



**SLOVENSKI STANDARD**  
**SIST EN 13445-4:2002/A5:2009**  
**01-november-2009**

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Unfired pressure vessels - Part 4: Fabrication

Unbefeuerte Druckbehälter - Teil 4: Herstellung

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

Ta slovenski standard je istoveten z: **EN 13445-4:2002/A5:2009**

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**ICS:**

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**SIST EN 13445-4:2002/A5:2009**      **en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 13445-4:2002/A5**

February 2009

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English Version

## Unfired pressure vessels - Part 4: Fabrication

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

Unbefeuerte Druckbehälter - Teil 4: Herstellung

This amendment A5 modifies the European Standard EN 13445-4:2002; it was approved by CEN on 4 December 2008.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, 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 United Kingdom.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

This document (EN 13445-4:2002/A5:2009) 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 August 2009, and conflicting national standards shall be withdrawn at the latest by August 2009.

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 EC Directive(s).

For relationship with EC Directive(s), see informative Annex ZA, which is an integral part of this document.

The document includes the text of the amendment itself. The corrected pages of EN 13445-4 will be delivered as issue 36 of the standard.

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, 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.

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## EN 13445-4:2002/A5:2009 (E)

**1 Modification of the text in sub-clause 8.2**

Delete clause 8.2, listings d) and e) and replace these with the following text:

d) For vessels made of materials in material groups 1.1, 1.2 and 8.1, the following shall apply:

- 1) for longitudinal welds, one test plate per vessel in the case of joint coefficient 1,0;
- 2) one test plate per 200 m of longitudinal welds in the case of joint coefficient 0,85 or of welds in heads except of hemispherical heads in the case of joint coefficient 1,0;
- 3) one test plate per year, where the circumferential welds are welded to a procedure involving joggle joints or permanent backing strips (see 6.3).

After 10 consecutive test plates have successfully passed the tests, testing may be reduced to the following:

- 4) one test plate per 200 m of longitudinal welds in the case joint coefficient of 1,0;
- 5) one test plate per 1 500 m of longitudinal welds in the case of joint coefficient 0,85 or of welds in heads except of hemispherical heads in the case of joint coefficient 1,0;
- 6) one test plate per year, where the circumferential welds are welded to a procedure involving joggle joints or permanent backing strips (see EN 13445-3).

e) For vessels made of material in material groups other than those covered in d) the following shall apply:

- 1) for longitudinal welds, one test plate per vessel in the case of joint coefficient 1,0;
- 2) one test plate per 100 m of longitudinal welds in the case of joint coefficient 0,85 or of welds in heads except of hemispherical heads in the case of joint coefficient 1,0;
- 3) where the circumferential welds are welded to a procedure different to the longitudinal joints, two test plates per year or one test plate per vessel which ever is less.

After 50 consecutive test plates have successfully past the tests, testing may be reduced to the following:

- 4) one test plate per 50 m of longitudinal welds in the case of joint coefficient 1,0;
- 5) one test plate per 500 m of longitudinal welds in the case of joint coefficient 0,85 or of welds in heads except of hemispherical heads in the case of joint coefficient 1,0;
- 6) where the circumferential welds are welded to a procedure different to the longitudinal joints, two test plates per year or one test plate per vessel which ever is less.

## 2 Modification of the text of clause 11.1

*Delete clause 11.1 and replace these with the following text:*

### 11.1 Repairs of surface defects in the parent metal

If surface defects which are not very deep are involved, such as accidental arc strikes, tool marks, or oxyacetylene cutting marks, the defects shall be removed by grinding, and the ground area shall have a smooth transition with the adjoining surfaces. The grinding shall be followed by visual inspection for surface defects. Ground accidental arc strikes on parental materials other than from material groups 1.1 and 8.1 shall be tested by MT or PT as per EN 13445-5.

The depth of the repair shall be checked to ensure that tolerance limits of the remaining material are fulfilled.

In case of build-up welds or if grinding reduces the thickness of the wall below the permissible value and repair by welding is necessary, the manufacturer shall carry out this repair in accordance with a qualified procedure and by qualified welders and operators. The affected area shall be inspected as per EN 13445-5:2002, Table 6.6.2-1, Fig. 24.

NOTE General cosmetic grinding or dressing (i.e. removal of excess weld metal) are not considered to be repairs.

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