



SLOVENSKI STANDARD
SIST EN 13445-1:2009/A1:2014
01-februar-2014

Neogrevane tlačne posode - 1. del: Splošno - Dopolnilo A1

Unfired pressure vessels - Part 1: General

Unbefeuerte Druckbehälter - Teil 1: Allgemeines

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

Ta slovenski standard je istoveten z: EN 13445-1:2009/A1:2013

[SIST EN 13445-1:2009/A1:2014](https://standards.iteh.ai/catalog/standards/sist/763b68ea-60a4-44e0-86f9-f5d3373d2ad4/sist-en-13445-1-2009-a1-2014)

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ICS:

23.020.30	Tlačne posode, plinske jeklenke	Pressure vessels, gas cylinders
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SIST EN 13445-1:2009/A1:2014

en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13445-1:2009/A1

December 2013

ICS 23.020.30

English Version

Unfired pressure vessels - Part 1: General

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

Unbefeuerte Druckbehälter - Teil 1: Allgemeines

This amendment A1 modifies the European Standard EN 13445-1:2009; it was approved by CEN on 23 October 2013.

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

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

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Foreword

This document (EN 13445-1:2009/A1:2013) has been prepared by Technical Committee CEN/TC 54 “Unfired pressure vessels”, the secretariat of which is held by BSI.

This Amendment to the European Standard EN 13445-1:2009 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2014, and conflicting national standards shall be withdrawn at the latest by June 2014.

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.

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.

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EN 13445-1:2009/A1:2013 (E)

1 Modification 1

Insert a new Annex X as follows.

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Annex X (informative)

List of Essential Safety Requirements

Table X.1 contains a list of essential safety requirements for unfired steel pressure vessels.

NOTE 1 Table X.1 has been compiled from Annexes ZA in Parts 1 to 5.

NOTE 2 Corresponding tables for unfired pressure vessels made from spheroidal graphite cast iron and aluminium, respectively, will be added later.

Table X.1 — List of Essential Safety Requirements for Unfired Steel Pressure Vessels

ESRs of Directive 97/23/CE	Clause(s)/subclause(s) of EN 13445-1 to EN 13445-5	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	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, Annexes A, E, F, G, J, P, Q	Calculation method - DBF
2.2.3	EN 13445-3, Annexes B, C	Calculation method - Design by Analysis
2.2.3 (b), 5th indent	EN 13445-2, 4	Provision and consideration of appropriate material properties
2.2.3 (b), 7th indent	EN 13445-2, 4.2.4	Design properties in the creep range
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, 7	Manufacturing procedures
	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	Manufacturing procedures, forming
	EN 13445-4, 7.6, EN 13445-5, 6.4	Preparation of component parts

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3.1.2	EN 13445-4, 7.3, 7.7, 7.8, 7.9, 11	Operating procedure to carry out permanent joints
	EN 13445-4, 7.4	Qualified personnel to carry out permanent joints
	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, Annexes A, F, G	Internal and surface defect
3.1.4	EN 13445-4, 9.4, 10 EN 13445-5, 6.8	Heat treatment
3.1.5	EN 13445-4, 4.2	Traceability
	EN 13445-5, 6.3	Material traceability
3.2	EN 13445-5, 10	Final assessment
3.2.1	EN 13445-4, 12 EN 13445-5, 10.2.1, Annexes A, F, G	Final inspection
	EN 13445-5, 10.2.2	Review of documentation
3.2.2	EN 13445-5, 10.2.3	Proof test
3.3	EN 13445-5, 11	Marking and labelling
3.3 b)	EN 13445-5, 5	Technical documentation
3.3.b)	EN 13445-5, 12	Documentation
4.1 (a)	EN 13445-2, 4.1.6, Annex B	Prevention of brittle fracture
4.1 (d)	EN 13445-2, 4.1.7	Material suitable for intended processing procedure
4.2 (b)	EN 13445-2, 4.1.1	Compliance with the material specifications
7	EN 13445-3, 6	Quantitative requirements
7.2	EN 13445-4, 7.3, 8	Properties of permanent joints
7.5	EN 13445-2, 4.1.5	Detailed requirements on elongation after rupture for steel
7.5	EN 13445-2, 4.1.6, Annex B	Detailed requirements on impact rupture energy for steel