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**Izolirne tekočine - Merjenje relativne dielektrične konstante, faktor dielektrične izgube (tangens  $\delta$ ) in enosmerne upornosti (IEC 60247:2004)**

Insulating liquids - Measurement of relative permittivity, dielectric dissipation factor (tan  $\delta$ ) and dc resistivity (IEC 60247:2004)

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EUROPEAN STANDARD

**EN 60247**

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2004

ICS 17.220.99; 29.040.10

English version

**Insulating liquids –  
Measurement of relative permittivity,  
dielectric dissipation factor ( $\tan \delta$ ) and d.c. resistivity  
(IEC 60247:2004)**

Liquides isolants –  
Mesure de la permittivité relative,  
du facteur de dissipation diélectrique  
( $\tan \delta$ ) et de la résistivité en courant  
continu  
(CEI 60247:2004)

Isolierflüssigkeiten –  
Messung der Permittivitätszahl,  
des dielektrischen Verlustfaktors ( $\tan \delta$ )  
und des spezifischen Gleichstrom-  
Widerstandes  
(IEC 60247:2004)

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**CENELEC**

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 10/573/FDIS, future edition 3 of IEC 60247, prepared by IEC TC 10, Fluids for electrotechnical applications, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60247 on 2004-04-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-01-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-04-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 60247:2004 was approved by CENELEC as a European Standard without any modification.

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**Annex ZA**  
(normative)

**Normative references to international publications  
with their corresponding European publications**

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.

NOTE Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60093	- <sup>1)</sup>	Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials	HD 429 S1	1983 <sup>2)</sup>
IEC 60250	- <sup>1)</sup>	Recommended methods for the determination of the permittivity and dielectric dissipation factor of electrical insulating materials at power, audio and radio frequencies including metre wavelengths	-	-
IEC 60475	- <sup>1)</sup>	Method of sampling liquid dielectrics	-	-
IEC 61620	- <sup>1)</sup>	Insulating liquids - Determination of the dielectric dissipation factor by measurement of the conductance and capacitance - Test method	EN 61620	1999 <sup>2)</sup>

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1) Undated reference.

2) Valid edition at date of issue.

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NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC

60247

Troisième édition  
Third edition  
2004-02

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**Liquides isolants –  
Mesure de la permittivité relative,  
du facteur de dissipation diélectrique ( $\tan \delta$ )  
et de la résistivité en courant continu**

iTeh STANDARD PREVIEW

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**INSULATING LIQUIDS –  
MEASUREMENT OF RELATIVE PERMITTIVITY,  
DIELECTRIC DISSIPATION FACTOR (TAN  $\delta$ )  
AND DC RESISTIVITY****FOREWORD**

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International Standard IEC 60247 has been prepared by IEC technical committee 10: Fluids for electrotechnical applications.

This third edition cancels and replaces the second edition published in 1978. This edition constitutes a technical revision.

The main changes deal with the preferred measurement method.

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

FDIS	Report on voting
10/573/FDIS	10/575/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until 2015. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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## INTRODUCTION

### **Health and safety**

General caution. This International standard does not purport to address all the safety problems associated with its use. It is the responsibility of the user of the standard to establish appropriate health and safety practices and determine the applicability of regulatory limitations prior to use.

### **Environment**

This standard gives rise to insulating liquids, chemicals, used sample containers and oil contaminated solids. The disposal of these items should be carried out according to local regulations with regard to their impact on the environment. Every precaution should be taken to prevent the release into the environment of these liquids.

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