

Elektrilised mänguasjad. Ohutus

Electric toys – Safety

(IEC 62115:2003 + A1:2004, modified +
IEC 62115:2003/A2:2010, modified)

EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 62115:2005+A2:2011+A11:2012 sisaldab Euroopa standardi EN 62115:2005+A2:2011+A11:2012 inglisekeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 27.04.2005.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 62115:2005+A2:2011+A11:2012 consists of the English text of the European standard EN 62115:2005+A2:2011+A11:2012.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 27.04.2005.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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ICS 13.120, 97.200.50

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EUROPEAN STANDARD

EN 62115

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2005

ICS 97.200.50; 13.120

Supersedes EN 50088:1996 + amendments

English version

**Electric toys –
Safety**
(IEC 62115:2003 + A1:2004, modified)

Jouets électriques –
Sécurité
(CEI 62115:2003 + A1:2004, modifiée)

Elektrische Spielzeuge –
Sicherheit
(IEC 62115:2003 + A1:2004, modifiziert)

This European Standard was approved by CENELEC on 2004-12-07. 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

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Foreword

During the Copenhagen meeting in May 2003, the CENELEC Technical Committee TC 61 decided to submit the text of the International Standard IEC 62115:2003, prepared by IEC TC 61, to the Unique Acceptance Procedure together with CENELEC common modifications.

The text of the draft common modifications, circulated in March 2004, included the content of the future amendment 1 to IEC 62115:2003. In view of the publication of this amendment in IEC, the relevant common modifications have been deleted and amendment 1:2004 to IEC 62115:2003 has been included in the European Standard which was approved by CENELEC as EN 62115 on 2004-12-07.

This European Standard replaces EN 50088:1996 + A1:1996 + A2:1997 + corrigenda April 2001 + A3:2002.

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) 2006-01-01
- date on which national standards
conflicting with the EN have to be withdrawn (dow) 2008-01-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 88/378/EEC. See Annex ZZ.

NOTE The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and the associated noun are also in bold.

There are no special national conditions causing a deviation from this European Standard.

There are no national deviations from this European Standard.

Annexes ZA and ZZ have been added by CENELEC.

- p NOTE In this document, p is used in the margin to indicate instructions for preparing the printed version.

Endorsement notice

The text of the International Standard IEC 62115:2003 + A1:2004 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

1 Scope

- p **Replace** “ISO 8124-1” by “EN 71”.

2 Normative references

- p **Add:**

EN 71-1:1998, *Safety of toys Part 1: Mechanical and physical properties*

EN 71-3:1994, *Safety of toys Part 3: Migration of certain elements*

- p **Delete** ISO 8124-1 and ISO 8124-3.

3 Definitions

- p **3.5.5 Add** the following note:

NOTE Electronic components do not include resistors, capacitors and inductors.

4 General requirement

- p **Replace** the requirement by:

Toys shall be constructed so that they do not jeopardise the safety and/or health of users or third parties when they are used as intended or in a foreseeable way, bearing in mind the normal behaviour of children.

5 General conditions for the tests

- p **5.15 Replace** by:

5.15 *Before starting the tests, the toy is preconditioned by subjecting it to the tests of the following subclauses of EN 71-1, the batteries in position:*

- 8.5 Drop test, for **toys** having a mass less than 5 kg including batteries, irrespective of the age group;
- 8.21 Static strength test for sit-on or stand-on **toys**;
- 8.22 Dynamic strength test for wheeled ride-on **toys**;
- 8.4.2.1 Tension test, however, the force being 70 N independent of the dimensions and applicable independent of age group;
- 8.4.2.2 Tension test for seams, for toys having textile or other flexible materials covering batteries or other electrical parts.

NOTE Compliance with EN 71-1 is not checked after the preconditioning. However the security of the battery compartment cover is checked (see 14.6 and 14.7)."

6 Criteria for reduced testing

- p 6.1 **Replace** “Clauses 10 to 12” by “Clauses 10, 11.2 and 12”.
- p 6.2 **Replace** “Clauses 10, 11” by “Clauses 9 (except 9.3 and 9.6), 10, 11”.
- p **Add** the following requirement:

For battery compartments including button cell batteries, 17.1 is always applicable.

7 Marking and instructions

- p 7.1 In the second sentence of the second paragraph, **replace** “may” by “shall”.
- In Note 1, **replace** “ISO 8124-1” by “EN 71-1”.
- p 7.4 **Delete** the dashed item “- the types of batteries that may be used”.

9 Heating and abnormal operation

- p 9.4 **Add** to the last sentence: “*and only inserted through holes where one pole can be seen from the outside*”.

14 Construction

- p 14.2 **Delete** the second sentence of the second paragraph.

17 Screws and connections

- p 17.1 In the first line of Table 1, **replace** “ $\leq 2,8$ ” by “ $2,8^a$ ” and add the corresponding note to the table:

^a Screws having a diameter less than 2,8 mm are not tested.

20 Radiation, toxicity and similar hazards

- p In the second paragraph and in the note, **replace** “ISO 8124-3” by “EN 71-3”.

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>
–	–	Safety of toys Part 1: Mechanical and physical properties	EN 71-1	1998
–	–	Safety of toys Part 3: Migration of certain elements	EN 71-3	1994
IEC 60068-2-75	– ¹⁾	Environmental testing Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997 ²⁾
IEC 60083	– ¹⁾	Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC	-	-
IEC 60086-2	– ¹⁾	Primary batteries Part 2: Physical and electrical specifications	EN 60086-2	2001 ²⁾
IEC 60320-1	– ¹⁾	Appliance couplers for household and similar general purposes Part 1: General requirements	EN 60320-1	2001 ²⁾
IEC 60384-14	– ¹⁾	Fixed capacitors for use in electronic equipment Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains	-	-
IEC 60417-1	– ³⁾	Graphical symbols for use on equipment Part 1: Overview and application	–	–
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

³⁾ Superseded by IEC 60417 database.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60695-2-2	1991	Fire hazard testing Part 2: Test methods Section 2: Needle-flame test	EN 60695-2-2	1994
IEC 60695-2-11	- ¹⁾	Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001 ²⁾
IEC 60695-2-13	- ¹⁾	Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignitability test method for materials	EN 60695-2-13	2001 ²⁾
IEC 60695-10-2	- ¹⁾	Part 10-2: Abnormal heat - Ball pressure test	EN 60695-10-2	2003 ²⁾
IEC 60695-11-10	- ¹⁾	Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10	1999 ²⁾
IEC 60730-1 (mod)	1999	Automatic electrical controls for household and similar use Part 1: General requirements	EN 60730-1 A11 A12	2000 2002 2003
IEC 60738-1	- ¹⁾	Thermistors - Directly heated positive step-function temperature coefficient Part 1: Generic specification	EN 60738-1	1999 ²⁾
IEC 60825-1 A1 A2 corr. 1	1993 1997 2001 2002	Safety of laser products Part 1: Equipment classification, requirements and user's guide	EN 60825-1 + corr. February A1 A2 + corr. April	1994 1995 2002 2001 2004
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998
IEC 61058-1 (mod)	2000	Switches for appliances Part 1: General requirements	EN 61058-1	2002 ⁴⁾
IEC 61558-2-7 (mod)	- ¹⁾	Safety of power transformers, power supply units and similar Part 2-7: Particular requirements for transformers for toys	EN 61558-2-7 A11	1997 ²⁾ 2002
ISO 7000	- ¹⁾	Graphical symbols for use on equipment - Index and synopsis	-	-
ISO 9772	- ¹⁾	Cellular plastics - Determination of horizontal burning characteristics of small specimens subjected to a small flame	-	-

⁴⁾ EN 61058-1 includes A1:2001 to IEC 61058-1:2000.

Annex ZZ (informative)

Coverage of Essential Requirements of EC Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in Annex II of the EC Directive 88/378/EEC.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

WARNING: Other requirements and other EC Directives may be applicable to the products falling within the scope of this standard.

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INTRODUCTION

It has been assumed in the drafting of this International Standard that the execution of its provisions is entrusted to appropriately qualified and experienced people.

As a general rule, toys are designed and manufactured for particular categories of children. Their characteristics are related to the age and stage of development of the children and their intended use presupposes certain capabilities.

Accidents are frequently due to a toy either being given to a child for whom it is not intended or being used for a purpose other than for which it was designed. This standard does not eliminate parental responsibility for the appropriate selection of toys. It is assumed that when choosing a toy or a game, account is taken of the physical and mental development of the child who will be playing with it.

The aim of this standard is to reduce risks when playing with toys, especially those risks that are not evident to users. However, it has to be recognized that some toys have risks inherent in their use that cannot be avoided. Consideration has been given to reasonably foreseeable use, bearing in mind that children are not generally as careful as adults.

While this standard applies to new toys, it nevertheless takes into account the wear and tear of toys in use.

The fact that a toy complies with this standard does not absolve parents and other persons in charge of a child from the responsibility of supervising the child. Supervision is also necessary when children of various ages have access to the same toy.

This standard covers the whole range of electric toys from small button cell operated lights to large sit-on cars powered by lead-acid cells. This results in different requirements and tests according to the type of toy. For some toys, testing can be reduced if particular criteria are met (see Clause 6).

A toy that complies with the text of this standard will not necessarily be judged to comply with the safety principles of the standard if, when examined and tested, it is found to have other features that impair the level of safety covered by these requirements.

A toy employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be judged to comply with the standard.

ELECTRIC TOYS – SAFETY

1 Scope

This International Standard deals with the safety of **toys** that have at least one function dependent on electricity.

NOTE 1 Examples of **toys** also within the scope of this standard are

- **constructional sets**;
- **experimental sets**;
- functional **toys** (models that have a function similar to an appliance or installation used by adults);
- video **toys** (**toys** consisting of a screen and activating means, such as a joystick or keyboard. Separate screens having a **rated voltage** exceeding 24 V are not considered to be a part of the **toy**).

Additional requirements for **experimental sets** are given in Annex A.

Toys using electricity for secondary functions are within the scope of this standard.

NOTE 2 A doll's house having an interior lamp is an example of such a **toy**.

Additional requirements for **toys** incorporating **lasers** and **light-emitting diodes** are given in Annex E.

In order to comply with this standard, electric toys also have to comply with ISO 8124-1, since it covers hazards other than those arising by the use of electricity.

NOTE 3 **Transformers for toys** and battery chargers are not considered to be a **toy**, even if supplied with it.

NOTE 4 If it is intended that a child also plays with the packaging, the latter is considered to be part of the **toy**.

NOTE 5 This standard does not apply to

- toy steam engines;
- scale models for adult collectors;
- folk dolls and decorative dolls and other similar articles for adult collectors;
- sports equipment;
- aquatic equipment intended to be used in deep water;
- equipment intended to be used collectively in playgrounds;
- amusement machines (IEC 60335-2-82);
- professional **toys** installed in public places (shopping centres, stations, etc.);
- products containing heating elements intended for use under the supervision of an adult in a teaching context;
- portable child-appealing luminaires (IEC 60598-2-10);
- Christmas decorations.

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

IEC 60083, *Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC*

IEC 60086-2, *Primary batteries – Part 2: Physical and electrical specifications*

IEC 60320-1, *Appliance couplers for household and similar general purposes – Part 1: General requirements*

IEC 60384-14, *Fixed capacitors for use in electronic equipment – Part 14: Sectional specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains*

IEC 60417-1, *Graphical symbols for use on equipment – Part 1: Overview and application*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60695-2-2:1991, *Fire hazard testing – Part 2: Test methods – Section 2: Needle-flame test*

IEC 60695-2-11, *Fire Hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products*

IEC 60695-2-13, *Fire hazard testing – Part 2-13: Glowing/hot-wire based test methods – Glow-wire ignitability test method for materials*

IEC 60695-10-2, *Fire hazard testing – Part 10: Guidance and test methods for the minimization of the effects of abnormal heat on electrotechnical products involved in fires – Section 2: Method for testing products made from non-metallic materials for resistance to heat using the ball pressure test*

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

IEC 60730-1:1999, *Automatic electrical controls for household and similar use – Part 1: General requirements*

IEC 60738-1, *Thermistors – Directly heated positive step-function temperature coefficient – Part 1: Generic specification*

IEC 60825-1:1993, *Safety of laser products – Part 1: Equipment classification, requirements and user's guide*

Amendment 1 (1997)

Amendment 2 (2001) including its corrigendum 1 (2002)¹

IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*

¹ There exists a consolidated edition 1.2 (2001) that includes edition 1 and its amendments 1 and 2.

IEC 61058-1:2000, *Switches for appliances – Part 1: General requirements*

IEC 61558-2-7, *Safety of power transformers, power supply units and similar – Part 2: Particular requirements for transformers for toys*

ISO 7000, *Graphical symbols for use on equipment – Index and synopsis*

ISO 8124-1:2000, *Safety of toys – Part 1: Safety aspects related to mechanical and physical properties*

ISO 8124-3, *Safety of toys – Part 3: Migration of certain elements*

ISO 9772, *Cellular plastics – Determination of horizontal burning characteristics of small specimens subjected to a small flame*

3 Definitions

For the purpose of this standard, the following definitions apply.

NOTE When the terms “voltage” and “current” are used, they imply r.m.s. values unless otherwise specified.

3.1.1

toy

product intended for use by children under 14 years old for playing purposes

3.1.2

battery toy

toy that contains or uses one or more batteries as the only source of electrical energy

NOTE The batteries may be in a **battery box**.

3.1.3

transformer toy

toy that is connected to the supply mains through a **transformer for toys** and using the supply mains as the only source of electrical energy

3.1.4

dual-supply toy

toy that can be operated as a **battery toy** and either simultaneously or alternatively as a **transformer toy**

3.1.5

battery box

separate compartment for containing the batteries that is detachable from the **toy**

3.1.6

replaceable battery

battery that can be replaced without breaking the **toy**

3.1.7

safety isolating transformer

transformer, the input winding of which is electrically separated from the output winding by insulation at least equivalent to double insulation or reinforced insulation, which provides a supply at safety extra-low voltage