
Irish Standard
I.S. EN 60475:2011

# Method of sampling insulating liquids (IEC 60475:2011 (EQV))

# I.S. EN 60475:2011

*Incorporating amendments/corrigenda issued since publication:*

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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I.S. EN 60475:2011

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 60475

December 2011

ICS 29.040

English version

## Method of sampling insulating liquids
(IEC 60475:2011)

Méthode d'échantillonnage des liquides isolants
(CEI 60475:2011)

Verfahren zur Probennahme von Isolierflüssigkeiten
(IEC 60475:2011)

This European Standard was approved by CENELEC on 2011-11-24. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre 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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**



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## Foreword

The text of document 10/848/FDIS, future edition 2 of IEC 60475, prepared by IEC/TC 10 "Fluids for electrotechnical applications" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60475:2011.

The following dates are fixed:

| | | |
|---|---|---|
| • latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2012-08-24 |
| • latest date by which the national standards conflicting with the document have to be withdrawn | (dow) | 2014-11-24 |

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

## Endorsement notice

The text of the International Standard IEC 60475:2011 was approved by CENELEC as a European Standard without any modification.

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

| Publication | Year | Title | EN/HD | Year |
|---|---|---|---|---|
| IEC 60567 | 2011 | Oil-filled electrical equipment - Sampling of gases and analysis of free and dissolved gases - Guidance | EN 60567 | 2011 |
| IEC 60970 | - | Insulating liquids - Methods for counting and sizing particles | EN 60970 | - |

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# METHOD OF SAMPLING INSULATING LIQUIDS

## FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60475 has been prepared by IEC technical committee 10: Fluids for electrotechnical applications.

This second edition cancels and replaces the first edition, published in 1974, and constitutes a technical revision.

The main changes with respect to the previous edition are listed below:

– since the publication of the first edition of this standard, askarels have been banned and therefore have been withdrawn from this second edition;
– recommendations concerning general health, safety and environmental protection have been added as an Introduction;
– the first edition was mainly about sampling from drums and tank cars. This second edition addresses in more detail the sampling of oil from electrical equipment, using various types of sampling devices appropriate for the different types of oil tests to be performed in the laboratory, including dissolved gas analysis (DGA).

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

| FDIS | Report on voting |
|---|---|
| 10/848/FDIS | 10/871/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 the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

# INTRODUCTION

**General caution, health, safety and environmental protection**

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.

The insulating oils which are the subject of this standard should be handled with due regard to personal hygiene. Direct contact with the eyes may cause irritation. In the case of eye contact, irrigation with copious quantities of clean running water should be carried out and medical advice sought. Some of the tests specified in this standard involve the use of processes that could lead to a hazardous situation. Attention is drawn to the relevant standard for guidance.

**Environment**

This standard is applicable to mineral oils and non-mineral oils, chemicals and used sample containers.

Attention is drawn to the fact that, some mineral oils in service may still be contaminated to some degree by PCBs. If this is the case, safety countermeasures should be taken to avoid risks to workers, the public and the environment during the life of the equipment, by strictly controlling spills and emissions. Disposal or decontamination of these oils should be carried out strictly according to local regulations. Every precaution should be taken to prevent release of mineral oil and non-mineral oil into the environment.