

BS EN 14564:2013



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Tanks for transport of dangerous goods — Terminology

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee AUE/18, Tanks for the transport of dangerous goods.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

Tanks for transport of dangerous goods - Terminology

Citernes pour le transport des matières dangereuses -
Terminologie

Tanks für die Beförderung gefährlicher Güter - Begriffe

This European Standard was approved by CEN on 24 November 2012.

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.

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Foreword

This document (EN 14564:2013) 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of an identical text or by endorsement, at the latest by August 2013, and conflicting national standards shall be withdrawn at the latest by August 2013.

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 14564:2004.

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

EN 14564:2012 includes the following major changes with respect to EN 14564:2004:

- a) The following new definitions have been added: 3.2 Adaptor, 3.4 Breathing, 3.5 Capacity, 3.6 Cold forming, 3.10 Elliptical, 3.12 Fastenings, 3.13 Flame arrester, 3.19 Pressure balanced, 3.20 Product sensor, 3.23 Run off pipe, 3.24 Self actuating adaptor, 3.25 Self closing (valve), 3.28 Venting, 4.2 Demountable, A.6 Conformity assessment, A.7 Control temperature, A.8 Critical temperature, A.12 Emergency temperature, A.14 Filling ratio, A.16 Flash point, A.18 Hermetically closed tank, A.19 Inspection body, A.33 Solid and A.41 UN – number.
- b) The definition of 3.15 Inspector has been modified.
- c) The following definitions have been deleted: 3.2 Attachment, 3.18 Total capacity, 3.19 Total mass, 4.1 Actuator, 4.2 Demountable, 4.3 Cross compatibility, 4.4 Effective cycle time, 4.5 Fail safe, 4.8 Fire wire system, 4.9 Gantry control system, 4.10 Gantry control system reaction time, 4.11 Interface, 4.13 Inter-operable, 4.18 Non-permissive, 4.19 Overfill prevention controller, 4.21 Overfill prevention system response time, 4.22 Permissive, 4.26 Self-checking, 4.27 Sensor and 4.28 Two-wire system.

This standard provides uniform terminology for technical terms which require definition in addition to regulatory definitions based in RID/ADR, and specific terms defined in other standards on tanks for transport of dangerous goods, prepared by CEN/TC 296.

Clause 3 defines general terms and Clause 4 defines specific terms.

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.

1 Scope

This European Standard gives the terminology for all tanks and does not cover carriage in bulk for the transport of dangerous goods. This document is part of the standards on tanks for transport of dangerous goods, prepared by CEN/TC 296 in application of the RID/ADR [2, 3]:

- Annex A gives some definitions taken from RID/ADR chapter 1.2 ; and
- Annex B gives some definitions taken from RID/ADR chapter 6.7.

NOTE Annexes A and B are based on the 2013 edition of RID/ADR which are updated every two years. This includes the potential of temporary inconsistencies with these annexes.

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*

3 General terms

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

3.1

accessory

equipment mounted to the tank which is not part of the shell or service equipment or structural equipment

3.2

adaptor

closure with a particular connection profile

3.3

baffle

any non-hermetically sealed structure other than a surge plate, intended to inhibit the movement of the shell contents

3.4

breathing

automatic and normal function to control pressure and vacuum between the inside and the outside of the shell

3.5

capacity

total inner volume of shell or shell compartment construction

Note 1 to entry: When it is impossible to fill completely the shell or shell compartment because of its shape or construction, this reduced capacity is used for the determination of the degree of filling and for the marking of the tank.

3.6

cold forming

forming at temperatures not less than 25 °C below the maximum permissible temperature for stress relieving, in accordance with the applicable material specifications

3.7

cover plate

closure of an opening of the shell which is not service equipment

3.8

design stress

stress value used for calculation

3.9

design temperature

temperature chosen for the design of each part of the tank

3.10

elliptical

section of a shape which has a side radius of curvature lower than or equal to the radius of curvature of a circular section tank of the same width

3.11

end

head

part of the shell shutting off the longitudinal section

3.12

fastenings

structural equipment used for fixing the tank on the chassis, frame or auxiliary frame

3.13

flame arrester

flame trap

device fitted to the opening of an enclosure or to the connecting pipework of a system of enclosures and whose intended function is to allow flow but prevent the transmission of flame

3.14

hydraulic pressure test

strength test carried out with liquid (generally water)

3.15

inspector

individual of an inspection body approved by the competent authority

3.16

leak proof

able to contain the fluid in accordance with Table A.5 of EN 12266-1:2012, Rate A

3.17

nominal capacity

maximum volume intended to be carried

3.18

partition

hermetically sealed dividing wall between adjacent compartments in compartmented tanks

3.19

pressure balanced

equilibrium of substance pressure on both sides of the internal stop valve

3.20

product sensor

device which detects the presence of product in liquid phase and whose output signal can be used to display whether liquid is present

3.21

protective lining or coating

lining or coating protecting the metallic tank material against corrosion or reaction with the substances to be transported

3.22

repair

correction of a defect which may have impaired the safety of the tank or where equipment that communes directly with the shells content or safety device is replaced; it does not include normal service and maintenance operations of the shell or service equipment or replacement of gaskets or service equipment to the same specification

3.23

run off pipe

pipe connecting a footvalve to the associated external stop-valve

3.24

self actuating adaptor

adaptor capable of being opened by built-in and external means

3.25

self closing (valve)

valve held in the closed position by means of stored energy (such as a spring) which opens only by application of external force and which closes when the external force is removed

3.26

surge plate

non-hermetically sealed wall in tanks or compartments of shells intended to reduce the effect of surge, mounted at right angles to the direction of travel, having an area of at least 70 % of the cross-sectional area of the shells where the surge plate is located

3.27

test

technical operation that consists of the determination of one or more characteristics of a given tank and/or service equipment, process or service according to a specified procedure

3.28

venting

function allowing passage of gas during loading and unloading

3.29

weld joint factor

stress reduction factor applied because of the welding manufacturing process

4 Specific terms

4.1

bottom loading

filling of a tank through the tank's piping system which enables substances to enter the tank compartments from the bottom

4.2

demountable

any part of service equipment which is not permanently attached (welded) or demountable with a special tool

4.3

fill hole

opening in a tank or in a manhole cover assembly to allow top filling of a tank compartment

4.4

fill hole cover

operating device on top of a tank or part of manhole cover to enable top loading and closing the fill hole

4.5

interlock

device which can be used to permit or prevent an action

4.6

load plan

plan that identifies the different substances and volumes to be loaded into each tank compartment

4.7

manhole

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

4.8

manhole cover plate

plate covering the manhole which may include auxiliary equipment such as fill hole cover assembly, vapour transfer valve, sensors, etc.

4.9

neck ring

ring joined to the shell that provides the attachment for a cover plate

4.10

overflow prevention system

sensor or sensor circuits, interface plug/socket, overflow prevention controller and all connecting wiring and cables

4.11

plug and ball valve

valve in which the obturator rotates about an axis at right angle to the direction of flow and, in the open position, the flow passes through the obturator

4.12

relief pressure

pressure at which the safety valve starts to open

4.13

vapour collection manifold

piping system into which each vapour transfer valve from each compartment is connected and which connects to the vapour recovery adaptor

Annex A (informative)

RID/ADR definitions

A.1

battery-vehicle/battery-wagon

vehicle/wagon containing elements which are linked to each other by a manifold and permanently fixed to a transport unit

The following elements are considered to be elements of a battery-vehicle/wagon: cylinders, tubes, bundles of cylinders (also known as frames), pressure drums as well as tanks destined for the carriage of gases of Class 2 with a capacity of more than 450 l.

A.2

calculation pressure

theoretical pressure at least equal to the test pressure which, according to the degree of danger exhibited by the substance being carried, may to a greater or lesser degree exceed the working pressure

It is used solely to determine the thickness of the walls of the shell, independently of any external or internal reinforcing device (See also "Discharge pressure", "Filling pressure", "Maximum working pressure (gauge pressure)" and "Test pressure").

A.3

carriage in bulk

carriage of unpackaged solids or articles in vehicles/wagons or containers

The term does not apply to packaged goods nor to substances carried in tanks.

A.4

closure

device which closes an opening in a receptacle

A.5

competent authority

authority or authorities or any other body or bodies designated as such in each State and in each specific case in accordance with domestic law

A.6

conformity assessment

means the process of verifying the conformity of a product according to the provisions of sections 1.8.6 and 1.8.7 related to type approval, supervision of manufacture and initial inspection and testing

A.7

control temperature

means the maximum temperature at which the organic peroxide or the self-reactive substance can be safely carried

A.8

critical temperature

means the temperature above which the substance cannot exist in the liquid state

A.9

dangerous goods

substances and articles, the carriage of which is prohibited by RID/ADR, or authorized only under the conditions prescribed therein

A.10

demountable tank

tank, other than a fixed tank, a portable tank, a tank-container or an element of a battery-vehicle or a MEGC which has a capacity of more than 450 l, is not designed for the carriage of goods without breakage of load, and normally can only be handled when it is empty

A.11

discharge pressure

maximum pressure actually built up in the tank when it is being discharged under pressure (see also "Calculation pressure", "Filling pressure", "Maximum working pressure (gauge pressure)" and "Test pressure")

A.12

emergency temperature

means the temperature at which emergency procedures shall be implemented in the event of loss of temperature control

A.13

filling pressure

maximum pressure actually built up in the tank when it is being filled under pressure (see also "Calculation pressure", "Discharge pressure", "Maximum working pressure (gauge pressure)" and "Test pressure")

A.14

filling ratio

means the ratio of the mass of gas to the mass of water at 15 °C that would fill completely a pressure receptacle fitted ready for use

A.15

fixed tank

tank having a capacity of more than 1 000 l which is permanently attached to a vehicle or a wagon or is an integral part of the frame of such vehicle or wagon

A.16

flash-point

means the lowest temperature of a liquid at which its vapours form a flammable mixture with air

A.17

gas

substance which:

- a) at 50 °C has a vapour pressure greater than 300 kPa (3 bar); or
- b) is completely gaseous at 20 °C under standard pressure of 101,3 kPa.