

**SURVEOTSTARBELISED TASAPINNALISED  
TERASTOOTED. OSA 7: ROOSTEVABAD TERASED**

**Flat products made of steels for pressure purposes -  
Part 7: Stainless steels**

**EESTI STANDARDI EESSÕNA****NATIONAL FOREWORD**

See Eesti standard EVS-EN 10028-7:2016 sisaldab Euroopa standardi EN 10028-7:2016 ingliskeelset teksti.	This Estonian standard EVS-EN 10028-7:2016 consists of the English text of the European standard EN 10028-7:2016.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 13.07.2016.	Date of Availability of the European standard is 13.07.2016.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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EUROPEAN STANDARD

EN 10028-7

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2016

ICS 77.140.30; 77.140.50

Supersedes EN 10028-7:2007

English Version

## Flat products made of steels for pressure purposes - Part 7: Stainless steels

Produits plats en aciers pour appareils à pression -  
Partie 7: Aciers inoxydables

Flacherzeugnisse aus Druckbehälterstählen - Teil 7:  
Nichtrostende Stähle

This European Standard was approved by CEN on 15 April 2016.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 2016-07-27.

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## European foreword

This document (EN 10028-7:2016) has been prepared by Technical Committee ECISS/TC 107 “Steels for pressure purposes”, 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of an identical text or by endorsement, at the latest by January 2017, and conflicting national standards shall be withdrawn at the latest by January 2017.

This document supersedes EN 10028-7:2007.

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

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

The European Committee for Standardization (CEN) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents concerning eight steel grades given in Clause 12, Annex A, Annex B, Annex C and Annex E.

CEN takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured CEN that he/she is willing to negotiate licences either free of charge or under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with CEN. Information may be obtained from:

Outokumpu Oyj

FI-02200 Espoo, Finland

for steel grades 1.4420, 1.4622, 1.4162 (but also consider footnote c in Table 4) and 1.4662

Industeel

F-71200 Creusot,

56 Rue Clemenceau, France

for steel grade 1.4062

Acciai Speciali Terni S.p.A.

I-05100 Terni, Italy

for steel grades 1.4646, 1.4611 and 1.4613

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. CEN shall not be held responsible for identifying any or all such patent rights.

CEN and CENELEC maintain online lists of patents relevant to their standards. Users are encouraged to consult the lists for the most up to date information concerning patents (<ftp://ftp.cencenelec.eu/EN/IPR/Patents/IPRdeclaration.pdf>).

## 1 Scope

This European Standard specifies requirements for flat products for pressure purposes made of stainless steels, including austenitic creep resisting steels, in thicknesses as indicated in Tables 7 to 10.

The requirements of EN 10028-1 also apply.

NOTE 1 The steel grades covered by this European Standard have been selected from EN 10088-1.

NOTE 2 Once this European Standard is published in the Official Journal of the European Union (OJEU) under Directive 2014/68/EU, presumption of conformity to the Essential Safety Requirements (ESRs) of Directive 2014/68/EU is limited to technical data of materials in this European Standard (Part 1 and Part 7) and does not presume adequacy of the material to a specific item of equipment. Consequently, the assessment of the technical data stated in this material standard against the design requirements of this specific item of equipment to verify that the ESRs of the Pressure Equipment Directive are satisfied, needs to be done.

## 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 10028-1, *Flat products made of steels for pressure purposes — Part 1: General requirements*

EN 10088-1:2014, *Stainless steels — Part 1: List of stainless steels*

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 sulfuric acid (ISO 3651-2)*

EN ISO 9444-2, *Continuously hot-rolled stainless steel — Tolerances on dimensions and form — Part 2: Wide strip and sheet/plate (ISO 9444-2)*

EN ISO 9445-2, *Continuously cold-rolled stainless steel — Tolerances on dimensions and form — Part 2: Wide strip and plate/sheet (ISO 9445-2)*

EN ISO 18286, *Hot-rolled stainless steel plates — Tolerances on dimensions and shape (ISO 18286)*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 10028-1 and the following apply.

### 3.1

#### **cryogenic temperature**

temperature lower than  $-75\text{ °C}$  used in the liquefaction of gases

## 4 Tolerances on dimensions

Shall be according to the following standards:

- EN ISO 9445-2 for product form C;
- EN ISO 9444-2 for product form H;
- EN ISO 18286 for product form P.