SLOVENSKI STANDARD
SIST EN 13445-4:2002/A2:2007

01-april-2007

Neogrevane tlaļne posode ï 4. del: Proizvodnja

Unfired pressure vessels - Part 4: Fabrication

Unbefeuerte Druckbehälter - Teil 4: Herstellung

Récipients sous pression non soumis a la flamme - Partie 4: Fabrication

Ta slovenski standard je istoveten z: **EN 13445-4:2002/A2:2006**

ICS:

23.020.30	Tlaļne posode, plinske jeklenke	Pressure vessels, gas cylinders

SIST EN 13445-4:2002/A2:2007 **en**

EUROPEAN STANDARD

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EN 13445-4:2002/A2

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ICS 23.020.30

English Version

Unfired pressure vessels - Part 4: Fabrication

Récipients sous pression non soumis à la flamme - Partie 4: Fabrication

Unbefeuerte Druckbehälter - Teil 4: Herstellung

This amendment A2 modifies the European Standard EN 13445-4:2002; it was approved by CEN on 21 October 2006.

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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 Central Secretariat has the same status as the official versions.

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

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Foreword

This document (EN 13445-4:2002/A2:2006) 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 13445-4:2002 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2007, and conflicting national standards shall be withdrawn at the latest by June 2007.

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, B, C or D, 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, 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.

The amendment is based on EN 13445-4:2002 up to issue 16 (October 2005).

The document includes the text of the amendment itself. The corrected pages of EN 13445-4 will be delivered as issue 24 of the standard.

1 Scope

Delete:

This document does not give provisions for manufacturing requirements for vessels designed using Design by Analysis – Direct Route (DBA) of Annex B of EN 13445-3:2002.

5 Manufacturing tolerances

5.4.4 Irregularities in profile

Change title of Table 5.4-2 to:

Maximum permitted peaking *P* at longitudinal welds for vessels subject to predominantly non cyclic loads

6 Weld details

Change heading

6.2 Vessels or parts made of more than one course

Replace by:

Where a vessel or vessel part is made of two or more courses the longitudinal weld joints of adjacent courses shall be staggered by $4 \cdot e$ with 10 mm minimum, or 30 mm minimum when the vessel or vessel part is either working in the creep range or designed by Design by Analysis – Direct Route (Annex B of EN 13445-3:2002) or designed using 6.3 of EN 13445-3:2002.

8 Manufacturing and testing of welds – Production test

8.1 General

Add after the second paragraph:

Specific requirements apply to vessels and vessel parts made of thermo-mechanically rolled steels (group 2.1) and quenched and tempered steels (group 3.1). See 8.2 f).

8.2 Reference criteria

Add f):

f) For vessels made of thermo-mechanically rolled steels (group 2.1) and quenched and tempered steels (group 3.1), independent of the weld joint coefficient, the following shall apply:

1) for vessels not subjected to post-weld heat treatment, d) shall apply;

2) for longitudinal welds, made by an automatic welding process, one test plate per vessel, WPS, cast and post-weld heat treatment furnace load;

3) for circumferential welds, made by an automatic welding process, if welded using the same WPS as for longitudinal welds, no further test plates are required. If welded by a different WPS to that used for longitudinal welds, one test plate per vessel, WPS, cast and post-weld heat treatment furnace load;

4) for welds made by manual welding process, one test plate per vessel, WPS, welding position, cast and post-weld heat treatment furnace load;

5) after 10 consecutive test plates have successfully passed the tests, testing shall be reduced to the following:

   i) for automatic welded longitudinal welds, one test plate per vessel;

   ii) for manual welds, one test plate per vessel in the most difficult welding position.

The testing of the production test plate shall consider the parameters for the post-weld heat treatment(s) of the pressure vessel.

9 Forming of pressure parts

9.3 Forming procedures

9.3.1 Cold forming

Add a new second paragraph before the NOTE:

In the case of TMCP steels, the maximum permissible temperature shall be 580 °C.

9.4 Heat treatment after forming

9.4.1 General

Add a new NOTE 3:

NOTE 3 In the case of cold–formed TMCP steels, the parameters defined should be suitable for a post–forming heat treatment.

10 Post weld heat treatment (PWHT)

Add footnote [f] in Table 10.1-1:

[f] Heat treatment conditions of materials groups 2.1 and 3.1 will be covered later.

Replace the text of Annex ZA with the following: