

**EUROPEAN STANDARD****EN 50088/A3****NORME EUROPÉENNE****EUROPÄISCHE NORM**June 2002

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ICS 97.200.50

English version

**Safety of electric toys**

Sécurité des jouets électriques

Sicherheit elektrischer Spielzeuge

This amendment A3 modifies the European Standard EN 50088:1996; it was approved by CENELEC on 2002-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

**CENELEC**

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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### Foreword

A proposal to amend EN 50088:1996, document CLC/TC 61(SEC)1219A, was discussed during the Pamplona meeting in June 1999, when it was decided to submit a draft for an amendment to EN 50088 to the Unique Acceptance Procedure.

This draft was circulated in August 1999. The comments were discussed during the Kristiansand meeting in June 2000, when it was decided to submit a new draft to the formal vote. This draft was circulated in February 2001. The comments were discussed during the Delft meeting in May 2001, when it was decided to submit a further draft to the formal vote (2MV).

This draft was circulated in October 2001 and was approved by CENELEC as amendment A3 to EN 50088 on 2002-03-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2003-03-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2005-03-01

This amendment supplements or modifies the corresponding clauses of EN 50088:1996.

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## Contents

*Replace the reference to clause 20 by:*

20 Radiation, toxicity and similar hazards

*Replace the reference to annex B by:*

Annex B – Void

*Replace the reference to annex D by:*

Annex D – Sequence of the tests of clause 19

*Replace the reference to annex F by:*

Annex F – Void

*Add:*

Annex I – Toys incorporating lasers and light emitting diodes

## 1 Scope

*Add the following note:*

NOTE Additional requirements for toys incorporating lasers and light emitting diodes (LEDs) are given in annex I.

## 2 Normative references

*Replace the list of standards by:*

EN 71	series	Safety of toys
EN 71-1	1998	Safety of toys – Part 1: Mechanical and physical properties
EN 71-3	1994	Safety of toys – Part 3: Migration of certain elements
EN 60068-2-75	1997	Environmental testing – Part 2-75: Tests - Test Eh: Hammer tests (IEC 60068-2-75:1997)
EN 60086-2	2001	Primary batteries – Part 2: Physical and electrical specifications (IEC 60086-2:2000)
EN 60320-1	2001	Appliance couplers for household and similar general purposes – Part 1: General requirements (IEC 60320-1:2001)
EN 60335-1	1994	Safety of household and similar electrical appliances – Part 1: General requirements (IEC 60335-1:1991, mod.)
EN 60417	series	Graphical symbols for use on equipment (IEC 60417 series)

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EN 60529	1991	Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)
EN 60695-2-2	1994	Fire hazard testing – Part 2: Test methods – Section 2: Needle-flame test (IEC 60695-2-2:1991)
EN 60695-2-11	2001	Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products (IEC 60695-2-11:2000)
EN 60707	1999	Flammability of solid non-metallic materials when exposed to flame sources – list of test methods (IEC 60707:1999)
EN 60730	series	Automatic electrical controls for household and similar use (IEC 60730, mod.)
EN 60825-1	1994	Safety of laser products – Part 1: Equipment classification, requirements and user's guide (IEC 60825-1:1993)
+ corr. February A11	1995 1996	
+ corr. July A2	1997 2001	(IEC 60825-1:1993/A2:2001)
EN 61058-1	1992	Switches for appliances – Part 1: General requirements (IEC 61058-1:1990)
EN 61558-2-7	1997	Safety of power transformers, power supply units and similar Part 2-7: Particular requirements for transformers for toys (IEC 61558-2-7:1997, mod.)
IEC 60384-14	1993	Fixed capacitors for use in electronic equipment – Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains
IEC 60083	1997	Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC

### 3 Definitions

#### 3.1.6 *Replace by:*

3.1.6 **battery box:** Separate compartment for containing batteries that is detachable from the toy.

3.1.8 *Delete the reference "[EN 60742]".*

3.2.3 *Delete the word "not" from the note.*

3.5.1 *Delete the note.*

*Add:*

3.5.4 **replaceable battery:** Battery that can be replaced without breaking the toy.

## 5 General conditions for the tests

### 5.14 Replace the first paragraph by:

*Batteries are correctly positioned before evaluating the possibility of bridging insulation and before carrying out the short-circuit tests.*

*Add as a second paragraph:*

*When a straight steel wire having a diameter of 0,5 mm is used to evaluate the possibility of bridging insulation, the wire is applied only with sufficient force to hold it in position.*

### 5.15 Replace the subclause references as follows:

4.3	by	8.5
4.4	by	8.21
4.5	by	8.22
4.13	by	8.4.2.2
4.21.3	by	8.4.2.1

*Add:*

NOTE 3 For battery toys, the batteries are in position during the preconditioning.

## 6 Selection of tests

*Add:*

The selection criteria of 6.1 and 6.2 are used to determine which tests are carried out.

If the toy meets the criteria of 6.1 but does not meet the criteria of 6.2, the exemptions of 6.1 are still applicable.

If the toy meets the criteria of 6.2 but does not meet the criteria of 6.1, the exemptions of 6.2 are still applicable.

When a toy does not meet the criteria of 6.1 and 6.2, all relevant tests of the standard apply.

### 6.1 Replace by:

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 the requirements of clauses 10, 11.2, 12, 15 and 18 and are therefore not subjected to these tests. They are also considered to comply with 14.11 unless moving parts or hot surfaces have to be protected.

The short-circuit simulates the breakdown of insulation and is applied where the insulation could fail. The short-circuit may be applied using a flexible wire.

### 6.2 Add to the second dashed item: "the toy not being operated,".

*After "9.3", add "9.6, 11.1".*

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**7 Marking and instructions**7.1.1 *Replace the first line by:***Battery toys with replaceable batteries shall be marked with the**7.2 *Replace the first paragraph by:***Toys incorporating detachable lamps shall be marked with one of the following:**

- the rated voltage and identification number of the lamp,
- the maximum power input,
- the maximum current.

If the toy is marked with the power input or current, the marking shall be as follows:

"lamp max. ... W or A"

or


 -max. ... W or A".
7.3 *In note 3, replace "HD 243" by "EN 60417".*7.4 *In the sixth paragraph, after "battery toys", add: "with replaceable batteries".**Replace the first dashed item of the sixth paragraph by:*

- how to remove and insert the batteries;

*Delete "(if removable)" from the third and fourth dashed items of the sixth paragraph.**Add:***Instructions for battery toys intended to be used in water shall state that the toy is to be operated in water only when fully assembled in accordance with the instructions.**7.7 *In the first paragraph, after "The markings", add: "on the toy".***9 Heating and abnormal operation**9.2 *In the second dashed item, replace "approximately 40 g/m<sup>2</sup>" by "40 g/m<sup>2</sup> ± 8 g/m<sup>2</sup>".*9.3 *Add:***Toys intended to support the mass of a child shall be loaded with a mass in accordance with subclause 8.21 of EN 71-1.**9.4 *Add to the first paragraph:**Lamps are not removed during the test.*9.5 *Add to the first paragraph:**If the toy is provided with more than one control, these are short-circuited in turn.**Delete the note.*

9.8 *Replace the first dashed item by:*

- *the base material of the printed circuit board withstands the test of annex G.*

9.8.2 *Replace item c) by:*

c) **Short-circuit of capacitors, unless they comply with IEC 60384-14.**

9.9 *Add:*

NOTE 2 If the toy fails to withstand the tests and this could be due to a defective battery, the tests are repeated with a new set of batteries.

## 11 **Molsture resistance**

11.1 *Replace by:*

11.1 **Battery toys** intended to be used in water and **toys** likely to be cleaned with liquid shall have an enclosure providing the appropriate protection.

NOTE 1 **Toys** intended to be used to imitate the preparation of food are examples of **toys** likely to be cleaned with liquid.

*Compliance for toys likely to be cleaned with liquid is checked by the test of subclause 14.2.4 of EN 60529, detachable parts having been removed.*

*Excess water is then removed from the enclosure. The toy shall withstand the electric strength test of clause 12 and inspection shall show that there is no trace of water on insulation which could result in a reduction of creepage distances and clearances below the values specified in clause 18.*

*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:*

*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 shall be no overpressure within the enclosure due to entrapped gas.*

NOTE 2 Entrapped gas can result from an electrochemical reaction within the battery or between other electric parts of the toy.

NOTE 3 Gas pressure can be limited by an overpressure valve, by a gas absorber or in battery compartments by providing a suitable aperture.

*The toy is then taken out of the water, positioned to allow excess water to drain, and the enclosure is wiped dry. The toy shall withstand the electric strength test of clause 12.*

## 13 **Mechanical strength**

*Replace "EN 60068-2-63" by "EN 60068-2-75".*

## 14 **Construction**

14.6 *Replace "IEC 86-2" by "EN 60086-2".*

14.7 *Replace the subclause references as follows:*

4.3	by	8.5
4.13	by	8.4.2.2
4.14	by	8.7

*Add to the test specification:*

*If the drop test or the seam test have been carried out during preconditioning, they are not repeated.*

14.10 *Replace "IEC 83" by "IEC 60083".*

14.12 *Combine the first and second paragraphs.*

## 16 **Components**

16.3 *Replace "EN 60742" by "EN 61558-2-7".*

## 17 **Screws and connections**

17.1 *In the first line of table 1, replace " $\leq 2,8$ " by " $2,8^a$ " and add the footnote.*

<sup>a</sup> *Screws having a diameter less than 2,8 mm are not tested.*

## 19 **Resistance to heat and fire**

19.2.1 *Replace "annex F" by "EN 60695-2-11".*

19.2.2 *Replace "annex F" by "EN 60695-2-11".*

*Replace "HD 441 S1" by "EN 60707" (two places).*

19.2.3 *Replace "HD 441 S1" by "EN 60707" (two places).*

## 20 **Toxicity and similar hazards**

*Replace the title of the clause by:*

## 20 **Radiation, toxicity and similar hazards**

### **Annexes**

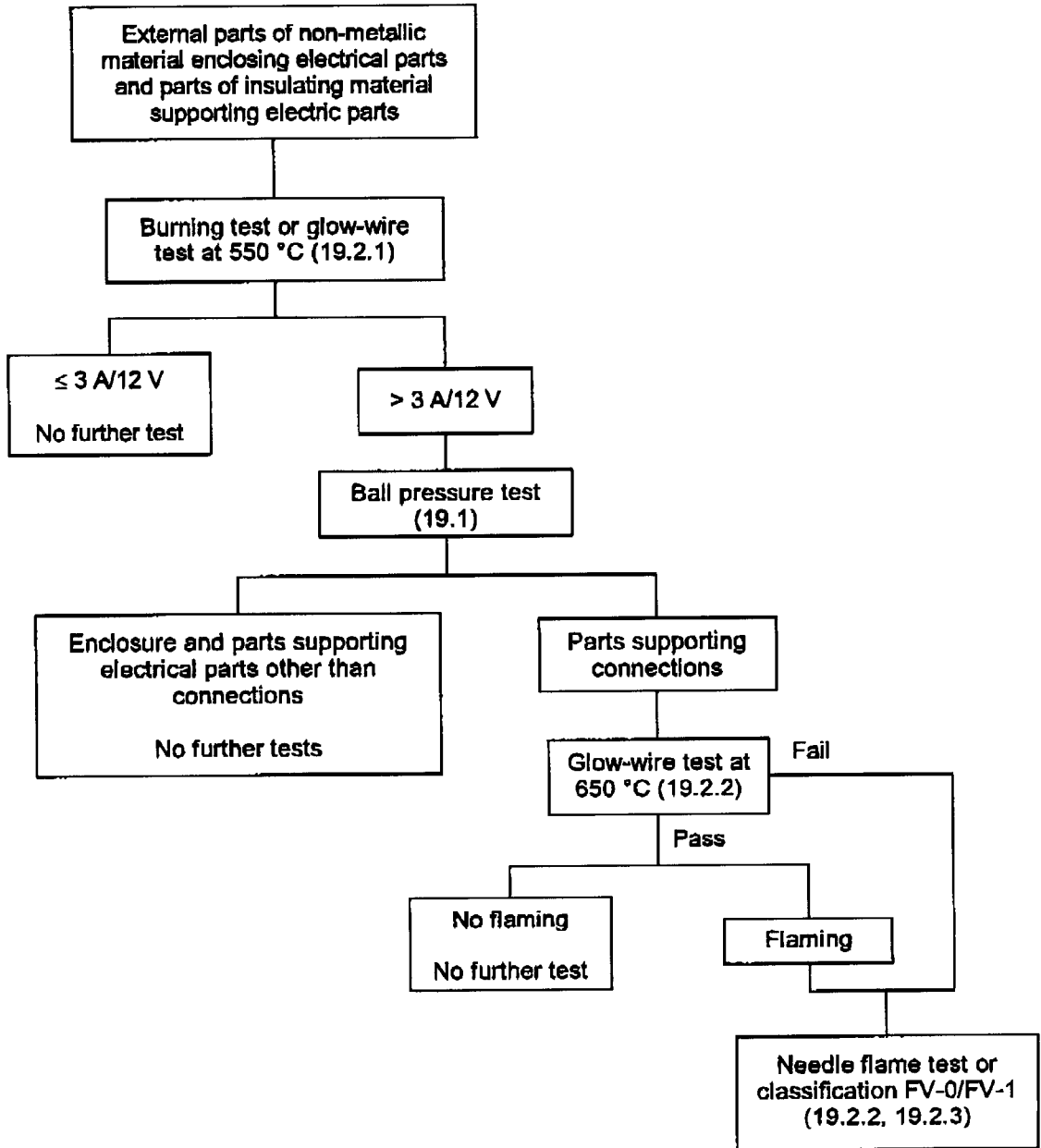
**Annex B** *Delete.*



Annex D *Replace by:*

**Annex D**  
(informative)

**Sequence of the tests of clause 19**



Annex F *Delete.*

*Add the following annex:*

**Annex I**  
(normative)

**Toys incorporating lasers and light emitting diodes**

The following modifications to this standard are applicable for toys incorporating lasers and light emitting diodes (LEDs).

**3 Definitions**

**3.8**

**laser**

device that can be made to produce or amplify electromagnetic radiation in the wavelength range from 180 nm to 1 mm primarily by the process of controlled stimulated emission

**3.9**

**light emitting diode**

semiconductor p-n junction device that can be made to produce electromagnetic radiation by radiative recombination in the semiconductor in the wavelength range from 180 nm to 1 mm

NOTE The optical radiation is produced primarily by the process of spontaneous emission, but some stimulated emission may be present.

**5 General conditions for the tests**

**5.2** The tests of this annex may be made on separate toys, the preconditioning of 5.15 being carried out before testing.

**7 Marking and instructions**

**7.1** The labelling requirement of clause 5 of EN 60825-1 does not apply.

**20 Radiation, toxicity and similar hazards**

Toys shall not emit harmful radiation.

Lasers in toys shall be classified Class 1 in accordance with EN 60825-1. This classification also applies to light emitting diodes.

NOTE Class 1 lasers do not include Class 1M lasers.

*Compliance is checked by inspection and by measuring the radiation under the conditions specified in EN 60825-1. The measurement is also made with parts such as lenses, reflectors or filters that could affect the focusing of the laser or light emitting diode removed, even if the toy is damaged. When testing under fault conditions, those listed in 9.8.2 of this standard are also taken into account in low-power circuits.*

Noriko Sawa

07.08.2002 11:28

An: de-zib-mailin@TUV  
Kopie:

Thema: Order 07.08.2002

Dear Ms. Anke

Hello,  
Please find attached today's order.  
These are also urgent order.  
I appreciate if you send them by Friday.

*→ war nichts - neue Email geliefert*

In addition  
Regarding your email on 06.08.2002,

We'd like to get latest version of EN50088/prA3.

Best Regards,  
Noriko Sawa

>>

Dear Ms. Sawa,

Empfänger: N. Sawa  
Fax : /  
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today a colleague ordered the EN 50088/A3 (2002-06) : Safety of electric toys.

While I checked our database - I saw that you ordered the replaced document EN 50088/prA3 (2001-02) on October 15th 2001. We sent you the version from october 2001. But now even this document is replaced.

It was order 2001-27-2 (page 2).

Maybe this information will help you.

Regards,  
Anke Langenkamp  
(ZIB)