

Valutehnoloogia. Austeniitvalumalm

Founding - Austenitic cast irons

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13835:2002 sisaldab Euroopa standardi EN 13835:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 13.12.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13835:2002 consists of the English text of the European standard EN 13835:2002.</p> <p>This document is endorsed on 13.12.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This European Standard specifies the grades and corresponding requirements for austenitic cast irons. These requirements are specified in terms of: - graphite form and metal structure: either flake or spheroidal graphite in an austenitic matrix; - chemical composition: as given for each of the grades; - mechanical properties: obtained from separately cast samples</p>	<p>Scope:</p> <p>This European Standard specifies the grades and corresponding requirements for austenitic cast irons. These requirements are specified in terms of: - graphite form and metal structure: either flake or spheroidal graphite in an austenitic matrix; - chemical composition: as given for each of the grades; - mechanical properties: obtained from separately cast samples</p>
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Võtmesõnad: austenitic cast iron, cast iron, foundry, hardness measurement, materials, mechanical properties, notched bar impact work, production, properties, sampling, sampling methods, specification (approval), specifications, strength of materials, tensile testing, testing

ICS 77.080.10

English version

Founding - Austenitic cast irons

Fonderie - Fonte austénitique

Gießereiwesen - Austenitische Gusseisen

This European Standard was approved by CEN on 19 August 2002.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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Foreword

This document (EN 13835:2002) has been prepared by Technical Committee CEN/TC 190 “Founding 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 2003, and conflicting national standards shall be withdrawn at the latest by May 2003.

Within its programme of work, Technical Committee CEN/TC 190 requested CEN/TC 190/WG 2.40 “Wear resistant and abrasion resistant cast iron” to prepare the following standard:

EN 13835, *Founding — Austenitic cast irons*.

Annexes A, B, C, D, E and F are informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European Standard deals with the classification of a range of cast irons principally used for their heat and corrosion resistance properties. These properties are obtainable from the Engineering grades in this standard. The Special Purpose grades also exhibit heat and corrosion resistance properties, but are used principally for their magnetic properties, or very low expansion characteristics.

The austenitic cast irons are a range of high-alloyed materials with an austenitic matrix, containing nickel, manganese and sometimes copper and chromium. Carbon is present either as graphite flakes or as spheroids. The spheroidal graphite grades have superior mechanical properties.

The properties of the austenitic cast irons depend upon them having the appropriate structure and mechanical properties for the application. These properties are dependent upon the control of metal composition within the specified grades and the metal processing route.

Typical applications for the various grades are given in annex A.

1 Scope

This European Standard specifies the grades and corresponding requirements for austenitic cast irons. These requirements are specified in terms of:

- graphite form and metal structure: either flake or spheroidal graphite in an austenitic matrix;
- chemical composition: as given for each of the grades;
- mechanical properties: obtained from separately cast samples.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 1559-1, *Founding — Technical conditions of delivery — Part 1: General*.

EN 1559-3, *Founding — Technical conditions of delivery — Part 3: Additional requirements for iron castings*.

EN 10002-1, *Metallic materials — Tensile testing — Part 1: Method of test at ambient temperature*.

EN 10045-1, *Metallic materials — Charpy impact test — Part 1: Test method*.

3 Terms and definitions

For the purposes of this European Standard, the following term and definition apply.

3.1

austenitic cast iron

cast material with an austenitic matrix which is iron and carbon based and alloyed with nickel and manganese, copper and/or chromium in order to stabilize the austenitic structure at room temperature. The graphite can be present in flake or spheroidal form