



SLOVENSKI STANDARD
SIST EN ISO 3680:2004
01-september-2004

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Determination of flash/no flash - Rapid equilibrium closed cup method (ISO 3680:2004)

Bestimmung des Flammpunktes - Ja/Nein-Verfahren - Schnelles Gleichgewichtsverfahren mit geschlossenem Tiegel (ISO 3680:2004)

iTeh STANDARD PREVIEW

Essai de point d'éclair de type passe/ne passe pas - Méthode rapide a l'équilibre en vase clos (ISO 3680:2004)

[SIST EN ISO 3680:2004](https://standards.iteh.ai/catalog/standards/sist/8466808-1b32-49a6-996d-442c191821c4/sist-en-iso-3680-2004)

Ta slovenski standard je istoveten z: EN ISO 3680:2004

ICS:

75.080	Naftni proizvodi na splošno	Petroleum products in general
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SIST EN ISO 3680:2004

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 3680

April 2004

ICS 75.080; 87.040

English version

Determination of flash/no flash - Rapid equilibrium closed cup method (ISO 3680:2004)

Essai de point d'éclair de type passe/ne passe pas -
Méthode rapide à l'équilibre en vase clos (ISO 3680:2004)

Bestimmung des Flammpunktes - Ja/Nein-Verfahren -
Schnelles Gleichgewichtsverfahren mit geschlossenem
Tiegel (ISO 3680:2004)

This European Standard was approved by CEN on 1 March 2004.

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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.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN ISO 3680:2004 (E)**Foreword**

This document (EN ISO 3680:2004) 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 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of an identical text or by endorsement, at the latest by October 2004, and conflicting national standards shall be withdrawn at the latest by October 2004.

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

Endorsement notice

The text of ISO 3680:2004 has been approved by CEN as EN ISO 3680:2004 without any modifications.

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INTERNATIONAL STANDARD

ISO
3680

Fourth edition
2004-04-01

Determination of flash/no flash — Rapid equilibrium closed cup method

*Essai de point d'éclair de type passe/ne passe pas — Méthode rapide à
l'équilibre en vase clos*

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ISO 3680:2004(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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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

ISO 3680 was prepared jointly by Technical Committees ISO/TC 28, *Petroleum products and lubricants* and ISO/TC 35, *Paints and varnishes*.

This fourth edition cancels and replaces the third edition (ISO 3680:1983), which has been technically revised.

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Introduction

This International Standard describes one of two closed cup equilibrium methods for carrying out a flash/no flash test for paints, varnishes, paint binders, solvents, adhesives, petroleum and related products. When selecting a method, it should therefore be read in conjunction with the second method, ISO 1516 [4]. When used in conjunction with the flash detector (A.1.6) this International Standard is also suitable for the flash/no flash testing of fatty acid methyl esters (FAME).

In both ISO 3680 and ISO 1516, the test is only carried out when the material under test and the air/vapour mixture above the material in the test cup are approximately in temperature equilibrium.

This test method does not determine the flash point of the product under test, but merely its behaviour at the selected test temperature as may be required to comply with laws or regulations relating to the storage, transport and use of flammable products. For this purpose, it is unnecessary to determine the exact flash point, but it is necessary to determine whether or not flashing occurs at a given temperature.

The apparatus specified in this International Standard enables a similar test result to be determined using a more rapid procedure and a smaller test portion (2 ml or 4 ml) than that required in ISO 1516. In addition, the apparatus can be made portable to the extent of being suitable for on-site testing in addition to its more normal use in laboratories.

Collaborative work (see [6] in the Bibliography) has shown that results obtained by these procedures are comparable. The interpretation of flash point results obtained on solvent mixtures containing halogenated hydrocarbons should be considered with caution, as these mixtures can give anomalous results (see [7] in the Bibliography).

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Flash point values are not a constant physical-chemical property of materials tested. They are a function of the apparatus design, the condition of the apparatus used, and the operational procedure carried out. Flash point can therefore only be defined in terms of a standard test method, and no general valid correlation can be guaranteed between results obtained by different test methods or with test apparatus different from that specified.

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Determination of flash/no flash — Rapid equilibrium closed cup method

WARNING — The use of this International Standard may involve hazardous materials, operations and equipment. This International Standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this International 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 of the ability of paints (including water-borne paints), varnishes, paint binders, adhesives, solvents and petroleum and related products, when maintained at a selected test temperature within the range of -30 °C to 300 °C , and under the conditions of test, to yield sufficient flammable vapour at this temperature to cause ignition on the application of a test flame in a standard manner. When used in conjunction with the flash detector (A.1.6), this International Standard is also suitable to carry out a flash/no flash test on fatty acid methyl esters (FAME).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1513:1992, *Paints and varnishes — Examination and preparation of samples for testing*

ISO 3170:2004, *Petroleum liquids — Manual sampling*

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

ISO 3679:2004, *Determination of flash point — Rapid equilibrium closed cup method*

ISO 15528:2000, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

flash/no flash test

application of a test flame at the specified temperature of the test portion (as measured in the prescribed manner), adjusted to a barometric pressure of $101,3\text{ kPa}$, to determine whether the vapours of the test portion ignite momentarily and a flame propagates across the surface of the liquid under the specified conditions of test