

Elektroonikaseadmete mehaaniline osa. Katsetused vastavalt standarditele IEC 60917 ja IEC 60297. Osa 1: Kastide, raamide, osaraamide ja aluste kliima- ja mehaanilised katsetused

Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 1: Climatic, mechanical tests and safety aspects for cabinets, racks, subracks and chassis

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 61587-1:2012 sisaldab Euroopa standardi EN 61587-1:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 61587-1:2012 consists of the English text of the European standard EN 61587-1:2012.
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**Mechanical structures for electronic equipment -
Tests for IEC 60917 and IEC 60297 series -
Part 1: Environmental requirements, test set-up and safety aspects for
cabinets, racks, subracks and chassis under indoor conditions
(IEC 61587-1:2011)**

Structures mécaniques pour équipement
électronique -
Essais pour les séries CEI 60917 et CEI
60297 -
Partie 1: Exigences environnementales,
montage d'essai et aspects de la sécurité
des baies, bâtis, bacs à cartes et châssis
dans des conditions d'intérieur
(CEI 61587-1:2011)

Mechanische Bauweisen für elektronische
Einrichtungen - Prüfungen für IEC 60917
und IEC 60297 -
Teil 1: Umgebungsanforderungen,
Prüfaufbau und Sicherheitsaspekte für
Schränke, Gestelle, Baugruppenträger
und Einschübe bei Bedingungen in
Innenräumen
(IEC 61587-1:2011)

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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/481/FDIS, future edition 3 of IEC 61587-1, 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 61587-1:2012.

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) 2012-09-13
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2014-12-13

This document supersedes EN 61587-1:2007.

EN 61587-1:2012 includes the following significant technical changes with respect to EN 61587-1:2007:

- 1) Rephrasing "performance level" by "classification".
- 2) Reference to fire hazard testing according to EN 60695-11-10 in 8.2.1.
- 3) Intended applications replaced by application examples.
- 4) Static load test, distributed dummy load locations for ETSI and 19" removed.
- 5) Table "Static load distribution within the cabinet" EN 60297-2 changed to EN 60297-3-100.
- 6) EN 60917 subrack 625 mm wide has been removed, as it is not a common width.
- 7) Parts of the document relevant to outdoors have been removed (reference to EN 61969 series).

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Endorsement notice

The text of the International Standard IEC 61587-1:2011 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 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 60068-2-11	-	Environmental testing - Part 2: Tests - Test Ka: Salt mist	EN 60068-2-11	-
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 60068-2-42	-	Environmental testing - Part 2-42: Tests - Test Kc: Sulphur dioxide test for contacts and connections	EN 60068-2-42	-
IEC 60068-2-43	-	Environmental testing - Part 2-43: Tests - Test Kd: Hydrogen sulphide test for contacts and connections	EN 60068-2-43	-
IEC 60068-2-49	-	Environmental testing - Part 2: Tests - Guidance to Test Kc: Sulphur dioxide test for contacts and connections	-	-
IEC 60068-2-52	-	Environmental testing - Part 2: Tests - Test Kb: Salt mist, cyclic (sodium chloride solution)	EN 60068-2-52	-
IEC 60068-2-75	-	Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	-
IEC 60297	Series	Dimensions of mechanical structures of the 482,6 mm (19 in) series	EN 60297	Series
IEC 60512-1-1	-	Connectors for electronic equipment - Tests and measurements - Part 1-1: General examination - Test 1a: Visual examination	EN 60512-1-1	-
IEC 60529	-	Degrees of protection provided by enclosures - (IP Code)	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60654-4	-	Operating conditions for industrial-process measurement and control equipment - Part 4: Corrosive and erosive influences	EN 60654-4	-
IEC 60695-11-10	-	Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10	-
IEC 60721-3-3	-	Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 3: Stationary use at weatherprotected locations	EN 60721-3-3	-
IEC 60917	Series	Modular order for the development of mechanical structures for electronic equipment practices	EN 60917	Series
IEC 60950-1	-	Information technology equipment - Safety - Part 1: General requirements	EN 60950-1	-
IEC 61010-1	-	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements	EN 61010-1	-
IEC 61587-2	-	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 2: Seismic tests for cabinets and racks	EN 61587-2	-
IEC 61587-3	2006	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 3: Electromagnetic shielding performance tests for cabinets, racks and subracks	EN 61587-3	2006
IEC 62262	-	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)	EN 62262	-

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MECHANICAL STRUCTURES FOR ELECTRONIC EQUIPMENT – TESTS FOR IEC 60917 AND IEC 60297 SERIES –

Part 1: Environmental requirements, test set-up and safety aspects for cabinets, racks, subracks and chassis under indoor conditions

1 Scope and object

This part of IEC 61587 specifies environmental requirements, test set-up, as well as safety aspects for empty enclosures, i.e. cabinets, racks, subracks and chassis under indoor conditions.

The purpose of this standard is to establish defined levels of physical performance in order to meet certain requirements of storage, transport and final location conditions. It applies in whole or part only to the mechanical structures of cabinets, racks, subracks and chassis, but it does not apply to electronic equipment.

2 Normative references

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.

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

IEC 60068-2-1, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-2, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-6, *Environmental testing – Part 2-6: Tests– Test Fc: Vibration (sinusoidal)*

IEC 60068-2-11, *Environmental testing – Part 2-11: Tests – Test Ka: Salt mist*

IEC 60068-2-27, *Environmental testing – Part 2-27: Tests– Test Ea and guidance: Shock*

IEC 60068-2-30, *Environmental testing – Part 2-30: Tests– Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

IEC 60068-2-42, *Environmental testing – Part 2-42: Tests – Test Kc: Sulphur dioxide test for contacts and connections*

IEC 60068-2-43, *Environmental testing – Part 2-43: Tests – Test Kd: Hydrogen sulphide test for contacts and connections*

IEC 60068-2-49, *Environmental testing – Part 2-49: Tests – Guidance to test Kc: Sulphur dioxide test for contacts and connections*

IEC 60068-2-52, *Environmental testing – Part 2-52: Tests – Test Kb: Salt mist, cyclic (sodium, chloride solution)*

IEC 60068-2-75, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60297 (all parts), *Dimensions of mechanical structures of the 482,6 mm (19 in) series*

IEC 60512-1-1, *Connectors for electronic equipment – Tests and measurements – Part 1-1: General examination – Test 1a: Visual examination*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60654-4, *Operating conditions for industrial-process measurement and control equipment – Part 4: Corrosive and erosive influences*

IEC 60695-11-10, *Fire hazard testing – Part 11-10: 50 W horizontal and vertical flame test methods*

IEC 60721-3-3, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 3: Stationary use at weatherprotected locations*

IEC 60917, (all parts), *Modular order for the development of mechanical structures for electronic equipment practices*

IEC 60950-1, *Information technology equipment – Safety – Part 1: General requirements*

IEC 61010-1, *Safety requirements for electrical equipment for measurement, control and laboratory use – Part 1: General requirements*

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

IEC 61587-3: 2006, *Mechanical structures for electronic equipment – Tests for IEC 60917 and IEC 60297 – Part 3: Electromagnetic shielding performance tests for cabinets, racks and subracks*

IEC 62262, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*

3 Terms and definitions

For the purposes of this document the following terms and definitions apply.

3.1

indoor condition

a location at which the product is protected from weather influences

3.2

test sample

the unit under test, dummy loaded where necessary in order to achieve realistic results

4 Classification of environmental conditions

The climatic conditions are derived from IEC 60721-3-3 and IEC 60654-4.

The shock and vibration conditions are derived from IEC 60721-3-3.