



SLOVENSKI STANDARD

SIST EN 13081:2009+A1:2012

01-junij-2012

Nadomešča:
SIST EN 13081:2009

Cisterne za prevoz nevarnega blaga - Oprema za oskrbovanje cistern - Spojka za zbiralnik pare (vključno z dopolnilom A1)

Tanks for transport of dangerous goods - Service equipment for tanks - Vapour collection adaptor and coupler

Tanks für die Beförderung gefährlicher Güter - Bedienungsausrüstung von Tanks - VKG- und MKG-Kupplungen für die Gassammelleitung

Citernes de transport de matières dangereuses - Equipement de service pour citernes - Adaptateur et coupleur pour la récupération des vapeurs

Ta slovenski standard je istoveten z: EN 13081:2008+A1:2012

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
23.040.60	Prirobnice, oglavki in spojni elementi	Flanges, couplings and joints

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en,fr,de

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EUROPEAN STANDARD

EN 13081:2008+A1

NORME EUROPÉENNE

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February 2012

ICS 23.040.60; 13.300; 23.020.20

Supersedes EN 13081:2008

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Tanks for transport of dangerous goods - Service equipment for tanks - Vapour collection adaptor and coupler

Citernes de transport de matières dangereuses -
Équipement de service pour citernes - Adaptateur et
coupleur pour la récupération des vapeurs

Tanks für die Beförderung gefährlicher Güter -
Bedienungsausrüstung von Tanks - VKG- und MKG-
Kupplungen für die Gassammelleitung

This European Standard was approved by CEN on 13 September 2008 and includes Amendment 1 approved by CEN on 24 December 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

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Foreword

This document (EN 13081:2008+A1:2012) 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 August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.

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 A1 EN 13081:2008 A1.

This document includes Amendment 1 approved by CEN on 2011-12-24.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

A1 Compared to EN 13081:2008 the following changes have been made:

- a) in 3.2 a definition for "probe" has been added;
- b) in Annex A (normative) specifications for the opening of the adaptor have been added;
- c) in Annex B (normative) specifications for the opening of the coupler have been added;
- d) in Annex C (normative) specifications for the interlock have been added. A1

This European standard forms part of a coherent standards programme comprising the following standards, under the general title "Tanks for transport of dangerous goods - Service equipment for tanks"

EN 13081, *Vapour collection adaptor and coupler*

EN 13082, *Vapour transfer valve*

EN 13083, *Adaptor for bottom loading and unloading*

EN 13308, *Non pressure balanced footvalve*

EN 13314, *Fill hole cover*

EN 13315, *Gravity discharge coupler*

EN 13316, *Pressure balanced footvalve*

EN 13317, *Manhole cover assembly*

EN 13922, *Overfill prevention systems for liquid fuels*

EN 14595, *Pressure and Vacuum Breather Vent*

EN 14596, *Emergency pressure relief valve*

EN 15208, *Sealed parcel delivery systems – Working principles and interface specifications*

EN 13081:2008+A1:2012 (E)

The standards programme also includes the following Technical Report:

CEN/TR 15120, *Tanks for transport of dangerous goods - Guidance and recommendations for loading, transport and unloading.*

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, Turkey and the United Kingdom.

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Introduction

The vapour collection adaptor and coupler are part of the vapour collection system that is required to comply with the European Directive 94/63/EC on Volatile Organic Compounds (VOC) [1].

The vapour collection adaptor and coupler establish a vapour tight path between the transport tank and the stationary loading and unloading facilities.

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EN 13081:2008+A1:2012 (E)**1 Scope**

This European Standard covers the vapour collection adaptor and coupler used to achieve a vapour tight path between the transport tank and the stationary loading and unloading facilities.

This European Standard specifies the performance requirements and the critical dimensions of the vapour recovery adaptor fitted to the tank and the mating coupler fitted to a hose or to pipework connected to the stationary loading and unloading facilities. It also specifies the tests necessary to verify the compliance of the equipment with this standard. The equipment specified by this European Standard is suitable for use with liquid petroleum products and other dangerous substances of Class 3 of ADR [2] 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 amendments) applies.

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

EN 12266-2:2002, *Industrial valves — Testing of valves — Part 2: Tests, test procedures and acceptance criteria — Supplementary requirements*

EN 15208:2007, *Tanks for transport of dangerous goods - Sealed parcel delivery systems – Working principles and interface specifications*

EN ISO 1302, *Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation (ISO 1302:2002)*

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

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 document, the following terms and definitions apply.

3.1
Maximum Working Pressure (MWP) gauge pressure
maximum pressure to which the equipment is designed to operate, being the 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)
- 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

A1) 3.2**probe**

device used to displace the obturator (poppet) of the adaptor **A1)**

4 Function

The vapour collection adaptor and coupler shall provide the following:

- a quick action vapour tight mechanical connection between the transport tank and the stationary loading and unloading facilities for the transfer of vapour;
- vapour tightness when not connected.

The vapour collection adaptor may be capable of accepting interlock actuators and similar devices, see Annex C.

The vapour collection adaptor may have provision for a sight glass to check for the presence of liquid.

The vapour collection adaptor may have provision for the drainage of liquid.

5 Design characteristics**5.1 General**

The vapour collection adaptor and coupler shall permit the transfer of vapour only after initiation of the mating action.

5.2 Performance characteristics

The manufacturer shall provide the pressure drop curves for both the vapour collection adaptor and coupler at the following conditions:

- flow rate up to 1 500 standard m³/h of air at 20 °C (1 500 standard m³/h of air corresponds to the bottom loading of 5 compartments simultaneously each at 150 m³/h flow of substances).

5.3 Pressure ratings

The vapour collection adaptor shall be capable of operating at the MWP of the transport tank to which it is attached.

The vapour collection coupler shall be capable of operating at the MWP of the stationary loading and unloading facility to which it is attached.

5.4 Temperature range

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

Where the vapour collection adaptor and coupler are subjected to more severe conditions, the design temperature range shall be extended to – 40 °C or + 70 °C as applicable.

5.5 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 by Clause 1.

EN 13081:2008+A1:2012 (E)**5.6 Dimensional characteristics**

The dimensions, tolerances and surface machined finish of the vapour collection adaptor and coupler shall be as given in Annexes A and B (see Figures A.1 and B.1).

The mounting dimensions of the flange connecting the vapour collection adaptor to the pipework of the tank shall be as follows:

- outside diameter (maximum) : 174 mm;
- inside diameter (minimum) : 100 mm;
- pitch circle diameter : 150 mm;
- number of holes : 8 equispaced;
- hole diameter : 14 mm.

NOTE 1 Tolerances ± 1 mm.

NOTE 2 Holes should straddle adaptor centre line.

NOTE 3 A 4 hole mounting, which can accommodate the specified 8 hole flange without loss of performance may be used as an option, see Annex D.

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6 Tests**6.1 General**

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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 European Standard.

Unless otherwise specified, test fluids shall be air or other suitable gas. The choice of the fluid is the responsibility of the manufacturer.

NOTE Where the obturator forms part of the pressure containing shell, it may be closed during strength and tightness tests.

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 the following:

- shell tightness test;
- internal seat tightness test; and
- operability test.

6.2.2 Shell tightness test

6.2.2.1 Test pressure

The test pressure shall conform to A.3.2.2 of EN 12266-1:2003.

6.2.2.2 Test duration

The test duration shall conform to A.3.2.3 of EN 12266-1:2003.

6.2.2.3 Acceptance criteria

The acceptance criteria shall conform to A.3.3 of EN 12266-1:2003.

6.2.3 Internal seat tightness test

6.2.3.1 Valve classification type (for test method selection only)

The valve classification type shall be a check valve as in EN 12266-1:2003, Table A.3.

6.2.3.2 Test pressure

The test pressure shall be 5,5 kPa.

6.2.3.3 Test duration

The test duration shall conform to Table A.4 of EN 12266-1:2003.

6.2.3.4 Acceptance criteria

The acceptance criteria shall conform to rate A of EN 12266-1:2003, Table A.5.

6.2.4 Operability test

The operability test shall conform to B.1 of EN 12266-2:2002.

6.2.5 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.

Type tests shall comprise the following:

— shell strength test;

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