
**Goriva za motorna vozila - Ocena kakovosti motornih bencinov in dizelskih goriv -
Vzorčenje na bencinskih servisih in v distribucijskih skladiščih**

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

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von Ottokraftstoff und Dieselmotorkraftstoff - Probenahme an
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This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 19.

If this draft becomes a European Standard, 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.

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Foreword

This document (FprEN 14275:2012) has been prepared by Technical Committee CEN/TC 19 “Petroleum products, lubricants and related products”, the secretariat of which is held by NEN.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 14275:2003.

This document had originally been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association. In line with the recent Amendments [3] and [4] to EU Directive 98/70/EC [1], [2], the need to update the original document came forward.

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1 Scope

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

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

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 ISO 3170, *Petroleum liquids — Manual sampling (ISO 3170)*

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025)*

3 Terms and definitions

For the purposes of this document, the following term and definition applies.

3.1

outlet sample

sample drawn from the dispensing pump using the normal pump nozzle

4 Sample containers and closures

4.1 Containers

These shall be unused, preferably metallic, containers of the required capacity for execution of the intended testing program, 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.

Certain test methods, especially for trace element analysis, require specific sampling equipment and containers made with material known not to interfere with the analysis.

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

4.2 Closures

These aim at retaining 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 EN 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.

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.

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

6 Sampling procedure

6.1 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.

NOTE A suitable insulated box consists of a strong wooden box lined with expanded polystyrene or polyurethane sheeting of approximately 50 mm thickness.

6.2 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.

6.3 Prior to drawing the samples, run at least four litres of the product through the nozzle into a suitable container. This shall not apply when sampling takes place just after a vehicle has been refuelled.

6.4 Inspect the sample container (see 4.1) for cleanliness and line-up the required number of containers alongside the fuel dispenser to be sampled.

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6.5 Insert the nozzle of the dispenser into the sample container. 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.

NOTE A description of suitable nozzle extensions and their use is given in Annex A.

6.6 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.

6.7 Fill the container with a maximum of approximately 80% of the container's capacity. The dispenser meter display may be used as a guide.

6.8 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.

6.9 Clearly label the sample container with the following information:

- Place, date and time of sampling;
- Complete fuel identification: product and grade;
- Sample Identification Code.

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

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

6.11 Repeat 6.4 to 6.10 as many times as necessary to comply with any additional national requirements.

6.12 Complete a sampling statement in duplicate including the fuel volume sampled and, flushed if any

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 ISO/IEC 17025 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.

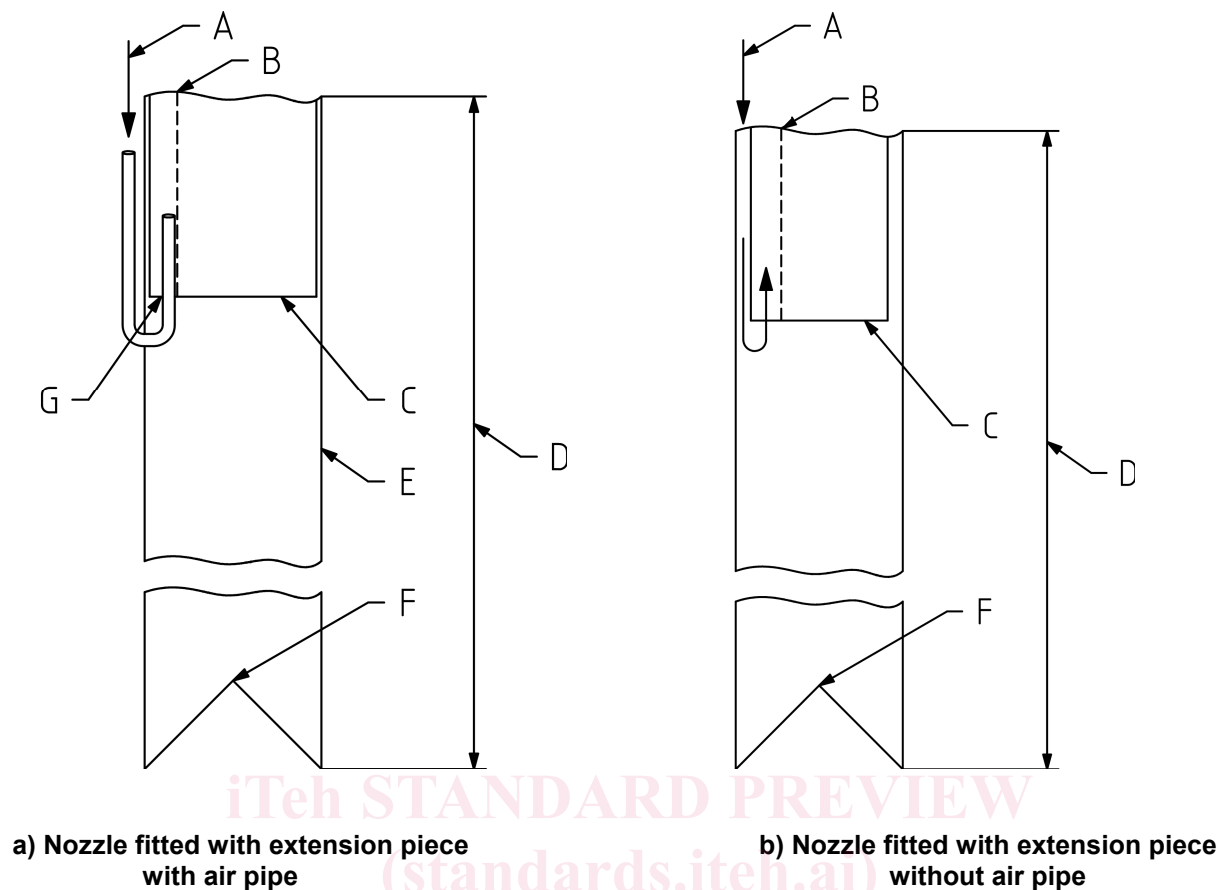
The extension pieces are made of a conducting material to prevent the build-up of static electricity and for this copper piping has been found to be suitable.

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.

The length (D) shall enable the tube to rest vertically on the bottom of the container and extend above the container opening. A 'V-shaped' opening is cut in the base of the extension piece to allow the free flow of liquid from the tube 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. The version with air-pipe has a pipe (G) engaged into the safety cut-off sensing point (B)

Figure A.2 shows an assembly for sampling into a sampling container using a nozzle extension.

**Key**

- | | | | |
|---|-----------------------------|---|---|
| A | Air flow to sensing point | E | Tube diameter (give 'snug' fit with nozzle) |
| B | Safety cut-off sensing port | F | V-cut |
| C | Nozzle | G | Air pipe |
| D | Length | | |

Figure A.1 — Examples of suitable designs for extension pieces**A.3 Procedure**

Check that the extension piece is clean and flush with product in accordance with 6.2. After following the procedure up to 6.4, place the extension piece into the sample container in an upright position. Insert the nozzle into the extension piece. If the 'air pipe' type is used, ensure that the air pipe is engaged into the sensing port. Activate the filling mechanism.

If a loosely fitting extension piece is used, keep the flow rate to a minimum in order to prevent petrol issuing from around the nozzle due to turbulent flow.

Since the safety cut-off device has been deactivated, take great care not to overfill the container.

After filling the sample container with a maximum of 80% of container capacity, proceed in accordance with 6.7.