast samples. When, for these grades, hardness is a requirement of the purchaser as being important for the application, Annex C provides guidance values for hardness.

Two grades of ausferritic spheroidal graphite cast iron are defined in Annex A in accordance with their hardness. These cast irons are used in applications (e.g. mining, earth moving) where high abrasion resistance is required.

In this standard a new designation system by number, as established in EN 1560 [2], is given.

NOTE 2 This designation system by number is based on the principles and the structure as set out in EN 10027-2 [3] and so corresponds with the European numbering system for steel and other materials.

Some ausferritic spheroidal graphite cast iron grades can be used for pressure equipment.

The permitted material grades of ausferritic spheroidal graphite cast iron for pressure applications and the conditions for their use are given in specific product or application standards.

For the design of pressure equipment, specific design rules apply.

Annex ZA gives information relating to the conformance of permitted ausferritic spheroidal graphite cast iron grades to the Pressure Equipment Directive 97/23/EC.