SLOVENSKI STANDARD
SIST EN ISO 21028-2:2018

01-julij-2018

Nadomešča:
SIST EN 1252-2:2002

Kriogene posode - Zahteve za žilavost materialov pri kriogenih temperaturah - 2. del: Temperature med –80 °C in –20 °C (ISO 21028-2:2018)

Cryogenic vessels - Toughness requirements for materials at cryogenic temperature - Part 2: Temperatures between -80 degrees C and -20 degrees C (ISO 21028-2:2018)

Kryo-Behälter - Zähigkeitsanforderungen an Werkstoffe bei kryogenen Temperaturen - Teil 2: Temperaturen zwischen -80 °C und -20 °C (ISO 21028-2.2:2018)

Récipients cryogéniques - Exigences de ténacité pour les matériaux à température cryogénique - Partie 2: Températures comprises entre -80 degrés C et -20 degrés C (ISO 21028-2:2018)

Ta slovenski standard je istoveten z: **EN ISO 21028-2:2018**

ICS:

23.020.40	Proti mrazu odporne posode (kriogenske posode)	Cryogenic vessels

SIST EN ISO 21028-2:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 21028-2

April 2018

ICS 23.020.40

Supersedes EN 1252-2:2001

English Version

Cryogenic vessels - Toughness requirements for materials at cryogenic temperature - Part 2: Temperatures between -80 degrees C and -20 degrees C (ISO 21028-2:2018)

Récipients cryogéniques - Exigences de ténacité pour les matériaux à température cryogénique - Partie 2: Températures comprises entre -80 degrés C et -20 degrés C (ISO 21028-2:2018)

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This European Standard was approved by CEN on 12 January 2018.

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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN ISO 21028-2:2018 E

Contents

Page

European foreword

This document (EN ISO 21028-2:2018) has been prepared by Technical Committee ISO/TC 220 "Cryogenic vessels" in collaboration with Technical Committee CEN/TC 268 “Cryogenic vessels and specific hydrogen technologies applications”, 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 October 2018, and conflicting national standards shall be withdrawn at the latest by October 2018.

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

This document supersedes EN 1252-2:2001.

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.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 21028-2:2018 has been approved by CEN as EN ISO 21028-2:2018 without any modification.

Annex ZA
(informative)

Relationship between this European Standard and the Essential Requirements of Directive 2014/68/EU of the European Parliament and of the Council of 15 May 2014 on the harmonization of the laws of the Member States relating to the making available on the market of pressure equipment

This European Standard has been prepared under a Commission's standardization request, M/071 Pressure Equipment, to provide one voluntary means of conforming to Essential Requirements of the New Approach Directive 2014/68/EU "Pressure Equipment Directive" of the European Parliament and of the Council of 15 May 2014.

Once this standard is cited in the Official Journal of the European Union under that Directive compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Directive 2014/68/EU of the European Parliament and of the Council of 15 May 2014

Essential Requirements of Directive 2014/68/EU	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
Annex I § 2.2.3 b)	All clauses	Impact strength
Annex I § 7.5	All clauses	Material characteristics

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

INTERNATIONAL STANDARD

ISO 21028-2

Second edition
2018-03

Cryogenic vessels — Toughness requirements for materials at cryogenic temperature —

Part 2: Temperatures between -80 degrees C and -20 degrees C

Récipients cryogéniques — Exigences de ténacité pour les matériaux à température cryogénique —

Partie 2: Températures comprises entre -80 degrés C et -20 degrés C

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Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.

This document was prepared by Technical Committee ISO/TC 220, *Cryogenic vessels.*

This second edition cancels and replaces the first edition (ISO 21028-2:2004), which has been technically revised.

The main changes compared to the previous edition are as follows:

— tables and figures on impact test temperatures and design reference have been modified;

— Annex B has been added to present an example of calculation of the lowest temperature authorized during operation.

A list of all parts in the ISO 21028 series can be found on the ISO website.

Introduction

The use of materials at low temperatures entails special problems which should be addressed. Consideration should be given, in particular, to changes in mechanical characteristics, expansion and contraction phenomena and the thermal conduction of the various materials. The most important property to be considered is the material toughness at low temperature.