

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Electrical insulating materials – Thermal endurance properties –
Part 5: Determination of relative thermal endurance index (RTE) of an insulating
material**

**Matériaux isolants électriques – Propriétés d'endurance thermique –
Partie 5: Détermination de l'indice d'endurance thermique relatif (RTE) d'un
matériau isolant**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL INSULATING MATERIALS –
THERMAL ENDURANCE PROPERTIES –****Part 5: Determination of relative thermal endurance
index (RTE) of an insulating material**

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International Standard IEC 60216-5 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 2003, and constitutes a technical revision.

This third edition clarifies and corrects a few items and adds an Annex D which provides criteria for the selection of the reference (or reference EIM). The third edition provides instructions for deriving a provisional estimate of the temperature up to which a material may give satisfactory performance in an application (by comparative thermal ageing with a material of known performance).

This standard is to be read in conjunction with IEC 60216-1, IEC 60216-2 and IEC 60216-3.

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

FDIS	Report on voting
112/89/FDIS	112/94/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 list of all the parts of the IEC 60216 series, under the general title *Electrical insulating materials – Thermal endurance properties*, can be found on the IEC website.

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- withdrawn,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.

ELECTRICAL INSULATING MATERIALS – THERMAL ENDURANCE PROPERTIES –

Part 5: Determination of relative thermal endurance index (RTE) of an insulating material

1 Scope

This part of IEC 60216 specifies the experimental and calculation procedures to be used for deriving the relative thermal endurance index of a material from experimental data obtained in accordance with the instructions of IEC 60216-1 and IEC 60216-2. The calculation procedures are supplementary to those of IEC 60216-3.

Guidance is also given for assessment of thermal ageing after a single fixed time and temperature, without extrapolation.

The experimental data may in principle be obtained using destructive, non-destructive or proof tests, although destructive tests have been much more extensively employed. Data obtained from non-destructive or proof tests may be “censored”, in that measurement of times taken to reach the endpoint may have been terminated at some point after the median time but before all specimens have reached end-point (see IEC 60216-1).

Guidance is given for preliminary assignment of a thermal class for an insulating material, based upon the thermal ageing performance.

The calculation procedures of this standard also apply to the determination of the thermal class of an electrical insulation system when the thermal stress is the prevailing ageing factor.

2 Normative references

The following referenced documents are indispensable for the application 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 60216-1:2001, *Electrical insulating materials – Properties of thermal endurance – Part 1: Ageing procedures and evaluation of test results*

IEC 60216-2, *Electrical insulating materials – Thermal endurance properties – Part 2: Determination of thermal endurance properties of electrical insulating materials – Choice of test criteria*

IEC 60216-3:2006, *Electrical insulating materials – Thermal endurance properties – Part 3: Instructions for calculating thermal endurance characteristics*

3 Terms, definitions, symbols, units and abbreviations

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