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Standards

Irish Standard
I.S. EN IEC 60112:2020

Method for the determination of the proof and the comparative tracking indices of solid insulating materials

I.S. EN IEC 60112:2020

Incorporating amendments/corrigenda/National Annexes issued since publication:

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This document is based on:

EN IEC 60112:2020

Published:

2020-12-04

This document was published under the authority of the NSAI and comes into effect on:

2020-12-21

ICS number:

19.080

29.035.01

NOTE: If blank see CEN/CENELEC cover page

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

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National Foreword

I.S. EN IEC 60112:2020 is the adopted Irish version of the European Document EN IEC 60112:2020, Method for the determination of the proof and the comparative tracking indices of solid insulating materials

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EUROPEAN STANDARD

EN IEC 60112

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2020

ICS 19.080; 29.035.01

Supersedes EN 60112:2003 and all of its amendments
and corrigenda (if any)

English Version

**Method for the determination of the proof and the comparative
tracking indices of solid insulating materials
(IEC 60112:2020)**

Méthode de détermination des indices de résistance et de
tenue au cheminement des matériaux isolants solides
(IEC 60112:2020)

Verfahren zur Bestimmung der Prüfwahl und der
Vergleichszahl der Kriechwegbildung von festen,
isolierenden Werkstoffen
(IEC 60112:2020)

This European Standard was approved by CENELEC on 2020-12-02. 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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 60112:2020 (E)

European foreword

The text of document 112/479/FDIS, future edition 5 of IEC 60112, 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 IEC 60112:2020.

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) 2021-09-02
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-12-02

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

| | | |
|-------------|------|------------------------------|
| IEC 60587 | NOTE | Harmonized as EN 60587 |
| IEC 60664-1 | NOTE | Harmonized as EN IEC 60664-1 |
| IEC 60212 | NOTE | Harmonized as EN 60212 |
| ISO 293 | NOTE | Harmonized as EN ISO 293 |
| ISO 294-1 | NOTE | Harmonized as EN ISO 294-1 |
| ISO 294-3 | NOTE | Harmonized as EN ISO 294-3 |
| ISO 295 | NOTE | Harmonized as EN ISO 295 |
| ISO 3167 | NOTE | Harmonized as EN ISO 3167 |
| ISO 3696 | NOTE | Harmonized as EN ISO 3696 |

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|--|--------------|-------------|
| ISO 4287 | - | Geometrical Product Specifications (GPS) - Surface texture: Profile method - Terms, definitions and surface texture parameters | EN ISO 4287 | - |

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IEC 60112

Edition 5.0 2020-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

BASIC SAFETY PUBLICATION

PUBLICATION FONDAMENTALE DE SÉCURITÉ

**Method for the determination of the proof and the comparative tracking indices
of solid insulating materials**

**Méthode de détermination des indices de résistance et de tenue
au cheminement des matériaux isolants solides**





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IEC Central Office
 3, rue de Varembe
 CH-1211 Geneva 20
 Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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Edition 5.0 2020-10

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**INTERNATIONAL
ELECTROTECHNICAL
COMMISSION**

**COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE**

ICS 19.080; 29.035.01

ISBN 978-2-8322-8748-4

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

METHOD FOR THE DETERMINATION OF THE PROOF AND THE COMPARATIVE TRACKING INDICES OF SOLID INSULATING MATERIALS

FOREWORD

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International Standard IEC 60112 has been prepared by IEC technical committee 112: Evaluation and qualification of electrical insulating materials and systems.

This fifth edition cancels and replaces the fourth edition published in 2003 and Amendment 1:2009. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- Introduction of a new contaminant, solution C with a surfactant aligned with the test method of IEC 60587. The definition of the solution B was transferred to Annex B for backward reference.
- Introduction of a screening test, considering the fact that some materials can withstand high test voltages, but fail at lower test voltages.

It has the status of a basic safety publication in accordance with IEC Guide 104.

The text of this International Standard is based on the following documents:

| FDIS | Report on voting |
|--------------|------------------|
| 112/479/FDIS | 112/484/RVD |

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

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

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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

METHOD FOR THE DETERMINATION OF THE PROOF AND THE COMPARATIVE TRACKING INDICES OF SOLID INSULATING MATERIALS

1 Scope

This document specifies the method of test for the determination of the proof and comparative tracking indices of solid insulating materials on pieces taken from parts of equipment and on plaques of material using alternating voltage.

This document provides a procedure for the determination of erosion when required.

NOTE 1 The proof tracking index is used as an acceptance criterion as well as a means for the quality control of materials and fabricated parts. The comparative tracking index is mainly used for the basic characterization and comparison of the properties of materials.

This test method evaluates the composition of the material as well as the surface of the material being evaluated. Both the composition and surface condition directly influence the results of the evaluation and are considered when using the results in material selection process.

Test results are not directly suitable for the evaluation of safe creepage distances when designing electrical apparatus.

NOTE 2 This is in compliance with IEC 60664-1, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*.

NOTE 3 This test discriminates between materials with relatively poor resistance to tracking, and those with moderate or good resistance, for use in equipment which can be used under moist conditions. More severe tests of longer duration are available for the assessment of performance of materials for outdoor use, utilizing higher voltages and larger test specimens (see the inclined plane test of IEC 60587). Other test methods such as the inclined method can rank materials in a different order from the drop test given in this document.

This basic safety publication focusing on a safety test method is primarily intended for use by technical committees in the preparation of safety publications in accordance with the principles laid down in IEC Guide 104 and ISO/IEC Guide 51.

One of the responsibilities of a technical committee is, wherever applicable, to make use of basic safety publications in the preparation of its publications.

2 Normative references

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