SLOVENSKI STANDARD
SIST EN ISO 2160:1998

01-maj-1998

Naftni proizvodi - Korozivnost na baker - Preskus z bakrenim trakom (ISO 2160:1985 skupaj s Popravkom 1:1993)

Petroleum products - Corrosiveness to copper - Copper strip test (ISO 2160:1985, including Corrigendum 1:1993)

Mineralölerzeugnisse - Korrosionwirkung auf Kupfer - Kupferstreifenprüfung (ISO 2160:1985, Corrigendum 1:1993 einschließlich)

Produits pétroliers - Action corrosive sur le cuivre - Essai à la lame de cuivre (ISO 2160:1985, Corrigendum 1:1993 inclus)

Ta slovenski standard je istoveten z: **EN ISO 2160:1995**

ICS:

75.080	Naftni proizvodi na splošno	Petroleum products in general

SIST EN ISO 2160:1998 **en**

EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN ISO 2160

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Descriptors: copper, corrosion tests, copper strip test, petroleum products, testing, tests

English version

Petroleum products - Corrosiveness to copper - Copper strip test (ISO 2160:1985, including Corrigendum 1:1993)

Produits pétroliers - Action corrosive sur le cuivre - Essai à la lame de cuivre (ISO 2160:1985, Corrigendum 1:1993 inclus)

Mineralölerzeugnisse - Korrosionwirkung auf Kupfer - Kupferstreifenprüfung (ISO 2160:1985, Corrigendum 1:1993 einschließlich)

This European Standard was approved by CEN on 1995-04-27. 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.

The European Standards exist 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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

Ref. No. EN ISO 2160:1995 E

Foreword

The text of the International Standard from ISO/TC 28 "Petroleum products and lubricants" of the International Organization for Standardization (ISO) has been taken over as a European Standard by the Technical Committee CEN/TC 19 "Petroleum products, lubricants and related products".

The Annex A is informative.

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 November 1995, and conflicting national standards shall be withdrawn at the latest by November 1995.

According to the CEN/CENELEC Internal Regulations, 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 2160:1985, including Corrigendum 1:1993 has been approved by CEN as a European Standard without any modification.

Annex A (Informative)

A-deviation

National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC members. This European Standard does not fall under any Directive of the EC. In the relevant CEN/CENELEC country this A-deviation is valid instead of the provisions of the European Standard until they have been removed.

Sweden:

In Sweden, according to the Swedish code of Statutes, SFS 1991:1290 amended by SFS 1994:1599, products containing mercury are not allowed to be manufactured in course of business activities, or offered for sale. They are neither allowed to be imported from countries outside the EU, nor allowed to be used if they were not in use before 1995-01-01.

Exemption from the prohibition can be prescribed by the Swedish National Chemicals Inspectorate if there are special reasons for doing so. The Inspectorate can levy such a charge as referred to in Section 19 of the Act (1985:426) on Chemical Products.

TC 28

International Standard ISO 2160

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Petroleum products — Corrosiveness to copper — Copper strip test

Produits pétroliers — Action corrosive sur le cuivre — Essai à la lame de cuivre

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 2160 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*.

ISO 2160 was first published in 1972. This second edition cancels and replaces the first edition, of which it constitutes a technical revision.

Printed in Switzerland

Petroleum products — Corrosiveness to copper — Copper strip test

1 Scope and field of application

This International Standard specifies a method for the determination of the corrosive tendencies towards copper of petroleum products such as aviation gasoline, aviation turbine fuel, automotive gasoline, natural gasoline or other hydrocarbons having a Reid vapour pressure no greater than 124 kPa (1,24 bar), white spirits, cleaners (Stoddard) solvent, kerosene, diesel fuel, distillate heating oil, lubricating oil and certain other petroleum products.[1)]

CAUTION — Some products, particularly natural gasoline, may have a much higher vapour pressure than would normally be characteristic of automotive or aviation gasolines. For this reason, extreme caution must be exercised to assure that the test bomb containing natural gasoline or other products of high vapour pressure is not placed in the 100 °C bath. Samples having Reid vapour pressures in excess of 124 kPa (1,24 bar) may develop sufficient pressure at 100 °C to cause rupture of the test bomb. For any sample having a Reid vapour pressure above 124 kPa (1,24 bar), use ISO 6251, *Liquefied petroleum gases — Corrosiveness to copper — Copper strip test.*

2 Principle

A polished copper strip is immersed in a given quantity of sample and heated at a temperature and for a time specified for the material being tested. At the end of this period, the copper strip is removed, washed, and compared with corrosion standards.

3 Reagents and materials

3.1 Wash solvent

Any volatile, sulphur-free hydrocarbon solvent may be used, provided that it shows no tarnish when tested at 50 °C. Knock test grade *iso*-octane is a suitable solvent and shall be used in case of dispute. Details of the essential requirements of Knock test *iso*-octane are given in the annex.

3.2 Copper strip

Copper strips 12,5 mm wide, 1,5 to 3,0 mm thick, 75 mm long, cut from smooth-surfaced, hard-temper, cold-finished, electrolytic type copper of more than 99,9 % purity; electrical busbar stock is generally suitable.

The strips may be used repeatedly but shall be discarded when they show pitting or deep scratches that cannot be removed, or when the surfaces become deformed on handling.

3.3 Polishing materials

Silicon-carbide abrasive paper of varying degrees of fineness including 65 µm (240 grit) paper or cloth, also supply of 105 µm (150 mesh) silicon-carbide powder, and pharmaceutical grade absorbent cotton (cotton wool).

4 Apparatus

4.1 Test bomb, constructed of stainless steel according to the dimensions shown in figure 1, and capable of withstanding a test pressure of 700 kPa (7 bar) gauge. Alternative designs for the bomb cap and synthetic rubber gasket may be used, provided that the internal dimensions of the bomb are the same as those shown in figure 1.

4.2 Test tubes, 25 mm × 150 mm, as liners for the test bomb, to hold the samples.

NOTE — The capacity of some thin wall test tubes is such that the sample does not completely cover the copper strip. Such tubes should not be used.

4.3 Water or other liquid baths, capable of being maintained at the specified test temperatures to within ± 1 °C. The normally specified temperatures for the different products are given in section 8.1.2 through 8.1.6. The bath shall have suitable supports to hold the test bomb in a vertical position. The bath shall be deep enough so that the entire bomb will be submerged during the test.

NOTE — Light has been found to have considerable influence on test results. Therefore, the bath should be made of a non-transparent material.

1) A different method of evaluating corrosive tendencies of electrical insulating oils is given in IEC Publication 296, *Specification for new insulating oils for transformers and switchgear.*