



SLOVENSKI STANDARD SIST EN 60068-2-47:2001

01-september-2001

Environmental testing - Part 2-47: Test methods - Mounting of components, equipment and other articles for vibration, impact and similar dynamic tests

Environmental testing -- Part 2-47: Test methods - Mounting of components, equipment and other articles for vibration, impact and similar dynamic tests

Umweltprüfungen -- Teil 2-47: Prüfverfahren - Befestigung von Bauelementen, Geräten und anderen technischen Erzeugnissen beim Schwingen, Stoßen und ähnliche dynamische Prüfungen

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Essais d'environnement -- Partie 2-47: Méthodes d'essai - Fixation de composants, matériels et autres articles pour essais dynamiques de vibrations, d'impacts et autres essais similaires

Ta slovenski standard je istoveten z: EN 60068-2-47:1999

ICS:

19.040	Preskušanje v zvezi z okoljem	Environmental testing
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60068-2-47

December 1999

ICS 19.040

Supersedes EN 60068-2-47:1993

English version

Environmental testing
Part 2-47: Test methods - Mounting of components, equipment and other articles for vibration, impact and similar dynamic tests
(IEC 60068-2-47:1999)

Essais d'environnement
Partie 2-47: Méthodes d'essai
Fixation de composants, matériels et autres articles pour essais dynamiques de vibrations, d'impacts et autres essais similaires
(CEI 60068-2-47:1999)

Umweltprüfungen
Teil 2-47: Prüfverfahren
Befestigung von Bauelementen, Geräten und anderen technischen Erzeugnissen beim Schwingen, Stoßen und ähnliche dynamische Prüfungen
(IEC 60068-2-47:1999)

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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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and 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 104/128/FDIS, future edition 2 of IEC 60068-2-47, 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 60068-2-47 on 1999-12-01.

This European Standard supersedes EN 60068-2-47:1993.

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) 2000-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2000-09-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60068-2-47:1999 was approved by CENELEC as a European Standard without any modification.

SIST EN 60068-2-47:2001

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Annex ZA (normative)

Normative references to international publications
with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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 60068-1	1988	Environmental testing Part 1: General and guidance	EN 60068-1 ¹⁾	1994
ISO 2041	1990	Vibration and shock - Vocabulary	-	-

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1) EN 60068-1 includes the corrigendum October 1988 and A1:1992 to IEC 60068-1.

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60068-2-47

Deuxième édition
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1999-10

Essais d'environnement –

Partie 2-47:

Méthodes d'essai – Fixation de composants,
matériels et autres articles pour essais
dynamiques de vibrations, d'impacts
et autres essais similaires

SIST EN 60068-2-47:2001

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Environmental testing –

Part 2-47:

Test methods – Mounting of components,
equipment and other articles for vibration,
impact and similar dynamic tests

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ENVIRONMENTAL TESTING –

**Part 2-47: Test methods – Mounting of components,
equipment and other articles for vibration,
impact and similar dynamic tests**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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 the 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 National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60068-2-47 has been prepared by technical committee 104: Environmental conditions, classification and methods of test.

This second edition cancels and replaces the first edition published in 1982 and constitutes a technical revision.

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

FDIS	Report on voting
104/128/FDIS	104/131/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 3.

The committee has decided that this publication remains valid until 2002. At this date, in accordance with the committee's decision, the publication will be

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

Annex A is for information only.

INTRODUCTION

This International Standard defines the requirements and gives information regarding the mounting of components, equipment and other articles, referred to as "specimens", when they are subjected to vibration, impact and similar dynamic tests.

In all cases, component-type specimens must be mounted as stated in the relevant specification. Where these details are not specified, a number of standardized methods of mounting are given in this standard.

Equipment-type specimens must be mounted by their normal means of attachment unless otherwise stated in the relevant specification.

An attempt must be made, in the first instance, to categorize specimens into either component or equipment types and then to proceed to test accordingly. If this is not possible, for example for packaged items, this standard may still be relevant, but must be related to the package and not to the contents.

General guidance is provided in annex A as appropriate for both the specification writer and the test engineer.

In some instances, requirements and guidance on mounting are included, partly or wholly, in the individual standards of IEC 60068, for example, Test Fh¹⁾. Where such an International Standard is called up by the relevant specification, it will need to be studied as well as this International Standard.

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¹⁾ IEC 60068-2-64:1993, *Environmental testing – Part 2: Methods of test – Test Fh: Vibration, broad-band random (digital control) and guidance.*

ENVIRONMENTAL TESTING –

Part 2-47: Test methods – Mounting of components, equipment and other articles for vibration, impact and similar dynamic tests

1 Scope

This part of IEC 60068 provides methods of mounting components, and mounting requirements for equipment and other articles, for the families of dynamic tests in IEC 60068-2, that is impact (Test E), vibration (Test F) and acceleration, steady-state (Test G).

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60068. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60068 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

<https://standards.iteh.ai/catalog/standards/sist/f0edc6ef-4fc8-49fd-842e-682-47-2001>

ISO 2041:1990, *Vibration and shock – Vocabulary*

3 Definitions

The terms used are generally defined in ISO 2041 and IEC 60068-1.

4 General

The relevant specification shall state whether the effect of gravitational force is important. If so, the specimen shall be mounted in such a way that the gravitational force acts in the same direction as it would in use. Where the effect of gravitational force is not important, the specimen may be mounted in any attitude.

Also, if significant to the test results, the relevant specification shall state

- a) the temperature limits within which the specimen shall be tested;
- b) the maximum level of magnetic interference which may be imposed on the specimen and/or the orientation of the specimen in relation to the direction of the magnetic field (for example, near an electrodynamic vibration generator);
- c) relative humidity limits within which the specimen shall be tested.