Belgian Standard

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

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Bureau for Standarisation
Rue Joseph II 40 PO box 6
1000 Brussels

T. +32 2 738 01 11
F. +32 2 733 42 64
info@nbn.be

BTW BE0880.857.592
IBAN BE41 0003 2556 2110
BIC Code BPOTBEB1

www.nbn.be

EUROPEAN STANDARD

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English Version

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

Citernes pour le transport de matières dangereuses - Citernes métalliques sous pression - Conception et fabrication

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

This European Standard was approved by CEN on 1 July 2018.

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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 14025:2018) has been prepared by Technical Committee CEN/TC 296 “Tanks for the transport of dangerous goods”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2019, and conflicting national standards shall be withdrawn at the latest by January 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 14025:2013+A1:2016.

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

Compared with EN 14025:2013+A1:2016 the following significant changes apply:

a) alignment with RID/ADR as known at publication of this European Standard;

b) modification of the definition "pressure tank" (3.1.1), removing the reference to test pressure;

c) deletion of requirements about the thickness of the flange of the end (6.3.3.3);

d) amendment of the definition of the thickness e_p in Figure 8 (examples for reinforcements of shell openings) and Figure A.2 (example for a manhole opening) as well as in Formula (39); Sub-Figure 8 e) amended, new Sub-Figure 8 g) added;

e) external pressure resistance testing (6.4.4) replaced with a reference to EN 12972;

f) requirements for the manufacturer’s certificate or acceptance test certificate removed and clarified that it is issued according to agreement with the buyer/customer (7.1.3);

g) examination and testing of welds (7.4.3) replaced with a normative reference to EN 12972, except for requirements for the welding of the large end of a cone without a knuckle to a cylinder;

h) manufacturing tolerances concerning the plate alignment (7.5.1) adjusted in accordance with EN 12972;

i) explosion pressure shock resistant design of tanks (informative Annex B) amended so that dished ends are included;

j) normative references updated;

k) alignment of the whole document with the current principles and rules for the structure and drafting of CEN and CENELEC documents.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This document specifies the minimum requirements for the design and construction of metallic pressure tanks having a maximum working pressure exceeding 50 kPa (0,5 bar), for the transport of dangerous goods by road and rail and sea. This document includes requirements for openings, closures and structural equipment; it does not cover requirements of service equipment. For tanks for the transport of cryogenic liquids, EN 13530-1 and EN 13530-2 apply.

Design and construction of pressure tanks according to the Scope of this document are primarily subject to the requirements of RID/ADR, Subsections 6.8.2.1, 6.8.3.1 and 6.8.5, as relevant. In addition, the relevant requirements of RID/ADR, Table A, columns 12 and 13, to Chapters 3.2, 4.3 and Subsection 6.8.2.4 apply. For the structural equipment RID/ADR, Subsections 6.8.2.2 and 6.8.3.2 apply, as relevant. The definitions of RID/ADR, Subsection 1.2.1, are referred to. For portable tanks see also RID/ADR, Chapter 4.2 and Sections 6.7.2 and 6.7.2. In addition, the relevant requirements of RID/ADR, Table A, Columns 10 and 11 to Chapters 3.2, 4.2, and Sections 6.7.2 and 6.7.3 apply. The paragraph numbers above relate to the 2017 issue of RID/ADR which are subject to regular revisions. This can lead to temporary non-compliances with EN 14025.

This document is applicable to liquefied gases including LPG; however for a dedicated LPG standard see EN 12493.

If not otherwise specified, provisions which take up the whole width of the page apply to all kind of tanks. Provisions contained in a single column apply only to:

tanks according to RID/ADR Chapter 6.8 (left-hand column);	portable tanks according to RID/ADR Chapter 6.7 (right-hand column).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1591-1, *Flanges and their joints – Design rules for gasketed circular flange connections – Part 1: Calculation*

EN 12972, *Tanks for transport of dangerous goods – Testing, inspection and marking of metallic tanks*

EN 13094:2015, *Tanks for the transport of dangerous goods – Metallic tanks with a working pressure not exceeding 0,5 bar – Design and construction*

EN 13445-2, *Unfired pressure vessels – Part 2: Materials*

EN 13445-3:2014, *Unfired pressure vessels – Part 3: Design*

EN 13445-4, *Unfired pressure vessels – Part 4: Fabrication*

EN 13445-8, *Unfired pressure vessels – Part 8: Additional requirements for pressure vessels of aluminium and aluminium alloys*

EN ISO 3834-1, *Quality requirements for fusion welding of metallic materials – Part 1: Criteria for the selection of the appropriate level of quality requirements (ISO 3834-1)*

EN ISO 3834-2, *Quality requirements for fusion welding of metallic materials – Part 2: Comprehensive quality requirements (ISO 3834-2)*