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2007-05

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



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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

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

This third edition cancels and replaces the second edition, published in 1984, and constitutes a technical revision. The main changes from the previous edition are as follows: experience has indicated the need for improved description of the experimental method. For the preparation of the test specimens abrasion is recommended only if necessary. The ventilation of the test chamber is described in detail. For specimens of soft elastomeric materials a mounting support is described. The maximum depth of erosion has to be reported in the classification.

The text of this standard is based on the following documents:

FDIS	Report on voting
112/56/FDIS	112/61A/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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- withdrawn;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

A bilingual version of this publication may be issued at a later date.

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

1 Scope

This International standard 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 measurement of the resistance to tracking and erosion, using a liquid contaminant and inclined plane specimens. The two methods are as follows:

- Method 1: constant tracking voltage;
- Method 2: stepwise tracking voltage.

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

NOTE 2 The test conditions are designed to accelerate the production of the effects, but do not reproduce all the conditions encountered in service.

2 Terms and definitions

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

2.1

track

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

2.2

tracking

progressive degradation of the surface of a solid insulating material by local discharges to form conducting or partially conducting paths

NOTE Tracking usually occurs due to surface contamination.

[IEC 60050-212-01-42¹]

2.3

erosion, electrical

loss of material by leakage current or electrical discharge

2.4

time-to-track

time required to produce tracks under the specified conditions of test

¹ IEC 60050-212:1990, *International Electrotechnical Vocabulary – Chapter 212: Insulating solids, liquids and gases*