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Elektriska isolersystem – Metoder för termisk utvärdering – Del 1: Allmänt – Lågspänning

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

Som svensk standard gäller europastandarden EN 61857-1:2009. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61857-1:2009.

Nationellt förord

Europastandarden EN 61857-1:2009

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61857-1, Third edition, 2008 - Electrical insulation systems - Procedures for thermal evaluation - Part 1: General requirements - Low-voltage**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61857-1, utg 2, 2005, gäller ej fr o m 2011-12-01.

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Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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English version

**Electrical insulation systems -
Procedures for thermal evaluation -
Part 1: General requirements -
Low-voltage
(IEC 61857-1:2008)**

Systèmes d'isolation électrique -
Procédures d'évaluation thermique -
Partie 1: Exigences générales -
Basse tension
(CEI 61857-1:2008)

Elektrische Isoliersysteme -
Verfahren zur thermischen Bewertung -
Teil 1: Allgemeine Anforderungen -
Niederspannung
(IEC 61857-1:2008)

This European Standard was approved by CENELEC on 2008-12-01. 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.

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 Central Secretariat has the same status as the official versions.

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

CENELEC

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

Central Secretariat: avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 112/92/CDV, future edition 3 of IEC 61857-1, prepared by IEC TC 112, Evaluation and qualification of electrical insulating materials and systems, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61857-1 on 2008-12-01.

This European Standard supersedes EN 61857-1:2005 and constitutes editorial revisions to make EN 61857-1:2009 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) 2009-09-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2011-12-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61857-1:2008 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60085	2004	Electrical insulation - Thermal classification	EN 60085 ¹⁾	2004
IEC 60216-4-1	- ²⁾	Electrical insulating materials - Thermal endurance properties - Part 4-1: Ageing ovens - Single-chamber ovens	EN 60216-4-1	2006 ³⁾
IEC 60216-5	- ²⁾	Electrical insulating materials - Thermal endurance properties - Part 5: Determination of relative thermal endurance index (RTE) of an insulating material	EN 60216-5	2008 ³⁾
IEC 60493-1	- ²⁾	Guide for the statistical analysis of ageing test data - Part 1: Methods based on mean values of normally distributed test results	-	-
IEC 60505	2004	Evaluation and qualification of electrical insulation systems	EN 60505	2004

¹⁾ EN 60085 is superseded by EN 60085:2008, which is based on IEC 60085:2007.

²⁾ Undated reference.

³⁾ Valid edition at date of issue.

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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 cooperation 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.

ELECTRICAL INSULATION SYSTEMS – PROCEDURES FOR THERMAL EVALUATION –

Part 1: General requirements – Low voltage

1 Scope

This part of IEC 61857 specifies a general test procedure for the thermal evaluation and qualification of electrical insulation systems (EIS) and establishes a procedure that compares the performance of a candidate EIS to that of a reference EIS.

This standard is applicable to existing or proposed EIS used in electrotechnical products with an input voltage of up to 1 000 V where the thermal factor is the dominating ageing factor.

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 60085:2004, *Electrical insulation – Thermal evaluation and designation*

IEC 60216-4-1, *Electrical insulating materials – Thermal endurance properties – Part 4-1: Ageing ovens –Single chamber ovens*

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

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

IEC 60505:2004, *Evaluation and qualification of electrical insulation systems*

