

STN	Dielektrické a odporové vlastnosti tuhých izolačných materiálov Časť 2-3: Stanovenie relatívnej permitivity a faktora strát (AC metódy) Metóda kontaktnej elektródy pre izolačné fólie	STN EN IEC 62631-2-3 34 6460
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Dielectric and resistive properties of solid insulating materials - Part 2-3: Relative permittivity and dissipation factor - Contact electrode method for insulating films - AC methods

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/24

Obsahuje: EN IEC 62631-2-3:2024, IEC 62631-2-3:2024

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EUROPEAN STANDARD

EN IEC 62631-2-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2024

ICS 17.220.99; 29.035.01

English Version

**Dielectric and resistive properties of solid insulating materials -
Part 2-3: Relative permittivity and dissipation factor - Contact
electrode method for insulating films - AC methods
(IEC 62631-2-3:2024)**

Propriétés diélectriques et résistives des matériaux isolants
solides - Partie 2-3 : Permittivité relative et facteur de
dissipation - Méthode d'électrode de contact pour films
isolants - Méthodes en courant alternatif
(IEC 62631-2-3:2024)

Dielektrische und resistive Eigenschaften fester Isolierstoffe
- Teil 2-3: Bestimmung der relativen Permittivität und des
dielektrischen Verlustfaktors (Wechselspannungsverfahren)
- Kontaktelektrodenverfahren für Isolierschichten
(IEC 62631-2-3:2024)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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

EN IEC 62631-2-3:2024 (E)**European foreword**

The text of document 112/631/FDIS, future edition 1 of IEC 62631-2-3, 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 62631-2-3:2024.

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IEC 62631-2-1:2018	NOTE	Approved as EN IEC 62631-2-1:2018 (not modified)
ISO 25178-2	NOTE	Approved as EN ISO 25178-2

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60674-2	—	Specification for plastic films for electrical purposes - Part 2: Methods of test	EN 60674-2	—
ISO 4593	—	Plastics - Film and sheeting - Determination of thickness by mechanical scanning	—	—
ISO 14644-1	—	Cleanrooms and associated controlled environments – Part 1: Classification of air cleanliness by particle concentration	EN ISO 14644-1	—
ISO 21920-2	—	Geometrical product specifications (GPS) – Surface texture: Profile – Part 2: Terms, definitions and surface texture parameters	EN ISO 21920-2	—



IEC 62631-2-3

Edition 1.0 2024-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Dielectric and resistive properties of solid insulating materials –
Part 2-3: Relative permittivity and dissipation factor – Contact electrode method
for insulating films – AC methods**

**Propriétés diélectriques et résistives des matériaux isolants solides –
Partie 2-3 : Permittivité relative et facteur de dissipation – Méthode d'électrode
de contact pour films isolants – Méthodes en courant alternatif**



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IEC 62631-2-3

Edition 1.0 2024-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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Part 2-3: Relative permittivity and dissipation factor – Contact electrode method
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**DIELECTRIC AND RESISTIVE PROPERTIES OF
SOLID INSULATING MATERIALS –**
**Part 2-3: Relative permittivity and dissipation factor –
Contact electrode method for insulating films – AC methods**

FOREWORD

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IEC 62631-2-3 has been prepared by 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
112/631/FDIS	112/641/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.

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/publications.

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INTRODUCTION

Measuring the relative permittivity and the dielectric dissipation factor ($\tan \delta$) of thin insulating polymer films with a thickness of approximately 10 μm to 100 μm without any additional layer is important for insulation applications. There is currently a lack of suitable technology and standard for the measurement of the relative permittivity and dielectric dissipation factor of very thin single-layer polymer films. By using multilayer polymer films with 20 to 50 layers, it can be feasible to get the average value of the relative permittivity and dielectric dissipation factor of an insulating polymer film, but the effect of air gap inside should not be ignored. With metallized electrodes on the surface of the polymer film, it is possible to get acceptable results of the relative permittivity and dielectric dissipation factor of an insulating polymer film in research laboratory. This document provides the measuring technology and the test method for the relative permittivity and dielectric dissipation factor of thin insulating polymer films without any additional layer or metallization on the sample, under technical frequency.

DIELECTRIC AND RESISTIVE PROPERTIES OF SOLID INSULATING MATERIALS –

Part 2-3: Relative permittivity and dissipation factor – Contact electrode method for insulating films – AC methods

1 Scope

This part of IEC 62631 specifies the measuring technology and the test method for the relative permittivity and dielectric dissipation factor of thin single layer insulating polymer film without any additional metallization on the sample surface. The adaptive thickness range is approximately 10 µm to 100 µm. The proposed frequency is the power frequency (50 Hz or 60 Hz), and it is also suitable in the technical frequency range from 1 Hz to 1 MHz.

2 Normative references

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.

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