



# SLOVENSKI STANDARD

## SIST EN 61857-1:2009

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

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

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

Ta slovenski standard je istoveten z: EN 61857-1:2009

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**ICS:**

29.080.30 Izolacijski sistemi Insulation systems

**SIST EN 61857-1:2009 en**

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NORME EUROPÉENNE  
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**EN 61857-1**

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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)

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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.

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## 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).

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## 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 <sup>1)</sup>	2004
IEC 60216-4-1	- <sup>2)</sup>	Electrical insulating materials - Thermal endurance properties - Part 4-1: Ageing ovens - Single-chamber ovens	EN 60216-4-1	2006 <sup>3)</sup>
IEC 60216-5	- <sup>2)</sup>	Electrical insulating materials - Thermal endurance properties - Part 5: Determination of relative thermal endurance index (RTE) of an insulating material	EN 60216-5	2008 <sup>3)</sup>
IEC 60493-1	- <sup>2)</sup>	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

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 EN 60085 is superseded by EN 60085:2008, which is based on IEC 60085:2007.

<sup>2)</sup> Undated reference.

<sup>3)</sup> Valid edition at date of issue.

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IEC 61857-1

Edition 3.0 2008-09

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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

**Systèmes d'isolation électrique – Procédures d'évaluation thermique –  
Partie 1: Exigences générales – Basse tension**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL INSULATION SYSTEMS –  
PROCEDURES FOR THERMAL EVALUATION –****Part 1: General requirements – Low-voltage**

## FOREWORD

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International Standard IEC 61857-1 has been prepared by IEC technical committee 112: Evaluation and qualification of electrical insulating materials and systems.

This third edition cancels and replaces the second edition published in 2004, and constitutes editorial revisions to make this standard compatible with Parts 21 and 22.

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

CDV	Report on voting
112/92/CDV	112/102/RVC

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.

A list of all the parts in the IEC 61857 series, under the general title *Electrical insulation systems – Procedures for thermal evaluation*, can be found on the IEC website.

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.

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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.

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