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INTERNATIONAL STANDARD

colour inside

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

INTERNATIONAL
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COMMISSION

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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

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.

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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

1 Scope

This part of IEC 62631 ~~covers~~ specifies a method of test for the determination of volume resistance and volume resistivity of electrical ~~insulation~~ 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 (all parts), *Resin based reactive compounds used for electrical insulation*~~

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

~~IEC 60464 (all parts), *Varnishes used for electrical insulation*~~

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

~~IEC 61212 (all parts), *Industrial materials – Industrial rigid round laminated tubes and rods based on thermosetting resins for electrical purposes*~~

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

~~ISO 868, *Plastics and ebonite – Determination of indentation hardness by means of a durometer (Shore hardness)*~~

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Edition 2.0 2023-01

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

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

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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*

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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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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Cette seconde édition annule et remplace la première édition parue en 2016. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) à la suite du retrait de l'IEC 60093 et à son remplacement partiel par la première édition de l'IEC 62631-3-1, des éléments rédactionnels et techniques manquants ont été ajoutés et intégrés dans la seconde édition de l'IEC 62631-3-1;

b) un alignement des textes normatifs et des notes informatives a été réalisé ainsi qu'une mise à jour des références normatives et de la bibliographie.

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
112/597/FDIS	112/604/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/publications.

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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

1 Domaine d'application

La présente partie de l'IEC 62631 spécifie une méthode d'essai pour déterminer la résistance volumique et la résistivité volumique de matériaux isolants électriques par application d'une tension continue.

2 Références normatives

Les documents suivants cités dans le texte constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60212, *Conditions normales à observer avant et pendant les essais de matériaux isolants électriques solides*

IEC 60455-2, *Composés réactifs à base de résines utilisés comme isolants électriques – Partie 2: Méthodes d'essai*

IEC 60464-2, *Vernis utilisés pour l'isolation électrique – Partie 2: Méthodes d'essai*

IEC 61212-2, *Matériaux isolants – Tubes et barres industriels rigides, ronds, stratifiés, à base de résines thermodurcissables à usages électriques – Partie 2: Méthodes d'essai*