SLOVENSKI STANDARD
SIST EN 14025:2013/oprA1:2015

01-marec-2015

Cisterne za prevoz nevarnega blaga - Kovinske tlačne posode - Konstruiranje in izdelava

Tanks for the transport of dangerous goods - Metallic pressure tanks - Design and construction

Tanks für die Beförderung gefährlicher Güter - Metallische Drucktanks - Auslegung und Bau

Citernes destinées au transport de matières dangereuses - Citernes métalliques sous pression - Conception et fabrication

Ta slovenski standard je istoveten z: **EN 14025:2013/prA1**

ICS:

13.300	Varstvo pred nevarnimi izdelki	Protection against dangerous goods
23.020.20	Posode in vsebniki, montirani na vozila	Vessels and containers mounted on vehicles

SIST EN 14025:2013/oprA1:2015 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
EN 14025:2013

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January 2015

ICS 13.300; 23.020.20

English Version

Tanks for the transport of dangerous goods - Metallic pressure tanks - Design and construction

Citernes destinées au transport de matières dangereuses - Citernes métalliques sous pression - Conception et fabrication

Tanks für die Beförderung gefährlicher Güter - Metallische Drucktanks - Auslegung und Bau

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 296.

This draft amendment A1, if approved, will modify the European Standard EN 14025:2013. 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.

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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: Avenue Marnix 17, B-1000 Brussels

Contents

Foreword

This document (EN 14025:2013/prA1:2015) has been prepared by Technical Committee CEN/TC 296 “Tanks for transport of dangerous goods”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

Compared to EN 14025:2013 the following changes have been made:

a) in 5.1, General, 3) a reference to the new annex B has been added;

b) in 6.3.3.5.1, non-numbered equation under Equation (5) has been deleted;

c) in 6.4.1, General, the calculation for external pressure has been changed;

d) in A.5.2 the layout of the equations has been corrected;

e) a new Annex B, Explosion pressure shock resistance design of tanks, has been added.

1 Modification to 5.1, General

Replace the text of 3) with

"explosion-pressure-shock resistant condition (if required) (see Annex B);".

2 Modification to 6.3.3.5.1, General

Delete the non-numbered equation under Equation (5)

" $f_{\mathrm{d}} = \frac{R_{\mathrm{p}\,0,2\,/\,\mathrm{T}}}{1{,}5}$ ".

3 Modification to 6.4.1, General

Replace

"f (in EN 13445-3) = nominal design stress (allowable stress) = f_{d} (in EN 14025)"

with

"σ_{e} (in EN 13445-3) = nominal design stress (allowable stress) = f_{d} (in EN 14025)".

4 Modification to A.5.2

Replace

"R = 0,8

D_{e} = 0,8 [2 300 + 2 x 5**)] = 1 848 mm

**) assumed value using the results up to now

r = 0,154

D_{e} = 0,154 x 2 310 = 355,74 mm"

with

"R = 0,8 × D_{e} = 0,8 [2 300 + 2 x 5**)] = 1 848 mm

**) assumed value using the results up to now

r = 0,154 × D_{e} = 0,154 x 2 310 = 355,74 mm".

5 Addition of new Annex B, Explosion pressure shock resistant design of tanks

Add

"**Annex B**
(informative)

Explosion pressure shock resistant design of tanks

B.1 Tanks are explosion pressure shock resistant if they are designed and constructed in such a way that these tanks are able to resist an explosion pressure occurring due to an internal explosion without bursting. Permanent deformations are permissible.

The explosion pressure relevant for the proof of the explosion shock resistance depends on the ignition characteristics of the inflammable substance and on the internal initial pressure at which an ignition takes place. Concerning tanks for the transport of inflammable substances it has to be assumed that an interference-related ignition occurs outside the tank causing an explosion running via an operationally free opening (unclosed tank opening) inside the tank.

The initial pressure inside the tank can be set equal to the atmospheric pressure of 1 000 mbar, therefore. Among all substances examined so far[1)] at an initial pressure of 1 000 mbar a mixture of 8,0 (volume)% ethylene in air exhibits the highest value for the explosion pressure of 9,7 bar (absolute).

B.2 A tank is considered to be explosion pressure shock resistant if the tank design will be examined experimentally, mainly by carrying out successfully an explosion test with a specimen of that design under atmospheric conditions applying a gas/air-mixture as mentioned above.

B.3 Furthermore a tank is considered to be explosion pressure shock resistant if the calculation of all pressure bearing parts of the tank will be carried out on the basis of the maximum explosion pressure (i.e. 9,7 bar (absolute) at least) following the requirements of this European Standard. Due to the high ductility of the tank materials assigned (elongation at rupture in accordance with 6.8.2.1.12 and 6.8.3.1.1 RID/ADR) and with respect to EN 14460:2006, 6.1, first paragraph, the calculation pressure shall be 8,7 bar / 1,5 as a load case in operating conditions. Partitions can be regarded as explosion shock resistant on the adherence to the following conditions also, even if the calculation would result in a higher wall thickness than those of the cylindrical part of the tank:

— the cylindrical part and partitions have to be manufactured from uniform material;

— the wall thickness has to be appropriate for a test pressure of at least 4 bar;

— the wall thickness has to be not smaller than the wall thickness of the cylindrical part which results from its explosion pressure shock resistant design;

— the partition shall be tested with a test pressure of 8,7 bar on its konvex side (that means outer pressure to the partition) within the framework of the type approval.

B.4 A tank is considered as explosion pressure shock resistant, too, if it is proven that the tank is able to withstand a hydraulic pressure test carried out at a test pressure equal to 1,3 times the maximum explosion pressure (i.e. 9,7 bar (absolute) at least) without bursting.

B.5 Verifications according to B.3 and B.4 can be applied only for tanks without installations which do decrease the tank cross section considerably (like surge plates in particular) which can lead to a further increase of explosion pressure and effect.".

1) Substances which are inclined to a spontaneous decomposition have to be excluded from the application of the measures mentioned above.

6 Modification to the Bibliography

Add "[8] EN 14460, *Explosion resistant equipment*" *and update the following items.*