SLOVENSKI STANDARD
SIST EN 10283:2010

01-april-2010

Nadomešča:
SIST EN 10283:2000

Korozijsko obstojni jekleni ulitki

Corrosion resistant steel castings

Korrosionsbeständiger Stahlguss

Aciers moulés résistant à la corrosion

Ta slovenski standard je istoveten z: EN 10283:2010

ICS:

77.140.20	Visokokakovostna jekla	Stainless steels
77.140.80	Železni in jekleni ulitki	Iron and steel castings

SIST EN 10283:2010 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 10283

February 2010

ICS 77.140.20; 77.140.80

Supersedes EN 10283:1998

English Version

Corrosion resistant steel castings

Aciers moulés résistant à la corrosion

Korrosionsbeständiger Stahlguss

This European Standard was approved by CEN on 3 January 2010.

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

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

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Ref. No. EN 10283:2010: E

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Foreword

This document (EN 10283:2010) 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of an identical text or by endorsement, at the latest by August 2010, and conflicting national standards shall be withdrawn at the latest by August 2010.

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.

This document supersedes EN 10283:1998.

Main changes made: addition of two new steel grades: austenitic grade GX4CrNiMo19-11-3 (1.4443) and ferritic-austenitic grade GX4CrNiMoN26-5-2 (1.4474) in all relevant tables as well as the replacement of the number for fully austenitic grade GX2CrNiMoCuN20-18-6 (1.4593 by 1.4557).

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 the United Kingdom.

Introduction

This European Standard retains the same format for clauses as EN 1559-1:1997 and EN 1559-2:2000. It should be used in conjunction with these documents. Where no text is given under a clause heading, the corresponding clause of EN 1559-1:1997 or EN 1559-2:2000 applies.

The structure of this standard is as follows:

— clauses and subclauses preceded by ■ indicate no additional conditions to EN 1559-1:1997 or EN 1559-2:2000[1)];

— 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) When additional information is given in a clause or subclause of this standard (versus the same clause or subclause of EN 1559-1:1997 or EN 1559-2:2000) it is preceded by: "In addition to EN 1559:".

1 Scope

This European Standard applies to corrosion resistant steel castings for general purposes.

This standard relates to castings manufactured from martensitic, austenitic, fully austenitic and ferritic-austenitic steel grades characterised by their chemical composition (see Table 1) and mechanical properties (see Table 2).

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.

2 Normative references

The following referenced documents are indispensable for the application 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 1559-1:1997, *Founding — Technical conditions of delivery — Part 1: General*

EN 1559-2:2000, *Founding — Technical conditions of delivery — Part 2: Additional requirements for steel castings*

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

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

3 ■ Definitions

4 ■ Information to be supplied by the purchaser

5 Designations

In addition to EN 1559-2:2000:

For a steel grade manufactured to different strength levels, according to the heat treatment, a suffix shall be added in accordance with EN 10027-1.

6 Manufacture

6.1 Manufacturing process

6.1.1 Melting

In addition to EN 1559-2:2000:

Alternative processes are left to the discretion of the manufacturer.

6.1.2 Heat treatment

Unless otherwise agreed, the type of heat treatment represented by its symbol shall comply with Table 2. For some grades there are different options with different mechanical properties given in Table 2.

Table 1 — Chemical composition (cast analysis) (% by mass)

	Designation		C	Si	Mn	P	S	Cr	Mo	Ni	N	Cu	Nb [a]	W
	Name	Number	max.	max.	max.	max.	max.							max.
Martensitic grades	GX12Cr12	1.4011	0,15	1,00	1,00	0,035	0,025	11,50 to 13,50	max. 0,50	max. 1,00	- -	- -	- -	- -
	GX7CrNiMo12-1	1.4008	0,10	1,00	1,00	0,035	0,025	12,00 to 13,50	0,20 to 0,50	1,00 to 2,00	- -	- -	- -	- -
	GX4CrNi13-4	1.4317	0,06	1,00	1,00	0,035	0,025	12,00 to 13,50	max. 0,70	3,50 to 5,00	- -	- -	- -	- -
	GX4CrNiMo16-5-1	1.4405	0,06	0,80	1,00	0,035	0,025	15,00 to 17,00	0,70 to 1,50	4,00 to 6,00	- -	- -	- -	- -
	GX4CrNiMo16-5-2	1.4411	0,06	0,80	1,00	0,035	0,025	15,00 to 17,00	1,50 to 2,00	4,00 to 6,00	- -	- -	- -	- -
	GX5CrNiCu16-4	1.4525	0,07	0,80	1,00	0,035	0,025	15,00 to 17,00	max. 0,80	3,50 to 5,50	max. 0,05	2,50 to 4,00	max. 0,35	- -
Austenitic grades	GX2CrNi19-11	1.4309	0,030	1,50	2,00	0,035	0,025	18,00 to 20,00	-	9,00 to 12,00	max. 0,20	-	-	-
	GX5CrNi19-10	1.4308	0,07	1,50	1,50	0,040	0,030	18,00 to 20,00	-	8,00 to 11,00	-	-	-	-
	GX5CrNiNb19-11	1.4552	0,07	1,50	1,50	0,040	0,030	18,00 to 20,00	-	9,00 to 12,00	-	-	8 x % *C* ≤ 1,00	-
	GX2CrNiMo19-11-2	1.4409	0,030	1,50	2,00	0,035	0,025	18,00 to 20,00	2,00 to 2,50	9,00 to 12,00	max. 0,20	-	-	-
	GX5CrNiMo19-11-2	1.4408	0,07	1,50	1,50	0,040	0,030	18,00 to 20,00	2,00 to 2,50	9,00 to 12,00	-	-	-	-
	GX5CrNiMoNb19-11-2	1.4581	0,07	1,50	1,50	0,040	0,030	18,00 to 20,00	2,00 to 2,50	9,00 to 12,00	-	-	8 x % *C* ≤ 1,00	-
	GX4CrNiMo19-11-3	1.4443	0,05	1,50	2,00	0,040	0,030	18,00 to 20,00	2,50 to 3,00	10,00 to 13,00	-	-	-	-
	GX5CrNiMo19-11-3	1.4412	0,07	1,50	1,50	0,040	0,030	18,00 to 20,00	3,00 to 3,50	10,00 to 13,00	-	-	-	-

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