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| STN | Elektroizolačné materiály Dlhodobá tepelná odolnosť Časť 5: Stanovenie relatívneho teplotného indexu (RTI) elektroizolačného materiálu | STN EN IEC 60216-5 34 6502 |
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Electrical insulating materials - Thermal endurance properties - Part 5: Determination of relative temperature index (RTI) of an insulating material

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

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EN IEC 60216-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2022

ICS 19.020; 29.020; 29.035.01

Supersedes EN 60216-5:2008

English Version

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

Matériaux isolants électriques - Propriétés d'endurance
thermique - Partie 5: Détermination de l'indice de
température relatif (ITR) d'un matériau isolant
(IEC 60216-5:2022)

Elektroisolierstoffe - Eigenschaften hinsichtlich des
thermischen Langzeitverhaltens - Teil 5: Bestimmung des
relativen Temperaturindex (RTI) von Elektroisolierstoffen
(IEC 60216-5:2022)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 60216-5:2022 (E)**European foreword**

The text of document 112/582/FDIS, future edition 4 of IEC 60216-5, 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 60216-5:2022.

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) 2023-09-22
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This document is read in conjunction with EN 60216-1:2013, EN 60216-2:2005 and EN IEC 60216-3:2021.

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Endorsement notice

The text of the International Standard IEC 60216-5:2022 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60085 NOTE Harmonized as EN 60085

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 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 | 2005 | Electrical insulating materials - Thermal endurance properties - Part 2: Determination of thermal endurance properties of electrical insulating materials - Choice of test criteria | EN 60216-2 | 2005 |
| IEC 60216-3 | 2021 | Electrical insulating materials - Thermal endurance properties - Part 3: Instructions for calculating thermal endurance characteristics | EN IEC 60216-3 | 2021 |



IEC 60216-5

Edition 4.0 2022-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

**Matériaux isolants électriques – Propriétés d'endurance thermique –
Partie 5: Détermination de l'indice de température relatif (ITR) d'un matériau
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Edition 4.0 2022-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

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

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

FOREWORD

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IEC 60216-5 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 2008. This edition constitutes a technical revision.

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

- a) Annex C “Computer program” has been completely reworked;
- b) in 3.1, the terms “ATE” and “RTE” were replaced by “ATI” and “RTI” to emphasize their reference to an electrical insulating material (EIM).

This standard is to be read in conjunction with IEC 60216-1:2013, IEC 60216-2:2005 and IEC 60216-3:2021.

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

| Draft | Report on voting |
|--------------|------------------|
| 112/582/FDIS | 112/588/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 5: Determination of relative temperature index (RTI) of an insulating material

1 Scope

This part of IEC 60216 specifies the experimental and calculation procedures to be used for deriving the relative temperature 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 can 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 can be “censored”, in that measurement of times taken to reach the endpoint 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 electrical insulating material (EIM), based upon the thermal ageing performance.

While the thermal classification of an EIM is not directly related to the thermal classification of an electrical insulation system (EIS), the thermal classification of an EIS follows the same concepts as presented in this part of the 60216 series. The calculation procedures of this standard apply to the determination of the thermal class of an EIS when the thermal stress is the prevailing ageing factor.

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 60216-1:2013, *Electrical insulating materials – Thermal endurance properties – Part 1: Ageing procedures and evaluation of test results*

IEC 60216-2:2005, *Electrical insulating materials – Thermal endurance properties – Part 2: Determination of thermal endurance properties of electrical insulating materials – Choice of test criteria*

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