



SLOVENSKI STANDARD

SIST EN 14595:2005

01-maj-2005

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 Vent

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

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

<https://standards.iteh.ai/catalog/standards/sist/a56e1a1a-ebec-42bc-a806-2aa128c34fa8/sist-en-14595-2005>

Ta slovenski standard je istoveten z: EN 14595:2005

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 14595:2005

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 14595:2005](#)

<https://standards.iteh.ai/catalog/standards/sist/a56e1a1a-ebec-42bc-a806-2aa128c34fa8/sist-en-14595-2005>

EUROPEAN STANDARD

EN 14595

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2005

ICS 13.300; 23.020.20

English version

Tanks for transport of dangerous goods - Service equipment for tanks - Pressure and Vacuum Breather Vent

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

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

This European Standard was approved by CEN on 3 February 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

[SIST EN 14595:2005](https://standards.iteh.ai/catalog/standards/sist/a56e1a1a-ebec-42bc-a806-2aa128c34fa8/sist-en-14595-2005)

<https://standards.iteh.ai/catalog/standards/sist/a56e1a1a-ebec-42bc-a806-2aa128c34fa8/sist-en-14595-2005>



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

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

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 General.....	6
5.2 Weather Protection	6
5.3 Pressure Ratings	6
5.4 Venting Capacity.....	6
5.5 Temperature range	6
5.6 Materials of construction	7
5.7 Dimensional characteristics	7
5.8 Electrical resistance	7
6 Tests.....	7
6.1 General.....	7
6.2 Production tests.....	7
6.3 Type test	9
7 Marking	10
8 Installation, operating and maintenance instructions	10
Annex A (normative) Drop test apparatus	11
Bibliography	12

Iteh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 14595:2005

<https://standards.iteh.ai/catalog/standards/sist/a56e1a1a-cbec-42bc-a806-2aa128c34f68/sist-en-14595-2005>

Foreword

This document (EN 14595:2005) 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 September 2005, and conflicting national standards shall be withdrawn at the latest by September 2005.

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 pressure) at 50° C and petrol - Service Equipment).

This standards programme comprises the following standards:

EN 13081, *Tanks for transport of dangerous goods - Service equipment for tanks - Vapour collection adaptor and coupler.*

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.*

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 for tanks - Pressure and Vacuum Breather Vent.*

EN 14596, *Tanks for transport of dangerous goods - Service equipment for tanks - Emergency pressure relief valve.*

This document includes a Bibliography.

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

Introduction

A pressure and vacuum breather vent allows normal tank compartment breathing.

The pressure and vacuum breather vent may be an integral part of the Vapour Transfer Valve or other devices.

NOTE The pressure and vacuum breather vent forms part of an ADR [1] venting system, see 6.8.2.2.6 of ADR 2005, and should not be considered as a safety valve as defined in ADR.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 14595:2005](https://standards.iteh.ai/catalog/standards/sist/a56e1a1a-ebec-42bc-a806-2aa128c34fa8/sist-en-14595-2005)

<https://standards.iteh.ai/catalog/standards/sist/a56e1a1a-ebec-42bc-a806-2aa128c34fa8/sist-en-14595-2005>

1 Scope

This document covers the pressure and vacuum breather vent used to ensure normal tank compartment breathing.

It specifies the performance requirements and the critical dimensions of the pressure and vacuum breather vent. 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 at 50 °C and petrol, and which have no sub-classification as toxic or corrosive.

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 12266-1:2003, *Industrial valves – Testing of valves – Part 1: Pressure tests, test procedures and acceptance criteria - Mandatory requirements.*

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

EN ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads – Part 1: Dimensions, tolerances and designation (ISO 298-1:2000).*

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

<https://standards.iteh.ai/catalog/standards/sist/a56e1a1a-ebec-42bc-a806-2aa128c34fa8/sist-en-14595-2005>

3 Terms and definitions

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

3.1

relieving pressure

pressure at which the pressure and vacuum breather vent starts to open

3.2

maximum working pressure (MWP) (gauge pressure)

the maximum pressure to which the equipment is designed to operate, being:

highest of the following three pressures:

- a) highest effective pressure allowed in the tank during filling (maximum filling pressure allowed);
- b) highest effective pressure allowed in the tank during discharge (maximum discharge pressure allowed); and
- c) effective gauge pressure to which the tank is subjected by its contents (including such extraneous gases as it may contain) at the maximum working temperature.

EN 14595:2005 (E)**4 Functions**

The pressure and vacuum breather vent shall provide the following:

- pressure and vacuum breathing for a tank compartment, although these functions may be provided by other devices during loading and unloading; and
- containment of the substance in the event of a tilt or overturn.

5 Design characteristics**5.1 General**

Pressure and vacuum breather vents shall be of the re-sealing type and may or may not vent directly to atmosphere.

They shall be designed to prevent unauthorised adjustment of the relieving pressure settings.

The functions described in Clause 4 may be provided by one combined device or by separate independent devices.

5.2 Weather Protection

The pressure and vacuum breather vent shall be designed, or provision made, to eliminate the accumulation of water, which could freeze and impair the operation of the valve.

5.3 Pressure Ratings**5.3.1 Above atmospheric relieving pressure (pressure relief)**

Pressure breather vents shall have a relieving pressure of not more than 12 kPa in their normally installed attitude.

5.3.2 Below atmospheric relieving pressure (vacuum)

The opening pressure of vacuum breather vents shall be between 0,4 kPa and 2,5 kPa below atmospheric pressure.

5.3.3 Tank Overturn

The pressure and vacuum breather vent shall be designed to prevent loss of product from the tank compartment in the event of tank overturn.

5.4 Venting Capacity

The venting capacity shall be the flow rate (in m³/h) of air (at 20 °C) achieved by the pressure and vacuum breather vent at the following differential pressures:

- pressure venting capacity: 30 kPa;
- vacuum venting capacity: 3 kPa.

5.5 Temperature range

Unless otherwise specified, the design temperature range shall be –20 °C to +50 °C.

Where the pressure and vacuum breather vent 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 pressure and vacuum breather vent 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 $10^6\Omega$.

Provision shall be made for the bonding of its mounting to the tank such that the electrical resistance between the two shall not exceed 10Ω .

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 and EN 12266-2, except as specified within this document.

Unless otherwise specified, test fluids shall be air or other suitable gas. The choice of the fluid is the responsibility of the manufacturer. Tests shall be performed on the complete pressure and vacuum breather vent.

6.2 Production tests

6.2.1 General

The number, frequency and sampling methods of production test samples shall be not less than those specified within ISO 2859-1 (AQL of 2.5).

Production tests shall comprise the following:

- seat tightness test (EN 12266-1:2003, A.4); and
- overturn seat tightness test (EN 12266-1:2003, A.4).

6.2.2 Seat tightness test

6.2.2.1 Test procedure

With the vent under test positioned in its normally installed attitude, and closed in a leak-tight condition, a steadily increasing differential test pressure from 0 kPa to the relieving pressure shall be applied.

At the vent's specified relieving pressure the differential test pressure shall be held for a time period in accordance with Table A.4 of EN 12266-1:2003.

During this period, the leakage rate shall conform to rate B of EN 12266-1:2003, Table A.5.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 14595:2005
<https://standards.iteh.ai/catalog/standards/sist/a36e1a1a-cbec-42bc-a806-2aa128c34fa8/sist-en-14595-2005>