Tanks for the transport of dangerous goods - Tank equipment for the transport of liquid chemicals and liquefied gases - Foot valves

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 14433:2023 sisaldab Euroopa standardi EN 14433:2023 ingliskeelset teksti.	This Estonian standard EVS-EN 14433:2023 consists of the English text of the European standard EN 14433:2023.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 19.07.2023.	Date of Availability of the European standard is 19.07.2023.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 23.020.20, 23.060.99

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14433

July 2023

ICS 23.020.20; 23.060.99

Supersedes EN 14433:2014

English Version

Tanks for the transport of dangerous goods - Tank equipment for the transport of liquid chemicals and liquefied gases - Foot valves

Citernes destinées au transport de matières dangereuses - Équipements de la citerne pour le transport de produits chimiques liquides et de gaz liquéfiés - Clapets de fond

Tanks für die Beförderung gefährlicher Güter - Ausrüstung für Tanks für die Beförderung von flüssigen Chemieprodukten und Flüssiggasen - Bodenventile

This European Standard was approved by CEN on 21 May 2023.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard 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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN 14433:2023 E

Contents

Page

European foreword

This document (EN 14433:2023) has been prepared by Technical Committee CEN/TC 296 “Tanks for 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 2024, and conflicting national standards shall be withdrawn at the latest by January 2024.

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 14433:2014.

This document has been submitted for reference in:

— the RID; and

— the technical annexes of the ADR.

NOTE These regulations take precedence over any clause of this document. It is emphasized that RID/ADR are being revised regularly at intervals of two years which may lead to temporary non-compliances of the clauses of this document with the regulations.

The main changes compared to the previous edition are listed below:

a) the Scope has been revised;

b) Normative references have been updated;

c) the definition and source for 3.4 has been changed;

d) a Note has been added to 5.2.6;

e) revision of Clause 5 “Design and materials”;

f) a new Clause 6 “Welding” has been introduced.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

1 Scope

This document specifies the requirements for foot valves for use on tanks with a minimum working pressure greater than 50 kPa for the transport of dangerous goods by road and rail.

It is applicable to metallic equipment on tanks for the following functions for internal stop valves:

— primary closure of gravity discharge lines (liquid substances);

— primary closure of bottom discharge lines (liquid gases: liquid phase and gas phase);

— primary closure of top discharge (poisonous liquefied gases: liquid phase and gas phase);

— and other internal valves as specified in Annex F of EN 14564:2019 according to the scope of this document.

NOTE 1 The document is also applicable to liquefied gases including LPG; however, for a dedicated LPG standard see EN 13175 [3].

NOTE 2 Valves according to this document can be used as primary closure in case of top discharge of liquids and other products.

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 10204, *Metallic products - Types of inspection documents*

EN 12266-1:2012, *Industrial valves - Testing of metallic valves - Part 1: Pressure tests, test procedures and acceptance criteria - Mandatory requirements*

EN 12266-2:2012, *Industrial valves - Testing of metallic valves - Part 2: Tests, test procedures and acceptance criteria - Supplementary requirements*

EN 12516-1, *Industrial valves - Shell design strength - Part 1: Tabulation method for steel valve shells*

EN 12516-2, *Industrial valves - Shell design strength - Part 2: Calculation method for steel valve shells*

EN 12516-3:2002, *Valves - Shell design strength - Part 3: Experimental method*

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

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 3834-3, *Quality requirements for fusion welding of metallic materials - Part 3: Standard quality requirements (ISO 3834-3:2021)*

EN ISO 9606 (all parts), *Approval testing of welders - Fusion welding - Part 4: Nickel and nickel alloys (ISO 9606 (all parts))*

EN ISO 14732, *Welding personnel - Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials (ISO 14732)*

EN ISO 15613, *Specification and qualification of welding procedures for metallic materials - Qualification based on pre-production welding test (ISO 15613)*

EN ISO 15614 (all parts), *Specification and qualification of welding procedures for metallic materials - Welding procedure test (ISO 15614 (all parts))*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
maximum working pressure
MWP
maximum pressure up to which the valve can be operated, not more than the test pressure divided by 1,3

[SOURCE: ADR/RID chapter 6.8]

3.2
maximum allowable working pressure
MAWP
maximum pressure up to which the valve can be operated, not more than the test pressure divided by 1,3 (liquified gases) respectively 1,5 (liquids)

[SOURCE: ADR/RID chapter 6.7]

3.3
test pressure
pressure used for the pressure tests

3.4
nominal size
DN
alphanumeric designation of size for components of a pipework system, which is used for reference purposes. It comprises the letters DN followed by a dimensionless whole number which is indirectly related to the physical size, in millimetres, of the bore or outside diameter of the end connections

Note 1 to entry: The number following the letters DN does not represent a measurable value and should not be used for calculation purposes except where specified in the relevant standard.

Note 2 to entry: In those standards which use the DN designation system, any relationship between DN and component dimensions should be given, e.g. DN/OD or DN/ID.

[SOURCE: EN ISO 6708:1995]