SLOVENSKI STANDARD
SIST EN 60068-2-53:2010

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Nadomešča:
SIST EN 60068-2-50:2001
SIST EN 60068-2-51:2001

Okoljsko preskušanje - 2-53. del: Preskusi in navodila: Kombinirani klimatski (temperatura/vlaga) in dinamični (vibracije/udarec) preskusi (IEC 60068-2-53:2010)

Environmental testing - Part 2-53: Tests and guidance: Combined climatic (temperature/humidity) and dynamic (vibration/shock) tests (IEC 60068-2-53:2010)

Umgebungseinflüsse - Teil 2-53: Prüfverfahren - Prüfungen und Leitfaden - Kombinierte klimatische (Temperatur/Feuchte) und dynamische (Schwingung/Schock) Prüfungen (IEC 60068-2-53:2010)

Essais d'environnement - Partie 2-53: Essais et guide: Essai combinés climatiques (température/humidité) et dynamiques (vibrations/chocs) (CEI 60068-2-53:2010)

Ta slovenski standard je istoveten z: **EN 60068-2-53:2010**

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19.040	Preskušanje v zvezi z okoljem	Environmental testing

SIST EN 60068-2-53:2010 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60068-2-53

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English version

Environmental testing - Part 2-53: Tests and guidance: Combined climatic (temperature/humidity) and dynamic (vibration/shock) tests

(IEC 60068-2-53:2010)

Essais d'environnement - Partie 2-53: Essais et guide: Essais combinés climatiques (température/humidité) et dynamiques (vibrations/chocs) (CEI 60068-2-53:2010)

Umgebungseinflüsse - Teil 2-53: Prüfverfahren - Prüfungen und Leitfaden - Kombinierte klimatische (Temperatur/Feuchte) und dynamische (Schwingung/Schock) Prüfungen (IEC 60068-2-53:2010)

This European Standard was approved by CENELEC on 2010-05-01. 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, Croatia, 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

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Ref. No. EN 60068-2-53:2010 E

Foreword

The text of document 104/499/FDIS, future edition 2 of IEC 60068-2-53, prepared by IEC TC 104, Environmental conditions, classification and methods of test, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60068-2-53 on 2010-05-01.

This European Standard supersedes EN 60068-2-50:1999 and EN 60068-2-51:1999.

The main changes with respect to 60068-2-50:1999 and EN 60068-2-51:1999 is to update and group tests. In this way it allows for the possibility to use different kinds of vibration excitation – sine, random or mixed mode – or shocks, with different tests for climatic conditions – cold, dry heat, change of temperature or constant and cyclic damp heat.

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

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)	2011-02-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2013-05-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60068-2-53:2010 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 60068-2-33	NOTE	Harmonized as EN 60068-2-33.
IEC 60068-2-47	NOTE	Harmonized as EN 60068-2-47.

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.

Publication	Year	Title	EN/HD	Year
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60068-2-1	-	Environmental testing - Part 2-1: Tests - Test A: Cold	EN 60068-2-1	-
IEC 60068-2-2	-	Environmental testing - Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	-
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-14	-	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	-
IEC 60068-2-27	-	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	-
IEC 60068-2-30	-	Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)	EN 60068-2-30	-
IEC 60068-2-64	-	Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance	EN 60068-2-64	-
IEC 60068-2-78	-	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	-
IEC 60068-2-80	-	Environmental testing - Part 2-80: Tests - Test Fi: Vibration - Mixed mode	EN 60068-2-80	-

IEC 60068-2-53

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Environmental testing – Part 2-53: Tests and guidance – Combined climatic (temperature/humidity) and dynamic (vibration/shock) tests

Essais d'environnement – Partie 2-53: Essais et guide – Essais combinés climatiques (température/humidité) et dynamiques (vibrations/chocs)

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ENVIRONMENTAL TESTING –

Part 2-53: Tests and guidance – Combined climatic (temperature/humidity) and dynamic (vibration/shock) tests

FOREWORD

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International Standard IEC 60068-2-53 has been prepared by IEC technical committee 104: Environmental conditions, classification and methods of test.

This second edition cancels and replaces

– the first edition of IEC 60068-2-50, published in 1983,
– the first edition of IEC 60068-2-51, published in 1983 and
– the first edition of 60068-2-53, published in 1984

and constitutes a technical revision.

The main changes with respect to the previous editions of all three standards cited above is to update and group tests. In this way it allows for the possibility to use different kinds of vibration excitation – sine, random or mixed mode – or shocks, with different tests for climatic conditions – cold, dry heat, change of temperature or constant and cyclic damp heat.

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

FDIS	Report on voting
104/499/FDIS	104/514/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.

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

Equipment and components are required to function without significant reduction in performance when subjected to different environmental parameters.

The type and severity of the environmental parameters depend on the operational, transport and storage environments to which the equipment and components are subjected. The environmental effects on the performance of equipments in the tropics and subtropics are totally different from those in arctic regions. Individual parameters cause a variety of different and overlapping effects on the equipment and components.

The manufacturer attempts to ensure, and the user expects, that equipment and components will survive the environments to which they will be subjected throughout their useful life. This expectation can be assessed by exposure of the specimen to a range of simulated environmental parameters controlled in the laboratory. The severity of the environmental parameters is often increased to obtain meaningful results in a relatively short period of time. This allows assessment of the likely effects of applied environmental conditions.

The combination of temperature, humidity and vibration occurs especially in the domains of automotive, rail and aerospace environments.