



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN IEC 60112:2020

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

Verfahren zur Bestimmung der Prüfzahl
und der Vergleichszahl der
Kriechwegbildung von festen,
isolierenden Werkstoffen

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

National Foreword

This European Standard EN IEC 60112:2020 was adopted as Luxembourgish Standard ILNAS-EN IEC 60112:2020.

Every interested party, which is member of an organization based in Luxembourg, can participate for FREE in the development of Luxembourgish (ILNAS), European (CEN, CENELEC) and International (ISO, IEC) standards:

- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

<https://portail-qualite.public.lu/fr/normes-normalisation/participer-normalisation.html>

THIS PUBLICATION IS COPYRIGHT PROTECTED

Nothing from this publication may be reproduced or utilized in any form or by any mean - electronic, mechanical, photocopying or any other data carries without prior permission!

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 Prüfzahl 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.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

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

This document supersedes EN 60112:2003 and all of its amendments and corrigenda (if any).

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

Endorsement notice

The text of the International Standard IEC 60112:2020 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 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**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 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	-



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**

CONTENTS

FOREWORD	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Principle	7
5 Test specimen	7
6 Test specimen conditioning	8
6.1 Environmental conditioning	8
6.2 Test specimen surface state	8
7 Test apparatus	8
7.1 Electrodes	8
7.2 Test circuit	9
7.3 Test solutions	9
7.4 Dropping device	10
7.5 Test specimen support platform	10
7.6 Electrode assembly installation	10
7.7 Conditioning chamber	10
8 Basic test procedure	11
8.1 General	11
8.2 Preparation	11
8.3 Test procedure	11
9 Determination of erosion	12
10 Proof tracking index test (PTI)	12
10.1 Procedure	12
10.2 Report	12
11 Determination of comparative tracking index (CTI)	13
11.1 General	13
11.2 Screening test	13
11.3 Determination of the maximum 50 drop withstand voltage	14
11.4 Determination of the 100 drop point	15
11.5 Report	15
Annex A (informative) List of factors that should be considered by product committees	19
Annex B (informative) Solution B	20
Annex C (informative) Electrode material selection	21
C.1 Platinum electrodes	21
C.2 Alternatives	21
Bibliography	22
Figure 1 – Electrode	17
Figure 2 – Electrode/specimen arrangement	17
Figure 3 – Example of typical electrode mounting and specimen support	17
Figure 4 – Example of test circuit	18