SLOVENSKI STANDARD
SIST EN 61144:1997

01-avgust-1997

Test methods for the determination of oxygen index of insulatingliquids (IEC 1144:1992)

Test method for the determination of oxygen index of insulatingliquids

Meßverfahren zur Bestimmung des Sauerstoff-Kennwertes von Isolierflüssigkeiten

Méthode d'essai pour la détermination de l'indice d'oxygène des isolants liquides

Ta slovenski standard je istoveten z: **EN 61144:1993**

ICS:

29.040.01 Izolacijski fluidi na splošno Insulating fluids in general

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EUROPEAN STANDARD

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ENGLISH VERSION

Test method for the determination of oxygen index of insulating liquids
(IEC 1144:1992)

Méthode d'essai pour la détermination de l'indice d'oxygène des isolants liquides

(CEI 1144:1992)

Verfahren zur Messung der Entflammbarkeit von Isolierflüssigkeiten mittels der Sauerstoffindexmethode

(IEC 1144:1992)

This European Standard was approved by CENELEC on 1992-12-09. CENELEC 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 CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

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

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FOREWORD

The text of document 10(CO)264, as prepared by IEC Technical Committee N° 10: Fluids for electrotechnical applications was submitted to the IEC-CENELEC parallel vote in March 1992.

The reference document was approved by CENELEC as EN 61144 on 9 December 1992.

The following dates were fixed:

- latest date of publication of an identical national standard	(dop)	1993-12-01
- latest date of withdrawal of conflicting national standards	(dow)	1993-12-01

ENDORSEMENT NOTICE

The text of the International Standard IEC 1144:1992 was approved by CENELEC as a European Standard without any modification.

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Méthode d'essai pour la détermination de l'indice d'oxygène des isolants liquides

Test method for the determination of oxygen index of insulating liquids

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

TEST METHOD FOR THE DETERMINATION OF OXYGEN INDEX OF INSULATING LIQUIDS

FOREWORD

1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.

3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

This standard has been prepared by IEC Technical Committee No. 10: Fluids for electrotechnical applications.

The text of this standard is based on the following documents:

Six Months' Rule	Report on Voting
10(CO)264	10(CO)274

Full information on the voting for the approval of this standard can be found in the Voting Report indicated in the above table.

INTRODUCTION

IEC Technical Committee 89 has been issuing guidelines for the evaluation of the fire hazard associated with electrical equipment and solid electrical insulation.

In IEC 695-1-1 it is stated that the following properties are relevant to the full assessment of fire hazard:

- ignitability;
- combustion;
- propagation;
- opacity, toxicity and corrosiveness of smoke and gaseous products of combustion.

IEC TC 10 has planned to develop standard method of test covering each of the above properties for electrical insulating liquid.

This publication contains a standard method for the measurement of the oxygen index, a property which is considered to be related to the ease of ignition.

TEST METHOD FOR THE DETERMINATION OF OXYGEN INDEX OF INSULATING LIQUIDS

1 Scope

1.1 This International Standard describes a method for measuring the oxygen index of insulating liquids.

1.2 The general principles of this test method as applied to solids are described in ISO 4589.

1.3 This method is generally considered as a method describing one of the combustion characteristics of products.

1.4 This test method is applicable to all liquids, the viscosity of which is lower than or equal to 50 mm^2/s at 40 °C ± 1 °C.

WARNING: When burning a liquid, hazardous gases and/or vapours may be evolved. Adequate precaution shall be taken to protect the operator.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 4589: 1984, *Plastics – Determination of flammability by oxygen index.*

3 Definition

Oxygen index is defined in ISO 4589 as the minimum concentration of oxygen, by percentage volume in a mixture of oxygen and nitrogen, introduced at 23 °C ± 2 °C, that will just support combustion of a material under specified test conditions.

4 Summary of method

A small quantity of a liquid sample in a borosilicate glass cup is placed in a test chimney containing an upwardly flowing mixture of oxygen and nitrogen, then ignited. The minimum concentration of oxygen that will just support combustion of the liquid for 60 s or more is taken as the oxygen index.