

SLOVENSKI STANDARD

SIST EN 61587-2:2012

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Mehanske konstrukcije za elektronsko opremo - Preskusi za IEC 60917 in IEC 60297 - 2. del: Potresni preskusi za ohišja in stojala

Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 2: Seismic tests for cabinets and racks

Mechanische Bauweisen für elektronische Einrichtungen - Prüfungen für IEC 60917 und IEC 60297 - Teil 2: Seismische Prüfungen für Schränke und Gestelle

Structures mecaniques pour équipements électroniques - Essais pour la CEI 60917 et la CEI 60297 - Partie 2: Essais sismiques pour baies et bâtis

Ta slovenski standard je istoveten z: **EN 61587-2:2011**

ICS:

31.240	Mehanske konstrukcije za elektronsko opremo	Mechanical structures for electronic equipment
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61587-2

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English version

**Mechanical structures for electronic equipment -
Tests for IEC 60917 and IEC 60297 -
Part 2: Seismic tests for cabinets and racks
(IEC 61587-2:2011)**

Structures mécaniques pour équipements
électroniques -
Essais pour la CEI 60917
et la CEI 60297 -
Partie 2: Essais sismiques pour baies et
bâtis
(CEI 61587-2:2011)

Mechanische Bauweisen für elektronische
Einrichtungen -
Prüfungen für IEC 60917 und IEC 60297 -
Teil 2: Seismische Prüfungen für
Schränke und Gestelle
(IEC 61587-2:2011)

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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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 48D/471/FDIS, future edition 2 of IEC 61587-2, prepared by SC 48D, "Mechanical structures for electronic equipment", of IEC/TC 48, "Electromechanical components and mechanical structures for electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61587-2:2011.

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) 2012-06-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2014-09-29

This document supersedes EN 61587-2:2001.

EN 61587-2:2011 includes the following significant technical changes with respect to EN 61587-2:2001:

EN 61587-2:2001 specified the test condition with one size of the cabinet, and one load distribution. The specified acceleration condition for the test specimen was single-axis and one of the RRS (required response spectra) specified in the standard was selected. The test was aimed to obtain the reference for the structural strength of the enclosure against the specified seismic intensity. Earthquakes are actually random phenomena that are much more carefully simulated by tri-axial simultaneous operation. The demand of tri-axial excitation has emerged as a more accurate representation of an earthquake.

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Endorsement notice

The text of the International Standard IEC 61587-2:2011 was approved by CENELEC as a European Standard without any modification.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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: Tests - Mounting of specimens for vibration, impact and similar dynamic tests	EN 60068-2-47	-
IEC 60068-2-57	-	Environmental testing - Part 2-57: Tests - Test Ff: Vibration - Time- history method	EN 60068-2-57	-
IEC 60068-3-3	-	Environmental testing - Part 3: Guidance - Seismic test methods for equipments	EN 60068-3-3	-
IEC 60297	Series	Dimensions of mechanical structures of the 482,6 mm (19 in) series	EN 60297	Series
IEC 60917	Series	Modular order for the development of mechanical structures for electronic equipment practices	EN 60917	Series

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Edition 2.0 2011-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Mechanical structures for electronic equipment – Tests for IEC 60917 and IEC 60297 –
Part 2: Seismic tests for cabinets and racks**

**Structures mécaniques pour équipements électroniques – Essais pour la CEI 60917 et la CEI 60297 –
Partie 2: Essais sismiques pour baies et bâtis**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MECHANICAL STRUCTURES FOR ELECTRONIC EQUIPMENT –
TESTS FOR IEC 60917 AND IEC 60297 –****Part 2: Seismic tests for cabinets and racks**

FOREWORD

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International Standard IEC 61587-2 has been prepared by subcommittee 48D: Mechanical structures for electronic equipment, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

The second edition of this standard replaces the first edition issued in 2000 and constitutes a technical revision.

The main technical changes with regard to the previous edition are as follows:

Edition 1.0 specified the test condition with one size of the cabinet, and one load distribution. The specified acceleration condition for the test specimen was single-axis and one of the RRS (required response spectra) specified in the standard was selected. The test was aimed to obtain the reference for the structural strength of the enclosure against the specified seismic intensity. Earthquakes are actually random phenomena that are much more carefully simulated by tri-axial simultaneous operation. The demand of tri-axial excitation has emerged as a more accurate representation of an earthquake.

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

FDIS	Report on voting
48D/471/FDIS	48D/486/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 parts of IEC 61587 series, under the general title: *Mechanical structures for electronic equipment – Tests for IEC 60917 and IEC 60297*, 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.

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INTRODUCTION

Edition 1.0 of this standard specified the seismic test for the cabinets or racks according to IEC 60297 and IEC 60917. The specified test applied to the structure of the enclosure and did not apply to the whole system.

Edition 1.0 specified the test condition with one size of the cabinet, and one load distribution. The specified acceleration condition for the test specimen was single-axis and one of the RRS (required response spectra) specified in the standard was selected. The test was aimed to obtain the reference for the structural strength of the enclosure against the specified seismic intensity.

The electronic system consists of two or more subracks. Two or more plug-in units that perform signal processing are installed in each subrack. The size, i.e.: height, width and depth, and the weight of each subrack may vary for each electronic system. So, various types of cabinets or racks to equip the electronic system are currently demanded. Therefore, many types of cabinets or racks are required to install the equipment.

Earthquakes are actually random phenomena that are much more carefully simulated by tri-axial simultaneous operation. The demand of tri-axial excitation has emerged as a more accurate representation of an earthquake.

Edition 2.0 of this standard has been reviewed in consideration of these demanded conditions. However, it is impossible to perform the seismic test under all of the cabinet or rack conditions. The aim of this standard is then to evaluate the reference of the cabinet or rack structure with a common examination method. The seismic test is therefore assumed to be performed on one set of cabinet dimensional conditions (i.e. height, width and depth) and one set of load distribution conditions in the cabinet. The input acceleration for the test specimen is assumed to be selected and applied either single-axial or tri-axial. Single-axis acceleration was already specified in Edition 1.0 of this standard. Therefore, the RRS (required response spectra) for tri-axial acceleration have been added. According to this standard, the examination should be performed in the same manner, so as to obtain a reference for the evaluation of the structural strength of the tested cabinet or rack.

The user who requests an individual structural cabinet or rack condition, such as a different cabinet size or a different load distribution in the cabinet, and requests different seismic acceleration intensity, can perform the test by changing the corresponding condition specified in this standard. In this case, the test result is treated as an individual evaluation, not to be taken as a reference.