TOORNAFTA JA VEDELAD NAFTATOOTED TEMPERATUURI MÕÕTMINE
Käsitsi mõõtemeetodid

Petroleum and liquid petroleum products
Temperature measurements
Manual methods

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-ISO 4268:2007 "Toornafta ja vedelad naftatooted. Temperatuuri mõõtmine. Käsitsi mõõtemeetodid" sisaldab rahvusvahelise standardi ISO 4268:2000 "Petroleum and liquid petroleum products - Temperature measurements - Manual methods" identset ingliskeelset teksti.	This Estonian Standard EVS-ISO 4268:2007 consists of the identical English text of the International Standard ISO 4268:2000 "Petroleum and liquid petroleum products - Temperature measurements - Manual methods".
Standardi avaldamise korraldas Eesti Standardikeskus.	Estonian standard is published by the Estonian Centre for Standardisation.
Standard EVS-ISO 4268:2007 on kinnitatud Eesti Standardikeskuse 03.08.2007 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teataja 2007. aasta septembrikuu numbris.	This standard is ratified with the order of Estonian Centre for Standardisation dated 03.08.2007 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 rahvusvaheline standard määratleb meetodi, menetlused ja seadmed nafta ja naftasaaduste temperatuuri käsitsi mõõtmiseks mahutites.

Eelistatud meetodiks on kantava elektroonse termomeetri kasutamine jaotises 7 kirjeldatu kohaselt. Teised meetodid hõlmavad näitavaid püsipaigaldatud, kindlas kohas mõõtmise tüüpi termomeetrite kasutamist ja temperatuuri määramist proovivõtu meetodite abil, kasutades anumkestaga ja uhutava kestaga termomeetreid ning termomeetreid standardi ISO 3170 kohaselt võetud tavapärastes mahuproovides.

Käesolev standard ei hõlma automaatse mõõtesüsteemi osa moodustavaid keskmistavaid termomeetreid. Neid kirjeldab standard ISO 4266.

Teadaolevalt on osad või kõik käesolevas rahvusvahelises standardis kirjeldatud seadmed paljudes maades allutatud nende maade seadustega kehtestatud kohustuslikele nõuetele. Neid nõudeid tuleb rangelt jälgida. Juhtudel, kus sellised kohustuslikud nõuded ja käesolev rahvusvaheline standard on omavahel vastuolus, kehtivad esimesed.

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Contents

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Introduction to precautions 1

4 Precautions relating to procedures 2

5 Precautions relating to safety 3
5.1 Introduction 3
5.2 General safety precautions 3
5.3 Special safety precautions 4

6 Equipment 5

7 Portable electronic thermometers (PETs) 5
7.1 Introduction 5
7.2 Accuracy requirements 5
7.3 Sensing elements 5
7.4 Electrical safety 6
7.5 Selection and operation of portable electronic thermometers 6

8 Liquid-in-glass thermometers 9
8.1 General 9
8.2 Accuracy and resolution 9
8.3 Specifications 9
8.4 General requirements for liquid-in-glass thermometers 10
8.5 Periodic checks of liquid-in-glass thermometers 10
8.6 Armoured cases for liquid-in-glass thermometers 11

9 Precautions to be taken when selecting and using liquid-in-glass thermometers 11
9.1 Selection of thermometers 11
9.2 Detection and prevention of errors in liquid-in-glass thermometers 13
9.3 Emergent-stem correction 13

10 Tank sampling methods 13
10.1 Cup-case thermometer 13
10.2 Flushing-case thermometer 14
10.3 Sampling-bottle methods 16

11 Vapour-lock samplers and associated thermometers 16
11.1 Vapour-locks on pressurized tanks 16
11.2 Outline description 16

12 Permanently installed spot thermometers 17
12.1 Angle-stem thermometers 17
12.2 Tank-bottom liquid-in-glass thermometers 19
12.3 Accuracy and resolution 19

13 Bimetal-actuated thermometer with dial 19
13.1 Introduction 19
13.2 Description 19
13.3 Accuracy and resolution 19

14 Procedures 19

15 Liquids in pressurized tanks 19
15.1 Introduction 19
15.2 General principles 20
15.3 Equipment 20
15.4 Procedures for pressurized tanks 20

16 Liquids in vapour-tight tanks 22
16.1 Introduction 22
16.2 General principles 23
16.3 Equipment 23
16.4 Procedure for vapour-tight tanks 23

17 Liquids in non-pressurized non-insulated tanks at or near ambient temperature, or in non-pressurized insulated tanks 24
17.1 Introduction 24
17.2 Equipment 24
17.3 Procedures 24
17.4 Vertical cylindrical fixed-roof tanks 26
17.5 Floating-roof tanks 27
17.6 Horizontal and inclined cylindrical tanks 27
17.7 Rail wagons and road vehicles carrying tanks 27
17.8 Ship and barge cargo tanks 28

18 Liquids in non-pressurized non-insulated tanks at temperatures differing by more than 15 °C from ambient 28
18.1 Introduction 28
18.2 General principle 28
18.3 Equipment 29
18.4 Measurement procedure 29

19 Procedures for the verification of permanently installed tank thermometers 30
19.1 Introduction 30
19.2 Specification of reference thermometer 30
19.3 Verification procedure for vertical cylindrical tanks 30
19.4 Verification procedure for other tanks with non-uniform vertical cross-sectional area 31

20 Procedures for using a permanently installed spot thermometer 31
20.1 Introduction 31
20.2 Location of single-point spot thermometers 31
20.3 Specification of thermometers 31
20.4 Verification of representivity of single-point spot thermometer measurements 31
20.5 Procedure for using single-point spot thermometers 32

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.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 4268 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*, Subcommittee SC 3, *Static petroleum measurement*.

Introduction

In all calculations concerned with the measurement of bulk quantities of petroleum and petroleum products, whether in terms of volume at standard temperature or in terms of mass or apparent mass-in-air, a knowledge of the mean temperature of the oil is required. The following recommendations for the determination of the temperature of the contents of storage tanks, including tanks carried by road and rail vehicles and compartments of barges and ships, are designed to provide the most reliable measurement of the mean temperature under the given conditions.

It cannot be too strongly emphasized that errors in temperature measurement can account for the larger part of the total error in quantitative measurement of petroleum and liquid petroleum products, and great care is therefore needed in the selection and use of temperature-measuring equipment. The methods specified should be followed in scrupulous detail if the final measurement is to have the smallest possible uncertainty.

Gaugers employed in temperature measurement should be fully trained and instructed in the application of the procedures of this International Standard. They should be instructed to report any deviations that are unavoidable.

Petroleum and liquid petroleum products — Temperature measurements — Manual methods

1 Scope

This International Standard specifies methods, procedures and equipment for the manual measurement of the temperature of bulk quantities of petroleum and petroleum products in storage tanks.

The preferred method is to use a portable electronic thermometer as described in clause 7. Other methods included use permanently installed indicating thermometers of the spot-measurement type and temperature determination by sampling methods using cup-case thermometers, flushing-case thermometers, and thermometers within conventional tank samples taken in accordance with ISO 3170.

This International Standard excludes averaging thermometers forming part of an automatic gauging system. These are described in ISO 4266.

It is realized that, in many countries, some or all of the items covered by this International Standard are the subject of mandatory regulations imposed by the laws of these countries; such regulations must be rigorously observed. In cases of conflict between such mandatory regulations and this International Standard, the former prevails.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard 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 386:1977, *Liquid in-glass laboratory thermometers — Principles of design construction and use.*

ISO 3170:1988, *Petroleum liquids — Manual sampling.*

ISO 4266:1994, *Petroleum and liquid petroleum products — Direct measurement of temperature and level in storage tanks — Automatic methods.*

ISO 4512:—[1)], *Petroleum and liquid petroleum products — Equipment for measurement of liquid levels in storage tanks — Manual methods*.

3 Introduction to precautions

Clauses 4 and 5 outline the precautions which are applicable whenever the temperature of a bulk quantity of oil is to be determined. For emphasis, the precautions necessary to ensure the safety of the operator or the safe working of the plant (clause 5) are dealt with separately from those precautions that shall be taken during the procedure used, to ensure the most reliable measurement of temperature (clause 4).

1) To be published.