TOORNAFTA JA VEDELAD NAFTATOOTED HORISONTAALSETE SILINDRILISTE MAHUTITE KALIBREERIMINE
Osa 1: Käsitsi mõõtemeetodid

Petroleum and liquid petroleum products
Calibration of horizontal cylindrical tanks
Part 1: Manual methods

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-ISO 12917-1:2006 "Toornafta ja vedelad naftatooted. Horisontaalsete silindriliste mahutite kalibreerimine. Osa 1: Käsitsi mõõtemeetodid" sisaldab rahvusvahelise standardi ISO 12917-1:2002+AC:2009 "Petroleum and liquid petroleum products — Calibration of horizontal cylindrical tanks — Part 1: Manual methods" identset ingliskeelset teksti.	This Estonian Standard EVS-ISO 12917-1:2006 consists of the identical English text of the International Standard ISO 12917-1:2002+AC:2009 "Petroleum and liquid petroleum products — Calibration of horizontal cylindrical tanks — Part 1: Manual methods".
Standardi avaldamise korraldas Eesti Standardikeskus.	Estonian standard is published by the Estonian Centre for Standardisation.
Standard EVS-ISO 12917-1:2006 on kinnitatud Eesti Standardikeskuse 06.12.2006 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teataja 2007. aasta jaanuarikuu numbris.	This standard is ratified with the order of Estonian Centre for Standardisation dated 06.12.2006 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from Estonian Centre for Standardisation.

Käsitlusala

Käesolev osa standardist ISO 12917 määratleb käsitsi mõõtemeetodid fikseeritud asukohta paigaldatud olemuselt horisontaalsete mahutite kalibreerimisel. Meetodid on kasutatavad kuni 4 m läbimõõdu ja 30 m pikkusega mahutite kalibreerimisel.

Meetodid on rakendatavad nii soojustatud kui soojustuseta mahutite korral asukohaga nii maa all kui maa peal. Meetodid on rakendatavad ka survestatud mahutite korral ning mahutitele, millel on üleminekuraadiusega ümarad, tasapinnalised, elliptilised või sfäärilise kujuga otsad.

Käesolev standardi ISO 12917 osa on rakendatav horisontaalasendist kuni 10 % kaldega mahutite korral, eeldusel et mõõdetud kaldele rakendatakse vastavat parandit.

Mahutite korral, mille mõõtmed või kaldenurk ületavad ülalkirjeldatud piire, rakendatakse sobiv kaldeparand ja mahu arvutamise metoodika "Coats-i" valemile tuginedes [1].

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Contents

Page

Foreword ... iv
Introduction ... iv
1 Scope ... 1
2 Normative references ... 1
3 Terms and definitions ... 1
4 Precautions ... 2
4.1 General ... 2
4.2 Internal method ... 2
4.3 External method ... 2
5 Equipment ... 2
5.1 Equipment as used in the ISO 7507 series ... 2
5.2 Telescopic rod ... 2
6 General requirements ... 2
7 Calibration procedures ... 3
8 External measurements ... 3
8.1 Introduction ... 3
8.2 General ... 3
8.3 Repetition of measurements ... 4
8.4 Tolerances ... 4
8.5 Other measurements on tank-shell plates ... 4
9 Internal measurements ... 5
9.1 General ... 5
9.2 Repetition of measurements ... 5
9.3 Tolerances ... 5
9.4 Other measurements on tank-shell plates ... 5
10 Additional measurements ... 6
10.1 Deadwood ... 6
10.2 Measurement of tilt ... 6
11 Other parameters ... 7
12 Recalibration ... 7
13 Descriptive data ... 7
14 Computation of tank capacity tables — General rules ... 7
15 Effects of tilt ... 8
16 Systematic calculations (summary) ... 8
16.1 General ... 8
16.2 Cylindrical volume ... 8
16.3 Volume of the knuckle-dish ends ... 9
16.4 Elliptical ends ... 11
16.5 Spherical head ... 11
16.6 Deadwood ... 12
Annex A (normative) **Tilt** ... 13
Annex B (informative) **Corrections of volume of tank table** ... 15
Bibliography ... 18

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 12917 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 12917-1 was prepared by Technical Committee ISO/TC 28, Petroleum products and lubricants, Subcommittee SC 3, Static petroleum measurement.

ISO 12917 consists of the following parts, under the general title Petroleum and liquid petroleum products — Calibration of horizontal cylindrical tanks:

— *Part 1: Manual methods*

— *Part 2: Internal electro-optical distance-ranging method*

Annex A forms a normative part of this part of ISO 12917. Annex B is for information only.

This corrected version of ISO 12917-1:2002 incorporates the following corrections.

On the cover page, “Première édition” has been replaced by “First edition”.

The missing Greek symbols have been added in the following equations:

— page 9, subclause 16.3, four equations;

— page 10, subclause 16.3, equation immediately above Figure 4;

— pages 15 and 16, clause B.2, six equations.

Introduction

This International Standard forms part of a series on tank calibration methods. In countries where some or all of the items covered by this part of ISO 12917 are subject to mandatory regulations, the regulations have to be observed. In cases where differences exist between this part of ISO 12917 and regulations, precedence is given to the latter.

Petroleum and liquid petroleum products — Calibration of horizontal cylindrical tanks —

Part 1: Manual methods

1 Scope

This part of ISO 12917 specifies manual methods for the calibration of nominally horizontal cylindrical tanks, installed at a fixed location. It is applicable to horizontal tanks up to 4 m in diameter and 30 m in length.

The methods are applicable to insulated and non-insulated tanks, either when they are above-ground or underground. The methods are applicable to pressurized tanks, and to both knuckle-dish-end and flat-end cylindrical tanks as well as elliptical and spherical head tanks.

This part of ISO 12917 is applicable to tanks inclined by up to 10 % from the horizontal provided a correction is applied for the measured tilt.

For tanks over and above these dimensions and angle of tilt, appropriate corrections for tilt and appropriate volume computations should be based on the “Coats” equation[11].

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 12917. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 12917 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 1998 (all parts), *Petroleum industry — Terminology*

ISO 7507 (all parts), *Petroleum and liquid petroleum products — Calibration of vertical cylindrical tanks*

3 Terms and definitions

For the purposes of this part of ISO 12917, the terms and definitions given in ISO 1998, ISO 7507-1 and the following apply.

3.1
telescopic rod
extendable tubular measuring device to measure a distance between two points

NOTE For example, to measure the internal diameter of a cylindrical tank.