

9`Y\_frc]nc`UW`g\_]g]ghYa ]!`Dcglcd\_]nUcWwb`Yj Ub`Y`td`c]b] `Uglbcgh]!`&&"XY.  
GdYWZ] bY`nU hYj Y`nUa cXY`g`h `Uj ]W`j `c\_fcj i `!`b] bc`cj ]h`YY\_frc]nc`UW`g\_]g]ghYa`f0-GLn`bUj ]hc`y]W`f197`\*%`)+!&&.&\$\$,Ł

Electrical insulation systems - Procedures for thermal evaluation - Part 22: Specific requirements for encapsulated-coil model - Wire-wound electrical insulation system (EIS) (IEC 61857-22:2008)

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

Elektrische Isoliersysteme - Verfahren zur thermischen Bewertung - Teil 22: Spezielle Bedingungen für ein umhülltes Spulenmodell - Elektrisches Isoliersystem aus Drahtwicklungen (EIS) (IEC 61857-22:2008)

<https://standards.iteh.ai/catalog/standards/sist/13c483a2-0628-4341-aed1-53669044a619/sist-en-61857-22-2008>

Systèmes d'isolation électriques - Procédures d'évaluation thermique - Partie 22: Exigences particulières pour modèle de bobine encapsulée - Système d'isolation électrique (SIE) à enroulements à fil (CEI 61857-22:2008)

**Ta slovenski standard je istoveten z: EN 61857-22:2008**

**ICS:**

29.080.30 Izolacijski sistemi Insulation systems

**SIST EN 61857-22:2008 en,fr**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 61857-22:2008

<https://standards.iteh.ai/catalog/standards/sist/13c483a2-0628-4341-aed1-53669044a619/sist-en-61857-22-2008>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61857-22**

October 2008

ICS 29.080.30

Supersedes EN 61857-22:2002

English version

**Electrical insulation systems -  
Procedures for thermal evaluation -  
Part 22: Specific requirements for encapsulated-coil model -  
Wire-wound electrical insulation system (EIS)  
(IEC 61857-22:2008)**

Systèmes d'isolation électriques -  
Procédures d'évaluation thermique -  
Partie 22: Exigences particulières  
pour modèle de bobine encapsulée -  
Système d'isolation électrique (SIE)  
à enroulements à fil  
(CEI 61857-22:2008)

Elektrische Isoliersysteme -  
Verfahren zur thermischen Bewertung -  
Teil 22: Spezielle Bedingungen  
für ein umhülltes Spulenmodell -  
Elektrisches Isoliersystem (EIS)  
aus Drahtwicklungen  
(IEC 61857-22:2008)

**STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 61857-22:2008](https://standards.iteh.ai/catalog/standards/sist/13c483a2-0628-4341-aed1-61857-22:2008)

[https://standards.iteh.ai/catalog/standards/sist/13c483a2-0628-4341-aed1-](https://standards.iteh.ai/catalog/standards/sist/13c483a2-0628-4341-aed1-61857-22:2008)

This European Standard was approved by CENELEC on 2008-09-01. 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: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 112/91/CDV, future edition 2 of IEC 61857-22, 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 61857-22 on 2008-09-01.

This European Standard supersedes EN 61857-22:2002.

The editorial revisions make EN 61857-22:2008 compatible with Parts 1 and 21.

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) 2009-06-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2011-09-01

Annex ZA has been added by CENELEC.

---

## Endorsement notice

The text of the International Standard IEC 61857-22:2008 was approved by CENELEC as a European Standard without any modification.

**(standards.iteh.ai)**

---

SIST EN 61857-22:2008

<https://standards.iteh.ai/catalog/standards/sist/13c483a2-0628-4341-aed1-53669044a619/sist-en-61857-22-2008>

## 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 61857-1	2004	Electrical insulation systems - Procedures for thermal evaluation - Part 1: General requirements - Low-voltage	EN 61857-1	2005

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 61857-22:2008](https://standards.iteh.ai/catalog/standards/sist/13c483a2-0628-4341-aed1-53669044a619/sist-en-61857-22-2008)

<https://standards.iteh.ai/catalog/standards/sist/13c483a2-0628-4341-aed1-53669044a619/sist-en-61857-22-2008>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 61857-22:2008

<https://standards.iteh.ai/catalog/standards/sist/13c483a2-0628-4341-aed1-53669044a619/sist-en-61857-22-2008>



IEC 61857-22

Edition 2.0 2008-07

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Electrical insulation systems – Procedures for thermal evaluation –  
Part 22: Specific requirements for encapsulated-coil model – Wire-wound  
electrical insulation system (EIS)**

**Systemes d'isolation électriques – Procédures d'évaluation thermique –  
Partie 22: Exigences particulières pour modèle de bobine encapsulée – Système  
d'isolation électrique (SIE) à enroulements à fil**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

PRICE CODE  
CODE PRIX

**M**

ICS 29.080.30

ISBN 2-8318-9945-1

## CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references .....	6
3 Terms and definitions .....	6
4 Construction.....	7
4.1 General information.....	7
4.2 ECM components .....	7
4.3 Assembly of the ECM .....	7
4.4 Similarity of reference and candidate ECM .....	8
5 Number of test objects.....	8
6 Test procedure .....	8
6.1 General.....	8
6.2 Initial screening test .....	8
6.2.1 General .....	8
6.2.2 Initial dielectric test .....	8
6.3 Thermal endurance test.....	9
6.3.1 Endurance test cycle.....	9
6.3.2 Thermal ageing.....	9
6.3.3 Mechanical stress.....	10
6.3.4 Thermal shock.....	10
6.3.5 Moisture exposure.....	10
6.3.6 Dielectric diagnostic test.....	10
7 End-of-life criterion.....	11
8 Analysing, reporting and classification.....	11
Annex A (informative) Similarity of reference and candidate specimens .....	12
Bibliography.....	13
Table 1 – Initial dielectric tests for ECM.....	9
Table 2 – Dielectric diagnostic tests for ECM.....	10



## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL INSULATION SYSTEMS –  
PROCEDURES FOR THERMAL EVALUATION –****Part 22: Specific requirements for encapsulated-coil model –  
Wire-wound electrical insulation system (EIS)**

## 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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user. ([standards.iteh.ai](http://standards.iteh.ai))
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter. (<https://standards.iteh.ai/catalog/standards/sist/13c483a2-0628-4341-aed1-6690c161a108>)
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61857-22 has been prepared by IEC technical committee 112: Evaluation and qualification of electrical insulating materials and systems.

This second edition cancels and replaces the first edition published in 2002, and constitutes editorial revisions to make this standard compatible with Parts 1 and 21.

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

CDV	Report on voting
112/91/CDV	112/99/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.