



SLOVENSKI STANDARD
SIST EN 13445-3:2014/oprA19:2019
01-november-2019

Neogrevane (nekurjene) tlačne posode - 3. del: Konstruiranje - Dopolnilo A19

Unfired pressure vessels - Part 3: Design

Unbefeuerte Druckbehälter - Teil 3: Konstruktion

Réipients sous pression non soumis à la flamme - Partie 3 : Conception

Ta slovenski standard je istoveten z: EN 13445-3:2014/prA19

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ICS:

23.020.32 Tlačne posode Pressure vessels

SIST EN 13445-3:2014/oprA19:2019 en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
EN 13445-3:2014
prA19

November 2019

ICS 23.020.30

English Version

Unfired pressure vessels - Part 3: Design

Réceptifs sous pression non soumis à la flamme -
Partie 3 : Conception

Unbefeuerte Druckbehälter - Teil 3: Konstruktion

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 54.

This draft amendment A19, if approved, will modify the European Standard EN 13445-3:2014. If this draft becomes an amendment, 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.

This draft amendment was established by CEN 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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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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

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European foreword

This document (EN 13445-3:2014/prA19:2019) has been prepared by Technical Committee CEN/TC 54 “Unfired pressure vessels”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a standardization request 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 EN 13445-3:2014.

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EN 13445-3:2014/prA1:2019 (E)

1 Modification to Table C-2 – Classification of stresses in some typical cases

Amend footnote 9 to Table C-2 as follows:

“

- 9) For this particular case, the stress value to be ~~retained~~ used is the average value across the ligament width.”

2 Modifications to C.6, Stress analysis procedure

Amend as follows:

“The procedure to be followed for a stress analysis is the following:

- Step 1: For each point of the region under study, calculate the elementary stresses resulting from each load acting on the vessel wall for each loading condition to be considered.

These calculations shall be carried out in accordance with the requirements of C.4.5.

For all combinations of pressure and non-pressure loadings in Table 5.3.2.4-1, the loading conditions to be considered are:

- the loading conditions of all types (normal operation, exceptional operation, proof test) for which the admissibility of the stress level may be determined through the assessment criteria in C.7.2 (see step 7).

- the normal operating conditions between which the admissibility of the stress variation may be determined through the assessment criteria in C.7.3-1 (see step 9).

- Step 2: Decompose the stresses σ_{ij} calculated above, in accordance with the requirements of C.4.4, into:

- membrane stresses $\sigma_{ij,m}$,
- bending stresses $\sigma_{ij,b}$.”

“

- Step 8: For each set of two normal operating loading conditions which may be determinant, calculate the range of the primary + secondary stress $\Delta(\Sigma_{ij})_{P+Q}$ ($\Delta\Sigma_{ij}$)_{P+Q} and then, as indicated in C.4.2, calculate the corresponding equivalent stress range $(\Delta\sigma_{eq})_{P+Q}$.

The set of loading conditions to be ~~retained~~ selected is that which results in the greatest value of $(\Delta\sigma_{eq})_{P+Q}$.”

3 Modification to C.7.2, Limitation of equivalent primary stresses

Amend as follows:

“The equivalent primary membrane stresses shall for all loading conditions satisfy the relationships:

$$(\sigma_{eq})_{Pm} \leq f \quad (C.7.2-1)$$

$$(\sigma_{eq})_{PL} \leq 1,5f \quad (C.7.2-2)$$

$$(\sigma_{eq})_P \leq 1,5f \quad (C.7.2-3)$$

The value of the nominal design stress f to be ~~retained~~ used shall be ~~that~~ as defined in Table 5.3.2.4-1 consistent with the type of loading condition considered (normal operation, exceptional operation, proof test), and shall be taken at the calculation temperature of that condition.”.

4 Modification to C.7.3, Limitation of equivalent stress ranges resulting from primary + secondary stresses

Amend as follows.

“The equivalent stress range resulting from variation of primary + secondary stresses between any two normal operating loading conditions shall at all points satisfy the relationship:

$$(\Delta\sigma_{eq})_{P+Q} \leq 3f \quad (C.7.3-1)$$

The value of the nominal design stress f to be ~~retained~~ used shall be ~~that~~ as defined in Table 5.3.2.4-1 corresponding to loading conditions of normal operating type, but as an exception to the corresponding definition given in Clause 6, its determination shall be based on the yield strength of the material only, i.e.”:

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