SLOVENSKI STANDARD
SIST EN IEC 60068-2-85:2019

01-november-2019

Okoljski preskusi - 2-85. del: Preskusi - Preskus Fj: Vibracije - Dolga časovna replikacija (IEC 60068-2-85:2019)

Environmental testing - Part 2-85: Tests - Test Fj: Vibration - Long time history replication (IEC 60068-2-85:2019)

Umgebungseinflüsse - Teil 2-85: Prüfverfahren - Prüfung Fj: Schwingen, Nachbildung von Langzeitsignalen (IEC 60068-2-85:2019)

Essais d'environnement - Partie 2-85 : Essais - Essai Fj: Vibrations - Reproduction dans le temps par accélérogrammes (IEC 60068-2-85:2019)

Ta slovenski standard je istoveten z: **EN IEC 60068-2-85:2019**

ICS:

17.160	Vibracije, meritve udarcev in vibracij	Vibrations, shock and vibration measurements
19.040	Preskušanje v zvezi z okoljem	Environmental testing

SIST EN IEC 60068-2-85:2019 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60068-2-85

August 2019

ICS 19.040

English Version

Environmental testing - Part 2-85: Tests - Test Fj: Vibration - Long time history replication (IEC 60068-2-85:2019)

Essais d'environnement - Partie 2-85 : Essais - Essai Fj: Vibrations - Reproduction dans le temps par accélérogrammes (IEC 60068-2-85:2019)

Umgebungseinflüsse - Teil 2-85: Prüfverfahren - Prüfung Fj: Schwingen, Nachbildung von Langzeitsignalen (IEC 60068-2-85:2019)

This European Standard was approved by CENELEC on 2019-07-25. 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.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN IEC 60068-2-85:2019 E

European foreword

The text of document 104/833/FDIS, future edition 1 of IEC 60068-2-85, prepared by IEC/TC 104 "Environmental conditions, classification and methods of test" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60068-2-85.

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) 2020-04-25
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-07-25

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60068-2-85:2019 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 60068-3-8	NOTE	Harmonized as EN 60068-3-8
IEC 60068-2-27	NOTE	Harmonized as EN 60068-2-27
IEC 60068-2-81	NOTE	Harmonized as EN 60068-2-81
IEC 60068-1	NOTE	Harmonized as EN 60068-1
IEC 60068-5-2	NOTE	Harmonized as EN 60068-5-2
ISO/IEC 17025:2017	NOTE	Harmonized as EN ISO/IEC 17025:2017 (not modified)
IEC 60721-3 (series)	NOTE	Harmonized as EN 60721-3-9:1993/A1 (series)

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-47	-	Environmental testing - Part 2-47: Test - Mounting of specimens for vibration, impact and similar dynamic tests	EN 60068-2-47	-
IEC 60068-2-64	2008	Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance	EN 60068-2-64	2008

IEC 60068-2-85

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Environmental testing –
Part 2-85: Tests – Test Fj: Vibration – Long time history replication

Essais d'environnement –
Partie 2-85: Essais – Essai Fj: Vibrations – Reproduction dans le temps par accélérogrammes

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ENVIRONMENTAL TESTING –

Part 2-85: Tests – Test Fj: Vibration – Long time history replication

FOREWORD

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International Standard IEC 60068-2-85 has been prepared by IEC technical committee 104: Environmental conditions, classification and methods of test.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
104/833/FDIS	104/840/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60068 series, published under the general title *Environmental testing*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

This first edition of IEC 60068-2-85 was initiated in 2008 and a first proposal was prepared in 2011. It was developed out of the existing standard IEC 60068-2-64:2008 which contains a technically similar test method and modified accordingly. This facilitates usage and maintenance of both standards.

Differences are that this document relies on a specified time history. A test spectrum is not specified.

This part of IEC 60068 deals with long time history replication vibration testing intended for general application to components, equipment and other products, hereinafter referred to as ”specimens”, that may be subjected to vibrations of an arbitrary nature not covered by the other existing methods for vibration testing. The methods and techniques in this document are based on digital control of vibration in the time domain which allow a more flexible definition of the vibration input signal to suit individual cases that are specified in the relevant specification.

Compared with most other tests, test Fj is based on deterministic techniques, and the time history is supposed to have a long duration. There are nearly no restrictions to the vibration characteristics besides the technical limitations of the test apparatus.

As the vibration input signal in this test is specified by a digital time history stored in a file, there are no general methods for comparing two different test severities. The vibration tolerances cannot be given in a single measure, as this depends on the purpose of the test. Therefore, it is emphasized that long time history replication testing always demands a high degree of engineering judgement by the user and specifier. The writer of the relevant specification is expected to select the testing procedure, test time history and its severity, tolerances and analysis methods, appropriate to the specimen and its use.

The test method is based primarily on the use of an electrodynamic or a servo-hydraulic vibration generator with an associated computer-based control system used as a vibration testing system.

Long time history replication vibration testing can be used to identify accumulated stress effects and the resulting mechanical weakness and degradation in the specified performance. This information, in conjunction with the relevant specification, can be used to assess the acceptability of specimens.

If the specimens are subjected to vibration of a deterministic transient or periodic nature resulting from transportation or real life environments that are covered by other test methods, these are generally preferred. See IEC 60068-3-8 [1][1] for estimating the dynamic vibration environment of the specimen and based on that, selecting the appropriate test method.

Annex A provides guidance and a list of details that can be considered for inclusion in specifications.

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1 Numbers in square brackets refer to the bibliography.