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AMENDMENT 1
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Amendment 1

**Household and similar electrical appliances –
Safety –**

**Part 2-29:
Particular requirements for battery chargers**

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FOREWORD

This amendment has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

The text of this amendment is based on the following documents:

FDIS	Report on voting
61/2536/FDIS	61/2580/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until 2006. At this date, the publication will be

- reconfirmed;
- withdrawn
- replaced by a revised edition, or
- amended.

CONTENTS

Add the title of Annex AA as follows:

Annex AA (normative) Battery chargers for use by children

FOREWORD

Add the following to the list of differences existing in some countries:

- 6.1: The voltage limits for appliances suitable for outdoor use are different (USA).
- Annex AA, 11.8: Higher temperature rises are allowed (USA).
- Annex AA, Clause 17: Higher temperature rises are allowed (USA).
- Annex AA, 19.13: Higher temperature rises are allowed (USA).

INTRODUCTION

Replace the second sentence of the second paragraph by the following:

It also covers abnormal situations that can be expected in practice and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

1 Scope

Delete the sixth dashed item from Note 102.

Add the following note:

NOTE 103 Requirements for battery chargers for use by children at least 8 years old without supervision are given in Annex AA.

2 Normative references

Add the following new reference:

IEC 61558-2-7:1997, *Safety of power transformers, power supply units and similar – Part 2-7: Particular requirements for transformers for toys*

21 Mechanical strength

Number the modification and addition as 21.1.

Add the following new annex:

Annex AA (normative)

Battery chargers for use by children

Battery chargers intended to be used by children at least eight years old without supervision shall comply with this standard but as modified by this annex. The battery chargers have a d.c. output at **safety extra-low voltage** not exceeding 30 V and a rated output not exceeding 50 VA.

NOTE 1 Battery chargers covered by this annex are not considered to be toys.

NOTE 2 Additional subclauses and notes in the annex are numbered starting with 201.

5 General conditions for the tests

5.201 When batteries are used, the generally available rechargeable batteries giving the most unfavourable conditions are used.

6 Classification

6.1 Modification:

Battery chargers suitable for outdoor use shall be **class III**. Other battery chargers shall be **class II** or **class III**.

6.2 Addition:

Battery chargers suitable for outdoor use shall be at least IPX7.

6.201 Enclosures shall be classified at least IP3X with regard to protection against ingress of solid foreign objects.

Compliance is checked by inspection.

7 Marking and instructions

7.1 Addition:

Battery chargers for indoor use only shall be marked with symbol 5957¹⁾ of IEC 60417 or with the substance of the following:

For indoor use only

Battery chargers shall be marked with the IP number according to the degree of protection against ingress of solid foreign objects.

Battery chargers shall be marked with the smiling face symbol together with 8+.

7.6 Addition:



[future symbol 5957²⁾ of IEC 60417] for indoor use only



[smiling face]

suitable for use by children
at least 8 years old

7.12 Addition:

The instructions shall include the substance of the following:

- CAUTION: Only allow children at least 8 years old to use the battery charger. Give sufficient instruction so that the child is able to use the battery charger in a safe way and explain that it is not a toy and must not be played with.
- instruct the child not to try and recharge non-rechargeable batteries because of the danger of eruption;
- examine the battery charger regularly for damage, especially the cord, plug and enclosure. If the battery charger is damaged, it must not be used until it has been repaired.

The instructions for **class III battery chargers** shall state that they must be supplied from a transformer for toys.

7.14 Addition:

The height of symbols marked on the appliance shall be at least 10 mm. The height of lettering shall be at least 3 mm.

Compliance is checked by measurement.

8 Protection against access to live parts

8.1.1 Modification:

*It shall not be possible to gain access to **live parts** or to metal parts separated from **live parts** by **basic insulation** only, even after a **tool** has been used to remove parts of the enclosure.*

Test probe 18 of IEC 61032 is also applied, as specified for test probe B.

1) In preparation.

2) In preparation.

10 Power input and current

10.101 Addition:

The output voltage shall not exceed 42,4 V peak.

11 Heating

11.8 Addition:

The temperature rises of parts that can be touched by test probe 18 of IEC 61032 shall not exceed the following values:

- 25 K, if of metal;
- 35 K, if of other material.

NOTE 201 The temperature rise limit for metal applies to the surface of the batteries.

17 Overload protection of transformers and associated circuits

Addition:

The temperature rises of parts that can be touched by test probe 18 of IEC 61032 shall not exceed the following values:

- 45 K, if of metal;
- 55 K, if of other material.

19 Abnormal operation

19.13 Addition:

The temperature rises of parts that can be touched by test probe 18 of IEC 61032 shall not exceed the following values:

- 45 K, if of metal;
- 55 K, if of other material.

21 Mechanical strength

21.1 Addition:

Compliance is also checked by the test of 21.201.

21.201 *The battery charger is subjected to test Eha in accordance with IEC 60068-2-75. The impact energy shall be 2 J. For rectangular shaped battery chargers, the four sides and four edges are subjected to an impact. For other battery chargers, the enclosure is subjected to eight impacts equally spaced over the periphery.*

The battery charger is then subjected to test Ed, Procedure 1 – Free fall, in accordance with IEC 60068-2-32. The height of the fall is 500 mm. The battery charger is orientated in its normal position of use prior to being dropped.

*The battery charger shall not be damaged to such an extent that compliance with this standard is impaired; in particular, **live parts** shall not become accessible.*

22 Construction

22.201 Battery chargers shall have only one **rated voltage** or **rated voltage range**. They shall not incorporate means for manually adjusting the output voltage.

Compliance is checked by inspection.

22.202 Battery chargers shall be constructed so that reverse charging is prevented, regardless of the state of charge of the battery. This applies even if the battery is inserted with the wrong polarity.

Compliance is checked by inspection and by measurement.

24 Components

24.201 *The relevant standard for transformers for toys is IEC 61558-2-7. If they have to be tested, they are tested in accordance with subclauses 7.2, 20.5.1 and 20.101 and Clause 15 of IEC 61558-2-7.*

25 Supply connection and external flexible cords

25.1 *Modification:*

Battery chargers shall not be provided with an appliance inlet.

25.5 *Modification:*

Battery chargers shall have **type Y attachment** or **type Z attachment**.
