

# SLOVENSKI STANDARD

## SIST EN 14275:2003

01-november-2003

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Automotive fuels - Assessment of petrol and diesel fuel quality - Sampling from retail site pumps and commercial site fuel dispensers

Kraftstoffe für Kraftfahrzeuge - Untersuchung der Qualität von Ottokraftstoff und Dieselkraftstoff - Probenahme an öffentlichen und gewerblichen Tankstellen

Carburants pour automobiles - Evaluation de la qualité de l'essence et du carburant pour moteur diesel (gazole) - Echantillonnage au pistolet de distribution des pompes de stations-service des réseaux et des pompes privées hors réseaux

Ta slovenski standard je istoveten z: **EN 14275:2003**

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**ICS:**

75.160.20      V^[\ æ[\ iãæ      Liquid fuels

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 14275**

August 2003

ICS 75.160.20

English version

**Automotive fuels - Assessment of petrol and diesel fuel quality -  
Sampling from retail site pumps and commercial site fuel  
dispensers**

Carburants pour automobiles - Evaluation de la qualité de  
l'essence et du carburant pour moteur diesel (gazole) -  
Echantillonnage au pistolet de distribution des pompes de  
stations-service des réseaux et des pompes privées hors  
réseaux

Kraftstoffe für Kraftfahrzeuge - Untersuchung der Qualität  
von Ottokraftstoff und Dieselmotorkraftstoff - Probenahme an  
öffentlichen und gewerblichen Tankstellen

This European Standard was approved by CEN on 2 July 2003.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

This document (EN 14275:2003) has been prepared by Technical Committee CEN /TC 19, "Petroleum products, lubricants and related products", the secretariat of which is held by NEN.

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 February 2004, and conflicting national standards shall be withdrawn at the latest by February 2004.

In this standard annexes A and B are informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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## EN 14275:2003 (E)

### 1 Scope

This standard specifies a procedure for drawing, from fuel dispensers, samples of petrol and diesel fuel to be used for the assessment of automotive fuel quality in accordance with EN 14274. This standard does not cover the sampling of Liquefied Petroleum Gas (LPG).

**NOTE** When petrol is sampled, it is recommended that the pre-treatment of the sample containers and their transportation be set out as in the NOTE in Clause 6.

**WARNING:** The use of this standard may involve hazardous materials, operations and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

### 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 45004, *General criteria for the operation of various types of bodies performing inspection*

prEN ISO 3170, *Petroleum liquids – Manual sampling (ISO/DIS 3170:2002)*

### 3 Terms and definitions

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For the purposes of this European Standard the following definition applies.

#### 3.1

##### **outlet sample**

sample drawn from the outlet pump using the normal supply system

### 4 Sample containers and closures

#### 4.1 Containers

These shall be unused metallic containers of approximately four litres capacity, constructed from lead-free material, with packing glands or welded joints, able to withstand normal internal pressures encountered during normal operations. The containers shall be equipped with an external fitting to enable them to be sealed. The container shall not have been treated with a petroleum-based rust-preventative.

**NOTE** Lead solder may be used for the attachment of external fittings.

#### 4.2 Closures

These shall be able to retain the integrity of the sample. Insert disks may additionally be used to close the container outlet. Suitable closures include screw caps fitted with a washer resistant to the product being sampled. Cork or rubber washers shall not be used.

## 5 Safety requirements

- 5.1** The following minimum safety requirements shall be read in conjunction with the requirements for safety as given in prEN ISO 3170 and, in addition, any national or local safety, environmental and transportation regulations.
- 5.2** Personnel drawing the samples shall be made aware of the potential hazards and be given instructions in safety precautions to be observed as set out in the Materials Safety Data Sheet.
- 5.3** Care shall be taken to avoid breathing petroleum vapours during the sampling. Protective gloves of hydrocarbon-insoluble materials, eye protection and clothing suitable to provide protection against all known hazards associated with the product shall be worn.
- 5.4** In order to avoid static electricity risks, special precautions shall be taken during the sampling operation.
- 5.4.1** Sampling shall not be carried out during periods of atmospheric electrical disturbance or hailstorms.
- 5.4.2** Foot wear and/or clothing capable of causing sparks shall not be worn in areas where flammable vapours are likely to be present.
- 5.4.3** In order to earth any static charge on their person, the person taking the samples shall touch some part of the fuel dispensing structure immediately before carrying out any sampling operation.
- 5.5** Samples shall not be taken during the supplying of the tank to which the pump to be sampled is connected.
- 5.6** Samples shall be clearly labelled to identify whether they contain petrol or diesel.
- 5.7** Samples shall be transported in accordance with European ADR regulations [1], and to any other national or local regulation regarding the transport of flammable products.

**NOTE** When transporting samples of petrol it is recommended that they be placed in an insulated box containing a cooling medium such as solid carbon dioxide or ice. (See NOTE in Clause 6)

- 5.8** Samples shall be stored in accordance with national and local regulations.

**NOTE** When storing samples that have flash points below ambient temperature consideration should be given to storing them in a flameproof refrigerator.

## 6 Sampling procedure

**NOTE** In order to minimise loss of light ends when sampling petrol, the following procedure is recommended. Cool the sample containers in a refrigerator and place them in an insulated box containing a cooling medium such as solid carbon dioxide or ice. Transport them to the sampling site in the insulated box. After filling, sealing and labelling immediately return the filled sample containers to the insulated box and transport them to the laboratory. A suitable insulated box consists of a strong wooden box lined with expanded polystyrene or polyurethane sheeting of approximately 50 mm thickness.

- 6.1** Using a cotton cloth carefully clean the parts of the delivery pipe nozzle that may come into contact with the sample container and/or the product being sampled.
- 6.2** Prior to drawing the samples, run at least four litres of the product through the nozzle into a suitable container.

**NOTE** This may be either a plastic or metal container approved for use with the product being sampled.

The flushings shall either be removed from the site in the container and disposed of in a safe manner, or returned to storage on the site.

- 6.3** Inspect the sample container (see 4.1) for cleanliness and line-up the required number of containers alongside the fuel dispenser to be sampled.
- 6.4** Record the reading on the outlet meter display.

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**6.5** Insert the nozzle of the outlet into the sample container (see NOTE). Activate the filling mechanism and run product into the container in such a way as to prevent splashing, minimise foaming and light end loss and at such a rate to enable air to exhaust from the container without product issuing from the container.

NOTE In order to further minimise light end loss, it is recommended that when taking samples of petrol an extension piece is fitted to the nozzle to enable submerged filling of the container. A description of suitable nozzle extensions and their use is given in annex A.

**6.6** Fill the container with a maximum of three litres of product, using the outlet meter display as a guide.

**6.7** Immediately after filling, close the container using an appropriate closure (see 4.2). Check for leaks by inverting the container and holding in an inverted position for 30 s. If a leak is observed replace with a new closure and recheck for leaks. If the leaking continues dispose of the container and its contents in accordance with local regulations. Resample using a new container and closure.

**6.8** Clearly label the sample container with the following information.

- Place, date and time of sampling;
- Product and its grade;
- Sample Identification Code.

NOTE This is the minimum information required and other information can also be included as required.

**6.9** Seal the sample container in such a manner that the closure and sample label can not be removed without breaking the seal.

**6.10** Repeat 6.3 to 6.9 as many times as necessary to comply with any additional national requirements.

**6.11** Complete a sampling statement in duplicate.

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One copy of the sampling statement shall accompany the analysis sample, the other shall be given to the site representative.

NOTE An example of a suitable sampling statement is given in annex B.

## **7 Appointed organisations**

**7.1** Organisations carrying out the sampling operation shall be accredited with EN 45004 or appointed by a Government Body.

**7.2** A list of organisations qualified to draw samples shall be compiled and maintained by the national standardisation body of the member state or its nominated alternate.



## Annex A (informative)

### Nozzle extensions for sampling petrol and their use

#### A.1 General

The preferred method of sampling volatile products, such as petrol, into an open-top container is by submerged filling. However, the normal nozzles, in use within Europe, are not of sufficient length to reach the bottom of a sample container. In addition, to prevent overfilling, fuel dispenser nozzles are fitted with cut-off devices that will stop the supply of fuel when the end of the nozzle is immersed in a liquid. (The cutting-off of the airflow into the sensing port activates the safety cut-off device.) Therefore to enable submerged filling an extension piece, of sufficient length to reach the bottom of the sample container and allow air to flow into the sensor port of the cut-off safety device, is used.

#### A.2 Extension pieces

To meet with the principles of A.1 the extension piece can either be:

- a) Fitted with an air pipe that will allow air to flow into the sensing port or,
- b) Loosely fitting, allowing air to flow down the gap between the nozzle and the extension piece and into the sensing port.

The extension pieces are made of a conducting material to prevent the build-up of static electricity and for this copper piping has been found to be suitable.

The diameter of the nozzle extension will depend on the type of nozzle fixed to the fuel outlet and its other dimensions will depend on the depth of the sample container to be filled.

A 'V-shaped' opening is cut in the base of the extension piece to allow the free flow of petrol when it is resting on the bottom of the sample container, see Figure A.1.

Two examples of suitable designs for extension pieces are shown in Figure A.1. Figure A.2 shows an assembly for sampling using a nozzle extension.