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**Surova nafta in naftni proizvodi - Določanje gostote - Metoda z oscilirajočo U-cevjo  
(ISO 12185:1996)**

Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method (ISO 12185:1996)

Rohöl und Mineralölerzeugnisse - Bestimmung der Dichte - U-Rohr-OSzillationsverfahren (ISO 12185:1996)

Pétroles bruts et produits pétroliers - Détermination de la masse volumique - Méthode du tube en U oscillant (ISO 12185:1996)

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**Ta slovenski standard je istoveten z: EN ISO 12185:1996**

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**ICS:**

75.040	Surova nafta	Crude petroleum
75.080	Naftni proizvodi na splošno	Petroleum products in general

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**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN ISO 12185

June 1996

ICS 75.080

Descriptors: See ISO document

English version

Crude petroleum and petroleum products - Determination of  
density - Oscillating U-tube method (ISO 12185:1996)

Pétroles bruts et produits pétroliers - Détermination de la  
masse volumique - Méthode du tube en U oscillant (ISO  
12185:1996)

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U-Rohr-Oszillationsverfahren (ISO 12185:1996)

This European Standard was approved by CEN on 1 June 1996.

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 Central Secretariat 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 Central Secretariat 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Corrected 1997-09-11

### Foreword

The text of the International Standard ISO 13759:1996 has been prepared by Technical Committee ISO/TC 28 "Petroleum products and lubricants" in collaboration with Technical Committee CEN/TC 19 "Petroleum products, lubricants and related products", the secretariat of which is held by NNI.

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 June 1997, and conflicting national standards shall be withdrawn at the latest by June 1997.

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

### Endorsement notice

The text of the International Standard ISO 12185:1996 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

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**Annex ZA (normative)****Normative references to international publications  
with their relevant European publications**

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 3015	1992	Petroleum products - Determination of cloud point	EN 23015	1994
ISO 3696	1987	Water for analytical laboratory use - Specification and test methods	EN ISO 3696	1995
ISO 3838	1983	Crude petroleum and liquid or solid petroleum products - Determination of density or relative density - Capillary-stoppered pycnometer and graduated bicapillary pycnometer methods	EN ISO 3838	1995

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INTERNATIONAL  
STANDARD

**ISO**  
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**Crude petroleum and petroleum  
products — Determination of density —  
Oscillating U-tube method**

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*Pétroles bruts et produits pétroliers — Détermination de la masse  
volumique — Méthode du tube en U oscillant*

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Reference number  
ISO 12185:1996(E)

## ISO 12185:1996(E)

## 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.

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.

International Standard ISO 12185 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*, Subcommittee SC 3, *Static petroleum measurement*.

Annex A forms an integral part of this International Standard. Annex B is for information only.

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# Crude petroleum and petroleum products — Determination of density — Oscillating U-tube method

**WARNING** — The use of this International 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.

## 1 Scope

This International Standard specifies a method for the determination, using an oscillating U-tube density meter, of the density of crude petroleum and related products within the range  $600 \text{ kg/m}^3$  to  $1\,100 \text{ kg/m}^3$  which can be handled as single-phase liquids at the test temperature and pressure.

This International Standard is applicable to liquids of any vapour pressure as long as suitable precautions are taken to ensure that they remain in single phase with no loss of light ends and subsequent changes in composition and density during both the sample handling and the density determination.

**NOTE 1** If the determined density is to be converted to a density at some reference temperature using petroleum measurement tables, the determination should be carried out at a temperature as close as possible to the reference temperature in order to minimize uncertainties due to the use of generalized tables.

This method is not intended for use in calibrating on-line density meters.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements

based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 91-1:1992, *Petroleum measurement tables — Part 1: Tables based on reference temperatures of 15 °C and 60 degrees F.*

ISO 91-2:1991, *Petroleum measurement tables — Part 2: Tables based on a reference temperature of 20 °C.*

ISO 3015:1992, *Petroleum products — Determination of cloud point.*

ISO 3016:1994, *Petroleum products — Determination of pour point.*

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

ISO 3171:1988, *Petroleum liquids — Automatic pipeline sampling.*

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods.*

ISO 3838:1983, *Crude petroleum and liquid or solid petroleum products — Determination of density or relative density — Capillary-stoppered pycnometer and graduated bicapillary pycnometer methods.*