



# SLOVENSKI STANDARD

## SIST EN 14595:2016

01-oktober-2016

Nadomešča:  
SIST EN 14595:2005

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### Cisterne za prevoz nevarnega blaga - Oprema za obratovanje cistern - Tlačni in vakuumski oddušniki

Tanks for transport of dangerous goods - Service equipment for tanks - Pressure and vacuum breather device

Tanks für die Beförderung gefährlicher Güter - Bedienungsausrüstung von Tanks - Einrichtung für Über- und Unterdruckbelüftung

Citernes destinées au transport de matières dangereuses - Equipements de dispositif pour citernes - Event de pression et de dépression

Ta slovenski standard je istoveten z: **EN 14595:2016**

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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 14595:2016**

**en,fr,de**

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EUROPEAN STANDARD

EN 14595

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2016

ICS 13.300; 23.020.20

Supersedes EN 14595:2005

English Version

## Tanks for transport of dangerous goods - Service equipment - Breather device

Citernes destinées au transport de matières  
dangereuses - Équipement de service pour citernes -  
Dispositif de respiration

Tanks für die Beförderung gefährlicher Güter -  
Bedienungsausrüstung - Belüftungseinrichtung

This European Standard was approved by CEN on 25 June 2016.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

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

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## European foreword

This document (EN 14595:2016) 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 February 2017, and conflicting national standards shall be withdrawn at the latest by February 2017.

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 14595:2005.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

The following significant changes were made in this new edition of EN 14595:

- device name changed to align with ADR,
- Introduction revised to clarify the combination of breather and safety device as requirements for compliance with this standard and to include reference to EN 16522,
- EN 12266-2 removed from the normative reference list,
- requirement for secondary positive means of security clarified,  
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- below atmospheric relieving pressure rating clarified, [en-14595-2016](https://standards.iteh.ai/catalog/standards/sist/7d39789a-3ae5-4ff9-b9a1-en-14595-2016)
- electrical resistance requirements refined,
- the keeping period for test results clarified,
- drop test rig, (Annex A), dimensions of sand boxes improved.

This document forms part of a coherent standards programme (i.e. Tanks for transport of liquid dangerous goods with vapour pressure not exceeding 110 kPa (absolute) at 50° C and petrol — Service equipment).

This standards programme comprises the following standards:

- EN 13082, *Tanks for transport of dangerous goods — Service equipment for tanks — Vapour transfer valve;*
- EN 13083, *Tanks for transport of dangerous goods — Service equipment for tanks — Adaptor for bottom loading and unloading;*
- EN 13308, *Tanks for transport of dangerous goods — Service equipment for tanks — Non pressure balanced footvalve;*
- EN 13314, *Tanks for transport of dangerous goods — Service equipment for tanks — Fill hole cover;*
- EN 13315, *Tanks for transport of dangerous goods — Service equipment for tanks — Gravity discharge coupler;*

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- EN 13316, *Tanks for transport of dangerous goods — Service equipment for tanks — Pressure balanced footvalve*;
- EN 13317, *Tanks for transport of dangerous goods — Service equipment for tanks — Manhole cover assembly*;
- EN 14595, *Tanks for transport of dangerous goods — Service equipment — Breather device*;
- EN 14596, *Tanks for transport of dangerous goods — Service equipment for tanks — Emergency pressure relief valve*;
- EN 16249, *Tanks for the transport of dangerous goods — Service equipment — Cap for the adaptor for bottom loading and unloading*;
- EN 16257, *Tanks for the transport of dangerous goods — Service equipment — Footvalve sizes other than 100 mm dia (nom)*;
- EN 16522, *Tanks for transport of dangerous goods — Service equipment for tanks — Flame arresters for breather devices*.

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

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## Introduction

The breather device as specified includes a safety device to prevent the contents from spilling out if the tank overturns.

The breather may be a separate device, or an integral part of another device.

Where the breather device is separate from the safety device (to prevent the contents from spilling out of the tank), the functional performance of these elements in combination is required in order to comply with this standard.

Where a flame arrestor is required, EN 16522, *Flame arrestors for breather devices*, specifies requirements.

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**EN 14595:2016 (E)****1 Scope**

This European Standard covers the breather device used to ensure normal tank compartment breathing.

It specifies the performance requirements and the critical dimensions of the breather device. It also specifies the tests necessary to verify compliance of the equipment with this document.

The service equipment specified by this document is suitable for use with liquid petroleum products and other dangerous substances of Class 3 of ADR [1] which have a vapour pressure not exceeding 110 kPa (absolute) at 50 °C and petrol, and which have no sub-classification as toxic or corrosive.

**2 Normative references**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

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

EN ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation (ISO 228-1)*

EN 60529, *Degrees of protection provided by enclosures (IP Code)*

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

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**3 Terms and definitions**

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

**4 Functions**

The breather device:

- shall provide pressure and vacuum breathing for a tank compartment,
- may provide venting where a specific venting device is not fitted, and
- shall prevent the spilling out of the contents of the tank in the event of an overturn.

**5 Design characteristics****5.1 General**

Breather devices shall be of the re-sealing type and may or may not breathe or vent directly to atmosphere. They shall be designed to prevent unauthorized adjustment of the relieving pressure settings.

The functions described in Clause 4 may be provided by one combined device or by separate independent devices. Discrete devices that are not mounted externally shall have a secondary positive means for being secured.



## 5.2 Ingress protection

The breather device shall be designed, or provision made, to meet the requirements of IP31 in accordance with EN 60529.

## 5.3 Pressure ratings

### 5.3.1 Above atmospheric relieving pressure (pressure relief)

Breather devices shall have a relieving pressure of not more than 12 kPa(gauge) in their normally installed attitude.

### 5.3.2 Below atmospheric relieving pressure (vacuum)

The relieving pressure of breather devices shall be between  $-0,4$  kPa (gauge) and  $-2,5$  kPa (gauge) in their normally installed attitude.

### 5.3.3 Tank overturn

The breather device shall be designed to prevent the spilling out of the contents of the tank in the event of an overturn.

## 5.4 Flow capacity

The flow capacity shall be the flow rate (in  $\text{m}^3/\text{h}$ ) of air (at  $20\text{ }^\circ\text{C}$ ) achieved by the breather device at the following pressures:

- pressure flow capacity: 30 kPa above pressure relieving pressure;
  - vacuum flow capacity: 3 kPa below vacuum relieving pressure.
- <https://standards.iteh.ai/catalog/standards/sist/7d39789a-3ae5-4ff9-b9a1-4ee54c3c3937/sist-en-14595-2016>

## 5.5 Temperature range

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

Where the breather device is subjected to more severe conditions, the design temperature range shall be extended to  $-40\text{ }^\circ\text{C}$  or  $+70\text{ }^\circ\text{C}$  as applicable.

## 5.6 Materials of construction

The manufacturer shall provide, with the equipment, a full material specification for those parts that may come into contact with the substances described in Clause 1.

## 5.7 Dimensional characteristics

When the breather device is provided with threaded connections, the threads shall conform to EN ISO 228-1.

## 5.8 Electrical resistance

The electrical resistance between any conductive part of the device which may come into contact with the dangerous goods and its mounting shall not exceed  $1\text{ M}\Omega$ .

## 6 Tests

### 6.1 General

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

Testing methods and procedures shall conform to EN 12266-1 except as specified within this document.