BS EN 60172:2015

BSI Standards Publication

Test procedure for the determination of the temperature index of enamelled and tape wrapped winding wires

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National foreword

This British Standard is the UK implementation of EN 60172:2015. It is identical to IEC 60172:2015. It supersedes BS EN 60172:1994+A2:2010 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee L/-/99, Miscellaneous Standards - Electrical.

A list of organizations represented on this committee can be obtained on request to its secretary.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60172

June 2015

ICS 29.060.10

Supersedes EN 60172:1994

English Version

Test procedure for the determination of the temperature index of enamelled and tape wrapped winding wires (IEC 60172:2015)

Méthode d'essai pour la détermination de l'indice de température des fils de bobinage émaillés et enveloppés de ruban
(IEC 60172:2015)

Prüfverfahren zur Bestimmung des Temperaturindex von Lackdrähten und bandumwickelten Drähten
(IEC 60172:2015)

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

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European foreword

The text of document 55/1518/FDIS, future edition 4 of IEC 60172, prepared by IEC/TC 55 "Winding wires" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60172:2015.

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)	2016-03-16
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-06-16

This document supersedes EN 60172:1994.

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The text of the International Standard IEC 60172:2015 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 60317 (series)	NOTE	Harmonized as EN 60317 (series).
IEC 60455-3-5	NOTE	Harmonized as EN 60455-3-5.
IEC 60464-3-2	NOTE	Harmonized as EN 60464-3-2.

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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.

Publication	Year	Title	EN/HD	Year
IEC 60216-1	-	Electrical insulating materials - Thermal endurance properties -- Part 1: Ageing procedures and evaluation of test results	EN 60216-1	-
IEC 60216-3	-	Electrical insulating materials - Thermal endurance properties -- Part 3: Instructions for calculating thermal endurance characteristics	EN 60216-3	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

TEST PROCEDURE FOR THE DETERMINATION OF THE TEMPERATURE INDEX OF ENAMELLED AND TAPE WRAPPED WINDING WIRES

FOREWORD

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International Standard IEC 60172 has been prepared by IEC Technical Committee 55: Winding wires.

This fourth edition cancels and replaces the third edition published in 1987, Amendment 1:1997 and Amendment 2:2010. This edition constitutes a technical revision.

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

– Revision of Clause 1, Scope, to incorporate appropriate text from former Clause 2, Object;
– Deletion of Clause 2, Object, by placement of its text into existing clauses;
– New Clause 2, Normative references;
– Revision of 5.1.1, 5.3 and 5.4 with corrections to Amendment 2 to the third edition;
– Revision of Clause 7 as to clarify which specimens comply with Table 3 and Table 4;
– Revision of figures with high-resolution photos and graphs.

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

FDIS	Report on voting
55/1518/FDIS	55/1524/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 stability date indicated on the IEC website 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.

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TEST PROCEDURE FOR THE DETERMINATION OF THE TEMPERATURE INDEX OF ENAMELLED AND TAPE WRAPPED WINDING WIRES

1 Scope

This International Standard specifies, in accordance with the provisions of IEC 60216-1, a method for evaluating the temperature index of enamelled wire, varnished or unvarnished with an impregnating agent, and of tape wrapped round and rectangular wire, in air at atmospheric pressure by periodically monitoring changes in response to AC proof voltage tests. This procedure does not apply to fibre-insulated wire or wire covered with tapes containing inorganic fibres.

NOTE The data obtained according to this test procedure provide the designer and development engineer with information for the selection of winding wire for further evaluation of insulation systems and equipment tests.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 – Thermal endurance properties – Part 1: Ageing procedures and evaluation of test results*

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

3 Terms and definitions

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

3.1
temperature index
TI
numerical value of the Celsius temperature expressed in degrees Celsius characterizing the thermal capability of an insulating material or an insulation system

Note 1 to entry: In case of insulating materials, the temperature index is derived from the thermal endurance relationship at a given time, normally 20 000 hours. It may be used as basis for determination of the material's temperature class.

Note 2 to entry: In case of insulation systems, the temperature index may be derived from known service experience or from a known comparative functional evaluation of an evaluated and established reference insulation system as basis.

[SOURCE: IEC 60050-212:2010, 212-12-11]

3.2
specimen failure time
number of hours at the exposure temperature that have elapsed at the time a specimen fails the proof test

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