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REDLINE VERSION

Fasta isolermaterial – Temperaturbeständighet – Provning – Del 3: Anvisningar för beräkning av temperaturbeständighet

Electrical insulating materials –

Thermal endurance properties –

Part 3: Instructions for calculating thermal endurance characteristics

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IEC 60216-3

Edition 3.0 2021-03
REDLINE VERSION

INTERNATIONAL STANDARD



Electrical insulating materials – Thermal endurance properties – Part 3: Instructions for calculating thermal endurance characteristics

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL INSULATING MATERIALS –
THERMAL ENDURANCE PROPERTIES –****Part 3: Instructions for calculating
thermal endurance characteristics****FOREWORD**

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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 60216-3:2006. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 60216-3 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) a new computer program has been included;
- b) Annex E " has been completely reworked.

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

Draft	Report on voting
112/475/CDV	112/495/RVC

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

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- withdrawn,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

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ELECTRICAL INSULATING MATERIALS – THERMAL ENDURANCE PROPERTIES –

Part 3: Instructions for calculating thermal endurance characteristics

1 Scope

This part of IEC 60216 specifies the calculation procedures ~~to be~~ used for deriving thermal endurance characteristics from experimental data obtained in accordance with the instructions of IEC 60216-1 and IEC 60216-2 [1]¹, using fixed ageing temperatures and variable ageing times.

The experimental data ~~may~~ can be obtained using non-destructive, destructive or proof tests. Data obtained from non-destructive or proof tests ~~may~~ can be incomplete, in that ~~it is possible that~~ measurement of times taken to reach the end-point ~~may~~ will have been terminated at some point after the median time but before all specimens have reached end-point.

The procedures are illustrated by worked examples, and suitable computer programs are recommended to facilitate the calculations.

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 60216-1:20042013, *Electrical insulating materials – Thermal endurance properties – Part 1: Ageing procedures and evaluation of test results*

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

~~IEC 60493-1:1974, *Guide for the statistical analysis of ageing test data – Part 1: Methods based on mean values of normally distributed test results*~~

¹ Numbers in square brackets refer to the bibliography.

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**Fasta isolermaterial –
Temperaturbeständighet –
Provning –
Del 3: Anvisningar för beräkning av temperaturbeständighet**
*Electrical insulating materials –
Thermal endurance properties –
Part 3: Instructions for calculating thermal endurance characteristics*

Som svensk standard gäller europastandarden EN IEC 60216-3:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60216-3:2021.

Nationellt förord

Europastandarden EN IEC 60216-3:2021

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60216-3, Third edition, 2021 - Electrical insulating materials - Thermal endurance properties - Part 3: Instructions for calculating thermal endurance characteristics**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60216-3, utgåva 2, 2006, gäller ej fr o m 2024-04-20.

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English Version

**Electrical insulating materials - Thermal endurance properties -
Part 3: Instructions for calculating thermal endurance
characteristics
(IEC 60216-3:2021)**

Matériaux isolants électriques - Propriétés d'endurance
thermique - Partie 3: Instructions pour le calcul des
caractéristiques d'endurance thermique
(IEC 60216-3:2021)

Elektroisolierstoffe - Eigenschaften hinsichtlich des
thermischen Langzeitverhaltens - Teil 3: Anweisungen zur
Berechnung thermischer Langzeitkennwerte
(IEC 60216-3:2021)

This European Standard was approved by CENELEC on 2021-04-20. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

European foreword

The text of document 112/475/CDV, future edition 3 of IEC 60216-3, 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 60216-3:2021.

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) 2022-01-20
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-04-20

This document supersedes EN 60216-3:2006 and all of its amendments and corrigenda (if any).

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Endorsement notice

The text of the International Standard IEC 60216-3:2021 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60216-2 NOTE Harmonized as EN 60216-2

IEC 60216-5 NOTE Harmonized as EN 60216-5

IEC 60216-6 NOTE Harmonized as EN 60216-6

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

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICAL INSULATING MATERIALS – THERMAL ENDURANCE PROPERTIES –

Part 3: Instructions for calculating thermal endurance characteristics

FOREWORD

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ELECTRICAL INSULATING MATERIALS – THERMAL ENDURANCE PROPERTIES –

Part 3: Instructions for calculating thermal endurance characteristics

1 Scope

This part of IEC 60216 specifies the calculation procedures used for deriving thermal endurance characteristics from experimental data obtained in accordance with the instructions of IEC 60216-1 and IEC 60216-2 [1]¹, using fixed ageing temperatures and variable ageing times.

The experimental data can be obtained using non-destructive, destructive or proof tests. Data obtained from non-destructive or proof tests can be incomplete, in that it is possible that measurement of times taken to reach the end-point will have been terminated at some point after the median time but before all specimens have reached end-point.

The procedures are illustrated by worked examples, and suitable computer programs are recommended to facilitate the calculations.

2 Normative references

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

¹ Numbers in square brackets refer to the bibliography.