SLOVENSKI STANDARD

SIST EN 61857-1:2005

julij 2005

Sistemi električne izolacije – Postopki za toplotno vrednotenje – 1. del: Splošne zahteve – Nizka napetost

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

ICS 29.080.30

Referenčna številka
SIST EN 61857-1:2005(en)

EUROPEAN STANDARD **EN 61857-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM March 2005

ICS 29.080.30 Supersedes EN 61857-1:1999

English version

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

(IEC 61857-1:2004)

Systèmes d'isolation électrique - Procédures d'évaluation thermique Partie 1: Exigences générales – Basse tension (CEI 61857-1:2004)

Elektrische Isoliersysteme – Verfahren zur thermischen Bewertung – Teil 1: Allgemeine Anforderungen - Niederspannung (IEC 61857-1:2004)

This European Standard was approved by CENELEC on 2005-02-01. 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 Central Secretariat or to any CENELEC member.

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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 61857-1:2005 E

Foreword

The text of document 98/222/FDIS, future edition 2 of IEC 61857-1, prepared by IEC TC 98, Electrical insulation systems (EIS), was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61857-1 on 2005-02-01.

This European Standard supersedes EN 61857-1:1999.

It constitutes a technical revision which makes this basic standard compatible with parts 21 and 22.

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)	2005-11-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2008-02-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61857-1:2004 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 60034-18-1	NOTE	Harmonized as EN 60034-18-1:1994 (not modified).
IEC 60034-18-21	NOTE	Harmonized as EN 60034-18-21:1994 (not modified).
IEC 60034-18-31	NOTE	Harmonized as EN 60034-18-31:1994 (not modified).
IEC 62114	NOTE	Harmonized as EN 62114:2001 (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 60216-4-1	- [1)]	Guide for the determination of thermal endurance properties of electrical insulating materials Part 4: Ageing ovens – Section 1: Single-chamber ovens	HD 611.4.1 S1	1992 [2)]
IEC 60216-5	- [1)]	Part 5: Determination of relative thermal endurance index (RTE) of an insulating material	EN 60216-5	2003 [2)]
IEC 60493-1	- [1)]	Guide for the statistical analysis of ageing test data Part 1: Methods based on mean values of normally distributed test results	-	-
IEC 60505	- [1)]	Evaluation and qualification of electrical insulation systems	EN 60505	2004 [2)]

1) Undated reference.

2) Valid edition at date of issue.

NORME INTERNATIONALE

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Systèmes d'isolation électrique – Procédures d'évaluation thermique –

Partie 1: Exigences générales – Basse tension

Electrical insulation systems – Procedures for thermal evaluation –

Part 1: General requirements – Low-voltage

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICAL INSULATION SYSTEMS – PROCEDURES FOR THERMAL EVALUATION –

Part 1: General requirements – Low-voltage

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 61857-1 has been prepared by IEC technical committee 98: Electrical insulation systems (EIS).

This second edition cancels and replaces the first edition published in 1998, and constitutes a technical revision to make this basic standard compatible with parts 21 and 22.

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

FDIS	Report on voting
98/222/FDIS	98/228/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.

IEC 61857 consists of the following parts, under the general title *Electrical insulation systems – Procedures for thermal evaluation*

Part 1: General requirements – Low-voltage

Part 21: Specific requirements for general-purpose model – Wire-wound applications

Part 22: Specific requirements for encapsulated-coil model – Wire-wound electrical insulation system (EIS)

Part 23: Specific requirements for general-purpose, tall-channel model – Wire-wound electrical insulation system (EIS)

Part 31: Procedures for short time thermal evaluation[1]

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.

1 This part is currently at the Committee Draft stage.

INTRODUCTION

This International Standard establishes a standardized test procedure for estimating by comparison the life expectancy of electrical insulation systems (EIS) in accordance with IEC 60505.

An EIS contains many different components selected to withstand the varying electrical, mechanical, and thermal stresses occurring in the different parts of the structure of an electrotechnical product. The useful life of an EIS depends upon the way that its individual components are arranged, their interactions upon each other, and the contribution of each component to the electrical and mechanical integrity of the EIS. Therefore, it is impossible to specify one test object to represent all electrotechnical products. It is incumbent upon the IEC equipment technical committees to address the test objects and application of this test procedure that will meet their specific needs. This work is intended to proceed by horizontal committee activity between this technical committee and other IEC technical committees to develop a series of parts, each part to address a specific test object and/or application.

This procedure permits approximate comparisons only, and cannot be relied upon to completely determine the merits of any particular EIS. Such information can be obtained only from extended service experience.