



National Standards Authority of Ireland

STANDARD

**I.S. EN 60247:2004**

ICS 17.220.99  
29.040.10

**INSULATING LIQUIDS - MEASUREMENT OF  
RELATIVE PERMITTIVITY, DIELECTRIC  
DISSIPATION FACTOR (TAN D) AND D.C.  
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)

This European Standard was approved by CENELEC on 2004-04-01. 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

**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with the EN have to be withdrawn (dow) 2007-04-01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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