SLOVENSKI STANDARD
SIST EN 60034-18-34:2012

01-oktober-2012

Nadomešča:
SIST-TS CLC/TS 60034-18-34:2005

Električni rotacijski stroji - 18-34. del: Funkcionalno vrednotenje izolacijskih sistemov - Preskusni postopki za predhodno oblikovana navitja - Vrednotenje toplotno-mehanske vzdržljivosti izolacijskih sistemov (IEC 60034-18-34:2012)

Rotating electrical machines - Part 18-34: Functional evaluation of insulation systems - Test procedures for form-wound windings - Evaluation of thermomechanical endurance of insulation systems (IEC 60034-18-34:2012)

Drehende elektrische Maschinen - Teil 18-34: Funktionelle Bewertung von Isoliersystemen - Prüfverfahren für Wicklungen mit vorgeformten Elementen - Thermomechanische Bewertung von Isoliersystemen (IEC 60034-18-34:2012)

Machines électriques tournantes - Partie 18-34: Evaluation fonctionnelle des systèmes d'isolation - Procédures d'essai pour enroulement préformés - Evaluation de l'endurance thermomécanique des systèmes d'isolation (CEI 60034-18-34:2012)

Ta slovenski standard je istoveten z: **EN 60034-18-34:2012**

ICS:

29.080.30	Izolacijski sistemi	Insulation systems
29.160.01	Rotacijski stroji na splošno	Rotating machinery in general

SIST EN 60034-18-34:2012 **en**

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NORME EUROPÉENNE

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Rotating electrical machines - Part 18-34: Functional evaluation of insulation systems - Test procedures for form-wound windings - Evaluation of thermomechanical endurance of insulation systems

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

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Foreword

The text of document 2/1660/FDIS, future edition 1 of IEC 60034-18-34, prepared by IEC/TC 2 "Rotating machinery" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60034-18-34:2012.

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)	2013-04-19
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2015-07-19

This document supersedes CLC/TS 60034-18-34:2004.

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Endorsement notice

The text of the International Standard IEC 60034-18-34:2012 was approved by CENELEC as a European Standard without any modification.

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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60028	1925	International standard of resistance for copper	-	-
IEC 60034-1 (mod)	2010	Rotating electrical machines - Part 1: Rating and performance	EN 60034-1 + corr. October	2010 2010
IEC 60034-15	-	Rotating electrical machines - Part 15: Impulse voltage withstand levels of form-wound stator coils for rotating a.c. machines	EN 60034-15	-
IEC 60034-18-1	-	Rotating electrical machines - Part 18-1: Functional evaluation of insulation systems - General guidelines	EN 60034-18-1	-
IEC 60034-18-32	2010	Rotating electrical machines - Part 18-32: Functional evaluation of insulation systems - Test procedures for form-wound windings - Evaluation of electrical endurance	EN 60034-18-32	2010
IEC/TS 60034-27	2006	Rotating electrical machines - Part 27: Off-line partial discharge measurements on the stator winding insulation of rotating electrical machines	CLC/TS 60034-27	2011
IEC 60093	1980	Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials	HD 429 S1[1)]	1983
IEC/TR 60894 + corr. July	1987 1987	Guide for a test procedure for the measurement of loss tangent of coils and bars for machine windings	-	-

[1)] HD 429 S1 is superseded by EN 62631-1:2011, which is based on IEC 62631-1:2011.

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NORME INTERNATIONALE

Rotating electrical machines –
Part 18-34: Functional evaluation of insulation systems – Test procedures for form-wound windings – Evaluation of thermomechanical endurance of insulation systems

Machines électriques tournantes –
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ROTATING ELECTRICAL MACHINES –

Part 18-34: Functional evaluation of insulation systems – Test procedures for form-wound windings – Evaluation of thermomechanical endurance of insulation systems

FOREWORD

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International Standard IEC 60034-18-34 has been prepared by IEC technical committee 2: Rotating machinery.

This standard cancels and replaces IEC/TS 60034-18-34 (2000).

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

FDIS	Report on voting
2/1660/FDIS	2/1669/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.

NOTE A table of cross-references of all IEC TC 2 publications can be found on the IEC TC 2 dashboard on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability 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.

INTRODUCTION

IEC 60034-18-1 presents general guidelines for the evaluation and classification of insulation systems used in rotating electrical machines.

This part deals with the evaluation of insulation systems for form-wound windings under thermal cycling operation. This kind of endurance is of special importance for long rotating machines (especially indirectly cooled) and machines that are exposed to a very large number of considerable load changes during normal operation.

The main ageing factor expected in this test procedure is a mechanical stress due to the thermal expansion difference between the conductor and the insulation, which is defined as a thermomechanical stress. In this test, a transient temperature gradient from the conductor to the outer surface of the bar or coil is generated with similar time constant as those found in real generators. This thermal cycle is repeated to induce fatigue in the insulation system.

In this test, the thermal ageing is negligible. For thermal functional test, see IEC 60034-18-31.