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| STN | Elektroizolačné materiály Dlhodobá tepelná odolnosť Časť 6: Stanovenie charakteristických hodnôt tepelnej odolnosti (TI a RTI) izolačného materiálu použitím metódy pevne určených časov | STN EN IEC 60216-6 34 6502 |
|------------|---|--|

Electrical insulating materials - Thermal endurance properties - Part 6: Determination of thermal endurance indices (TI and RTI) of an insulating material using the fixed time frame method

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/23

Obsahuje: EN IEC 60216-6:2023, IEC 60216-6:2022

Oznámením tejto normy sa od 02.01.2026 ruší
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NORME EUROPÉENNE
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EN IEC 60216-6

January 2023

ICS 17.220.99; 29.035.01

Supersedes EN 60216-6:2006

English Version

**Electrical insulating materials - Thermal endurance properties -
Part 6: Determination of thermal endurance indices (TI and RTI)
of an insulating material using the fixed time frame method
(IEC 60216-6:2022)**

Matériaux isolants électriques - Propriétés d'endurance
thermique - Partie 6: Détermination des indices
d'endurance thermique (IT et ITR) d'un matériau isolant en
utilisant la méthode de trame de durées fixes
(IEC 60216-6:2022)

Elektroisolerstoffe - Eigenschaften hinsichtlich des
thermischen Langzeitverhaltens - Teil 6: Bestimmung der
thermischen Langzeitkennwerte (TI und RTI) eines
Isolierstoffes unter Anwendung des
Festzeitrahmenverfahrens
(IEC 60216-6:2022)

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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 60216-6:2023 (E)

European foreword

The text of document 112/583/FDIS, future edition 3 of IEC 60216-6, 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 60216-6:2023.

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) 2023-10-02
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-01-02

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Endorsement notice

The text of the International Standard IEC 60216-6:2022 was approved by CENELEC as a European Standard without any modification.

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 60216-1 | 2013 | Electrical insulating materials - Thermal endurance properties - Part 1: Ageing procedures and evaluation of test results | EN 60216-1 | 2013 |
| IEC 60216-2 | - | Electrical insulating materials - Thermal endurance properties - Part 2: Determination of thermal endurance properties of electrical insulating materials - Choice of test criteria | EN 60216-2 | - |
| IEC 60216-3 | 2021 | Electrical insulating materials - Thermal endurance properties - Part 3: Instructions for calculating thermal endurance characteristics | EN IEC 60216-3 | 2021 |
| IEC 60216-4-1 | - | Electrical insulating materials - Thermal endurance properties - Part 4-1: Ageing ovens - Single-chamber ovens | EN 60216-4-1 | - |
| IEC 60216-4-2 | - | Electrical insulating materials - Thermal endurance properties - Part 4-2: Ageing ovens - Precision ovens for use up to 300 °C | EN 60216-4-2 | - |
| IEC 60216-4-3 | - | Electrical insulating materials - Thermal endurance properties - Part 4-3: Ageing ovens - Multi-chamber ovens | EN 60216-4-3 | - |
| IEC 60216-5 | 2022 | Electrical insulating materials - Thermal endurance properties - Part 5: Determination of relative temperature index (RTI) of an insulating material | EN 60216-5 | 2022 |
| IEC 60493-1 | - | Guide for the statistical analysis of ageing - test data - Part 1: Methods based on mean values of normally distributed test results | - | - |



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INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Electrical insulating materials – Thermal endurance properties –
Part 6: Determination of thermal endurance indices (TI and RTI) of an insulating
material using the fixed time frame method**

**Matériaux isolants électriques – Propriétés d'endurance thermique –
Partie 6: Détermination des indices d'endurance thermique (IT et ITR) d'un
matériau isolant en utilisant la méthode de trame de durées fixes**



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IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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Edition 3.0 2022-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Electrical insulating materials – Thermal endurance properties –
Part 6: Determination of thermal endurance indices (TI and RTI) of an insulating
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matériau isolant en utilisant la méthode de trame de durées fixes**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL INSULATING MATERIALS –
THERMAL ENDURANCE PROPERTIES –****Part 6: Determination of thermal endurance indices (TI and RTI)
of an insulating material using the fixed time frame method**

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IEC 60216-6 has been prepared by IEC technical committee 112: Evaluation and qualification of electrical insulating materials and systems. It is an International Standard.

This third edition cancels and replaces the second edition published in 2006. This edition constitutes a technical revision.

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

- a) clarification of definition of index properties vs. endurance properties;
- b) complete rework of Annex G and the corresponding program.

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

| Draft | Report on voting |
|--------------|------------------|
| 112/583/FDIS | 112/589/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/standardsdev/publications.

A list of all parts in the IEC 60216 series, published 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 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 – THERMAL ENDURANCE PROPERTIES –

Part 6: Determination of thermal endurance indices (TI and RTI) of an insulating material using the fixed time frame method

1 Scope

This part of IEC 60216 specifies the experimental and calculation procedures for deriving the thermal endurance characteristics, temperature index (TI) and relative temperature index (RTI) of an electrical insulating material (EIM) using the “fixed time frame method (FTFM)”.

In this protocol, the ageing takes place for a small number of fixed times, using the appropriate number of ageing temperatures throughout each time, the properties of the specimens being measured at the end of the relevant time interval. This differs from the procedure of IEC 60216-1, where ageing is conducted at a small number of fixed temperatures, property measurement taking place after ageing times dependent on the progress of ageing.

The diagnostic tests employed in the fixed time frame method are restricted to destructive tests. The method has not yet been applied to non-destructive or proof test procedures.

Both the TI and the RTI determined according to the FTFM protocol are derived from experimental data obtained in accordance with the instructions of IEC 60216-1 and IEC 60216-2 as modified in this part of IEC 60216. The calculation procedures and statistical tests are modified from those of IEC 60216-3 and IEC 60216-5.

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 60216-1:2013, *Electrical insulating materials – Thermal endurance properties – 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 60216-3:2021, *Electrical insulating materials – Thermal endurance properties – Part 3: Instructions for calculating thermal endurance characteristics*

IEC 60216-4-1, *Electrical insulating materials – Thermal endurance properties – Part 4-1: Ageing ovens – Single-chamber ovens*

IEC 60216-4-2, *Electrical insulating materials – Thermal endurance properties – Part 4-2: Ageing ovens – Precision ovens for use up to 300 °C*

IEC 60216-4-3, *Electrical insulating materials – Thermal endurance properties – Part 4-3: Ageing ovens – Multi-chamber ovens*

IEC 60216-5:2022, *Electrical insulating materials – Thermal endurance properties – Part 5: Determination of relative temperature index (RTI) of an insulating material*

IEC 60493-1, *Guide for the statistical analysis of ageing test data – Part 1: Methods based on mean values of normally distributed test results*

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