SLOVENSKI STANDARD
SIST EN 60068-2-7:2001

01-september-2001

Basic environmental testing procedures - Part 2: Tests - Test Ga and guidance: Acceleration, steady state

Environmental testing -- Part 2: Tests - Test Ga: Acceleration, steady state

Grundlegende Umweltprüfverfahren -- Teil 2: Prüfungen - Prüfung Ga und Leitfaden: Gleichförmiges Beschleunigen

Essais d'environnement. Deuxième partie: Essais. Essai Ga: Accélération constante

Ta slovenski standard je istoveten z: EN 60068-2-7:1993

ICS:

19.040	Preskušanje v zvezi z okoljem	Environmental testing

SIST EN 60068-2-7:2001 **en**

EUROPEAN STANDARD

NORME EUROPEENNE

EUROPÄISCHE NORM

EN 60068-2-7

March 1993

UDC 621.3:620.193:620.199

Supersedes HD 323.2.7 S2:1987

Descriptors: Electricity, components, equipment, climatic test, mechanical test, steady acceleration, procedures, components specifications writing, equipment specifications writing

ENGLISH VERSION

Basic environmental testing procedures
Part 2: Tests
Test Ga and guidance: Acceleration, steady state
(IEC 68-2-7:1983 + A1:1986)

Essais fondamentaux climatiques et de robustesse mécanique
Deuxième partie: Essais
Essai Ga et guide: Accélération constante
(CEI 68-2-7:1983 + A1:1986)

Grundlegende Umweltprüfverfahren
Teil 2: Prüfungen
Prüfung Ga und Leitfaden: Gleichförmiges Beschleunigen
(IEC 68-2-7:1983 + A1:1986)

This European Standard was approved by CENELEC on 1993-03-09. 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, 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

Ref. No. EN 60068-2-7:1993 E

1993-04-02

FOREWORD

At the request of CENELEC Reporting Secretariat SR 50A, HD 323.2.7 S2:1987 (IEC 68-2-7:1983 + A1:1986) was submitted to the CENELEC voting procedure for conversion into a European Standard.

The text of the International Standard and its amendment 1 was approved by CENELEC as EN 60068-2-7 on 9 March 1993.

The following dates were fixed:

- latest date of publication of an identical national standard	(dop)	1994-03-01
- latest date of withdrawal of conflicting national standards	(dow)	-

Annexes designated "normative" are part of the body of the standard. In this standard, annex ZA is normative.

ENDORSEMENT NOTICE

The text of the International Standard IEC 68-2-7:1983 and its amendment 1:1986 was approved by CENELEC as a European Standard without any modification.

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

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

IEC Publication	Date	Title	EN/HD	Date
68-1	1988	Basic environmental testing procedures Part 1: General and guidance	HD 323.1 S2	1988
68-2-47	1982	Part 2: Tests - Mounting of components, equipment and other articles for dynamic tests including shock (Ea), bump (Eb), vibration (Fc and Fd) and steady-state acceleration (Ga) and guidance	EN 60068-2-47	1993
721	series	Classification of environmental conditions	HD 478	series

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
60068-2-7

Deuxième édition
Second edition
1983-01

BASIC SAFETY PUBLICATION
PUBLICATION FONDAMENTALE DE SÉCURITÉ

Essais fondamentaux climatiques et de robustesse mécanique –

Partie 2-7: Essais – Essai Ga et guide: Accélération constante

Basic environmental testing procedures –

Part 2-7: Tests – Test Ga and guidance: Acceleration, steady state

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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For price, see current catalogue
Pour prix, voir catalogue en vigueur

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

BASIC ENVIRONMENTAL TESTING PROCEDURES

Part 2: Tests — Test Ga and guidance: Acceleration, steady state

FOREWORD

1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.

3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

PREFACE

This standard has been prepared by Sub-Committee 50A: Shock and Vibration Tests, of IEC Technical Committee No. 50: Environmental Testing.

It forms the second edition of IEC Publication 68-2-7. This second edition combines the texts of the first edition (1968) and its first amendment (1982), and incorporates minor editorial amendments to take account of the transfer of the requirements for mounting for test to IEC Publication 68-2-47: Basic Environmental Testing Procedures, Part 2: Tests – Mounting of Components, Equipment and Other Articles for Dynamic Tests Including Shock (Ea), Bump (Eb), Vibration (Fc and Fd) and Steady-state Acceleration (Ga) and Guidance.

Drafts of the first edition of Test Ga were discussed at the meetings held in Aix-les-Bains in 1964, in Tokyo in 1965 and in London in 1966. As a result of this latter meeting, a draft, Document 50A(Central Office)118, was submitted to the National Committees for approval under the Six Months' Rule in March 1967.

The National Committees of the following countries voted explicitly in favour of publication of the first edition:

Australia
Austria
Belgium
Canada
Czechoslovakia
Denmark
France
Germany
Israel
Japan
Netherlands
Norway
South Africa (Republic of)
Sweden
Switzerland
Turkey
Union of Soviet
Socialist Republics
United Kingdom

A draft concerning Appendix B: Additional guidance, was discussed at the meeting held in Moscow in 1977. As a result of this meeting, a draft, Document 50A(Central Office)151, was submitted to the National Committees for approval under the Six Months' Rule in February 1980.

It has the status of a basic safety publication in accordance with IEC Guide 104.

The National Committees of the following countries voted explicitly in favour ofpublication:

Australia	New Zealand
Belgium	Norway
Brazil	Poland
Canada	Romania
Denmark	South Africa (Republic of)
Egypt	Spain
Finland	Switzerland
Germany	Turkey
Hungary	Union of Soviet
Israel	Socialist Republics
Korea (Republic of)	United Kingdom
Netherlands	United States of America

Other IEC publications quoted in this standard:

Publication Nos. 68-1: Basic Environmental Testing Procedures. Part 1: General and Guidance.

68-2-47: Basic Environmental Testing Procedures. Part 2: Tests – Mounting of Components, Equipment and other Articles for Dynamic Tests Including Shock (Ea), Bump (Eb),Vibration (Fc and Fd) and Steady-state Acceleration (Ga) and Guidance.

721: Classification of Environmental Conditions.

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BASIC ENVIRONMENTAL TESTING PROCEDURES

Part 2: Tests — Test Ga and guidance: Acceleration, steady-state

1. Object

To prove the structural suitability and the satisfactory performance of components, equipment and other electrotechnical products, hereinafter referred to as "specimens", when subjected to forces produced by steady acceleration environments (other than gravity) such as occur in moving vehicles, especially flying vehicles, rotating parts and projectiles, and to provide a test of structural integrity for certain components.

2. General

Equipment, components and other electrotechnical products intended to be installed in moving bodies will be subjected to forces caused by steady accelerations. Naturally, such an environment is most pronounced in flying vehicles and rotating machinery, although in certain conditions accelerations in land vehicles may be of significant magnitude.

In general, the accelerations encountered in service have different values along each of the major axes of the moving body, and, in addition, usually have different values in the opposite senses of each axis.

If the attitude of the specimen is not fixed with regard to the moving body, then the relevant specification should prescribe a level, which may be applied along each of the major axes and senses of the specimen, having taken into account the maximum accelerations in different axes of the moving body.

This standard is to be used in conjunction with IEC Publication 68-1: Basic Environmental Testing Procedures, Part 1: General and Guidance.

3. Conditions for testing

3.1 *Characteristics of the test apparatus*

3.1.1 *General*

Acceleration conditions are applied by means of a centrifuge where the acceleration is directed towards the centre of the rotating system. In certain special cases, however, the specimen may be sensitive to gyroscopic couples, and it may only be possible to perform the test by using a machine capable of applying linear acceleration, in which case the relevant specification shall state this requirement.

3.1.2 *Tangential acceleration*

When increasing the rotational speed of a centrifuge from zero to the value necessary to achieve the specified acceleration, or when decreasing back to zero, the machine shall be so controlled that the specimen is not subjected to a value of tangential acceleration greater than 10% of the specified acceleration.