



**SLOVENSKI STANDARD**  
**SIST EN 13317:2003**

**01-december-2003**

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**Posode za prevoz nevarnih snovi - Obratovalna oprema za posode - Sklop pokrova vstopne odprtine**

Tanks for transport of dangerous goods - Service equipment for tanks - Manhole cover assembly

Tanks für die Beförderung gefährlicher Güter - Bedienungsausrüstung von Tanks - Baugruppe Deckel für Einsteigeöffnungen

Citernes destinées au transport de matières dangereuses - Equipement de service pour citernes - Couvertures de trou d'homme

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**Ta slovenski standard je istoveten z: EN 13317:2002**

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**ICS:**

13.300	Varstvo pred nevarnimi izdelki	Protection against dangerous goods
23.020.20	Posode in vsebniki, montirani na vozila	Vessels and containers mounted on vehicles

**SIST EN 13317:2003**

**en**

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EUROPEAN STANDARD

EN 13317

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2002

ICS 13.300; 23.020.20

English version

## Tanks for transport of dangerous goods - Service equipment for tanks - Manhole cover assembly

Citernes destinées au transport de matières dangereuses -  
Équipement de service pour citernes - Couvertres de trou  
d'homme

Tanks für die Beförderung gefährlicher Güter -  
Bedienungsausrüstung von Tanks - Baugruppe Deckel für  
Einsteigeöffnungen

This European Standard was approved by CEN on 17 August 2002.

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 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 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.

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

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## Contents

	page
Foreword.....	3
Introduction .....	4
1 Scope .....	5
2 Normative references .....	5
3 Terms and definitions.....	5
4 Functions .....	6
5 Design characteristics.....	6
5.1 Leak tightness .....	6
5.1.1 Pressure tightness.....	6
5.1.2 Drop test .....	6
5.2 Temperature range .....	6
5.3 Materials of construction .....	6
5.4 Dimensional characteristics .....	6
5.5 Electrical resistance .....	7
6 Tests.....	7
6.1 General.....	7
6.2 Production tests.....	7
6.2.1 General.....	7
6.2.2 Seat tightness test .....	7
6.2.3 Test results .....	7
6.3 Type tests .....	7
6.3.1 General.....	7
6.3.2 Seat tightness test .....	8
6.3.3 Drop test .....	8
6.3.4 Test results.....	9
7 Marking .....	9
8 Installation, operating and maintenance instructions .....	9
Annex A (normative) Drop test apparatus .....	10
Annex B (normative) Manhole cover assembly .....	11

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[SIST EN 13317:2003](https://standards.itech.ai/catalog/standards/sist/en-13317-2003)

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## Foreword

This document (EN 13317:2002) 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 April 2003 and conflicting national standards shall be withdrawn at the latest by April 2003

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports the objectives of the framework Directives on Transport of Dangerous Goods.

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

This European Standard forms part of a coherent standards programme comprising the following standards:

*Tanks for transport of dangerous goods - Service equipment for tanks*

EN 13081, *Vapour collection adapter and coupler.*

EN 13082, *Vapour transfer valve.*

EN 13083, *Adapter for bottom loading and unloading.*

prEN 13308, *Non-pressure balanced footvalve.*

EN 13314, *Fill hole cover.*

EN 13315, *Gravity discharge coupler.*

prEN 13316, *Pressure balanced footvalve.*

EN 13317, *Manhole cover assembly.*

WI 296009, *Pressure and vacuum breather vent.*

WI 296010, *Emergency pressure relief valve.*

Annexes A and B are both normative.

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

**EN 13317:2002 (E)****Introduction**

The manhole cover assembly, the subject of this standard, seals the manhole which gives access to the inside of the tank compartment for manufacturing, cleaning, and inspection, and forms an integral part of a loading, unloading or venting function.

NOTE Cover plates used to seal manholes are not the subject of this standard.

The manhole cover assembly, which comprises the manhole cover and gaskets and may include devices to secure it to the tank shell neckring, may also provide the mounting points for equipment such as:

- fill hole cover;
- pressure limiting device(s);
- level detection equipment;
- vapour transfer valve;
- pressure and vacuum breather vent.

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## 1 Scope

This European Standard covers the manhole cover assembly and specifies the performance requirements, dimensions and tests necessary to verify the compliance of the equipment to this standard.

The equipment specified by this standard is suitable for use with liquid petroleum products and other dangerous substances of Class 3 of ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road – (flammable liquids) which have a vapour pressure not exceeding 110 kPa at 50 °C including petrol, and which have no-sub-classification as toxic or corrosive.

## 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).

prEN 12266-1:1999, *Industrial valves - Testing of valves - Part 1: Tests, test procedures and acceptance criteria to be fulfilled by every valve.*

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

prEN 13094, *Tanks for transport of dangerous goods - Low-pressure metallic tanks - Design and construction.*

prEN 14025, *Tanks for transport of dangerous goods - Metallic pressure tanks - Design and construction.*

ISO 2859-1, *Sampling procedures for inspection by attributes - Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection.*

## 3 Terms and definitions

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

### 3.1

#### **manhole**

opening in a tank to allow internal inspection by a person passing through

### 3.2

#### **manhole cover**

the cover of the manhole which forms an integral part of a loading, unloading or venting function and which may include auxiliary equipment such as vapour transfer valve, emergency pressure relief valve and sensors

### 3.3

#### **manhole cover neckring**

a shell ring permanently joined to the tank in accordance with prEN 13094 or prEN 14025, that provides the attachment point for the manhole cover

### 3.4

#### **fill hole cover**

operating device on top of a transportable tank to allow the opening and closing of the fill hole

### 3.5

#### **manhole cover gasket**

a device which ensures the seal between manhole cover neckring and the manhole cover

## EN 13317:2002 (E)

### 3.6

#### **maximum allowable working pressure (MAWP)**

the maximum pressure to which the equipment is designed to operate

### 3.7

#### **cover plate**

a plate which does not form an integral part of a loading, unloading or venting function and is used to provide a leak-tight cover for a manhole

## 4 Functions

The manhole cover assembly seals the manhole that gives access to the inside of the tank or compartment.

The manhole cover assembly may provide aperture(s) to allow the installation of other equipment.

## 5 Design characteristics

### 5.1 Leak tightness

#### 5.1.1 Pressure tightness

When closed, the manhole cover assembly shall be vapour and liquid tight in any orientation, at any positive or negative pressure within the maximum allowable working pressure range of the tank compartment to which it shall be fitted.

#### 5.1.2 Drop test

Each type of manhole cover assembly shall be structurally capable of withstanding, without leakage or permanent deformation that would affect its structural integrity, a drop test as described in 6.3.3.

### 5.2 Temperature range

Unless otherwise specified, the design temperature range shall be  $-20\text{ °C}$  to  $50\text{ °C}$ .

Where the manhole cover assembly is subjected to more severe conditions, the design temperature range shall be extended to  $-40\text{ °C}$  or  $+70\text{ °C}$  as applicable.

### 5.3 Materials of construction

The manufacturer shall provide with the equipment a full material specification for those parts that may come into contact with the dangerous substances specified in the scope.

### 5.4 Dimensional characteristics

The nominal diameter of the manhole shall be 500 mm.

The critical dimensions for the mounting face attachment are specified in annex B.

The height of any part of the manhole cover assembly, including auxiliary equipment, must not exceed 150 mm above the mounting face. Examples of auxiliary equipment include:

- fill hole cover (in the closed position);
- pressure and vacuum breather vent;
- vapour transfer valve;



- emergency pressure relief valve (in open position);
- level detection equipment.

## 5.5 Electrical resistance

The electrical resistance between any conductive part of the manhole cover assembly which may come into contact with the dangerous substances and the manhole cover neckring shall not exceed  $10^6 \Omega$ .

Provision shall be made for the bonding of the manhole cover neckring to the tank such that the electrical resistance between the two shall not exceed  $10 \Omega$ .

## 6 Tests

### 6.1 General

Two classes of tests are required, production tests and type tests.

Testing methods and procedures shall comply with the requirements of prEN 12266-1 and EN 12266-2 except as specified or amended within this standard.

### 6.2 Production tests

#### 6.2.1 General

The number, frequency and sampling methods of production test samples shall not be less than those specified within ISO 2859-1, (AQL of 2,5).

Production tests shall comprise: [SIST EN 13317:2003  
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- seat tightness test (see A.4 of prEN 12266-1:1999).

#### 6.2.2 Seat tightness test

**6.2.2.1** Valve classification type (for test method selection only): diaphragm valve (see Table A.3 of prEN 12266-1:1999).

**6.2.2.2** Test pressure: shall be the greater of 65 kPa or 1,3 times the MAWP of the manhole cover assembly.

**6.2.2.3** Test duration: as Table A.4 of prEN 12266-1:1999.

**6.2.2.4** Acceptance criteria: rate A (see Table A.5 of prEN 12266-1:1999).

#### 6.2.3 Test results

Test results shall be recorded and maintained in accordance with the manufacturer's procedures.

### 6.3 Type tests

#### 6.3.1 General

A minimum of 2 production samples of each model type shall be type tested to demonstrate the performance and mechanical strength of the design.

NOTE Devices having one design, size and set pressure are considered to be of one model type.

Unless otherwise noted, all type tests shall be performed at maximum and minimum design temperatures.