SLOVENSKI STANDARD
SIST EN 60068-1:2014

01-maj-2014

Okoljsko preskušanje - 1. del: Splošno in navodila

Environmental testing - Part 1: General and guidance

Umweltprüfungen - Teil 1: Allgemeines und Leitfaden

Essais d'environnement - Partie 1: Généralités et guide

Ta slovenski standard je istoveten z: **EN 60068-1:2014**

ICS:

19.040	Preskušanje v zvezi z okoljem	Environmental testing

SIST EN 60068-1:2014 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60068-1

March 2014

ICS 19.040

Supersedes EN 60068-1:1994

English version

Environmental testing - Part 1: General and guidance

(IEC 60068-1:2013)

Essais d'environnement - Partie 1: Généralités et lignes directrices (CEI 60068-1:2013)

Umgebungseinflüsse - Teil 1: Allgemeines und Leitfaden (IEC 60068-1:2013)

This European Standard was approved by CENELEC on 2013-11-11. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 60068-1:2014 E

Foreword

The text of document 104/618/FDIS, future edition 7 of IEC 60068-1, 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 60068-1:2014.

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)	2014-09-21
– latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-11-11

This document supersedes EN 60068-1:1994.

EN 60068-1:2014 includes the following significant technical changes with respect to EN 60068-1:1994:

– updated normative reference list;

– indication of normative and informative annexes;

– new informative Annex C, *Environmental test tailoring*.

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

Endorsement notice

The text of the International Standard IEC 60068-1:2013 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 60068-2-14	NOTE	Harmonized as EN 60068-2-14.
IEC 60068-2-20	NOTE	Harmonized as EN 60068-2-20.
IEC 60068-2-27	NOTE	Harmonized as EN 60068-2-27.
IEC 60068-2-38	NOTE	Harmonized as EN 60068-2-38.
IEC 60068-3-1	NOTE	Harmonized as EN 60068-3-1.
IEC 60529	NOTE	Harmonized as EN 60529.
IEC 60721	NOTE	Harmonized in EN 60721 series (not modified).

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 60068-2	series	Environmental testing Part 2: Tests	EN 60068-2	series

IEC 60068-1

Edition 7.0 2013-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Environmental testing –
Part 1: General and guidance

Essais d'environnement –
Partie 1: Généralités et lignes directrices

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX V

ICS 19.040

ISBN 978-2-8322-1110-6

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ENVIRONMENTAL TESTING –

Part 1: General and guidance

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.
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.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
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 60068-1 has been prepared by IEC technical committee 104: Environmental conditions, classification and methods of test.

This seventh edition cancels and replaces the sixth edition, published in 1988, and constitutes a technical revision.

The main changes with respect to the previous edition are listed below:

– updated normative reference list;
– indication of normative and informative annexes;
– new informative Annex C, *Environmental test tailoring.*

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

FDIS	Report on voting
104/618/FDIS	104/627/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, published under the general title *Environmental testing*, can be found on the IEC website.

This standard should be used in conjunction with the relevant specification which will define the tests to be used, the required degree of severity for each of them, their order (if relevant), and the permissible performance limits.

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

The IEC 60068 series contains fundamental information on environmental testing procedures and severities of tests. In addition, this Part 1 contains information on atmospheric conditions for measurement and testing.

It is intended to be used in those cases where a relevant specification for a certain type of product (electrical, electromechanical or electronic equipment and devices, their subassemblies and constituent parts and components), hereinafter referred to as the "specimen", is to be prepared, so as to achieve uniformity and reproducibility in the environmental testing of this product.

NOTE 1 Although primarily intended for electrotechnical products, many of the environmental testing procedures in Part 2 of this series are equally applicable to other industrial products.

The expression "environmental conditioning" or "environmental testing" covers the natural and artificial environments to which specimens may be subjected and exposed to in practice so that an assessment can be made of their performance under conditions of storage, transportation, installation and use.

The requirements for the performance of specimens subjected to environmental conditioning are not covered by this standard. The relevant specification for the specimen under test defines the allowed performance limits during and after environmental testing.

When drafting a relevant specification or purchasing contract, only those tests should be specified that are necessary for the relevant specimen, taking into account the technical and economic aspects.

The IEC 60068 series consists of:

a) this first part, IEC 60068-1 – *General and guidance*, which deals with generalities;

b) the second part, IEC 60068-2 – *Tests* – which publishes particular tests separately for different applications;

c) the third part, IEC 60068-3 – *Supporting documentation and guidance*, which deals with background information on a family of tests.

The families of tests comprising Part 2 of the IEC 60068 series are designated by the following upper-case letters:

A: Cold

B: Dry heat

C: Damp heat (steady-state)

D: Damp heat (cyclic)

E: Impact (for example shock and rough handling shocks)

F: Vibration

G: Acceleration (steady state)

H: (Awaiting allocation)

NOTE 2 Originally allotted to storage tests.

J: Mould growth

K: Corrosive atmospheres (for example salt mist)

L: Dust and sand

M: Air pressure (high or low)

N: Change of temperature

P: (Awaiting allocation)

NOTE 3 Originally allotted to “flammability”.

Q: Sealing (including panel sealing, container sealing and protection against ingress and leakage of fluid)

R: Water (for example rain, dripping water)

S: Radiation (for example solar, but excluding electromagnetic)

T: Soldering (including resistance to heat from soldering)

U: Robustness of terminations (of components)

V: (Awaiting allocation)

NOTE 4 Originally allocated to “acoustic noise” but “vibration, acoustically induced” will now be Test Fg, one of the “vibration” family of tests.

W: (Awaiting allocation)

Y: (Awaiting allocation)

The letter X is used as a prefix together with a second lower-case letter providing for extension of the list of families of tests, e.g. Test Xa: Immersion in cleaning solvents. The letter Z is used to denote combined tests and composite tests as follows: Z is followed by a solidus (slash) and a group of lower-case letters relating to the combined or composite stresses, for example Test Z/am: Combined cold and low air pressure tests.

If appropriate, a test may be designated as “primarily intended for components” or “primarily intended for equipment”.

To provide for future expansion within a family of tests and to maintain consistency of presentation, each family of tests may be subdivided. The subdivisions are identified by the addition of a (lower-case) second letter, for example:

U: Robustness of terminations and integral mounting devices

Test Ua: Subdivided as Test Ua_1: Tensile; and Test Ua_2: Thrust

Test Ub: Bending

Test Uc: Torsion

Test Ud: Torque

This subdivision is made even though only one test is published and no further tests are immediately contemplated in the relevant family.

In order to avoid confusion with numbers, the letters i, I, o and O are not used.