SLOVENSKI STANDARD
SIST EN 12561-5:2004

01-junij-2004

Železniške naprave - Vagoni-cisterne -5. del: Naprave, ki so nameņjene na vrhu cistern in so namenjene za polnjenje tekoļin z vrha in praznjenje z dna cisterne

Railway applications - Tank wagons - Part 5: Top devices for bottom emptying and top filling of liquid products

Bahnanwendungen - Kesselwagen - Teil 5: Obenliegende Einrichtungen für Untenentleerung und Obenbefüllung von flüssigen Stoffen

Applications ferroviaires - Wagons citernes - Partie 5: Dispositifs supérieurs de vidange par le bas et de remplissage par le haut pour produits liquides

Ta slovenski standard je istoveten z: **EN 12561-5:2002**

ICS:

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

SIST EN 12561-5:2004 **en**

EUROPEAN STANDARD

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ICS 13.300; 45.060.20

English version

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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.

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

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Contents

Foreword

This document (EN 12561-5:2002) 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of an identical text or by endorsement, at the latest by March 2003, and conflicting national standards shall be withdrawn at the latest by March 2003.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 European Standard 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 European Standard:

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

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

This 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.

This series of European Standards "Railway applications — Tank wagons" consists of the following parts:

— 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

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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]) Can be purchased from : OTIF, Gryphenhübeliweg, CH-3006 BERN

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

— 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.

Introduction

The top vapour return devices which are elements of the devices for filling and emptying devices, as defined in this European Standard are composed of:

— a depressurisation vapour connector, defined in this part and principally used before filling, and

— a vapour return line including auto vent valve, defined in EN 12561-2 and principally used during emptying.

1 Scope

This European Standard specifies the requirements on and characteristics of top devices of tank wagons fitted for bottom emptying only and filling through the manhole and used for liquid substances of RID.

This European Standard specifies in particular the important dimensions and arrangements for the connections of such tank wagons.

NOTE To take account of the loading gauge restrictions within Great Britain this European Standard does not apply to tank wagons operating exclusively therein.

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 12561-2, *Railway applications — Tank wagons — Part 2: Bottom emptying devices for liquid products including vapour return.*

EN 12561-6, *Railway applications — Tank wagons - Part 6: Manholes.*

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

ISO 4126-1, *Safety valves — Part 1: General requirements.*

prEN ISO 4126-2, *Safety devices for protection against excessive pressure — Part 2: Bursting disc safety devices (ISO 4126-2:1998).*

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

ISO 7005-1 :1992, *Metallic flanges — Part 1: Steel flanges*

3 Terms and definitions

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

3.1
depressurisation vapour connector
connection enabling the equalisation of pressure between the tank wagon and the vapour recovery system of the filling station in order to minimise volatile organic compound emissions

4 Requirements

4.1 General

The devices in this European Standard shall allow the filling of tank wagons through the manhole with a loading arm. The tank wagon shall be designed so that the loading arm does not come into contact with or damage the internal bottom valve when inserted into the tank wagon.

Petroleum tank wagons shall be fitted with a depressurisation vapour connector permitting the depressurisation of the tank prior to opening the manlid and in conformity with this European Standard.

Where tank wagons other than those for petroleum products are fitted with a depressurisation vapour connector, they should conform to this standard.

Bottom emptying devices shall conform to EN 12561-2.

4.2 Manhole

The tank wagons shall be fitted with swing bolt manholes according to EN 12561-6 situated on the top centre line and in the proximity of the longitudinal centre line of the tank. The manhole shall be situated so that its vertical projection on the bottom of the tank is not less than 100 mm from any part of the internal bottom valve.

The manhole internal diameter shall be 500 mm and its top opening shall be in a horizontal plane.

The manhole shall not restrict the operation of the vapour sealing device on the loading arm assembly.

4.3 Depressurisation vapour connector

The depressurisation vapour connector shall conform with the vapour return coupling of EN 12561-2.

The connecting face of the depressurisation vapour connector shall be in a horizontal plane.

The connector is to be provided with an easy-to-handle dust-proof cap with an attachment facility to a chain or a stainless steel wire cable.

Where required by the regulations the depressurisation vapour connector shall be fitted with a flame trap.

4.4 Safety valves

Where tank wagons are fitted with pressure and/or vacuum relief valves, they shall conform to the regulations and ISO 4126-1.

Where required by the regulations, the safety valve shall be preceded by a bursting disc. The bursting disc shall conform to prEN ISO 4126-2.

Safety valve assemblies shall be fitted in the vapour space of the tank on nozzles DN 80 PN 10 according to ISO 7005-1:1992.

4.5 Dimensions

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

5 Positioning of equipment and reserved spaces

The connecting faces of the manhole and depressurisation vapour connector shall be positioned entirely within the dimensions shown in Figure 1. Furthermore, the depressurisation vapour connector shall be located close to the manhole and on the opposite side to the manlid hinge as shown in the Figure 1.