



SLOVENSKI STANDARD
SIST EN 13445-1:2014/A1:2015
01-januar-2015

Neogrevane tlačne posode - 1. del: Splošno

Unfired pressure vessels - Part 1: General

Unbefeuerte Druckbehälter - Teil 1: Allgemeines

Récipients sous pression non soumis à la flamme - Partie 1: Généralités

ITEN STANDARD PREVIEW
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Ta slovenski standard je istoveten z: EN 13445-1:2014/A1:2014

[SIST EN 13445-1:2014/A1:2015](#)

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ICS:

23.020.30	Tlačne posode, plinske jeklenke	Pressure vessels, gas cylinders
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SIST EN 13445-1:2014/A1:2015 [en,fr,de](#)

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13445-1:2014/A1

October 2014

ICS 23.020.30

English Version

Unfired pressure vessels - Part 1: General

Récepteurs sous pression non soumis à la flamme - Partie 1:
 Généralités

Unbefeuerte Druckbehälter - Teil 1: Allgemeines

This amendment A1 modifies the European Standard EN 13445-1:2014; it was approved by CEN on 16 September 2014.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant 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 amendment 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.

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

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Foreword

This document (EN 13445-1:2014/A1:2014) has been prepared by Technical Committee CEN/TC 54 "Unfired pressure vessels", the secretariat of which is held by BSI.

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 April 2015 and conflicting national standards shall be withdrawn at the latest by April 2015.

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 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.

This document includes the text of the amendment itself. The corrected pages of EN 13445-1:2014 will be published in July 2015 as issue 2 of the standard.

This European Standard was submitted to the Formal Vote with the reference, EN 13445-1:2009/FprA2.

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.

1 Modification to Annex X

1.1 Replace everything but Table X.1 with the following text

Table X.1, Table X.2 and Table X.3 contain lists of essential safety requirements for unfired pressure vessels, manufactured of steel, spheroidal graphite cast iron, and aluminium, respectively

NOTE Table X.1, Table X.2 and Table X.3 have been compiled from Annexes ZA in EN 13445-1, EN 13445-2, EN 13445-3, EN 13445-4, EN 13445-5, EN 13445-6 and EN 13445-8.

1.2 Add two new Tables, Table X.2 and Table X.3 as follows

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Table X.2 — List of Essential Safety Requirements for Unfired Pressure Vessels Made From Spheroidal Graphite Cast Iron

ESRs of Directive 97/23/CE	Clause(s)/subclause(s) of EN 13445-1, EN 13445-2, EN 13445-3, EN 13445-4, EN 13445-5 and EN 13445-6	Remarks/Notes
1.1	EN 13445-1, 4	General
2.2	EN 13445-3, all clauses	Design for adequate strength
2.2	EN 13445-3, 5 EN 13445-6, 4, 5.2,	Calculation method
2.2.3	EN 13445-3, 5, 7 to 21, Annex A, Annex E, Annex F, Annex G, Annex J, Annex P, Annex Q	Calculation method – Design by Formula
	EN 13445-6, Annex D, Annex E	
2.2.3	EN 13445-3, Annex B, Annex C EN 13445-6, Annex E	Calculation method - Design by Analysis
2.2.4	EN 13445-6, 5.2.2.1.5 5.2.2.1.6, Annex H	Experimental design method
3.1	EN 13445-6, 5.3, 6, 7.1	Manufacturing procedures
3.1.5	EN 13445-6, 9.1	Traceability
3.2.1	EN 13445-5, 10.2.2	Review of documentation
	EN 13445-6, 7.1	Testing
3.2.2	EN 13445-6, 7.2.2	Proof test
3.3	EN 13445-6, 9	Marking
4.1	EN 13445-6, 5.1, Annex A	Materials for pressurized parts

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Table X.3 — List of Essential Safety Requirements for Unfired Aluminium Pressure Vessels

ESRs of Directive 97/23/CE	Clause(s)/subclause(s) of EN 13445-1 to 5 and 8	Remarks/Notes
1.1	EN 13445-1, 4	General
2.2	EN 13445-3, all clauses	Design for adequate strength
	EN 13445-8, 6	
2.2	EN 13445-3, 5	Calculation method
2.2.2 - 2.2.4	EN 13445-3, Annex T	Design by experimental method
2.2.3	EN 13445-3, 5, 7 to 21, Annex A, Annex E, Annex F, Annex G, Annex J, Annex P, Annex Q	Calculation method - DBF
2.2.3	EN 13445-3, Annex B, Annex C	Calculation method - Design by Analysis
2.2.3 (a)	EN 13445-8, 6.4, 6.6	Calculation method - DBF
2.2.3 (b), 5th indent	EN 13445-2, 4	Provision and consideration of appropriate material properties <i>(standards.iteh.ai)</i>
	EN 13445-8, 5	
2.2.3 (b), 7th indent	EN 13445-2, 4.2.4	Design properties in the creep range https://standards.iteh.ai/catalog/standards/sist/4506ef89-d93d-4e2a-a79c-edc5c3e389/sist-en-13445-2-2017-af-2013
2.3	EN 13445-5, C5	Provisions to ensure safe handling and operation
2.4 and 2.5	EN 13445-5, C2, C3, C4	Means of examination
2.5	EN 13445-5, Annex C	Draining and venting
2.9	EN 13445-5, C5	Provisions for filling and discharge
3.1	EN 13445-4, 3, 5	Appropriate techniques and procedure
	EN 13445-5, 4,	Manufacturing procedures
	EN 13445-5, 7	
	EN 13445-5, 6.2	Manufacturing procedures and construction drawings
	EN 13445-5, 6.7	Destructive testing
3.1.1	EN 13445-4, 9.2, 9.3 EN 13445-8, 7.11	Manufacturing procedures, forming
	EN 13445-4, 7.6,	Preparation of component parts
	EN 13445-5, 6.4	

ESRs of Directive 97/23/CE	Clause(s)/subclause(s) of EN 13445-1 to 5 and 8	Remarks/Notes
	EN 13445-8, 7.6	
3.1.2	EN 13445-4, 7.3, 7.7, 7.8, 7.9, 11 EN 13445-8, 7.4, 7.7, 7.8, 7.9, 7.10	Operating procedure to carry out permanent joints
	EN 13445-4, 7.4	Qualified personnel to carry out permanent joints
	EN 13445-8, 7.5	
	EN 13445-4, 7.3, 8	Properties of permanent joints
	EN 13445-5, 6.5	Permanent joining
3.1.3	EN 13445-5, 6.6, Annex A, Annex F, Annex G	Internal and surface defect
3.1.4	EN 13445-4, 9.4.1 EN 13445-5, 6.8	Heat treatment
	EN 13445-8, 7.12, 7.15	(standards.iteh.ai)
3.1.5	EN 13445-4, 14.2 https://standards.iteh.ai/catalog/standards/sist-en-13445-1:2014/	Traceability
	EN 13445-5, 6.3 https://standards.iteh.ai/catalog/standards/sist-en-13445-5:2014/	Material traceability
3.2	EN 13445-5, 10	Final assessment
3.2.1	EN 13445-4, 12	Final inspection
	EN 13445-5, 10.2.1, Annex A, Annex F, Annex G	
	EN 13445-8, 8.2, 8.3, 8.4, 8.5	
	EN 13445-5, 10.2.2	Review of documentation
3.2.2	EN 13445-5, 10.2.3	Proof test
	EN 13445-8, 8.6, 8.7	
3.3	EN 13445-5, 11	Marking and labelling
3.3.b)	EN 13445-5, 5	Technical documentation
	EN 13445-5, 12	Documentation
4.1 (a)	EN 13445-2, 4.1.6,	Prevention of brittle fracture