Electrical insulation - Thermal classification

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60085:2004 sisaldab Euroopa standardi EN 60085:2004 ingliskeelset teksti.	This Estonian standard EVS-EN 60085:2004 consists of the English text of the European standard EN 60085:2004.
Standard on kinnitatud Eesti Standardikeskuse 16.11.2004 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 16.11.2004 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 17.220.99, 29.035.01

EUROPEAN STANDARD **EN 60085**

NORME EUROPÉENNE

EUROPÄISCHE NORM October 2004

ICS 17.220.99; 29.035.01 Supersedes HD 566 S1:1990

English version

Electrical insulation - Thermal classification
(IEC 60085:2004)

Isolation électrique - Classification thermique (CEI 60085:2004)

Elektrische Isolierung - Thermische Klassifizierung (IEC 60085:2004)

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CENELEC
European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 60085:2004 E

Foreword

The text of document 15E/232/FDIS, future edition 3 of IEC 60085, prepared by SC 15E, Methods of test, of IEC TC 15, Insulating materials, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60085 on 2004-09-01.

This European Standard supersedes HD 566 S1:1990. It constitutes a technical revision and distinguishes between thermal classes for electrical insulation systems and electrical insulating materials.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2005-06-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2007-09-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 60085:2004 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 60093	NOTE	Harmonized as HD 429 S1:1983 (not modified).
IEC 60216-3	NOTE	Harmonized as EN 60216-3:2002 (not modified).
IEC 60243-1	NOTE	Harmonized as EN 60243-1:1998 (not modified).
IEC 60243-2	NOTE	Harmonized as EN 60243-2:2001 (not modified).
IEC 60243-3	NOTE	Harmonized as EN 60243-3:2001 (not modified).
IEC 60345	NOTE	Harmonized as HD 438 S1:1984 (not modified).
IEC 60626-1	NOTE	Harmonized as EN 60626-1:1995 (not modified).
IEC 60626-2	NOTE	Harmonized as EN 60626-2:1995 (not modified).
IEC 60626-3	NOTE	Harmonized as EN 60626-3:1996 (not modified).
IEC 61006	NOTE	Harmonized as EN 61006:2004 (not modified).
IEC 61074	NOTE	Harmonized as EN 61074:1993 (not modified).
ISO 75	NOTE	Harmonized in EN ISO 75 series (not modified)

ISO 178	NOTE	Harmonized as EN ISO 178:2003 (not modified)
ISO 306	NOTE	Harmonized as EN ISO 306:2004 (not modified)
ISO 527	NOTE	Harmonized in EN ISO 527 series (not modified)
ISO 899	NOTE	Harmonized in EN ISO 899 series (not modified)
ISO 3146	NOTE	Harmonized as EN ISO 3146:2000 (not modified)
ISO 6721	NOTE	Harmonized in EN ISO 6721 series (not modified)
ISO 11248	NOTE	Harmonized as EN ISO 11248:1999 (not modified)
ISO 11358	NOTE	Harmonized as EN ISO 11358:1997 (not modified)

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60216-1	- [1)]	Electrical insulating materials - Properties of thermal endurance Part 1: Ageing procedures and evaluation of test results	EN 60216-1	2001 [2)]
IEC 60216-5	- [1)]	Part 5: Determination of relative thermal endurance index (RTE) of an insulating material	EN 60216-5	2003 [2)]
IEC 60216-6	- [1)]	Part 6: Determination of thermal endurance indices (TI and RTE) of an insulating material using the fixed time frame method	EN 60216-6	2004 [2)]
IEC 61857-1	- [1)]	Electrical insulation systems - Procedures for thermal evaluation Part 1: General requirements - Low-voltage	EN 61857-1	1999 [2)]
IEC 62114	- [1)]	Electrical insulation systems (EIS) - Thermal classification	EN 62114	2001 [2)]

[1)] Undated reference.

[2)] Valid edition at date of issue.

IEC 60085

Edition 3.0 2004-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Electrical insulation – Thermal classification

Isolation électrique – Classification thermique

IEC 60085:2004

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IEC 60085

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Electrical insulation – Thermal classification

Isolation électrique – Classification thermique

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICAL INSULATION – THERMAL CLASSIFICATION

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60085 has been prepared by subcommittee 15E: Methods of test, of IEC technical committee 15: Insulating materials.

This third edition cancels and replaces the second edition, published in 1984, and constitutes a technical revision. This new edition distinguishes between thermal classes for electrical insulation systems and electrical insulating materials.

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

FDIS	Report on voting
15E/232/FDIS	15E/237/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.

ELECTRICAL INSULATION – THERMAL CLASSIFICATION

1 Scope

This standard gives guidance on the application of international standards in assigning a thermal class to electrical insulating materials (EIM) or simple combinations of such materials (IEC 60216-1), to electrical insulation systems (IEC 62114) and to insulation for electrical devices.

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, *Electrical insulating materials – Properties of thermal endurance – Part 1: Ageing procedures and evaluation of test results*

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

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

IEC 61857-1, *Electrical insulation systems – Procedures for thermal evaluation – Part 1: General requirements – Low-voltage*

IEC 62114, *Electrical insulation systems – Thermal classification*

3 Terms and definitions

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

3.1
electrical insulating material
EIM
solid with negligibly low electric conductivity, or a simple combination of such materials, used to separate conducting parts at different electrical potential in electrical devices

NOTE 1 In English, the term “insulating material” is sometimes used in a broader sense to designate also insulating liquids and gases.

NOTE 2 For testing purposes, electrodes may be applied on material specimens without this combination formally constituting an EIS to be tested as such.