

BUREAU OF INDIAN STANDARDS
DRAFT FOR COMMENTS ONLY

(Not to be reproduced without the permission of BIS or used as a standard)

Draft Indian Standard

Safety of Electric Toys

(First Revision)

(ICS 13.120; 97.200.50)

Electrical Appliances Sectional
Committee, ETD 32

Last date of receipt of comments: **18 November 2025**

NATIONAL FOREWORD

This draft Indian Standard (First Revision) which is identical with IEC 62115:2017 “Electric toys – Safety” issued by the International Electrotechnical Commission (IEC) is proposed be adopted by the Bureau of Indian Standards on the recommendation of the Electrical Appliances Sectional Committee and approval of the Electrotechnical Division Council.

This standard was first published in 2006. This revision has been undertaken to harmonize the standard with the latest International Standard.

This edition includes the following significant technical changes with respect to the previous edition:

- 1) the general conditions for tests has been rewritten and modified (**Clause 5**);
- 2) the criteria for reduced testing has been modified (**Clause 6**);
- 3) warnings for toys using button batteries or coin batteries have been added (**7.3.3.2, 7.3.3.3**);
- 4) warnings on ride-on toys have been added (**7.5**);
- 5) the requirements concerning accessibility of batteries have been updated (**13.4.1 and 13.4.2**);
- 6) added requirements to cover toys placed above a child (**13.4.4**);
- 7) added requirements to cover toys connected to other equipment (**13.9**);

- 8) modified the requirements for safety of toys incorporating optical radiation sources (**Annex E**), to include requirements for using the technical LED data sheet for checking compliance with the specified accessible emission limits (**AEL**);
- 9) updated the details for measurements of the optical radiation from the toy (**Annex E**);
- 10) introduced an informative Annex I concerning measurement methods for toys with an integrated field source generating EMF;
- 11) included a normative Annex J concerning safety of remote controls for electric ride-on toys.

The text of IEC Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to International Standards for which Indian Standards also exists. The corresponding Indian Standards, which are to be substituted, are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
IEC 60068-2-75:2014, Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests	IS 9000 (Part 7/Sec 7): 2020 IEC 60068-2-75: 2014, Environmental Testing Part 7 Tests Section 7 Test Eh: Hammer tests (First Revision)	Identical
IEC 60086 (all parts), Primary batteries	IS 6303:2018, Primary batteries - General (Second Revision)	Modified
	IS 6303 (Part 3):2025 IEC 60086-3: 2021, Primary Batteries Part 3 Watch Batteries	Identical
	IS 6303 (Part 5): 2023 60086-5:2021, Primary Batteries Part 5 Safety of Batteries with Aqueous Electrolyte	
	IS 6303 (Part 4): 2023 60086-4: 2019, Primary batteries: Part 4 safety of lithium batteries Third Revision	
	IS 6303 (Part 6):2025 IEC 60086-6-2020, Primary Batteries Part 6 Guidance on Environmental Aspects	

IEC 60335-1:2010, Household and similar electrical appliances – Safety – Part 1: General requirements IEC 60335-1:2010/AMD1: 2013 IEC 60335-1:2010/AMD2:20161)	IS 302 (Part 1): 2024 IEC 60335-1: 2020, Household and Similar Electrical Appliances” Safety Part 1 General Requirements (Seventh Revision)	Identical
IEC 60529:1989, Degrees of protection provided by enclosures (IP Code) IEC 60529/AMD1:1999 IEC 60529/AMD2:20132)	IS/IEC 60529: 2001 Reviewed In: 2019, Degrees of protection provided by enclosures (IP Code)	Identical
IEC 60695-2-11, Fire hazard testing – Part 2-11: Glowing/hot - wire based test methods – Glow-wire flammability test method for end-products (GWEPT)	IS/IEC 60695-2-11: 2021 IEC 60695-2-11: 2014, Fire Hazard Testing Part 2: Glowinghot-wire based test methods Section 11: Glow-wire flammability test method for end products GWEPT	Identical
IEC 60695-2-13, Fire hazard testing – Part 2-13: Glowing/hotwire based test methods – Glow-wire ignition temperature (GWIT) test method for materials	IS/IEC 60695-2-13: 2021 IEC 60695-2-13: 2021, Fire Hazard Testing Part 2 Glowing / Hot-Wire Based Test Methods Section 13 Glow-wire ignition temperature (GWIT) test method for materials	Identical
IEC 60695-10-2, Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test method	IS/IEC 60695-10-2: 2014 IEC 60695-10-2: 2014, Fire hazard testing: Part 10 Abnormal heat: Sec 2 ball pressure test method	Identical
IEC 60695-11-5:2004, Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance	IS/IEC 60695-11-5: 2016 IEC 60695-11-5: 2016, Fire Hazard Testing Part 11 Test Flames Section 5 Needle - Flame test method - Apparatus, confirmatory test arrangement and guidance (First Revision)	Identical
IEC 60695-11-10, Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical flame test methods	IS/IEC 60695-11-10: 2013 IEC 60695-11-10: 2013, Fire hazard testing: Part 11 test flames: Sec 10 50 w horizontal and vertical flame test methods	Identical
IEC 60730 (all parts), Automatic electrical controls	IS/IEC 60730-1: 1999, Automatic electrical controls for household and similar use: part 1 General Requirements	Identical

	IS/IEC 60730-2-9: 2011 IEC 60730-2-9: 2011, Automatic Electrical Controls for Household and Similar Use Part 2 Particular Requirements Section 9 Temperature Sensing Controls	
IEC 60730-1:2022, Automatic electrical controls – Part 1: General requirements	IS/IEC 60730-1: 1999, Automatic electrical controls for household and similar use: part 1 General Requirements	Identical
IEC 60990:2016, Methods of measurement of touch current and protective conductor current	IS/IEC 60990: 2016 IEC 60990: 1999, Methods of measurement of touch current and protective conductor current (First Revision)	Identical
IEC 61000-4-2: 2008, Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test	IS 14700 (Part 4/Sec 2): 2018 61000-4-2: 2008, Electromagnetic compatibility (EMC): Part 4 testing and measurement techniques: Sec 2 electrostatic discharge immunity test (Second Revision)	Identical
IEC 61000-4-3:2020 Electromagnetic compatibility (EMC) - Part 4-3 : Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	IS 14700 (Part 4/Sec 3): 2023 IEC 61000-4-3: 2020, Electromagnetic compatibility EMC Part 4 Testing and Measurement Techniques Section 3 Radiated radiofrequency electromagnetic field immunity test Second Revision	Identical
IEC 61000-4-4:2012, Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test	IS 14700 (Part 4/Sec 4): 2018 IEC 61000-4-4: 2012, Electromagnetic compatibility (EMC): Part 4 testing and measurement techniques: Sec 4 electrical fast transient / burst immunity test (Second Revision)	Identical
IEC 61000-4-5:2014, Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test	IS 14700 (Part 4/Sec 5): 2019 IEC 61000-4-5: 2017, Electromagnetic compatibility (EMC): Part 4 testing and measurement techniques: Sec 5 surge immunity test (First Revision)	Identical
IEC 61000-4-6:2013, Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by	IS 14700 (Part 4/Sec 6): 2016 IEC 61000-4-6: 2013, Electromagnetic compatibility (EMC): Part 4 testing and measurement techniques: Sec 6 immunity to conducted disturbances, induced by radio -	Identical

radiofrequency fields	Frequency fields	
IEC 61000-4-11:2020, Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests	IS 14700 (Part 4/Sec 11):2021, IEC 61000-4-16: 2020 Electromagnetic compatibility EMC: Part 4 testing and measurement techniques: Sec 11 voltage dips short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase.	Identical
IEC 61000-4-13:2002, 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 IEC 61000-4-13/AMD1:2009 IEC 61000-4-13/AMD2:20155)	IS 14700 (Part 4/Sec 13): 2016 IEC 61000-4-13: 2009, Electromagnetic compatibility (EMC): Part 4 testing and measurement techniques: Sec 13 harmonics and interharmonics including mains signaling at a.c. power port, low frequency immunity test	Identical
IEC 61032, Protection of persons and equipment by enclosures – Probes for verification	IS 1401: 2008 IEC 61032, Protection of persons and equipment by enclosures - Probes for verification (Second Revision)	Modified/Technically Equivalent
IEC 61058-1:2016, Switches for appliances – Part 1: General requirements	IS/IEC 61058-1: 2000, Switches for appliances: Part 1 general requirements (Withdrawn)	Identical
IEC 61058-1-1:2016, Switches for appliances – Part 1-1: Requirements for mechanical switches	IS/IEC 61058-1-1: 2016 61058-1-1: 2016, SWITCHES FOR APPLIANCES PART 1 GENERAL REQUIREMENTS SECTION 1 PARTICULAR REQUIREMENTS FOR MECHANICAL SWITCHES	Identical
IEC 61058-1-2:2016, Switches for appliances – Part 1-2: Requirements for electronic switches	IS/IEC 61058-1-2: 2016 61058-1-2: 2016, SWITCHES FOR APPLIANCES PART 1 GENERAL REQUIREMENTS SECTION 2 PARTICULAR REQUIREMENTS FOR ELECTRONICS SWITCHES	Identical
IEC 61180, High-voltage test techniques for low-voltage equipment – Definitions, test and procedure requirements, test equipment	IS 16826: 2018 IEC 61180: 2016, High - Voltage Test Techniques For Low-Voltage Equipment - Definitions, Test and Procedure Requirements, Test Equipment	Identical
IEC 61558-2-7, Safety of power	IS/IEC 61558-2-7: 2007 IEC	Identical

transformers, power supplies, reactors and similar products – Part 2-7: Particular requirements and tests for transformers and power supplies for toys	61558_2_7, Safety of power transformers, power supplies reactors and similar products: Part 2 - 7 particular requirements and tests for transformers and power supplies for toys	
IEC 62133-1:2017 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 - Part 1: Nickel systems	IS 16046 (Part 1):2018, IEC 62133-1 : 2017, 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 Part 1 Nickel Systems (Second Revision)	
IEC 62133-2:2017 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 - Part 2: Lithium systems	IS 16046 (Part 2):2018, IEC 62133-2 : 2017, 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 Part 2 Lithium Systems (Second Revision)	Identical
IEC 62233:2005, Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure	IS/IEC 62233: 2005, Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure	Identical
IEC 62471:2006, Photobiological safety of lamps and lamp systems	IS 16108: 2012 IEC 62471 :2006, Photobiological safety of lamps and lamp systems	Identical
ISO 8124-1:2014, Safety of toys – Part 1: Safety aspects related to mechanical and physical properties	IS 9873 (Part 1): 2019 ISO 8124- : 2018, Safety of toys: Part 1 safety aspects related to mechanical and physical properties (Fourth Revision)	Identical
ISO 7000, Graphical symbols for use on equipment – Registered symbols	IS 16450: 2023 ISO 7000:2019, Graphical Symbols for Use on Equipment Registered Symbols	Identical
ISO 9772, Cellular plastics – Determination of horizontal burning characteristics of small specimens subjected to a small	IS 13360 (Part 6/Sec 24): 2024 ISO 9772: 2020, Plastics ” Methods of Testing Part 6 Thermal Properties Section 24 Cellular Plastics”	Identical

flame	Determination of Horizontal Burning Characteristics of Small Specimens Subjected to a Small Flame (First Revision)	
-------	--	--

The technical committee has reviewed the provisions of the following international standards referred in this adopted standard and decided that they are acceptable for use in conjunction with this standard.

<i>International Standard</i>	<i>Title</i>
IEC TR 60083	Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC
IEC TR 60083	Primary batteries – Part 2: Physical and electrical specifications
IEC 60335-2-29:2016	Household and similar electrical appliances – Safety – Part 2-29: Particular requirements for battery chargers
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	Graphical symbols for use on equipment
IEC 60738-1	Thermistors – Directly heated positive temperature coefficient – Part 1: Generic specification
IEC 61558-2-16	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
ISO 3864-1	Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs and safety markings
IEC 60086-1:2021/COR1:2022	Corrigendum 1 - Primary batteries - Part 1: General
IEC 60086-2:2021/COR1:2022	Corrigendum 1 - Primary batteries - Part 2: Physical and electrical specifications
IEC 60086-3:2021/COR1:2023	Corrigendum 1 - Primary batteries - Part 3: Watch batteries
IEC 60086-6:2020	Primary batteries - Part 6: Guidance on environmental aspects
IEC 60730-2-3:2006	Automatic electrical controls for household and similar use - Part 2-3: Particular requirements for thermal protectors for ballasts for tubular fluorescent lamps
IEC 60730-2-5:2013/COR1:2023	Corrigendum 1 - Automatic electrical controls - Part 2-5: Particular requirements for automatic electrical

	burner control systems
IEC 60730-2-6:2015+AMD1:2019 CSV	Automatic electrical controls - Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements
IEC 60730-2-7:2015	Automatic electrical controls - Part 2-7: Particular requirements for timers and time switches
IEC 60730-2-8:2018+AMD1:2021 CSV/COR1:2022	Corrigendum 1 - Automatic electrical controls - Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements
IEC 60730-2-10:2006	Automatic electrical controls for household and similar use - Part 2-10: Particular requirements for motor-starting relays
IEC 60730-2-11:2019 RLV	Automatic electrical controls - Part 2-11: Particular requirements for energy regulators
IEC 60730-2-12:2015	Automatic electrical controls - Part 2-12: Particular requirements for electrically operated door locks
IEC 60730-2-13:2017/COR1:2018	Corrigendum 1 - Automatic electrical controls - Part 2-13: Particular requirements for humidity sensing controls
IEC 60730-2-14:2017+AMD1:2019+AMD2:2021 CSV	Automatic electrical controls - Part 2-14: Particular requirements for electric actuators
IEC 60730-2-15:2017	Automatic electrical controls - Part 2-15: Particular requirements for automatic electrical air flow, water flow and water level sensing controls
IEC 60730-2-22:2014	Automatic electrical controls - Part 2-22: Particular requirements for thermal motor protectors

Only the English language text has been retained while adopting it in this Indian Standard, and as such, the page numbers given here are not the same as in the IEC Publication.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated expressing the result of a test or analysis shall be rounded off in accordance with IS 2:2022 'Rules for rounding of numerical values (*Second Revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

NOTE — The technical content of this document has not been enclosed as this is identical with the corresponding IEC standard. For details, please refer the corresponding IEC 62115:2017 or kindly contact:

Head
Electrotechnical Department
Bureau of Indian Standards

9, Bahadur Shah Zafar Marg,
New Delhi-110002
Email: eedd@bis.gov.in
Telephone: 011-23231192 / 8284