



中国认可
国际互认
检测
TESTING
CNAS L6478



TEST REPORT

Reference No..... : WTF20F04017543S
 Applicant..... : Mid Ocean Brands B.V.
 Address..... : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon,
 Hong Kong
 Manufacturer : 106613
 Address..... : /
 Product Name..... : Yoyo with light
 Model No..... : IT3854
 Standards : Electric toys - Safety
 IEC 62115:2003+A1:2004+A2:2010
 Date of Receipt sample : 2020-04-09
 Date of Test : 2020-04-10 to 2020-04-15
 Date of Issue..... : 2020-04-21
 Test Report Form No..... : WSO-62115A-02A
 Test Result..... : Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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Test item description: Yoyo with light
Trade Mark: --
Model/Type reference: IT3854
Ratings: 2×1.5V LR41 button batteries

Copy of marking plate:

National difference:

EU national differences were considered according to below standard:
EN 62115:2005+A2:2011+A11:2012+A12:2015

Summary of testing:

1. These samples are tested and complied with the requirements of standards listed on this report.
2. IT3854 was selected for full test.

WALTEK



Test item particulars

Classification of installation and use.....: Portable appliance

Supply Connection.....: Battery supply

.....:

Possible test case verdicts:

- test case does not apply to the test object.....: N

- test object does meet the requirement.....: P(Pass)

- test object does not meet the requirement.....: F(Fail)

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.

"(See appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

General product information:

1. The appliance is toys for children less than 14 years old. The appliance cannot be used by children under 3 years old.





IEC 62115			
Clause	Requirement - Test	Result - Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		-
5.2	The tests are carried out on a single sample that withstands all the relevant tests.		P
	However, the tests of Clauses 14 to 17 may be made on separate samples.		P
	If the toy does not operate after the tests of Clause 9, the subsequent tests are carried out on a separate sample.		N
5.3	The tests are carried out in the order of the clauses.		P
	If it is evident from the construction of the toy that a particular test is not applicable, this test is not carried out.		P
5.4	If a toy is intended to be assembled by a child, the requirements apply to each part accessible to the child and to the assembled toy.		N
	If a toy is intended to be assembled by an adult, the requirements apply to the assembled toy.		P
5.5	The tests are carried out with the toy or any movable part of it placed in the most unfavourable position when the toy is used as intended or in any foreseeable way.		P
	Battery compartment covers are opened or removed.		N
	Other detachable parts are removed or kept in position, whichever is more unfavourable.		N
5.6	Toys provided with controls or switching devices are tested with these controls or devices adjusted to their most unfavourable setting, if the setting can be altered by the user.		N
5.7	Detachable cords supplied with the toy are considered to be part of the toy and are tested with it.		N
5.8	Battery toys intended for use with a battery box are tested		N
	- with the battery box supplied with the toy		N
	- with the battery box recommended in the instructions.		N
	Transformer toys are tested with the transformer supplied with the toy.		N
	If the toy is supplied without a transformer, it is tested with a transformer recommended in the instructions.		N



IEC 62115			
Clause	Requirement - Test	Result - Remark	Verdict
	Dual-supply toys are tested with the most unfavourable supply allowed by the construction, the type of supply being evaluated for each test.		N
	Rechargeable battery toys that can be operated during charging are tested as dual supply toys because the battery charger is operating as a transformer.		N
5.9	Battery toys are tested using:		P
	- new non-rechargeable batteries		P
	- fully charged rechargeable batteries		N
	whichever is more unfavourable.		N
	The batteries used are those with the voltage and size specified:		P
	- on the toy		N
	- in the instructions		P
	Similar batteries that are generally available are used if this results in more unfavourable conditions.		N
5.10	When alternative accessories are made available by the manufacturer, the toy is tested with those accessories that give the most unfavourable results.		N
	If accessories can be used simultaneously, the combination that gives the most unfavourable result is used.		N
	Toys having lamps used as heating elements that can be removed without the aid of a tool are tested with lamps of the highest power input that can be fitted, irrespective of any marking.		N
5.11	The tests are carried out in a draught-free location at an ambient temperature of $(20 \pm 5 \text{ }^\circ\text{C})$.		P
5.12	Toys having more than one rated voltage are tested at the most unfavourable voltage.		N
	Toys for a.c. only are tested with a.c. at rated frequency if marked		N
	Those for a.c./d.c. are tested at the most unfavourable frequency.		N
	If the frequency is not marked, the toy is tested with 50 Hz or 60 Hz as appropriate.		N
5.13	Battery toys are also tested with the polarity reversed unless such connections are prevented by the construction.		P
5.14	Batteries are correctly positioned before evaluating the possibility of bridging insulation and before carrying out the short-circuit tests.		P







IEC 62115			
Clause	Requirement - Test	Result - Remark	Verdict
	Only one short circuit is applied at a time.		P
	Damage caused by a short circuit that does not impair compliance with this standard is repaired before a further short circuit is applied.		N
5.15	Before starting the tests, the toy is preconditioned by subjecting it to the tests of the following subclauses of ISO 8124-1, the batteries being in position:		P
	– 5.12.5 Overload test, for sit-on toys or stand-on toys;		N
	– 5.24.2 Drop test, for toys having a mass less than 4,5 kg, including batteries, irrespective of the age group;		P
	– 5.24.4 Dynamic strength test, for wheeled ride-on toys;		N
	– 5.24.6.1 Tension test, for all toys;		P
	– 5.24.6.2 Tension test for seams, for toys having textile or other flexible materials covering batteries or other electrical parts.		N
6	CRITERIA FOR REDUCED TESTING		-
	For some toys, it is not necessary to carry out all the tests specified in this standard if the conditions of 6.1 or 6.2 are met.		P
	The exemptions of:		P
	6.1 are applicable to all toys		P
	6.2 are only applicable to battery toys.		P
6.1	Toys that comply with the tests of Clause 9 with the insulation between parts of different polarity short-circuited are considered to comply with Clauses 10 to 12, 15 and 18.		P
	The short circuit is applied at all places in turn where the insulation is liable to breakdown and can be carried out using a flexible wire.		P
6.2	Battery toys are considered to comply with Clauses 10, 11 (except 11.1), 12, 15, 17 (except 17.1 for battery compartments intended to contain button cell batteries), 18 and 19 if		N
	– the accessible insulation between parts of different polarity, except those in battery compartments, cannot be bridged by a straight steel pin having a diameter of 0,5 mm and any suitable length over 25 mm, and		N



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Clause	Requirement - Test	Result - Remark	Verdict
	– the total battery voltage does not exceed 2,5 V, measured 1 s after a 1Ω resistor has been connected between the supply terminals of the toy, with any current limiting device short-circuited and without the toy being operated.		N
7	MARKING AND INSTRUCTIONS		P
7.1	Toys or their packaging are marked with:		P
	– the name, trade mark or identification mark of the manufacturer or responsible vendor	See page 2.	P
	– the model or type reference	See page 2.	P
	When the toy is marked, these markings are on the main part.		N
	When the packaging is not marked and when it is not practical to mark the toy, e.g. due to its size, the markings of 7.1.1 to 7.1.3 may be contained in the instructions instead.		P
7.1.1	Battery toys with replaceable batteries are marked with:		P
	– the nominal battery voltage, in or on the battery compartment (V)		P
	– the symbol for d.c., if the toy has a battery box..		N
	If more than one battery is used, the battery compartment is marked with the shape of the batteries in proportional size, together with their nominal voltage and polarity.		P
7.1.2	Transformer toys are marked with:		N
	– their rated voltage, (V)		-
	– the symbol for a.c. or d.c., as applicable;		-
	– their rated power input, if greater than 25 W or 25 VA in		N
	– watts (W).....		-
	– volt-amperes (VA)		-
	– the symbol for transformer for toys.		N
	This symbol is also marked on the packaging		N
	The marking of rated voltage and the symbol for a.c. or d.c. is placed adjacent to the terminals.		N
	The marking for a.c. or d.c. is not required if the incorrect supply does not impair compliance with this standard.		N
7.1.3	Dual-supply toys are be marked with the marking required for both battery toys and transformer toys.		N



IEC 62115			
Clause	Requirement - Test	Result - Remark	Verdict
7.2	The identification for detachable lamps is be marked with		N
	– the rated voltage (V)		-
	– type number		-
	– the maximum power input (W)		-
	– the maximum current. (A)		-
	The marking for power input or current of detachable lamps is as follows:		N
	lamp max (W)		-
	lamp max (A)		-
	The word "lamp" may be replaced by symbol 5012 of IEC 60417-1.		N
	The marking is visible when replacing the lamp.		N
	This marking is not required if the temperature rises measured during the tests of Clause 9 do not exceed the limits when a lamp having the highest power input is fitted.		N
7.3	When symbols are used, they are as follows:		P
	Symbol 5031 of IEC 60417-1. 		N
	Symbol 5032 of IEC 60417-1. 		N
	Symbol 5012 of IEC 60417-1. 		N
	Symbol 5219 of IEC 60417-1. 		N
	Units of physical quantities and their symbols are those of the international standardized system.		P
7.4	Instructions are provided that give details concerning cleaning and maintenance when necessary for the safe operation of the toy.		P
	They state that transformers or battery chargers used with the toy are to be regularly examined for damage to the cord, plug, enclosure and other parts, and in the event of such damage, they must not be used until the damage has been repaired.		N
	Toys are provided with instructions for assembly if		P
	– they are intended to be assembled by a child;		N



IEC 62115			
Clause	Requirement - Test	Result - Remark	Verdict
	– these instructions are necessary for safe operation of the toy.		P
	If the toy is intended to be assembled by an adult, this is stated.		P
	The instructions for transformer toys and toys with battery boxes are stated that the toy is not to be connected to more than the recommended number of power supplies.		N
	The instructions for dual supply toys include the instructions required for both battery toys and transformer toys.		N
	Toys having wires without connecting means are provided with instructions that state that the wires are not to be inserted into socket-outlets.		N
	The instructions for battery toys with replaceable batteries contain the substance of the following, as applicable:		P
	– the types of batteries that may be used;		P
	– how to remove and insert the batteries;		P
	– non-rechargeable batteries are not to be recharged;		N
	– rechargeable batteries are only to be charged under adult supervision		N
	– for toys supplied with a battery charger for use by children, this instruction may be replaced by: 'Batteries are only to be charged by adults or by children at least 8 years old'		N
	– rechargeable batteries are to be removed from the toy before being charged;		N
	– different types of batteries or new and used batteries are not to be mixed;		P
	– batteries are to be inserted with the correct polarity;		P
	– exhausted batteries are to be removed from the toy;		P
	– the supply terminals are not to be short-circuited.		P
	The instructions for transformer toys contain the substance of the following, as applicable:		N
	– the toy is not intended for children under 3 years old;		N
	– the toy must only be used with the recommended transformer;		N
	– the transformer is not a toy;		N



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Clause	Requirement - Test	Result - Remark	Verdict
	– toys liable to be cleaned with liquids are to be disconnected from the transformer before cleaning.		N
	The instructions are on:		P
	- a leaflet		P
	- on the packaging		N
	- on the toy.		N
	- If the instructions are marked on the toy, they are visible from the outside		N
	- if the toy consists of more than one part, only the main part needs to be marked.		N
	Instructions for battery toys intended to be used in water state that the toy is to be operated in water only when fully assembled in accordance with the instructions.		N
7.5	When markings or instructions are on the packaging, it is also stated that the packaging must be retained since it contains important information.		P
7.6	Instructions and other texts required by this standard are written in the official language of the country in which the toy is to be sold.		P
7.7	The markings on the toy are legible and durable.		P
8	POWER INPUT		-
	The power input of transformer toys and dual supply toys do not exceed the rated power input by more than 20 %.	See appended Table 8	N
	Compliance is checked by measurement when the power input has stabilized and the toy has attained normal operating temperature with		N
	– all circuits that can operate simultaneously being in operation;		N
	– the toy being supplied at rated voltage;		N
	– the toy being operated under normal operation.		N
9	HEATING AND ABNORMAL OPERATION		-
9.1	Toys do not attain excessive temperatures in use.		P
	They are constructed so that the risk of fire, mechanical damage impairing safety or other hazards, as a result of careless use or failure of a component, is obviated as far as is practicable.		P
	Toys are subjected to the tests of 9.3 to 9.8 under the conditions specified in 9.2.		P
	All toys are subjected to the tests of 9.3 to 9.5.		P



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Clause	Requirement - Test	Result - Remark	Verdict
	Toys incorporating motors are subjected to the test of 9.6.		N
	Transformer toys, dual supply toys and toys with battery boxes are subjected to the test of 9.7.		N
	Toys incorporating electronic circuits are subjected to the test of 9.8.		N
	Toys that only incorporate incandescent lamps having a rated power input not exceeding 1 W are not subjected to the tests.		N
	Unless otherwise specified, compliance with the tests of this clause is checked as described in 9.9.		P
	The tests of 9.3 and 9.4 are continued until steady conditions are established.		P
	During these tests, thermal cut-outs do not operate.		N
	However, during temperature rise tests of 9.3 and 9.4 on mobile toys such as radio controlled vehicles, self-resetting thermal cut outs are allowed to operate.		N
	The tests of 9.5 to 9.8 are continued until a non-self-resetting thermal cut-out operates or until steady conditions are established.		N
	If a heating element or an intentionally weak part becomes permanently open-circuited, the relevant test is repeated on a second sample.		N
	This second test is terminated in the same mode unless the test is otherwise satisfactorily completed.		N
9.2	Toys are placed in the most unfavourable position that can occur during play.		P
	Hand-held toys are freely suspended.		P
	Other toys are placed on the floor of a test corner as near to the walls as possible or away from the walls, whichever is more unfavourable.		N
	Toys having dimensions not exceeding 500 mm are completely covered with the cotton gauze.		N
	Battery toys are supplied at rated voltage.		P
	Transformer toys and dual supply toys are supplied at 0,94 times or 1,06 times rated voltage, whichever is more unfavourable.		N
	The temperature rises are determined by means of fine-wire thermocouples positioned so that they have minimum effect on the temperature of the part under test.		P



IEC 62115			
Clause	Requirement - Test	Result - Remark	Verdict
	Where thermocouples cannot successfully measure the maximum temperature during the test, thermal paper or other methods to measure temperature rise may be used.		N
	Used measurement method.....: fine-wire thermocouples		P
	Mobile toys are tested in whichever use condition will create the highest temperature rise.		N
	When non-self-resetting thermal cut-outs operate, they are re-set a maximum of three times.		N
	Toys with self-resetting thermal cut-outs are tested until steady state conditions are established.		N
9.3	Toys are operated under normal operation and the temperature rises of the various parts are determined.	See appended Table 9.3	P
	Rechargeable battery toys that can operate during recharging are also tested in the charging mode.		N
9.4	The test of 9.3 is repeated, the insulation between parts of different polarity, except those in battery compartments, being short circuited in turn if it is accessible after the removal of detachable parts, except lamps.	See appended Table 9.4	N
	However, the short circuit is only applied if it is possible to bridge the insulation by a straight steel pin		N
	For products that have to be kept switched on by hand or foot, if the applied short-circuit results in the product not functioning, the switch is released after 30 s.		N
9.5	The test of 9.3 is repeated, any control that limits the temperature during the tests of 9.3 and 9.4 being short-circuited.	See appended Table 9.5	N
	If the toy has more than one control, they are short-circuited in turn.		N
	If the control consists only of positive temperature co-efficient resistors (PTCs), negative temperature co-efficient resistors (NTCs) or voltage dependent resistors (VDRs) they are not short-circuited if they are used within their manufacturers declared specification.		N
	For products that have to be kept switched on by hand or foot, if the applied short-circuit results in the product not functioning, the switch is released after 30 s.		N
9.6	The test of 9.3 is repeated with accessible moving parts locked.	See appended Table 9.6	N



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Clause	Requirement - Test	Result - Remark	Verdict
	The test is terminated after 30 s if the toy has to be kept switched on by hand or foot.		N
9.7	Transformer toys, dual supply toys and toys with battery boxes are connected to a power supply in addition to that recommended in the instructions for use.		N
	The additional power supply is identical to that recommended for the toy and is connected in series or in parallel, whichever is more unfavourable.		N
	The toy is then tested as specified in 9.3 and 9.4.		N
9.8	Compliance for electronic circuits is checked by evaluation of the fault conditions specified in 9.8.2 for all circuits or parts of circuits, unless they comply with the conditions specified in 9.8.1.		N
	If a conductor of a printed-circuit board becomes open-circuited, the toy is considered to have withstood the particular test, provided that the following two conditions are met:		N
	– the material of the printed-circuit board withstands the needle-flame test of Annex B;		N
	– the toy withstands the test of 9.8.2 with the open-circuited conductor bridged.		N
9.8.1	Fault conditions a) to f) specified in 9.8.2 are not applied to circuits or parts of circuits where both of the following conditions are met:		N
	– the electronic circuit is a low-power circuit as described below;		N
	– the protection against fire hazard or dangerous malfunction in other parts of the toy does not rely on the correct functioning of the electronic circuit.		N
9.8.2	The following fault conditions are considered and, if necessary, applied one at a time, consequential faults being taken into consideration:	See appended Table 9.8.2	N
	a) short circuit of clearances and creepage distances between parts of different polarity, if these distances are less than the values specified in Clause 18, unless the relevant part is adequately encapsulated;		N
	b) open circuit at the terminals of any component;		N
	c) short circuit of capacitors, unless they comply with IEC 60384-14 or they are ceramic capacitors used within the manufacturer's specification;		N
	d) short circuit of any two terminals of an electronic component, other than integrated circuits;		N



IEC 62115			
Clause	Requirement - Test	Result - Remark	Verdict
	e) failure of triacs in the diode mode;		N
	f) failure of an integrated circuit. In this case the possible hazardous situations of the toy are assessed to ensure that safety does not rely on the correct functioning of such a component. All possible output signals are considered under fault conditions within the integrated circuit. If it can be shown that a particular output signal is unlikely to occur, then the relevant fault is not considered.		N
	In addition, each low-power circuit is short-circuited by connecting the low-power point to the pole of the supply from which the measurements were made.		N
	For simulation of the fault conditions, the toy is operated under the conditions specified in 9.2 but supplied at rated voltage.		N
	For products that have to be kept switched on by hand or foot, if the applied fault-condition results in the product not functioning, the switch is released after 30 s		N
	If the toy incorporates an electronic circuit that operates to ensure compliance with 9.5 to 9.7, the relevant test is repeated with a single fault simulated, as indicated in a) to f) above.		N
	Fault condition f) is applied to encapsulated and similar components if the circuit cannot be assessed by other methods.		N
	PTC resistors are not short-circuited if they are used within the manufacturer's specification.		N
	PTC-S thermistors are short-circuited unless they comply with IEC 60738-1.		N
9.9	During the tests, the temperature rises of accessible parts are monitored continuously.	See appended Tables 9.3 - 9.6	P
	The temperature rise of the surface of handles, knobs and other parts that are likely to be touched by hand do not exceed the following values:		P
	– 25 K, for parts of metal;		N
	– 30 K, for parts of glass or porcelain;		N
	– 35 K, for parts of plastic or wood.		P
	The temperature rise of other accessible parts of the toy do not exceed the following values:		P
	– 45 K, for parts of metal;		N
	– 50 K, for parts of glass or porcelain;		N
	– 55 K, for parts of other materials.		P



IEC 62115			
Clause	Requirement - Test	Result - Remark	Verdict
	During the tests,		P
	– sealing compound does not flow out;		P
	– the toy does not emit flames or molten metal;		P
	– dangerous substances are not produced, such as poisonous or ignitable gas in hazardous amounts;		P
	– vapour does not accumulate in the toy;		P
	– enclosures do not deform to such an extent that compliance with this standard is impaired;		P
	– batteries do not leak hazardous substances or erupt;		P
	– materials, including the cotton gauze, do not char.		P
	After the tests, the toy was not damaged to such an extent that compliance with this standard is impaired.		P
10	ELECTRIC STRENGTH AT OPERATING TEMPERATURE		-
	The electrical insulation of the toy at operating temperature was adequate.		P
	The toy was operated as specified in 9.3 and 9.4. One terminal of all components connected across the supply was disconnected and the insulation between parts of different polarity was then subjected for 1 min to a voltage of substantially sinusoidal waveform having a frequency of 50 Hz or 60 Hz and a value of 250 V.		P
	No breakdown occurred.		P
11	MOISTURE RESISTANCE		-
11.1	Battery toys intended to be used in water and toys likely to be cleaned with liquid have an enclosure providing the appropriate protection.		N
	Compliance for toys likely to be cleaned with liquid is checked by the test of sub clause 14.2.4 of IEC 60529, detachable parts having been removed.		N
	Excess water is then removed from the enclosure. The toy withstands the electric strength test of Clause 12 and inspection shows that there is no trace of water on insulation that could result in a reduction of creepage distances and clearances below the values specified in Clause 18.		N
	No breakdown occurred.		N



IEC 62115			
Clause	Requirement - Test	Result - Remark	Verdict
	Compliance for battery toys intended to be used in water is checked by the following test, detachable parts being removed if this is more unfavourable.		N
	The toy is immersed in water containing approximately 1 % NaCl, all parts of the toy being at least 150 mm below the surface. The toy is positioned in the most unfavourable orientation and operated for 15 min. There was no overpressure within the enclosure due to entrapped gas.		N
	The toy is then taken out of the water, positioned to allow excess water to drain, and the enclosure is wiped dry. The toy withstands the electric strength test of Clause 12.		N
	No breakdown occurred.		N
11.2	Toys are resistant to humidity.		P
	Detachable parts are removed and subjected, if necessary, to the humidity test with the main part.		P
	Toy subjected to humidity treatment test for 48 h		P
	Relative humidity (93 ± 3) %.....:	93 ± 3 %	-
	Temperature (20 - 30 °C ± 1K).....:	20 - 30 °C	-
	The toy then withstands the test of Clause 12 in the humidity cabinet or in the room in which the toy was brought to the prescribed temperature after reassembly of those parts that may have been removed.		P
	No breakdown occurred.		P
12	ELECTRIC STRENGTH AT ROOM TEMPERATURE		-
	The electric insulation of the toy at room temperature is adequate.		P
	One terminal of all components connected across the supply is disconnected and the insulation between parts of different polarity is subjected for 1 min to a voltage of substantially sinusoidal waveform having a frequency of 50 Hz or 60 Hz and a value of 250 V.		P
	No breakdown occurred.		P
13	MECHANICAL STRENGTH		P
	Enclosures have adequate mechanical strength.		P
	Six blows applied to every point of the enclosure that is likely to be weak with an impact energy of 0,7 J by test Ehb of IEC 60068-2-75	See appended Table 13	P



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	The toy was not damaged to such an extent that compliance with this standard is impaired.		P
	If there is doubt as to whether a defect has occurred by the application of preceding blows, this defect is neglected and a group of six blows is applied to the same place on a new sample that then withstands the test.		N
14	CONSTRUCTION		P
14.1	Toys are battery toys, transformer toys or dual-supply toys.	Battery toys	P
	Their supply voltage does not exceed 24 V.		P
	Supply voltage (V).....:	Less than 24V	-
	The working voltage between any two accessible parts of the toy does not exceed 24 V when the toy is supplied at rated voltage.		P
	Working voltage (V).....:	Less than 24V	-
14.2	The battery charger and the transformer of transformer toys are not an integral part of the toy.		N
	Controls for the toy are not incorporated in the transformer.		N
	However, this does not apply to railway sets, other than constructional sets.		N
14.3	Transformer toys and dual supply toys are not intended for use in water.		N
14.4	Transformer toys and dual supply toys are not intended for use by children under three years old.		N
14.5	Non-self-resetting thermal cut-outs, necessary for compliance with this standard, are only resettable with the aid of a tool.		N
14.6	Button cells and batteries designated R1 are not accessible without the aid of a tool unless the cover of their compartment can only be opened after at least two independent movements have been applied simultaneously.		P
14.7	The batteries of toys intended for children under 3 years old are not removable without the aid of a tool unless the security of the battery compartment cover is adequate.		N
	An attempt is made to gain access to the battery compartment by manual means.		N
	It is not possible to open the cover unless at least two independent movements have to be applied simultaneously.		N



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Clause	Requirement - Test	Result - Remark	Verdict
	The toy is placed on a horizontal steel surface. A cylindrical metallic mass of 1 kg, having a diameter of 80 mm, is dropped from a height of 100 mm so that its flat face falls onto the toy.		N
	The battery compartment does not become open.		N
	The battery compartment does not become open as a result of the preconditioning of 5.15.		N
14.8	Rechargeable batteries do not leak when the toy is placed in any position.		N
	The electrolyte does not become accessible even if a tool has to be used to remove covers or similar parts.		N
14.9	Toys are not supplied by batteries connected in parallel unless a mixture of used and new batteries, or the reverse insertion of batteries, does not impair compliance with this standard.		P
14.10	Plugs and socket-outlets of toys are not interchangeable with plugs and socket outlets listed in IEC 60083.		N
	This requirement is not applicable to:		N
	– plugs which are too large to be introduced into the mains socket outlets		N
	– plugs which are too small so they can only be loosely inserted and do not stay firmly in place in the socket outlet aperture while in contact with the supply mains.		N
	Toys intended for children under 3 years old cannot use cords and wires without connectors.		N
14.11	Non-detachable parts that prevent contact with moving parts or hot surfaces, or access to locations where explosion or fire could be initiated, are fixed in a reliable manner and withstand the mechanical stress occurring during normal use.		P
	Compliance is checked by applying the following pull force:		P
	– 50 N, if the longest accessible dimension of the part does not exceed 6 mm;		P
	– 90 N, for other parts.		P
	The force is gradually applied during a period of 5 s and maintained for a further 10 s.		P
	The part does not become detached.		P
14.12	It is not possible to charge rechargeable batteries when they are in the toy unless		N



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Clause	Requirement - Test	Result - Remark	Verdict
	for toys having a mass not exceeding 5 kg, it is not possible:		N
	<ul style="list-style-type: none"> to replace the rechargeable batteries by primary batteries without breaking the toy; 		N
	<ul style="list-style-type: none"> to charge separate batteries or other toys from the toy; 		N
	<ul style="list-style-type: none"> to make a connection of incorrect polarity when recharging the batteries; 		N
	<ul style="list-style-type: none"> to operate the toy during charging unless it complies with the requirements for a dual supply toy; 		N
	for other toys:		N
	<ul style="list-style-type: none"> the battery is fixed in the toy; 		N
	<ul style="list-style-type: none"> connecting means are provided that prevent connection to standardised primary batteries and ensure correct polarity during insertion and charging of the rechargeable batteries; 		N
	<ul style="list-style-type: none"> it is not possible to operate the toy during charging. 		N
	Mass of toy (kg).....:		-
14.13	Toys do not incorporate series motors having a power input exceeding 20 W.		N
	Power input (W).....:		-
14.14	Toys do not contain asbestos.		N
14.15	Internal parts of a toy having a voltage exceeding 24 V do not lead to any risk of harmful electric shock.		N
	Voltage of internal parts (V).....:		--
	Protective parts or parts preventing access to live parts are removed, even if the toy has to be damaged.		N
	In all conditions of test, the following values are be met:		N
	– the working voltage between any two parts of the toy does not exceed 5 KV when the toy is supplied at rated voltage;		N
	Working voltage (KV).....:		-
	– the maximum current from a circuit with a generated voltage exceeding 24 V is less than 0,5 mA;		N
	Generated voltage (V).....:		-
	Maximum current (mA).....:		-



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Clause	Requirement - Test	Result - Remark	Verdict
	– the maximum energy from a circuit with a generated voltage exceeding 24 V is less than 2 mJ;		N
	Generated voltage (V).....:		-
	Maximum energy (mJ).....:		-
	– the discharge does not exceed 45 µC.		N
	Discharge (µC).....:		-
14.16	Battery toys for children where the intended fixed position of the battery compartment can be above a child do have a battery compartment that prevents battery electrolyte leakage from the toy.		N
	All batteries are removed from the toy. The toy is placed in its normal orientation and the battery compartment is filled with the quantity of water specified in Table 2, the water being at a temperature of 21 °C ± 1 °C.		N
	Battery type.....:		-
	Quantity of water per battery (ml).....:		-
	Number of batteries.....:		-
	The toy's casing may be broken to gain access to the closed battery compartment in order to add water but any damage does not affect the result of the test.		N
	After adding the water, the compartment is closed in accordance with the manufacturer's instructions taking care to avoid losing any water from the toy before the test is started. The toy is left in position for a period of 5 min.		N
	During the test, water does not leak from the toy.		N
15	PROTECTION OF CORDS AND WIRES		N
15.1	Wireways are smooth and free from sharp edges.		N
	Cords and wires are protected so that they do not come into contact with burrs, cooling fins or similar edges that may cause damage to their insulation.		N
	Holes in metal through which cords and wires pass have smooth well-rounded surfaces or are provided with bushings.		N
	Cords and wires are effectively prevented from coming into contact with moving parts.		N
15.2	Bare wiring and heating elements are rigid and fixed so that during normal use clearances and creepage distances cannot be reduced below the values specified in Clause 18.		N



IEC 62115			
Clause	Requirement - Test	Result - Remark	Verdict
16	COMPONENTS		P
16.1	Components comply with the safety requirements specified in the relevant IEC standards as far as they reasonably apply.	See appended Table 16.1	P
16.1.1	Switches and automatic controls carrying a current exceeding 3 A during the tests of 9.3 and 9.4 comply with Annex C.	See appended Table 16.1	N
	Current (A).....:		-
	However, if they have been separately tested and found to comply with IEC 61058-1 or IEC 60730-1 respectively under the conditions occurring in the toy and for the number of cycles specified in Annex C, they may be used without further tests.	See appended Table 16.1	N
16.1.2	If components are marked with their operating characteristics, the conditions under which they are used in the toy are in accordance with these markings, unless otherwise specified.	See appended Table 16.1	N
	The testing of components that have to comply with other standards is, in general, carried out separately, according to the relevant standard.		N
	If the component is used within the limits of its marking, it is tested in accordance with the conditions occurring in the toy, the number of samples being that required by the relevant standard.		N
	When no IEC standard exists for the relevant component, when the component is not marked or is not used in accordance with its marking, it is tested under the conditions occurring in the toy. The number of samples is, in general, that required by a similar specification.....:		N
16.2	Toys are not fitted with		P
	– thermal cut-outs that can be reset by a soldering operation;		P
	– mercury switches.		P
16.3	Transformers for toys comply with IEC 61558-2-7.		N
16.4	Battery chargers supplied with a toy comply with IEC 60335-2-29		N
	If they are battery chargers for use by children they comply with annex AA of that standard.		N
17	SCREWS AND CONNECTIONS		-



IEC 62115			
Clause	Requirement - Test	Result - Remark	Verdict
17.1	Fixings, the failure of which may impair compliance with these standard and electrical connections withstand the mechanical stresses occurring during play.		P
	Screws used for these purposes are not made of metal that is soft or liable to creep, such as zinc or aluminium.		P
	Screws used for electrical connections are screwed into metal.		N
	Screws and nuts are tested if they are used for electrical connections or are likely to be tightened by the user.		P
	The screws or nuts are tightened and loosened without jerking	See appended Table 17.1	P
	– 10 times, for screws in engagement with a thread of insulating material;		N
	– 5 times, for nuts and other screws.		P
	Screws in engagement with a thread of insulating material are completely removed and re-inserted each time.		N
	The test is carried out using a suitable screwdriver, spanner or key and by applying a torque as shown in Table 1.		P
	Column I is applicable for metal screws without heads if the screw does not protrude from the hole when tightened.		N
	Column II is applicable for other metal screws and for nuts and screws of insulating material.		P
	No damage impairing the further use of the fixings or electrical connections occur.		P
17.2	Electrical connections carrying a current exceeding 0,5 A are constructed so that contact pressure is not transmitted through insulating material that is liable to shrink or to distort unless there is sufficient resiliency in the metallic parts to compensate for any possible shrinkage or distortion of the insulating material.		N
	Current (A).....:		-
18	CLEARANCES AND CREEPAGE DISTANCES		-
	Clearances and creepage distances of functional insulation are not less than 0,5 mm except when the toy meets the requirements of Clause 9 with this distance short circuited.	See appended Table 18	N



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Clause	Requirement - Test	Result - Remark	Verdict
	However, for functional insulation on printed circuit boards, except at their edges, this distance may be reduced to 0,2 mm provided that the degree of pollution in the microenvironment in which the insulation is located is unlikely to exceed pollution degree 2 during normal use of the toy.	See appended Table 18	N
	Internal parts of toys that comply with subclause 14.15 and have a voltage exceeding 24 V have clearance and creepage distances for functional insulation equal to or greater than the values in Table 18 of IEC 60335-1 for pollution degree 2 except when the toy meets Clause 9 with this distance short circuited.	See appended Table 18	N
	For guidance, the pollution degrees as defined in IEC 60335-1 are as follows:		N
	Degrees of pollution in the microenvironment:		N
	For the purpose of evaluating creepage distances, the following four degrees of pollution in the microenvironment are established		N
	– pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence;		N
	– pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected;		N
	– pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected;		N
	– pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow.		N
19	RESISTANCE TO HEAT AND FIRE		-
19.1	External parts of non-metallic material enclosing electric parts, and parts of insulating material supporting electric parts, are sufficiently resistant to heat if the toy has a working voltage exceeding 12 V and a current exceeding 3 A.	See appended Table 19.1	N
	The test is carried out at a temperature of 40 °C ± 2 °C plus the maximum temperature rise determined during the tests of Clause 9 but it is at least 75 °C ± 2 °C.		N



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Clause	Requirement - Test	Result - Remark	Verdict
19.2	Parts of non-metallic material enclosing electric parts, and parts of insulating material supporting electric parts, are resistant to ignition and spread of fire.		P
	This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate from inside the toy.		P
	The tests are carried out on parts of non-metallic material that have been removed from the toy. When the glow-wire test is carried out, they are placed in the same orientation as they would be in normal use.		P
	These tests are not carried out on the insulation of cords and wires.		P
19.2.1	Parts of non-metallic material are subjected to the glow-wire test of IEC 60695-2-11, which is carried out at 550 °C.	See appended Table 19.2.1	P
	The glow-wire test is not carried out on parts of material classified at least HB40 according to IEC 60695-11-10, provided that the test sample was no thicker than the relevant part.		N
	Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, meet the requirements specified in ISO 9772 for category HBF material, the test sample being no thicker than the relevant part.		N
19.2.2	Parts of insulating material supporting connections carrying a current exceeding 3A and having a working voltage exceeding 12 V, and parts of insulating material within a distance of 3 mm of such connections, are subjected to the glow-wire test of IEC 60695-2-11 at a temperature of 650 °C.	See appended Table 19.2.2 A	N
	However, the glow-wire test is not carried out on parts of material classified as having a glow-wire ignition temperature according to IEC 60695-2-13 of at least 675 °C, provided that the test sample was no thicker than the relevant part.	See appended Table 19.2.2 A	N
	Parts that withstand the glow-wire test of IEC 60695-2-11, but which, during the test, produce a flame that persists for longer than 2 s, are further tested as follows. Parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm are subjected to the needle-flame test of Annex B. However, parts shielded by a barrier that meets the needle-flame test of Annex B are not tested.	See appended Table 19.2.2 B	N



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Clause	Requirement - Test	Result - Remark	Verdict
	The needle-flame test is not carried out on parts of material classified as V-0 or V-1 according to IEC 60695-11-10, provided that the test sample was no thicker than the relevant part.		N
20	RADIATION, TOXICITY AND SIMILAR HAZARDS		-
	Toys do not present a toxic or similar hazard.		P
ANNEX A	EXPERIMENTAL SETS		-
	The following modifications to this standard are applicable to all components of experimental sets supplied together or separately.		N
5	GENERAL CONDITIONS FOR THE TESTS		-
5.10	Addition: The tests are carried out with the experiments described in the instructions that result in the most unfavourable condition.		N
5.15	Not applicable		N
7	MARKING AND INSTRUCTIONS		-
7.1	Addition: The substance of the following is indicated on the packaging:		N
	– WARNING: Only for use by children aged 8 years and older;		N
	– instructions for parents are included and have to be observed.		N
7.4	Addition: The instructions for parents state the minimum age of the child for whom the set is intended.		N
	Detailed information is given in the instructions on how to set up and perform each experiment.		N
	The instructions point out possible hazards.		N
	The instructions give technical information concerning the electrical parts, their behaviour and how to handle them properly.		N
	All hazards that can be expected during an experiment, such as those resulting from the short-circuiting of batteries or the wrong connection of capacitors, are described in detail.		N
	Instructions for children and for parents may be given separately.		N
	If the instructions are given in one leaflet, the section addressed to parents is given first.		N



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Clause	Requirement - Test	Result - Remark	Verdict
	The instructions include a warning against manipulation of protective devices such as current-limiting devices.		N
	They describe the consequential dangers, such as overheating of cords, eruption of batteries and excessive heating.		N
8	POWER INPUT		-
	Not applicable.		N
9	HEATING AND ABNORMAL OPERATION		-
9.4	Not applicable.		N
9.6	Not applicable.		N
9.9	Addition: The temperature rise of surfaces, other than those of handles, knobs, buttons and similar parts, can exceed the limits if an appropriate warning is given in the instructions.		N
11	MOISTURE RESISTANCE		-
	Not applicable.		N
12	ELECTRIC STRENGTH AT ROOM TEMPERATURE		-
	Not applicable.		N
13	MECHANICAL STRENGTH		-
	Not applicable.		N
14	CONSTRUCTION		-
14.1	Addition: The current does not exceed 5 A and the power input does not exceed 50 VA.		N
	Current (A).....:		-
	Power input (VA).....:		-
	However these values may be exceeded during a period not exceeding 10 s.		N
	Period time (s).....:		-
15	PROTECTION OF CORDS AND WIRES		N
	Not applicable.		N
ANNEX B	NEEDLE-FLAME TEST		-
	The needle-flame test is carried out in accordance with IEC 60695-11-5 with the following modifications.		N
7	SEVERITIES		-



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Clause	Requirement - Test	Result - Remark	Verdict
	Replacement: The duration of application of the test flame is 30 s ± 1 s.		N
9	TEST PROCEDURE		-
9.1	Position of test specimen		N
	Modification: The specimen is arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1.		N
9.2	Application of needle-flame		N
	Modification: The first paragraph does not apply.		N
	Addition: If possible, the flame is applied at least 10 mm from a corner.		N
9.3	Number of test specimens		N
	Replacement: The test is carried out on one specimen.		N
	If the specimen does not withstand the test, the test may be repeated on two additional specimens, both of which then withstand the test.		N
11	EVALUATION OF TEST RESULTS		-
	Addition: The duration of burning (t_b) does not exceed 30 s.	See appended Table 19.2.2 B	N
	However, for printed circuit boards, the duration of burning does not exceed 15 s.		N
ANNEX C	AUTOMATIC CONTROLS AND SWITCHES		-
C.1	Automatic controls that are tested with the toy comply with this standard and with subclauses 11.3.5 to 11.3.8 and Clause 17 of IEC 60730-1 as type 1 controls.		N
	The tests according to IEC 60730-1 are carried out under the conditions occurring in the toy.		N
	For the tests of Clause 17 of IEC 60730-1, the number of cycles of operation are		N
	– thermostats 3 000		N
	– self-resetting thermal cut-outs 300		N
	– non-self-resetting thermal cut-outs 10		N
C.2	Switches that are tested with the toy comply with this standard and with the following clauses of IEC 61058-1, as modified below.		N



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Clause	Requirement - Test	Result - Remark	Verdict
	The tests of IEC 61058-1 are carried out under the conditions occurring in the toy.		N
	Before being tested, switches are operated 20 times without load.		N
8	MARKING AND DOCUMENTATION		-
	Switches are not required to be marked		N
	However, a switch that can be tested separately from the appliance is marked with the manufacturer's name or trade mark and the type reference.		N
15	INSULATION RESISTANCE AND DIELECTRIC STRENGTH		-
	Sub clause 15.1 is not applicable.		N
	Sub clause 15.2 is not applicable.		N
	Sub clause 15.3 is applicable for full disconnection and micro-disconnection.		N
17	ENDURANCE		N
	For 17.2.4.4, the number of cycles of actuation declared according to 7.1.4 is 3 000.		N
	Subclause 17.2.5.2 is not applicable.		N
	At the end of the tests, the temperature rise of the terminals has not increased by more than 30 K above the temperature rise measured in Clause 9 of this standard.		N
	Temperature rise of the terminals (K).....:		-
20	CLEARANCES, CREEPAGE DISTANCES, SOLID INSULATION AND COATINGS OF RIGID PRINTED BOARD ASSEMBLIES		-
	This clause is applicable to clearances and creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in Table 24.		N
ANNEX E	TOYS INCORPORATING LASERS AND LIGHT-EMITTING DIODES		-
	The following modifications to this standard are applicable for toys incorporating lasers and light-emitting diodes.		N
5	GENERAL CONDITIONS FOR THE TESTS		-
5.2	The tests of this annex may be carried out on separate toys after the preconditioning of 5.15.		N
20	RADIATION, TOXICITY AND SIMILAR HAZARDS		-
	Toys do not emit harmful radiation.		N



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Clause	Requirement - Test	Result - Remark	Verdict
	Lasers and light-emitting diodes in toys meet the requirements for Class 1 lasers in accordance with IEC 60825-1.		N
	The toy is supplied at rated voltage.		N
	The measurement is also made with parts such as lenses, reflectors or filters, which could affect the focusing of the laser or light-emitting diode, removed, even if the toy has to be damaged.		N
	This measurement is carried out even if the relevant parts of the encapsulation, lenses, reflectors or filters are broken off during the preconditioning of 5.15.		N
	The fault conditions listed in 9.8.2 of this standard are taken into account when testing low-power circuits.		N



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8				TABLE: Input data under normal operation				N
Rated voltage U (V)				Rated input (W) or (VA)	Measured input (W) or (VA)	Deviation	Normal operation / Remarks	
Single Voltage (V)	Lower Voltage Limit (V)	Upper Voltage Limit (V)	Mean Value of Range					

9.3		TABLE: Heating Test		P
	Test voltage (V).....	3V		—
	Ambient (°C).....	23.2		—
	Operating time	Steady		—
	Input Watts (W).....	--		—
	Input Volt-Amperes (VA).....	--		—
Thermocouple Locations		Max. Temperature rise (K)	Max. temperature limit, (K)	
Battery surface		6.1	45	
Battery compartment		5.3	35	
Enclosure near battery, outside		2.8	35	

9.4		TABLE: Heating Test		N
	Test voltage (V).....			—
	Ambient (°C).....			—
	Operating time			—
	Input Watts (W).....			—
	Input Volt-Amperes (VA).....			—
Thermocouple Locations		Max. Temperature rise (K)	Max. temperature limit, (K)	

9.5		TABLE: Heating Test		N
	Test voltage (V).....			—
	Ambient (°C).....			—
	Operating time			—



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	Input Watts (W).....		—
	Input Volt-Amperes (VA).....		—
Thermocouple Locations		Max. Temperature rise (K)	Max. temperature limit, (K)

9.6	TABLE: Heating Test			N
	Test voltage (V).....			—
	Ambient (°C).....			—
	Operating time			—
	Input Watts (W).....			—
	Input Volt-Amperes (VA).....			—
Thermocouple Locations		Max. Temperature rise (K)	Max. temperature limit, (K)	

9.8.2	TABLE: Fault Condition Tests				N
	Ambient temperature (°C).....				—
Component	Fault Condition	Test Voltage (V)	Test Duration	Fuse-link Current (A)	Comment/Result

13	TABLE: Impact Resistance			P
	Impacts per surface	Surface tested	Impact energy (Nm)	Comments
	6	Plastic enclosure	0.7 J	No damage
	6	Battery compartment	0.7 J	No damage

16.1	TABLE: Critical components information				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity¹⁾
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					



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17.1	TABLE: Threaded Part Torque Test			P
Threaded part identification	Diameter of thread (mm)	Column number (I or II)	Applied torque (Nm)	
Screw for fixing enclosure	2.01	II	0.4	

18	TABLE: Clearance And Creepage Distance Measurements					N
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)

19.1	TABLE: Ball Pressure Test of Thermoplastics			N
Allowed impression diameter (mm)				—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	

19.2.1	TABLE: Glow Wire Test (GWT)					P
Test Conditions	GWT according to IEC 60695-2-11					—
Test temperature (°C)	550°C					—
Object/ Part No./ Material	Manufacturer/ trademark	te,	ti	Specified Layer under Test Specimen ignited, Yes/No	Other remarks	
Plastic enclosure	--	N	N	No	--	
Battery compartment	--	N	N	No	--	

19.2.2 A	TABLE: Glow Wire Test (GWT) / Glow Wire Ignition Temperature (GWIT)					N
Test Conditions	GWT according to IEC 60695-2-11					—
Test temperature (°C)	650°C					—
Object/ Part No./ Material	Manufacturer/ trademark	te,	ti	Specified Layer under Test Specimen ignited, Yes/No	Other remarks	



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Object/ Part No./ Material	Manufacturer/ trademark	GWIT	--	Other remarks
			--	

19.2.2 B	TABLE: Needle- flame test (NFT)					N
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict	
Supplementary information: NFT not relevant for Parts of material classified as V-0 or V-1						

==== End of Report =====

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Clause	Requirement + Test	Result - Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		—
5.15	Replace: Before starting the tests, the toy is preconditioned by subjecting it to the following tests of EN 71-1, the batteries in position: (A2:2011)		P
	Replace: Drop test — for toys having a mass less than 4,5 kg including batteries, irrespective of the age group; (A2:2011)		P
	Replace: Static strength test for sit-on or stand-on toys; (A2:2011)		N
	Replace: Dynamic strength test for wheeled ride-on toys; (A2:2011)		N
	Replace: Tension test — for all toys; however, the force being 70 N \pm 2 N independent of the dimensions and applicable independent of age group; (A2:2011)		P
	Replace: Tension test for seams and materials — for toys having textile or other flexible materials covering batteries or other electrical parts. (A2:2011)		N
5.7	Add the following:		P
	The interconnection cord set for connection to a computer, console, monitor screen or other audio-video equipment supplied with a computer toy is tested with the connector of the interconnection cord set fully inserted in the appliance inlet of the toy.		N
	The plug-connector at the other end of the interconnection cord is not tested (see 14.Z1).		N
6	CRITERIA FOR REDUCED TESTING		—
6.1	Replace: "Clauses 10 to 12" by "Clauses 10, 11.2 and 12".		P
6.2	Replace the text by the following:		N
	Battery toys are considered to comply with Clauses 10, 11 (except 11.1), 12, 15 (except 15.2), 17 (except 17.1 for battery compartments intended to contain button cell batteries), 18 (except the additional distances for computer toys) and 19 if (A11:2012)		N




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Clause	Requirement + Test	Result - Remark	Verdict
	— the accessible insulation between parts of different polarity cannot be bridged by a straight steel pin having a diameter of 0,5 mm and any suitable length over 25 mm, (insulation between parts of different polarity in battery compartments protected by a cover that can only be removed with the aid of a tool or by two independent movements applied simultaneously are not considered as accessible for the purposes of this requirement), and (A11:2012)		N
	— the total battery voltage does not exceed 2,5 V, measured 1 s after a 1 C) resistor has been connected between the supply terminals of the toy, with any current limiting device short-circuited and without the toy being operated. (A11:2012)		N

7	MARKING AND INSTRUCTIONS		—
7.4	Delete the dashed item “- the types of batteries that may be used”.		N
	Replace the 5 th paragraph (introduced by EN 62115:2005/A2:2011) with the following: (A11:2012)		P
	The instructions and markings for dual-supply toys include the instructions and markings required for both battery toys and transformer toys. (A11:2012)		N
	Add the following before the paragraph starting with “The instructions for transformer toys”: (A11:2012)		N
	For transformer toys, the following age warning is visible to consumers at the time of purchase: “Warning Not suitable for children under 36 months”. (A11:2012)		N
	A brief indication of the specific hazard calling for this restriction (e.g. misuse of transformer can cause electrical shock) “ accompanies the age warning or appears in the instructions which accompany the toy. (A11:2012)“		N
	The text “Not suitable for children under 36 months” may be replaced by the age warning symbol from EN 71-1. (A11:2012)		N



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Clause	Requirement + Test	Result - Remark	Verdict
	This requirement does not apply to toys which, on account of their function, dimensions, properties and similar characteristics, are clearly unsuitable for children under 36 months. The term “36 months” may be replaced with the term “3 years”. (A11:2012)		N
	Replace the second dash in the third list with the following new dashes: (A11:2012)		N
	— the toy is only used with a transformer for toys; (A11:2012)		N
	— the model number or specification of a suitable transformer for use with the toy; (A11:2012)		N
	Add the following before the last paragraph: (A11:2012)		N
	For computer toys which do not meet the requirement of 14.Z1 b), the instructions states the substance of the following: (A11:2012)		N
	“The toy is only to be connected to Class II equipment bearing the following symbol” (A11:2012)		N
	Symbol 5172 of IEC 60417-1.  (A11:2012)		N
7.5	Replacement: When the markings or instructions included in 7.4 are on the packaging only, it is also be stated that the packaging must be retained since it contains important information. (A12:2015)		N
7.Z1	The accessible parts of toys that are intended for children 3 years and over but less than 8 years which exceed the temperature rise limit for children less than 3 years according to Table Z1 (see 9.9) carry the following warning that is visible to consumers at the time of purchase: (A11:2012)		N
	“Warning Not suitable for children under 36 months” (A11:2012)		N
	The text “Not suitable for children under 36 months” may be replaced by the age warning symbol from EN 71-1. (A11:2012)		N



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Clause	Requirement + Test	Result - Remark	Verdict
	The term “36 months” may be replaced by “3 years”. (A11:2012)		N
	A brief indication of the specific hazard calling for this restriction (e.g. hot surface) accompanies the age warning or appears in the instructions which accompany the toy. (A11:2012)		N
	This requirement does not apply to toys which, on account of their function, dimensions, properties and similar characteristics, are clearly unsuitable for children under 36 months. (A11:2012)		N
	The accessible parts of toys that are intended for children 8 years and over, and which exceed the temperature rise limit for children 3 years to less than 8 years according to Table Z1 (see 9.9) carry the following warning that is visible to consumers at the time of purchase: (A11:2012)		N
	“Warning Not suitable for children under 8 years” (A11:2012)		N
	A brief indication of the specific hazard calling for this restriction (e.g. hot surface) accompanies the age warning or appears in the instructions which accompany the toy. (A11:2012)		N

9	HEATING AND ABNORMAL OPERATION		—
9.1	Replace the first sentence by the following: (A11:2012)		P
	Toys do not attain excessive temperatures in use, and do not malfunction in such a way as to cause any unintended operation that may impair safety. (A11:2012)		P
	Toys which have an electronic control system are designed and manufactured in such a way that they operate safely even if the electronic system starts malfunctioning due to a failure of the system or due to electromagnetic influence from an outside source. (A11:2012)		N
	Add the following new paragraphs after the 6 th paragraph starting with “Toys incorporating electronic circuits ”...”. (A11:2012)		N
	If during the tests of 9.8 an electronic circuit prevents the hazardous conditions listed in 9.9 or dangerous malfunction, it additionally complies with Annex ZB. (A11:2012)		N



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Clause	Requirement + Test	Result - Remark	Verdict
	In this case, the electronic circuit is considered as a protective electronic circuit. Toys with an electronic off-mode or stand-by mode also comply with Annex ZB, if the toy can malfunction in such a way as to cause any unintended operation that may impair safety. (A11:2012)		N
9.8.2	Replace paragraph two with the following: In addition, each low-power circuit is short-circuited by connecting the low-power point to the pole of the supply from which the measurements were made. (A12:2015)		N
	If this short circuit cause a hazardous condition, the short circuit is removed and the tests of a) to f) applied to the relevant low-power circuits. (A12:2015)		N
9.9	Replace the text with the following: (A11:2012)		P
	During the tests, the temperature rises of accessible parts are monitored continuously. (A11:2012)		P
	The temperature rise of the surface of handles, knobs and other parts that are likely to be touched by hand do not exceed the following values: (A11:2012)		P
	25 K, for parts of metal; (A11:2012)		N
	30 K, for parts of glass or porcelain; (A11:2012)		N
	35 K, for parts of plastic or wood. (A11:2012)		P
	The temperature rise of other accessible parts of the toy do not exceed the values specified in Table ZI. (A11:2012)		P
	The temperature rise of battery surfaces and other parts inside the battery compartment, where batteries are inside a battery compartment with a cover, which can only be opened by the use of a tool or by at least two independent movements applied simultaneously, do not exceed 45 K. (A11:2012)		P
	During the tests, (A11:2012)		P
	sealing compound does not flow out; (A11:2012)		P
	the toy does not emit flames or molten metal; (A11:2012)		P



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Clause	Requirement + Test	Result - Remark	Verdict
	dangerous substances are not produced, such as poisonous or ignitable gas, in hazardous amounts; (A11:2012)		P
	vapour does not accumulate in the toy; (A11:2012)		P
	enclosures do not deform to such an extent that compliance with this European Standard is impaired; (A11:2012)		P
	batteries do not leak hazardous substances or erupt; (A11:2012)		P
	materials, including the cotton gauze, do not char. (A11:2012)		P
	After the tests, the toy is not damaged to such an extent that compliance with this European Standard is impaired. (A11:2012)		P
	Toys having accessible parts with temperature rises exceeding the values in Table Z1 for children less than 3 years or for children between 3 years and 8 years have a warning together with the appropriate age indication, 3 years or 8 years (see 7.Z1). (A11:2012)		N

14	CONSTRUCTION		—
14.1	Replace the first paragraph to read: (A11:2012)		P
	Toys are battery toys, transformer toys or dual-supply toys. (A11:2012)	Battery toys	P
	Their nominal supply voltage does not exceed 24 V. (A11:2012)		P
14.2	Delete the second sentence of the second paragraph		P
14.10	Addition: Connectors (jack plugs, USB plugs, RCA phono plugs etc.) with a diameter or diagonal measurement between 3,75 mm and 5,25 mm and length greater than 7 mm are considered to fail this requirement. (A12:2015)		N
14.Z1	Computer toys are safe when connected to a computer, console, monitor screen or other audio-video equipment, even in case of a fault in the equipment it is connected to. (A11:2012)		N



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Clause	Requirement + Test	Result - Remark	Verdict
	Computer toys therefore comply with one of the following conditions: (A11:2012)		N
	a) the computer toy includes an instruction to advise that the toy is only connected to equipment of Class II (see 7.4); or (A11:2012)		N
	b) conductive parts of computer toys electrically connected to a computer, console, monitor screen or other audio-video equipment are not accessible in the toy and the insulation between such parts and accessible parts have a thickness of at least 1 mm and an adequate electric strength. (A11:2012)		N
	The test is carried out with the toy in the fully assembled condition with battery compartment covers in place, unless it is necessary that the covers are removed for the correct use of the toy. (A11:2012)		N
	The connectors of the interconnection cord are fully inserted in the relevant appliance inlets of the toy. (A11:2012)		N
	The plug-connector at the other end of the cord for connecting to the equipment is not tested. (A11:2012)		N
	Further connections from the toy to other parts of the toy are not connected. (A11:2012)		N
	The toy is operated under normal operation according to 9.3. (A11:2012)		N
	The toy is then disconnected from the supply and the insulation is immediately subjected to a voltage of 1 500 V having a frequency of 50 Hz or 60 Hz for 1 min, in accordance with EN 61180-1. (A11:2012)		N
	The high-voltage source used for the test is to be capable of supplying a short circuit current I_s between the output terminals after the output voltage has been adjusted to the appropriate test voltage. (A11:2012)		N
	The overload release of the circuit is not to be operated by any current below the tripping current I_r . The value of I_s is 200 mA and the value of I_r is 100 mA. (A11:2012)		N



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Clause	Requirement + Test	Result - Remark	Verdict
	The test voltage is applied between conductive parts intended to be connected to a computer, console, monitor screen or other audio-video equipment and accessible parts, non-metallic parts being covered with metal foil. (A11:2012)		N
	The metal foil is placed on and following the surface but is not pushed down into recesses or appliance inlets. (A11:2012)		N
	The above mentioned connectors inserted into the appliance-inlets are also covered by metal foil. (A11:2012)		N
	No breakdown occurs during the test. (A11:2012)		N
	For computer toys complying with 14.Z1 b), the distances as stated in Clause 18 are fulfilled. (A11:2012)		N
16	COMPONENTS		—
16.3	Replace the text by the following:		N
	Transformers for toys comply with EN 61558-2-7 for linear types or EN 61558-2-7 and EN 61558-2-16 for switch mode types. (A11:2012)	Approved	N
18	CLEARANCES AND CREEPAGE DISTANCES		—
	Add the following requirement before the last paragraph:		N
	For computer toys intended to be electrically connected to a computer, console, monitor screen or other audio-video equipment, both creepage and clearance distances between accessible parts and conductive parts are at least 1,5 mm (see 14.Z1 b)). (A11:2012)		N
	Distance measurement (mm).....:		N
20	RADIATION, TOXICITY AND SIMILAR HAZARDS		—
	Replace the text by the following:		P
	Toys do not emit harmful radiation or present a toxic or similar hazard due to their operation in normal use. (A11:2012)		P



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Clause	Requirement + Test	Result - Remark	Verdict
	Toys incorporating lasers and or light emitting diodes (LED) comply with Annex E. (A11:2012)		N
	Toys with an integrated field source comply with Annex ZC. (A12:2015)		N

ANNEX ZB	TOYS WITH PROTECTIVE ELECTRONIC CIRCUIT (A11:2012)		—
	If during the tests of 9.8 an electronic circuit prevents the hazardous conditions listed in 9.9 or dangerous malfunction, it additionally complies with the following requirements.		N
	In this case, the electronic circuit is considered as a protective electronic circuit.		N
	For toys with a protective electronic circuit, the following requirement is therefore applicable in addition to Clause 9.		N
9.ZB	The toy does not malfunction in such a way as to cause an unintended operation that may impair safety or present a dangerous malfunction due to influence from electromagnetic phenomena (EMP).		N
	Compliance is checked by the test of 9.ZB.1 and 9.ZB.2.		N
	Transformer toys and dual-supply toys incorporating a protective electronic circuit are additionally subjected to the tests of 9.ZB.3 to 9.ZB.7, using the supplied or the recommended transformer for toys.		N
	The tests are carried out under the following conditions.		N
	The tests are carried out with the toy supplied at rated voltage and the toy operated in the following modes:		N
	— electronic off mode;		N
	— stand-by mode;		N
	— operating mode.		N
	The tests are carried out after the protective electronic circuit has operated during the fault conditions of 9.8.2.		N
	The tests are carried out with surge arresters disconnected, unless they incorporate spark gaps.		N
	Toys incorporating electronic controls complying with the EN 60730 series are not exempt from the tests.		N



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Clause	Requirement + Test	Result - Remark	Verdict
	If the protective electronic circuit includes only passive electronic components such as positive temperature co-efficient (PTC) resistors, negative temperature co-efficient (NTC) resistors or voltage dependent resistors (VDRs), the tests of Annex ZB are not applied.		N
9.ZB.1	The toy is subjected to electrostatic discharges in accordance with EN 61000-4-2, test level 4 being applicable.		N
	Ten discharges having a positive polarity and ten discharges having a negative polarity are applied at each preselected point.		N
9.ZB.2	The toy is subjected to radiated fields in accordance with EN 61000-4-3, test level 3 being applicable.		N
9.ZB.3	The toy is subjected to fast transient bursts in accordance with EN 61000-4-4.		N
	Test level 3 is applicable for signal and control lines.		N
	Test level 4 is applicable for the power supply lines.		N
	The bursts are applied for 2 min with a positive polarity and for 2 min with a negative polarity.		N
9.ZB.4	The power supply terminals of the toy are subjected to voltage surges in accordance with EN 61000-4-5, five positive impulses and five negative impulses being applied at the selected points.		N
	Test level 3 is applicable for the line-to-line coupling mode, a generator having a source impedance of 2,12 being used.		N
	Test level 4 is applicable for the line-to-earth coupling mode, a generator having a source impedance of 12 S ₂ being used.		N
	For toys having surge arresters incorporating spark gaps, the test is repeated at a level that is 95 % of the flashover voltage.		N
9.ZB.5	The toy is subjected to injected currents in accordance with EN 61000-4-6, test level 3 being applicable.		N
	During the test, all frequencies between 0,15 MHz to 80 MHz are covered.		N
9.ZB.6	The toy is subjected to voltage dips and interruptions in accordance with EN 61000-4-11.		N
	The durations specified in EN 61000-4-11:2004, Table 1, are applied to each test level, the dips and interruptions being applied at zero crossing of the supply voltage.		N
9.ZB.7	The toy is subjected to mains signals in accordance with EN 61000-4-13, test level class 2 being applicable.		N



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Clause	Requirement + Test	Result - Remark	Verdict
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Clause	Requirement + Test	Result - Remark	Verdict
ANNEX ZC	TOYS GENERATING ELECTROMAGNETIC FIELDS (EMF) (A12:2015)		—
	Toys with an integrated field source generating EMF comply with EN 62233:2008 with the following modifications.		N
	Toys without a motor, inductor or which only include passive electronic components, are considered to comply with this requirement without measurement.		N
	The requirements do not apply to parts of toys consuming a current of 3 A or less.		N
	The current is checked by measurement during the tests of EN 62115:2005, 9.3, unless the construction of the toy is such that the current cannot exceed 3 A.		N
	Consuming current (A)..... :		N
	The tested toy also complies with the requirements of EN 62233:2008		N
	Limit100%	Measured max.: %	-

===== End of Attachment =====

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Photo Documentation

Model: IT3854

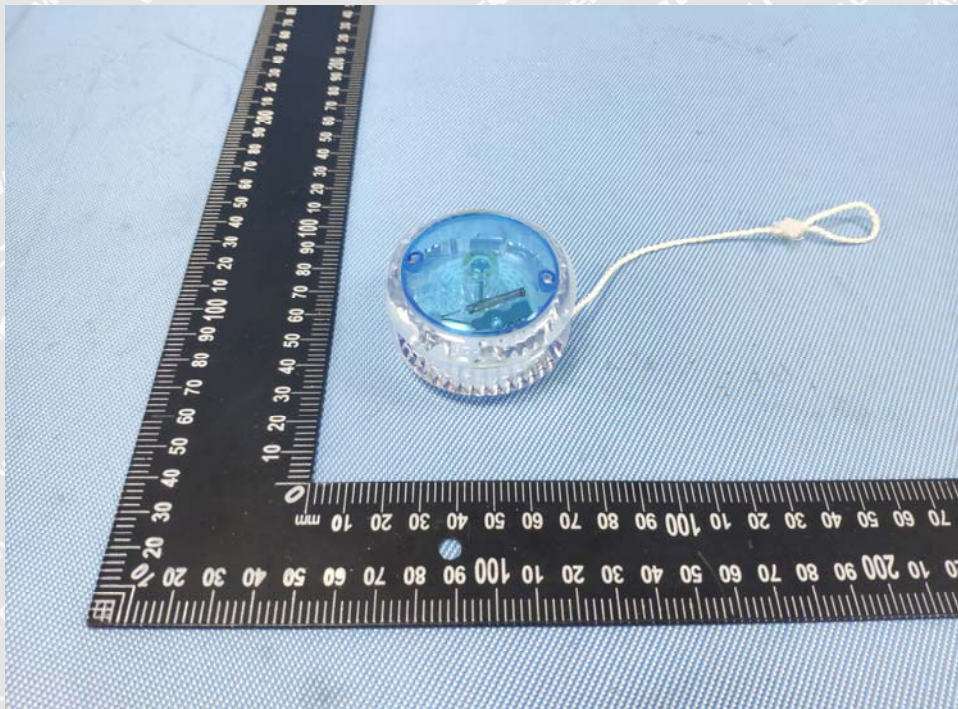


Photo 1

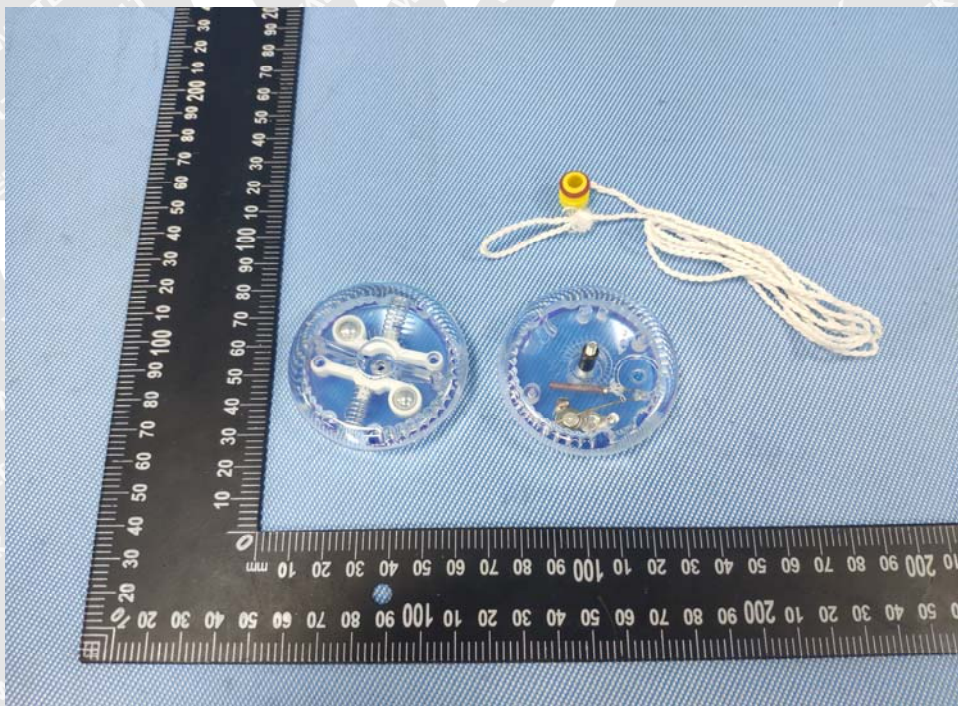


Photo 2



Photo Documentation



Photo 3



Photo 4



Photo Documentation

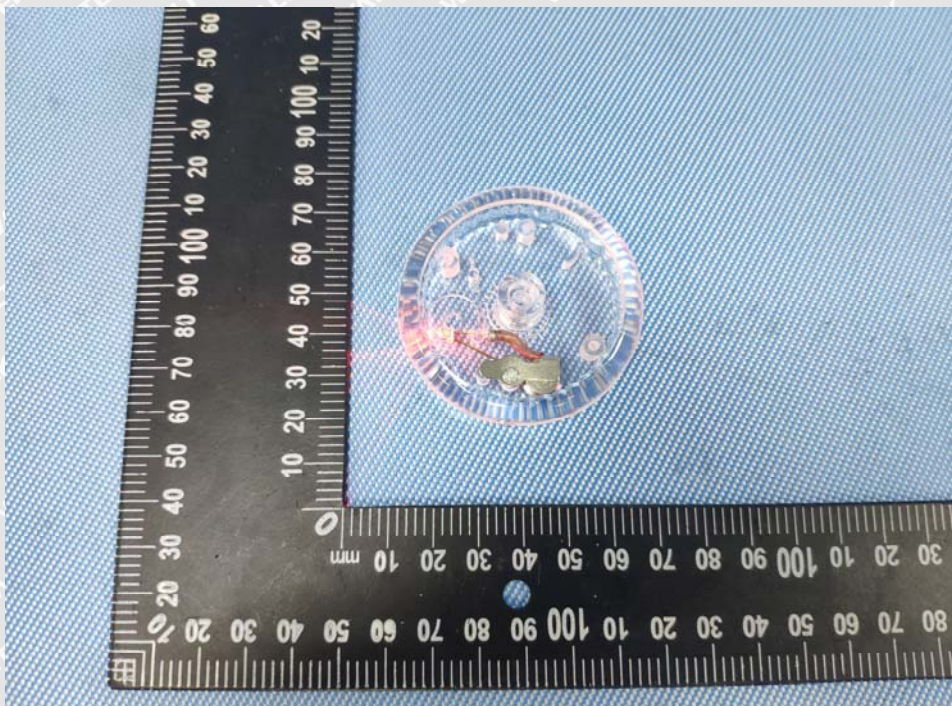


Photo 5

===== End of Photos =====

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