
**Dielektrične in uporovne lastnosti trdnih izolacijskih materialov - 3-1. del:
Ugotavljanje uporovnih lastnosti (metode z enosmernim tokom) - Prehodna
upornost in specifična prehodna upornost - Splošna metoda (IEC 62631-3-1:2023)**

Dielectric and resistive properties of solid insulating materials - Part 3-1: Determination of resistive properties (DC methods) - Volume resistance and volume resistivity - General method (IEC 62631-3-1:2023)

Dielektrische und resistive Eigenschaften fester Isolierstoffe - Teil 3-1: Bestimmung resistiver Eigenschaften (Gleichspannungsverfahren) - Durchgangswiderstand und spezifischer Durchgangswiderstand, Basisverfahren (IEC 62631-3-1:2023)

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Propriétés diélectriques et résistives des matériaux isolants solides - Partie 3-1: Détermination des propriétés résistives (méthodes en courant continu) - Résistance transversale et résistivité transversale - Méthode générale (IEC 62631-3-1:2023)

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17.220.99	Drugi standardi v zvezi z električno in magnetizmom	Other standards related to electricity and magnetism
29.035.01	Izolacijski materiali na splošno	Insulating materials in general

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EN IEC 62631-3-1

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**Dielectric and resistive properties of solid insulating materials -
Part 3-1: Determination of resistive properties (DC methods) -
Volume resistance and volume resistivity - General method
(IEC 62631-3-1:2023)**

Propriétés diélectriques et résistives des matériaux isolants
solides - Partie 3-1: Détermination des propriétés résistives
(méthodes en courant continu) - Résistance volumique et
résistivité volumique - Méthode générale
(IEC 62631-3-1:2023)

Dielektrische und resistive Eigenschaften fester Isolierstoffe
- Teil 3-1: Bestimmung resistiver Eigenschaften
(Gleichspannungsverfahren) - Durchgangswiderstand und
spezifischer Durchgangswiderstand - Basisverfahren
(IEC 62631-3-1:2023)

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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 62631-3-1:2023 (E)**European foreword**

The text of document 112/597/FDIS, future edition 2 of IEC 62631-3-1, 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 62631-3-1:2023.

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) 2023-11-27
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-02-27

This document supersedes EN 62631-3-1:2016 and all of its amendments and corrigenda (if any).

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The text of the International Standard IEC 62631-3-1:2023 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62631-3-11 NOTE Approved as EN IEC 62631-3-11

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>
IEC 60212	-	Standard conditions for use prior to and during the testing of solid electrical insulating materials	EN 60212	-
IEC 60455-2	-	Resin based reactive compounds used for electrical insulation - Part 2: Methods of test	EN 60455-2	-
IEC 60464-2	-	Varnishes used for electrical insulation - Part 2: Methods of test	EN 60464-2	-
IEC 61212-2	-	Insulating materials - Industrial rigid round laminated tubes and rods based on thermosetting resins for electrical purposes - Part 2: Methods of test	EN 61212-2	-



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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Dielectric and resistive properties of solid insulating materials –
Part 3-1: Determination of resistive properties (DC methods) – Volume
resistance and volume resistivity – General method**

**Propriétés diélectriques et résistives des matériaux isolants solides –
Partie 3-1: Détermination des propriétés résistives (méthodes en courant
continu) – Résistance volumique et résistivité volumique – Méthode générale**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**DIELECTRIC AND RESISTIVE PROPERTIES
OF SOLID INSULATING MATERIALS –****Part 3-1: Determination of resistive properties (DC methods) –
Volume resistance and volume resistivity – General method**

FOREWORD

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IEC 62631-3-1 has been prepared by IEC technical committee 112: Evaluation and qualification of electrical insulating materials and systems. It is an International Standard.

This second edition cancels and replaces the first edition published in 2016. This edition constitutes a technical revision.

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

- a) following the withdrawal of IEC 60093 and its partial replacement with the first edition of IEC 62631-3-1, the missing editorial and technical texts have been added and incorporated into this second edition of IEC 62631-3-1;
- b) the alignment of normative texts and informative notes have been addressed as well as the normative references and bibliography.

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

Draft	Report on voting
112/597/FDIS	112/604/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.

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

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

[SIST EN IEC 62631-3-1:2023](https://standards.iteh.ai/catalog/standards/sist/c44c2a44-96f5-4a54-aa3a-7ba1b77c1eaa/sist-en-iec-62631-3-1-2023)

<https://standards.iteh.ai/catalog/standards/sist/c44c2a44-96f5-4a54-aa3a-7ba1b77c1eaa/sist-en-iec-62631-3-1-2023>

DIELECTRIC AND RESISTIVE PROPERTIES OF SOLID INSULATING MATERIALS –

Part 3-1: Determination of resistive properties (DC methods) – Volume resistance and volume resistivity – General method

1 Scope

This part of IEC 62631 specifies a method of test for the determination of volume resistance and volume resistivity of electrical insulating materials by applying a DC voltage.

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.

IEC 60212, *Standard conditions for use prior to and during the testing of solid electrical insulating materials*

IEC 60455-2, *Resin based reactive compounds used for electrical insulation – Part 2: Methods of test*

IEC 60464-2, *Varnishes used for electrical insulation – Part 2: Methods of test*

IEC 61212-2, *Industrial materials – Industrial rigid round laminated tubes and rods based on thermosetting resins for electrical purposes – Part 2: Methods of test*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

volume resistance

quotient of a direct voltage applied between two electrodes in contact with an insulating medium and the current through it at a given duration of voltage application

Note 1 to entry: Volume resistance is expressed in Ω .

3.2

volume resistivity

quotient of a DC electric field system and the current density within an insulating medium at a given time of voltage application