

**Tanks for transport of dangerous goods - Service  
equipment for tanks - Adaptor for bottom loading and  
unloading**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 13083:2008+A1:2013 sisaldab Euroopa standardi EN 13083:2008+A1:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 13083:2008+A1:2013 consists of the English text of the European standard EN 13083:2008+A1:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 12.06.2013.	Date of Availability of the European standard is 12.06.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 13.300, 23.020.20, 23.040.60

### Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:  
Aru 10, 10317 Tallinn, Eesti; [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

### The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:  
Aru 10, 10317 Tallinn, Estonia; [www.evs.ee](http://www.evs.ee); phone 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

English Version

**Tanks for transport of dangerous goods - Service equipment for  
tanks - Adaptor for bottom loading and unloading**

Citernes de transport de matières dangereuses -  
Équipement de service pour citernes - Adaptateur pour le  
chargement et le déchargement par le bas

Tanks für die Beförderung gefährlicher Güter -  
Bedienungsausrüstung von Tanks - VK-Kupplung für  
Untenbefüllung und -entladung

This European Standard was approved by CEN on 13 September 2008 and includes Amendment 1 approved by CEN on 1 March 2013.

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

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

# Contents

Page

<b>Foreword</b> .....	<b>3</b>
<b>Introduction</b> .....	<b>5</b>
<b>1 Scope</b> .....	<b>6</b>
<b>2 Normative references</b> .....	<b>6</b>
<b>3 Terms and definitions</b> .....	<b>6</b>
<b>4 Function</b> .....	<b>7</b>
<b>5 Design characteristics</b> .....	<b>7</b>
5.1 Type.....	7
5.2 Actuation .....	7
5.3 Pressure rating.....	7
5.4 Materials of construction .....	8
5.5 Temperature range .....	8
5.6 Product identification and communication systems .....	8
5.7 Interlocks .....	8
5.8 Mounting.....	8
5.9 Position indicator (optional) .....	8
5.10 Presence of product in the adaptor .....	9
5.11 Overall size .....	9
5.12 Liquid seals .....	9
5.13 Drainage.....	9
<b>6 Tests</b> .....	<b>9</b>
6.1 General.....	9
6.2 Production tests.....	9
6.3 Type tests .....	10
<b>7 Marking</b> .....	<b>12</b>
<b>8 Installation, operation and maintenance instructions</b> .....	<b>12</b>
<b>Annex A (normative) Adaptor nose</b> .....	<b>13</b>
<b>Annex B (informative) Optional interlock actuator</b> .....	<b>14</b>
<b>Annex C (informative) Allocation of function sectors</b> .....	<b>15</b>
<b>Annex D (informative) 4 hole fixing</b> .....	<b>17</b>
<b>Bibliography</b> .....	<b>18</b>

## Foreword

This document (EN 13083:2008+A1:2013) 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 December 2013 and conflicting national standards shall be withdrawn at the latest by December 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 A1 EN 13083:2008 A1.

This document includes Amendment 1 approved by CEN on 2013-03-01.

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

A1 EN 16249, *Cap for the adaptor for bottom loading and unloading* A1

The standards programme also includes the following Technical Report:

CEN/TR 15120, *Guidance and recommendations for loading, transport and unloading.*

A1 Compared to EN 13083:2008 the following changes have been made:

- a) in the Foreword add EN 16249 to the list of standards;

- b) in Clause 2, Normative references, add:

EN 16249 *Cap for the adaptor for bottom loading and unloading*

- c) in Clause 4, Function, the last paragraph is modified;
- d) in Clause 5, Design Characteristics, “5.14 Adaptor Cap” is deleted;
- e) in 6.3, Type Tests, 6.3.1 General, fourth type test is modified;
- f) in 6.3, “6.3.5 Adaptor cap seat tightness test” and subclauses are deleted and replaced by a compliance test with EN 16249. <sup>A1</sup>

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, 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.

## Introduction

The adaptor for bottom loading and unloading, subject of this European Standard, allows the transfer of product through a mating loading coupler to a transport tank and from the tank to a service station tank by a mating gravity discharge coupler. It is required to comply with the European Directive 94/63/EC on Volatile Organic Compounds (VOC) [1].

## 1 Scope

This European Standard covers externally actuated and self actuated adaptors for bottom loading and unloading.

This European Standard specifies the performance requirements and the critical dimensions of the adaptor for bottom loading and unloading. It also specifies the tests necessary to verify the compliance of the equipment with this European Standard. The equipment specified by this 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 subclassification 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 12266-2:2002, *Industrial valves — Testing of valves — Part 2: Tests, test procedures and acceptance criteria — Supplementary requirements*

EN 16249, *Tanks for the transport of dangerous goods — Service equipment — Cap for the adaptor for bottom loading and unloading*

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

**3.2**  
**product sensor**  
 device which detects the presence of liquid petroleum and whose output signal can be used to display whether liquid is present