SLOVENSKI STANDARD
SIST EN 12561-3:2004

01-junij-2004

Železniške naprave - Vagoni-cisterne -3. del: Naprave, ki so nameščene na dnu cisterne in so namenjene za polnjenje in praznjenje utekočinjenih plinov pod pritiskom

Railway applications - Tank wagons - Part 3: Bottom filling and emptying devices for gases liquefied under pressure

Bahnanwendungen - Kesselwagen - Teil 3: Unterliegende Füll- und Entleereinrichtungen für unter Druck verflüssigte Gase

Applications ferroviaires - Wagons citernes - Partie 3: Dispositifs de remplissage et de vidange par le bas pour gaz liquéfiés sous pression

Ta slovenski standard je istoveten z: **EN 12561-3:2002**

ICS:

13.300	Varstvo pred nevarnimi izdelki	Protection against dangerous goods
45.060.20	Železniški vagoni	Trailing stock

SIST EN 12561-3:2004 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 13.300; 45.060.20

English version

Railway applications - Tank wagons - Part 3: Bottom filling and emptying devices for gases liquefied under pressure

Applications ferroviaires - Wagons citernes - Partie 3: Dispositifs de remplissage et de vidange par le bas pour gaz liquéfiés sous pression

Bahnanwendungen - Kesselwagen - Teil 3: Untenliegende Füll- und Entleereinrichtungen für unter Druck verflüssigte Gase

This European Standard was approved by CEN on 3 January 2002.

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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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Contents

Foreword

This document (EN 12561-3:2002) has been prepared by Technical Committee CEN /TC 256, "Railway applications", the secretariat of which is held by DIN.

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 March 2003, and conflicting national standards shall be withdrawn at the latest by March 2003.

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 EU Directive(s).

— Council Directive 96/49/EC of 23 July 1996 on the approximation of the laws of the Member States with regard to the transport of dangerous goods by rail [1];

— Council Directive 96/48/EC of 23 July 1996 on the interoperability of the trans-european highspeed rail system[2];

— Council Directive 93/38/EEC of 14 June 1993 co-ordinating the procurement procedures of entities operating in the water, energy, transport and telecommunications sectors [3];

— Council Directive 91/440/EEC of 29 July 1991 on the development of the community railways [4].

It is in compliance with the following regulations being in force on the date of approval of this EN :

— Regulations concerning the International carriage of Dangerous goods by rail (RID) [5];

— Regulations governing the reciprocal use of wagons in international traffic (RIV) [6].

The European Standard has been submitted for reference into the RID. Therefore in this context the standards listed in the normative references and covering basic requirements of the RID not addressed within the present standard are normative only when the standards themselves are referred to in the RID.

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1) Official Journal of the European Community No L 235 of 96/09/17.

2) Official Journal of the European Community No L 235 of 96/09/17.

3) Official Journal of the European Community No L 199 of 93/08/09.

4) Official Journal of the European Community No L 237 of 91/08/24.

5) May be purchased from : OTIF, Gryphenhübeliweg, CH-3006 BERN

6) May be purchased from : UIC, Bureau RIV-RIC, 16 rue Jean Rey, F-75015 PARIS

This series of European Standards "Railway applications - Tank wagons" consists of :

— Part 1: Marking of tank wagons for the carriage of dangerous goods

— Part 2: Bottom emptying devices for liquid products including vapour return

— Part 3: Bottom filling and emptying devices for gases liquefied under pressure

— Part 4: Top devices for top emptying and filling of liquid products

— Part 5: Top devices for bottom emptying and top filling of liquid products

— Part 6: Manholes

— Part 7: Platforms and ladders

— Part 8: Heating connections

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this document: Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies requirements on and characteristics of bottom filling and emptying devices on tank wagons used for the carriage of gases liquefied under pressure having a test pressure up to 2,9 MPa. This standard specifies the important dimensions and arrangements for the filling and emptying connections.

NOTE It is intended to include quick couplings in a future revision of this European Standard.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

EN 20286-1, *ISO system of limits and fits — Part 1: Bases of tolerances, deviations and fits (ISO 286-1:1988).*

ISO 3419, *Non-alloy and alloy steel butt-welding fittings.*

ISO 4200, *Plain end steel tubes, welded and seamless — General tables of dimensions and masses per unit length.*

ISO 7005-1, *Metallic flanges — Part 1: Steel flanges.*

ISO 9329-3, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 3 : Unalloyed and alloyed steels with specified low temperature properties.*

ASME/ANSI B1.8-1988 *Stub ACME screw threads* [7].

UIC 503, *Continental wagons running in Great Britain — General conditions (Reference profile, axle load, etc.) for the acceptance, in international traffic with Great-Britain, of 2-axle and bogies wagons registered with other UIC railways* [8].

3 Terms and definitions

For the purpose of this European Standard the following term and definition apply:

3.1
stop valve
part of the internal bottom valve comprising the disc, the gasket, the spring and the seat.

4 Requirements

4.1 General

The liquid and vapour phase system shall consist of DN 80 pipes and valves.

The external couplings shall be :

— DN 80 diameter for the liquid phase, and

7) May be purchased from : ASME, East 47th Street, New York, N.Y. 10017, USA

8) May be purchased from : UIC, Bureau RIV-RIC, 16 rue Jean Rey, F-75015 PARIS

— DN 50 diameter for the vapour phase.

4.2 Constituent parts

Both phases shall be equipped with :

a) an internal quick closing bottom valve according to 5.3,

b) an external branch pipe according to 5.5,

c) at each end of the branch pipe a flanged external valve according to 5.4 fitted with threaded coupling according to clause 7,

The vapour phase branch pipe shall be identified by the letters "GAS" of 30 mm height embossed on a metallic plate as shown in Figure 1 which is permanently fixed on both sides of the tank wagon :

Figure 1 — Plate identifying the vapour phase branch pipe

4.3 Locks and seals

External valves as well as internal bottom valves shall be capable of being secured in their closed position to prevent any unintentional opening through impact or an inadvertent act.

The operating controls of the external valves shall be equipped with devices to which a seal can be properly attached.

NOTE For customs seals a hole of diameter 15 mm is required

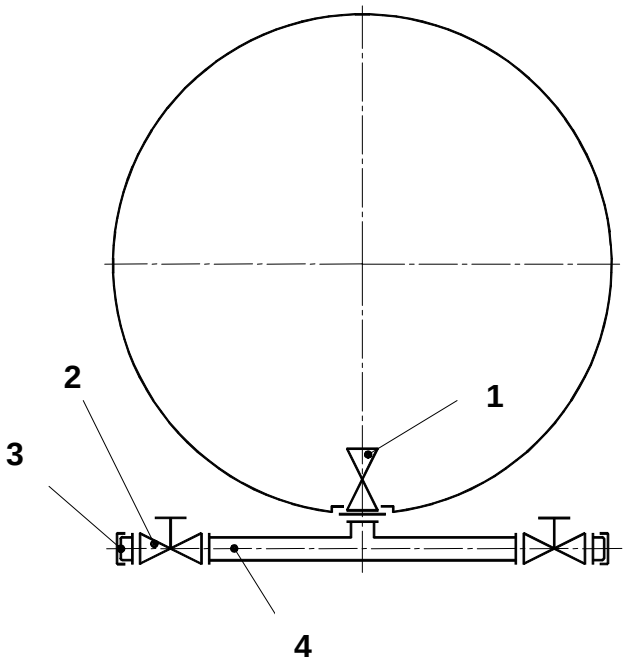
4.4 Dimensions

They are given in millimetres. Unless otherwise indicated in this European Standard the tolerances of EN 20286-1 apply.

5 Arrangement and structure

5.1 Fittings for the liquid phase

The fittings for the liquid phase shall be as shown in Figure 2.



Key

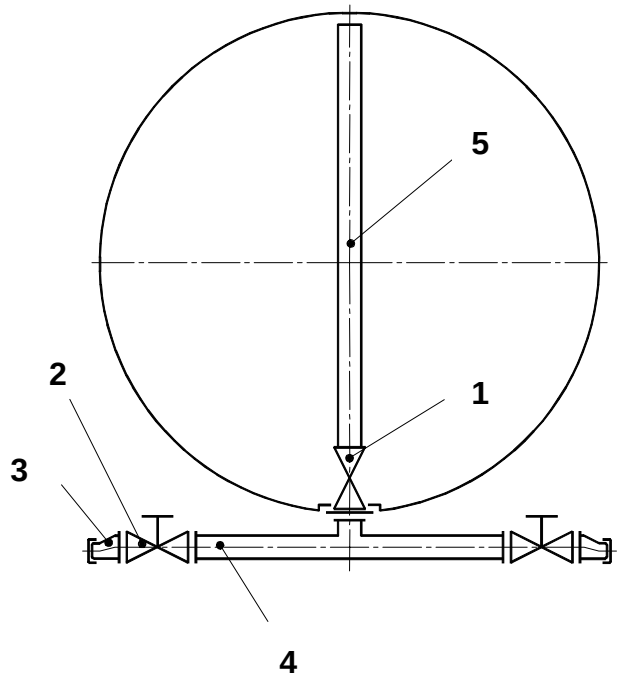
1 Internal quick closing bottom valve DN 50
2 External valve DN 50
3 Threaded coupling
4 Branch pipe DN 80

Figure 2 — Example of arrangement for the liquid phase

5.2 Fittings for the vapour phase

The vapour phase shall include a pressure compensation line located inside the tank.

The fittings for the vapour phase shall be as shown in Figure 3.



Key

1 Internal quick closing bottom valve DN 80
2 External valve DN 50
3 Threaded coupling
4 Branch pipe DN 80
5 Pressure compensation line DN 50

Figure 3 — Example of arrangement for the vapour phase