IEC 60587

Edition 4.0 2022-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Electrical insulating materials used under severe ambient conditions – Test methods for evaluating resistance to tracking and erosion

Matériaux isolants électriques utilisés dans des conditions ambiantes sévères – Méthodes d'essai pour évaluer la résistance au cheminement et à l'érosion

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRICAL INSULATING MATERIALS USED UNDER SEVERE AMBIENT CONDITIONS – TEST METHODS FOR EVALUATING RESISTANCE TO TRACKING AND EROSION

FOREWORD

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IEC 60587 has been prepared by IEC technical committee 112: Evaluation and qualification of electrical insulating materials and systems. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2007. This edition constitutes a technical revision.

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

a) an improved description of the experimental methods has been implemented;
b) an improved description of the preparation of the test specimens has been implemented;
c) a more detailed description of the electrode material and of the electrode quality has been added;
d) evaluation criterion B (track length) has been removed for testing according to test method 2 (stepwise tracking voltage) as it is not applicable.

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

Draft	Report on voting
112/561/FDIS	112/564/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.

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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ELECTRICAL INSULATING MATERIALS USED UNDER SEVERE AMBIENT CONDITIONS – TEST METHODS FOR EVALUATING RESISTANCE TO TRACKING AND EROSION

1 Scope

This document describes two test methods for the evaluation of electrical insulating materials for use under severe ambient conditions at power frequencies (45 Hz to 65 Hz) by the evaluation of the resistance to tracking and erosion, using a liquid contaminant and inclined plane specimens. The two methods are:

– Method 1: test at constant voltage,

– Method 2: test at stepwise increased voltage.

Method 1 is the most widely used method as there is less need for continual inspection.

The test conditions are designed to accelerate the production of the effects, but do not reproduce all the conditions encountered in service.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

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

3.1
track
partially conducting path created by localized deterioration on the surface of an insulating material

3.2
tracking
progressive formation of conductive paths, which are produced on the surface or within a solid insulating material, due to the combined effects of electric stress and electrolytic contamination

Note 1 to entry: Tracking usually occurs due to surface contamination.

Note 2 to entry: Remaining degraded materials need not necessarily remain conductive, especially after they have cooled.

[SOURCE: IEC 60050-212:2010, 212-11-56, modified – Note 2 to entry has been added.]

3.3
erosion
electrical loss of material by leakage current or electrical discharge