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Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/16

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rozmnžovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 10213:2007+A1

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ICS 77.140.30

Supersedes EN 10213:2007

English Version

Steel castings for pressure purposes

Pièces moulées en acier pour service sous pression

Stahlguss für Druckbehälter

This European Standard was approved by CEN on 11 March 2016.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

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European foreword

This document (EN 10213:2007+A1:2016) has been prepared by Technical Committee ECISS/TC 111 “Steel castings and forgings”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by December 2016, and conflicting national standards shall be withdrawn at the latest by December 2016.

This document includes Corrigendum 1 issued by CEN on 30 September 2007 and Amendment 1 approved by CEN on 11 March 2016.

This document supersedes A1 EN 10213:2007 A1.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

The modifications of the related CEN Corrigendum have been implemented at the appropriate places in the text and are indicated by the tags AC AC.

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(s), see informative Annex ZA, which is an integral part of this document.

A1 EN 10213:2007 A1, *Technical delivery conditions for steel castings for pressure purposes*, A1 was A1 a revision of the European Standard, EN 10213:1995, in four parts:

- *Part 1: General*
- *Part 2: Steel grades for use at room temperature and elevated temperatures*
- *Part 3: Steel grades for use at low temperatures*
- *Part 4: Austenitic and austenitic-ferritic steel grades*

The revision A1 consisted A1 of:

- merging of the four previous parts and new arrangement of steel grades in tables;
- GP240GR has been deleted;
- GX10NiCrSiNb32-20 has been added.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This European Standard retains the same format for clauses as $\boxed{A_1}$ EN 1559-2:2014 $\langle A_1 \rangle$. This European Standard needs to be used in conjunction with $\boxed{A_1}$ EN 1559-2:2014 $\langle A_1 \rangle$. Where no text is given under a clause heading, the corresponding clause of $\boxed{A_1}$ EN 1559-2:2014 $\langle A_1 \rangle$ applies.

The structure of this European Standard is as follows:

- clauses and subclauses preceded by ■ indicates no additional conditions to EN 1559-2;
- subclauses and paragraphs marked with a single dot ● indicate that the conditions shall be agreed at the time of enquiry and order;
- subclauses marked with two dots ●● indicate that conditions may be agreed at the time of enquiry and order (optional);
- subclauses without dot marking are mandatory.

1 Scope

This European Standard applies to steel castings for pressure containing parts. It includes materials which are used for the manufacture of components, for pressure equipment.

This European Standard relates to castings characterised by their chemical composition (see Table 2) and mechanical properties (see Tables 3 to 6).

In cases where castings are joined by welding by the founder, this European Standard applies.

In cases where castings are welded:

- to wrought products (plates, tubes, forgings), or
- by non founders,

this European Standard does not apply.

NOTE For this harmonised supporting standard for materials, presumption of conformity to the Essential Requirements of the Directive is limited to technical data of the material in the standard and does not presume adequacy of the material to specific equipment. Consequently the technical data stated in the material standard should be assessed against the design requirements of the specific equipment to verify that the Essential Requirements of the Pressure Equipment Directive (PED) are satisfied.

2 Normative references

Ⓐ The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. Ⓐ

Ⓐ EN 287-1:2011 Ⓐ, *Qualification test of welders — Fusion welding — Part 1: Steels*

Ⓐ (deleted text) Ⓐ

Ⓐ EN 1369:2012, *Founding — Magnetic particle testing* Ⓐ

Ⓐ EN 1370:2011, *Founding — Examination of surface condition* Ⓐ

Ⓐ EN 1371-1:2011, *Founding — Liquid penetrant testing — Part 1: Sand, gravity die and low pressure die castings* Ⓐ

Ⓐ EN 1371-2:2015, *Founding — Liquid penetrant testing — Part 2: Investment castings* Ⓐ

Ⓐ EN 1559-2:2014 Ⓐ, *Founding — Technical conditions of delivery — Part 2: Additional requirements for steel castings*

EN 10027-1:2005, Ⓐ *Designation systems for steels — Part 1: Steel names* Ⓐ

Ⓐ EN 10027-2:2015, *Designation systems for steels — Part 2: Numerical system* Ⓐ

EN 10204:2004, *Metallic products — Types of inspection documents*

Ⓐ (deleted text) Ⓐ

EN 12680-1:2003, *Founding — Ultrasonic examination — Part 1: Steel castings for general purposes*

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EN 12680-2:2003, *Founding — Ultrasonic examination — Part 2: Steel castings for highly stressed components*

EN 12681:2003, *Founding — Radiographic examination*

EN ISO 3452-1:2013, *Non-destructive testing — Penetrant testing — Part 1: General principles (ISO 3452-1:2013, Corrected version 2014-05-01)* ^{A1}

EN ISO 3651-2:1998, *Determination of resistance to intergranular corrosion of stainless steels — Part 2: Ferritic, austenitic and ferritic-austenitic (duplex) stainless steels — Corrosion test in media containing sulfuric acid (ISO 3651-2:1998)*

EN ISO 5579:2013, *Non-destructive testing — Radiographic testing of metallic materials using film and X- or gamma rays — Basic rules (ISO 5579:2013)* ^{A1}

EN ISO 9934-1:2001, *Non-destructive testing — Magnetic particle testing — Part 1: General principles (ISO 9934-1:2001)*

EN ISO 11970, *Specification and qualification of welding procedures for production welding of steel castings (ISO 11970)* ^{A1}

EN ISO 16810:2014, *Non-destructive testing — Ultrasonic testing — General principles (ISO 16810:2012)*

EN ISO 19232-1:2013, *Non-destructive testing — Image quality of radiographs — Part 1: Determination of the image quality value using wire-type image quality indicators (ISO 19232-1:2013)* ^{A1}

koniec náhľadu – text ďalej pokračuje v platenej verzii STN