BS EN IEC 62631-2-2:2022

BSI Standards Publication

Dielectric and resistive properties of solid insulating materials

Part 2-2: Relative permittivity and dissipation factor — High frequencies (1 MHz to 300 MHz) — AC methods

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National foreword

This British Standard is the UK implementation of EN IEC 62631-2-2:2022. It is identical to IEC 62631-2-2:2022.

The UK participation in its preparation was entrusted to Technical Committee GEL/112, Evaluation and qualification of electrical insulating materials and systems.

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EUROPEAN STANDARD

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English Version

Dielectric and resistive properties of solid insulating materials - Part 2-2: Relative permittivity and dissipation factor - High frequencies (1 MHz to 300 MHz) - AC methods (IEC 62631-2-2:2022)

Propriétés diélectriques et résistives des matériaux isolants solides - Partie 2-2: Permittivité relative et facteur de dissipation - Hautes fréquences (1 MHz à 300 MHz) - Méthodes en courant alternatif (IEC 62631-2-2:2022)

Dielektrische und resistive Eigenschaften fester Elektroisolierstoffe - Teil 2-2: Relative Permittivität und Verlustfaktor - Hohe Frequenzen (1 MZ bis 300 MHz) - Wechselspannungsverfahren (IEC 62631-2-2:2022)

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European foreword

The text of document 112/562/FDIS, future edition 1 of IEC 62631-2-2, 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 62631-2-2:2022.

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) 2023-02-12
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-05-12

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

IEC 60247 NOTE Harmonized as EN 60247

IEC 62631-2-1:2018 NOTE Harmonized as EN IEC 62631-2-1:2018 (not modified)

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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.

Publication	Year	Title	EN/HD	Year
IEC 60212	-	Standard conditions for use prior to and during the testing of solid electrical insulating materials	EN 60212	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

DIELECTRIC AND RESISTIVE PROPERTIES OF SOLID INSULATING MATERIALS –

Part 2-2: Relative permittivity and dissipation factor – High frequencies (1 MHz to 300 MHz) – AC methods

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IEC 62631-2-2 has been prepared by of IEC technical committee 112: Evaluation and qualification of electrical insulating materials and systems. It is an International Standard.

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

Draft	Report on voting
112/562/FDIS	112/565/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

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This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 62631 series, published under the general title *Dielectric and resistive properties of solid insulating materials*, can be found on the IEC website.

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

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- replaced by a revised edition, or
- amended.

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INTRODUCTION

Permittivity and dissipation factor (tan δ) are basic parameters for the quality of insulating materials. The dissipation factor depends on several parameters, such as environmental factors, moisture, temperature, applied voltage, and highly depends on frequency, the accuracy of measuring apparatus and other parameters applied to the measured specimen.

The frequency range measurable for permittivity and dissipation factor is highly limited by the design of the electrode system, dimension of the sample and impedance of the wiring lead. Special consideration should be given to the measurement in the high frequency range. This document focuses on the method for measurements of permittivity and dissipation factor in the high frequency range from 1 MHz to 300 MHz.

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