



# SLOVENSKI STANDARD

## SIST EN 12561-6:2011

01-oktober-2011

Nadomešča:

SIST EN 12561-6:2004

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**Železniške naprave - Vagoni-cisterne - 6. del: Vstopne odprtine**

Railway applications - Tank wagons - Part 6: Manholes

Bahnanwendungen - Kesselwagen - Teil 6: Mannloch

Applications ferroviaires - Wagons citernes - Partie 6: Trous d'homme  
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**ICS:**

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

**SIST EN 12561-6:2011**

**en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 12561-6**

June 2011

ICS 13.300; 45.060.20

Supersedes EN 12561-6:2002

English Version

## Railway applications - Tank wagons - Part 6: Manholes

Applications ferroviaires - Wagons citernes - Partie 6:  
Trous d'homme

Bahnanwendungen - Kesselwagen - Teil 6: Mannloch

This European Standard was approved by CEN on 3 June 2011.

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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 CEN-CENELEC 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

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## Foreword

This document (EN 12561-6:2011) 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of an identical text or by endorsement, at the latest by December 2011, and conflicting national standards shall be withdrawn at the latest by December 2011.

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

This document supersedes EN 12561-6:2002.

This European Standard *Railway applications — Tank wagons* consists of the following parts:

- *Part 1: Identification plates for 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: Devices for top filling and emptying of liquid products;*
- *Part 5: Devices for vapour return while filling or emptying of liquid products;*
- *Part 6: Manholes;*
- *Part 7: Platforms and ladders;*
- *Part 8: Heating connections.*

The changes made during this revision are editorial because of the change of the title of part 1 and the necessary updates of references.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**EN 12561-6:2011 (E)****1 Scope**

This European Standard applies to manholes on tank wagons used for the transport of dangerous substances. Safety functions of these devices are subject to RID requirements and not described in this document.

This European Standard specifies the dimensions for the interchangeability of seals and other wearing parts and defines also the important dimensions for:

- manholes for gas tank wagons located in one end of the tank;
- manholes for gas tank wagons located on the top of the tank including the arrangement of fittings;
- bolted manholes for tank wagons for liquid substances located on the top of the tank;
- swing bolt manholes for tank wagons for liquid substances located on the top of the tank.

Quick closing/opening manholes are permitted but are not covered by this European Standard.

This European Standard applies to new tank wagons built after the 1st January 2010.

**2 Normative references**

The following referenced documents are indispensable for the application 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 14025, *Tanks for the transport of dangerous goods — Metallic pressure tanks — Design and Construction*

EN 14564, *Tanks for transport of dangerous goods — Terminology*

EN 20898-2, *Mechanical properties of fasteners — Part 2: Nuts with specified proof load values — Coarse thread (ISO 898-2:1992)*

EN ISO 286-1, *Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 1: Basis of tolerances, deviations and fits (ISO 286-1:2010)*

EN ISO 898-1, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 1: Bolts, screws and studs with specified property classes — Coarse thread and fine pitch thread (ISO 898-1:2009)*

EN ISO 4287, *Geometrical product specification (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters (ISO 4287:1997)*

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

ISO 9669, *Series 1 freight containers; Interface connections for tank containers*

**3 Terms and definitions**

For the purposes of this document, the terms and definitions given in EN 14564 and the following apply.

**3.1****manhole**

opening in the tank which includes the sealing, the manlid and fastenings

## 4 Requirements

### 4.1 Threaded fasteners

The threaded fasteners used for manholes shall conform to the requirements of EN ISO 898-1 and EN 20898-2.

NOTE To avoid any crack or damage of a tank in case of an accident, it is recommended to use only threaded fasteners with no sharp edges and only in the shortest possible length.

### 4.2 Dimensions

Nominal diameter of manhole shall be  $\geq 500$  mm. The figures of this document are given for a nominal diameter of manhole equal to 500 mm, Values depending on the diameter of the manhole shall be adapted to the nominal diameter

All dimensions are given in millimetres. Unless otherwise indicated in this European Standard, tolerances of EN ISO 286-1 apply for all dimensions.

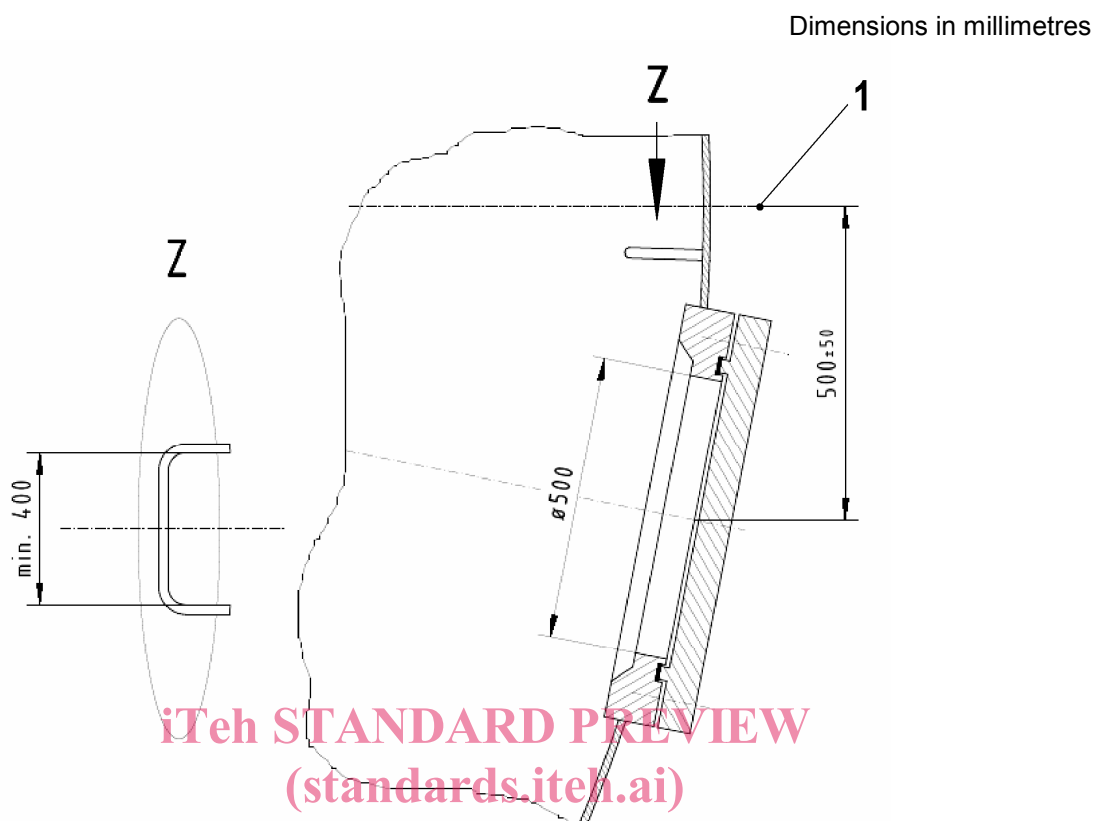
## 5 End fitted manhole for gas tank wagons

### 5.1 Position of manhole

The centre of the manhole shall be positioned on the longitudinal centre line of one end of the tank wagon. For easier access inside the tank, it is recommended that it is positioned according to Figure 1.

NOTE For easier access to the tank, one handle above the manhole and inside the tank should be fitted.

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**Key**

1 centre line of the tank

**Figure 1 — Positioning of manhole****5.2 Ring and plate****5.2.1 General**

Ring and plate shall be calculated according to EN 14025.

The plate shall be equipped with a minimum of one lifting point.

**5.2.2 Dimensions**

Dimensions shall be in accordance with Figure 2.



Dimensions in millimetres

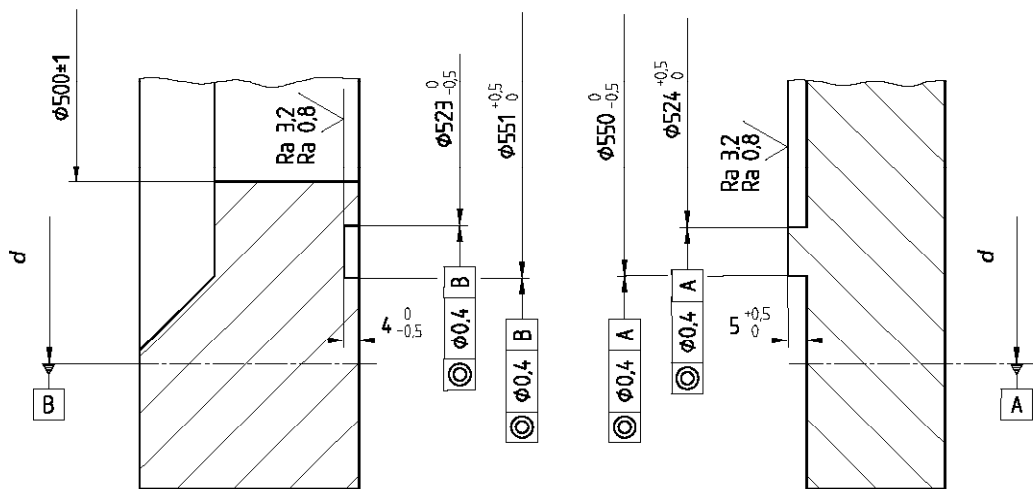


Figure 2 — Dimensions of ring and plate

### 5.2.3 Surface parameters

To ensure static liquid tightness and interchangeability of gaskets the maximum profile height (Rt) of surface defects according to EN ISO 4287 of gasket seat shall be less than 16  $\mu\text{m}$ .

### 5.2.4 Tolerances

Non specified tolerances shall be in accordance with those of flanges DN 500 of ISO 7005-1:1992.

### 5.3 Gaskets

The dimensions of the gasket shall be in accordance with Figure 3.