BS EN IEC 62115:2020+A11:2020
Incorporating corrigendum May 2020

BSI Standards Publication

Electric toys - Safety

National foreword

This British Standard is the UK implementation of EN IEC 62115:2020+A11:2020. It is derived from IEC 62115:2017. It supersedes BS EN 62115:2005+A12:2015, which will be withdrawn on 7 February 2023.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to text carry the number of the amendment. For example, text altered by CENELEC amendment A11 is indicated by ⟦A11⟩ ⟨A11⟩.

The UK participation in its preparation was entrusted to Technical Committee CPL/61/21, Toys.

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Date	Text affected
31 May 2020	Original Subclauses 5.1 and 5.3 to 5.8 added after being mistakenly omitted in previous version

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62115:2020+A11

February 2020

ICS 13.120; 97.200.50

English Version

Electric toys - Safety
(IEC 62115:2017 + COR1:2019)

Jouets électriques - Sécurité
(IEC 62115:2017 + COR1:2019)

Elektrische Spielzeuge - Sicherheit
(IEC 62115:2017 + COR1:2019)

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

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European foreword

The text of document 61/5319/FDIS, future edition 2 of IEC 62115, prepared by IEC/TC 61 "Safety of household and similar electrical appliances" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62115:2020.

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) 2020-08-21
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-02-21

This document supersedes EN 62115:2005 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of EN 62115:2020/A11:2020.

Endorsement notice

The text of the International Standard IEC 62115:2017+COR1:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60086-1	NOTE	Harmonized as EN 60086-1
IEC 60086-2	NOTE	Harmonized as EN 60086-2
IEC 60335-2-82	NOTE	Harmonized as EN 60335-2-82
IEC 60598-2-10	NOTE	Harmonized as EN 60598-2-10

Foreword to amendment A11

This European Standard (EN IEC 62115:2020/A11:2020) has been prepared by CLC/TC 61, "Safety of household and similar electrical appliances".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2020-09-02
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2021-12-02

This document supersedes EN 62115:2005.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and supports essential safety requirements of EC Directive 2009/48/EC.

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

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, ZB and ZZ have been added by CLC/TC 61.

Endorsement notice

The text of the International Standard IEC 62115:2017/COR1:2019 was approved by CENELEC as a European Standard with agreed common modifications.

Annex ZA
(normative)

Normative references to International publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60068-2-75	2014	*Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*	EN 60068-2-75	2014
IEC/TR 60083		*Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC*		
IEC 60086-2	2015	*Primary batteries – Part 2: Physical and electrical specifications*	EN 60086-2	2016
IEC 60086 (all parts)		*Primary batteries*	EN 60086	

IEC 60335-1	2010 + A1:2013 + A2:2016 [1]	*Household and similar electrical appliances – Safety – Part 1: General requirements*	EN 60335-1	2012 + AC:2014 + A11:2014 + A13:2017
IEC 60335-2-29	2016	*Household and similar electrical appliances – Safety – Part 2-29: Particular requirements for battery chargers*	EN 60335-2-29	2004 + A2:2010
IEC 60384-14	2013	*Fixed capacitors for use in electronic equipment – Part 14: Sectional specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains*	EN 60384-14	2013 +A1:2016
IEC 60417	Database	*Graphical symbols for use on equipment*		

[1] There exists a consolidated edition 5.2 (2016) that includes edition 5 and its Amendment 1 and Amendment 2.

Publication	Year	Title	EN/HD	Year
IEC 60529	1989	*Degrees of protection provided by enclosures (IP Code)*	EN 60529	1991 + A1:2000 + A2:2013 [2]
IEC 60695-2-11	2014	*Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products (GWEPT)*	EN 60695-2-11	2014
IEC 60695-2-13	2010 +A1:2014	*Fire hazard testing – Part 2-13: Glowing/hot-wire based test methods – Glow-wire ignition temperature (GWIT) test method for materials:*	EN 60695-2-13	2010 +A1:2014
IEC 60695-10-2	2014	*Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test method*	EN 60695-10-2	2014
IEC 60695-11-5	2004	*Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*	EN 60695-11-5	2017
IEC 60695-11-10	2013 Cor1:2014	*Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical flame test methods* +Cor1:2014	EN 60695-11-10	2013 +AC:2014
IEC 60730 (all parts)		*Automatic electrical controls*	EN 60730	
IEC 60730-1	2013 + A1:2015 [3]	*Automatic electrical controls – Part 1: General requirements*	EN 60730-1	2016 +A1:2016
IEC 60738-1	2006 + A1:2009	*Thermistors – Directly heated positive temperature coefficient – Part 1: Generic specification*	EN 60738-1	2006 +A1:2009
IEC 60990	2016	*Methods of measurement of touch current and protective conductor current*	EN 60990	2016
IEC 61000-4-2	2008	*Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*	EN 61000-4-2	2009

[2] There exists a consolidated edition 2.2 (2013) that includes edition 2 and its Amendment 1 and Amendment 2.

[3] There exists a consolidated edition 5.1 (2015) that includes edition 5 and its Amendment 1.

Publication	Year	Title	EN/HD	Year
IEC 61000-4-3	2006 AMD1:2007 + AMD2:2010 [4]	*Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*	EN 61000-4-3	2006 + A1:2008 + IS1:2009 + A2:2010
IEC 61000-4-4	2012	*Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*	EN 61000-4-4	2012
IEC 61000-4-5	2014	*Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*	EN 61000-4-5	2014
IEC 61000-4-6	2013	*Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*	EN 61000-4-6	2014 + AC:2015
IEC 61000-4-11	2004	*Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests*	EN 61000-4-11	2004 + A1:2017
IEC 61000-4-13	2002 + A1:2009 + A2:2015 [5]	*Electromagnetic compatibility (EMC) – Part 4-13: Testing and measurement techniques – Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests*	EN 61000-4-13	2002 + A1:2009 + A2:2016
IEC 61032	1997 + COR1:2003	*Protection of persons and equipment by enclosures – Probes for verification*	EN 61032	1998
IEC 61058-1	2016	*Switches for appliances – Part 1: General requirements*	EN 61058-1	2002 + A2:2008
IEC 61058-1-1	2016	*Switches for appliances – Part 1-1: Requirements for mechanical switches*	EN 81058-1-1	2016

[4] There exists a consolidated edition 3.2 (2010) that includes edition 3 and its Amendment 1 and Amendment 2.

[5] There exists a consolidated edition 1.2 (2015) that includes edition 1 and its Amendment 1 and Amendment 2.

Publication	Year	Title	EN/HD	Year
IEC 61058-1-2	2016	*Switches for appliances – Part 1-2: Requirements for electronic switches*	EN 651058-1-2	2016
IEC 61180	2016	*High-voltage test techniques for low-voltage equipment – Definitions, test and procedure requirements, test equipment*	EN 61180	2016
IEC 61558-2-7	2007	*Safety of power transformers, power supplies, reactors and similar products – Part 2-7: Particular requirements and tests for transformers and power supplies for toys*	EN 61558-2-7	2007
IEC 61558-2-16	2009	*Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units*	EN 61558-2-7	2009
IEC 62133	2012	*Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications*	EN 62133	2013
IEC 62233	2005	*Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure*	EN 62232	2008 + Corr:2008
IEC 62471	2006	*Photobiological safety of lamps and lamp systems*	EN 62471	2008
ISO 3864-1		*Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs and safety markings*		
ISO 7000		*Graphical symbols for use on equipment – Registered symbols*		
ISO 8124-1	2014	*Safety of toys – Part 1: Safety aspects related to mechanical and physical properties*		
ISO 9772	2012	*Cellular plastics – Determination of horizontal burning characteristics of small specimens subjected to a small flame*		
		Safety of Toys – Physical and Mechanical Properties	EN 71-1:2014+A1	2018

Annex ZB
(informative)

Background and rationale for this European Standard

NOTE For correct application of the standard, the normative text takes precedence over the rationale and guidance given in Annex ZB.

ZB.1 General

This European Standard seeks as far as possible to apply a hazard approach instead of design restrictions for electric toys. The following definitions should be kept in mind when reading the standard:

— hazard is a potential source of harm;

— risk is the probable rate of occurrence of a hazard causing harm and the degree of severity of the harm;

— harm means physical injury or any other damage to health, including long-term health effects.

For most of the requirements, the hazards addressed are explained in Annex ZB.2 together with a background and justification.

ZB.2 Rationale

1. Scope

The scope of this European Standard has been aligned with the safety of toys Directive 2009/48/EC and as far as possible with IEC 62115:2017.

5. General conditions for tests

This clause sets a series of standardised conditions under which all tests should be carried out, unless otherwise specified. The conditions are designed to simulate as far as possible normal use conditions. This clause also gives instruction on the number of samples to be used and the order in which the tests are to be carried out. Tests are carried out on a single electric toy in the order of clauses specified in the standard unless otherwise stated in this clause. Furthermore, this clause requires that testing be carried out under certain abuse conditions which are foreseeable such as the reversal of the polarity of the primary batteries.

This clause also describes a set of pre-conditioning treatments which should be carried out prior to the tests specified in this European Standard. Furthermore, this clause describes the condition in which the electric toy needs to be when the tests are carried out, requiring that the most unfavourable conditions are used for each test.

A tension of 70 N was selected which is in line with the force used in ISO 8124-1 for all ages. This force was considered sufficient for the pre-conditioning of electric toy samples.

If a toy stops functioning after preconditioning in such that it cannot be tested and a further two, additional samples stop functioning in the same way, it is then acceptable to test a further sample without preconditioning for compliance with this standard. If the product can continue with the testing, then the requirements can be applied as normal.

If it is evident from the construction of the electric toy that a particular test is not applicable, this test is not carried out. An example would be a that the Norwegian hammer (mechanical strength) test does not need to be carried out on a concrete encapsulated electric toy.