



NSAI
Standards

Irish Standard
I.S. EN 62068:2013

Electrical insulating materials and systems - General method of evaluation of electrical endurance under repetitive voltage impulses (IEC 62068:2013 (EQV))

I.S. EN 62068:2013

Incorporating amendments/corrigenda issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

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

<i>This document replaces:</i> EN 62068-1:2003	<i>This document is based on:</i> EN 62068:2013 EN 62068-1:2003	<i>Published:</i> 27 September, 2013 24 October, 2003
This document was published under the authority of the NSAI and comes into effect on: 2 October, 2013		ICS number: 29.080.30
NSAI 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	Sales: T +353 1 857 6730 F +353 1 857 6729 W standards.ie
Údarás um Chaighdeáin Náisiúnta na hÉireann		

English version

**Electrical insulating materials and systems -
General method of evaluation of electrical endurance under repetitive
voltage impulses
(IEC 62068:2013)**

Matériaux et systèmes d'isolation
électriques -
Méthode générale d'évaluation de
l'endurance électrique soumise à des
impulsions de tension appliquées
périodiquement
(CEI 62068:2013)

Elektrische Isolierstoffe und
Isoliersysteme -
Allgemeines Verfahren zur Bewertung der
elektrischen Lebensdauer bei
Beanspruchung mit sich wiederholenden
Spannungsimpulsen
(IEC 62068:2013)

This European Standard was approved by CENELEC on 2013-04-15. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 112/234/FDIS, future edition 1 of IEC 62068, prepared by IEC TC 112 "Evaluation and qualification of electrical insulating materials and systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62068:2013.

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) 2014-03-27
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-04-15

This document supersedes EN 62068-1:2003.

EN 62068:2013 includes the following significant technical changes with respect to EN 62068-1:2003:

The main changes with regard to EN 62068-1:2003 concern the terms and definitions which are now aligned, in part, on IEC/TS 61934 and CLC/TS 60034-18-42.

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 62068:2013 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

- | | | |
|-------------------------|------|---|
| IEC/TS 60034-18-42:2008 | NOTE | Harmonised as CLC/TS 60034-18-42:2011 (not modified). |
| IEC 60505:2011 | NOTE | Harmonised as EN 60505:2011 (not modified). |
| IEC 60270:2000 | NOTE | Harmonised as EN 60270:2001 (not modified). |

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62539	-	Guide for the statistical analysis of electrical insulation breakdown data	-	-

This page is intentionally left BLANK.

CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references	5
3 Terms and definitions	5
4 General test procedures	8
4.1 Overview	8
4.2 Test object	9
4.3 Screening test method.....	9
4.3.1 General	9
4.3.2 Test procedure	9
4.3.3 RPDIV and RPDEV measurements	9
4.3.4 Data processing	9
4.3.5 Evaluation	10
4.4 Endurance test method.....	10
4.4.1 Reference EIS	10
4.4.2 Comparison test	10
5 Test impulse-voltage characteristics	11
Annex A (informative) Impulse ageing.....	12
Bibliography.....	15
Table 1 – Test impulse-voltage characteristics.....	11

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL INSULATING MATERIALS AND SYSTEMS –
GENERAL METHOD OF EVALUATION OF ELECTRICAL ENDURANCE
UNDER REPETITIVE VOLTAGE IMPULSES**

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62068 has been prepared by IEC technical committee 112: Evaluation and qualification of electrical insulating materials and systems.

This first edition of IEC 62068 replaces IEC 62068-1:2003. It has been re-numbered as IEC 62068, as decided at the Plenary Meeting of TC 112 in Prague 2011.

The main changes with regard to IEC 62068-1:2003 concern the terms and definitions which are now aligned, in part, on IEC/TS 61934 [1]¹ and IEC/TS 60034-18-42 [2].

¹ Figures in square brackets refer to the bibliography.

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

FDIS	Report on voting
112/234/FDIS	112/242/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.

ELECTRICAL INSULATING MATERIALS AND SYSTEMS – GENERAL METHOD OF EVALUATION OF ELECTRICAL ENDURANCE UNDER REPETITIVE VOLTAGE IMPULSES

1 Scope

This International Standard applies to electrical equipment, regardless of voltage, containing an insulation system, which is

- connected to an electronic power supply, and
- requires an evaluation of insulation endurance under repetitive voltage impulses.

This standard proposes a general test procedure to facilitate screening of electrical insulating materials (EIM) and systems (EIS) and to achieve a relative evaluation of insulation endurance under conditions of repetitive impulses.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62539, *Guide for the statistical analysis of electrical insulation breakdown data*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

electrical insulating material

EIM

material with negligibly low electric conductivity, used to separate conducting parts at different electrical potentials

[SOURCE: IEC 60505:2011, definition 3.1.2 [3] ²

3.2

electrical insulation system

EIS

insulating structure containing one or more electrical insulating materials (EIM) together with associated conducting parts employed in an electrotechnical device

[SOURCE: IEC 60505:2011, definition 3.1.1 [2]

3.3

candidate EIS

EIS under evaluation to determine its electrical endurance when exposed to repetitive voltage impulses

² Figures in square brackets refer to the Bibliography.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-