

Household and similar electrical appliances — Safety —

Part 1: General requirements

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60335-1:2002
+A2:2006

*Incorporating
CENELEC
amendments A11, A12 and
A13, and corrigenda
January 2002,
December 2005,
January 2007 and
June 2008*

National foreword

This British Standard is the UK implementation of EN 60335-1:2002+A2:2006, incorporating A11:2004, A12:2006 and A13:2008, and corrigendum January 2007. It is derived from IEC 60335-1:2001 consolidated with amendments 1:2004 and 2:2006 and corrigenda January 2002 and December 2005. It supersedes BS EN 60335-1:2002+A1:2004 which will be withdrawn on 2009-07-01.

BS EN 60335-1:2002 superseded BS EN 60335-1:1995 and its amendments. However, BS EN 60335-1:1995 remains valid until all the Parts 2 that are used in conjunction with it have been withdrawn. No date of withdrawal of conflicting national standards (dow) has therefore been fixed. However, when Part 1 is used for appliances not covered by a Part 2, BS EN 60335-1:1995 is not to be used after 2008-07-01.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by **A1** **A1**.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags **C** **C**. Where a common modification has been introduced by CENELEC amendment, the tags carry the number of the amendment. For example, the common modifications introduced by CENELEC amendment A11 are indicated by **C11** **C11**.

IEC Interpretation Sheet February 2007 is reproduced in National Annex NB (informative).

Amendment A12:2006 incorporates changes to subclause **29.3**.

The UK participation in its preparation was entrusted to Technical Committee CPL/61, Safety of household and similar electrical appliances.

A list of organizations represented on this committee can be obtained on request to its secretary.

This part of BS EN 60335 is to be used in conjunction with the appropriate Part 2. The Parts 2 contain clauses to supplement or modify the corresponding clauses in Part 1 to provide the relevant requirements for each type of appliance.

NOTE 1 Subclauses, notes and annexes that are additional to those in IEC 60335-1 are prefixed with the letter Z.

Amendments/corrigenda issued since publication

| Amd. No. | Date | Comments |
|----------------------------|-----------------|--|
| 15051 | 22 April 2004 | Changes to subclause 24.5 , Annex G and Bibliography (cancelled and replaced by amd15172) |
| 15172 Corrigendum No. 1 | 10 May 2004 | Correction of page numbering |
| 15536 | 8 February 2005 | See national foreword |
| 15626 Corrigendum No. 2 | 8 March 2005 | Correction to Contents pages |
| 16414 | 30 June 2006 | See national foreword |
| 16671 | 31 January 2007 | See national foreword |
| 16973 Corrigendum No. 3 | 31 August 2007 | Correction to 25.8 in Annex ZA |
| | 30 June 2008 | Addition of National Annex NB, containing IEC Interpretation Sheet February 2007 |
| | 30 April 2009 | Implementation of CENELEC amendment A13:2008 |

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NOTE 2 New editions of all Part 2 documents are in preparation for use with this new edition of BS EN 60335-1.

NOTE 3 This standard includes IEC corrigendum December 2005, which incorporates changes to subclause 30.2.3.2, H.7 and H.11.12.

The previous edition of this standard bore the title *Safety of household and similar electrical appliances — Part 1: General requirements*. For this edition, the title has been changed to that of the European Standard, which is in turn based on that of the IEC standard.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

English version

Household and similar electrical appliances — Safety Part 1: General requirements

(IEC 60335-1:2001, modified)

Appareils électrodomestiques et analogues —
Sécurité
Partie 1: Prescriptions générales
(CEI 60335-1:2001 modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 1: Allgemeine Anforderungen
(IEC 60335-1:2001, modifiziert)

This European Standard was approved by CENELEC on 2002-07-02. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 European Standard 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, 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

Foreword

The text of document 61/1965/FDIS, future fourth edition of IEC 60335-1, prepared by the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote in January 2001. The comments were discussed during the Delft meeting of CENELEC TC 61 in May 2001 when it was decided to submit some common modifications to the formal vote (2MV).

This draft was circulated in November 2001, but did not receive sufficient support. The comments were discussed during the Kista meeting of CENELEC TC 61 in May 2002 when it was decided to retain only the common modifications from the previous edition. This new draft was approved by CENELEC as EN 60335-1 on 2002-07-02.

The following date is applicable:

- latest date by which the EN has to be implemented at (dop) 2003-07-01
national level by publication of an identical national standard
or by endorsement

This European Standard replaces EN 60335-1:1994 and its amendments. However, EN 60335-1:1994 remains valid until all the parts 2 that are used in conjunction with it have been withdrawn. No date of withdrawal of conflicting national standards (dow) has therefore been fixed. However, when Part 1 is used for appliances not covered by a part 2, EN 60335-1:1994 is not to be used after 2008-07-01.

This part of EN 60335 is to be used in conjunction with the appropriate part 2. The parts 2 contain clauses to supplement or modify the corresponding clauses in Part 1 to provide the relevant requirements for each type of appliance.

NOTE 1 Subclauses, notes and annexes that are additional to those in IEC 60335-1 are prefixed with the letter Z.

Special national conditions causing a deviation from this European Standard are listed in Annex ZA. National deviations from this European Standard are listed in Annex ZB. Annexes B, C, D, E, F, G, H, I, J, K, M, N, ZA and ZC are normative and form an integral part of this standard.

Annexes A, L, O, ZB and ZD are for information only.

NOTE 2 The following annexes contain provisions suitably modified from other IEC standards:

- Annex E Needle flame test IEC 60695-2-2
- Annex F Capacitors IEC 60384-14
- Annex G Safety isolating transformers IEC 61558-1 and IEC 61558-2-6
- Annex H Switches IEC 61058-1
- Annex J Coated printed circuit boards IEC 60664-3
- Annex N Proof tracking test IEC 60112

NOTE 3 The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and the associated noun are also in bold.

The text of the International Standard IEC 60335-1:2001, excluding the corrigendum January 2002, was approved by CENELEC as a European Standard with agreed common modifications.

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Foreword to amendment A11

EN 60335-1:2002 was approved and published without corrigendum 1 to IEC 60335-1:2001.

A proposal to realign the European Standard with the International Standard was discussed during the

Brussels meeting of CENELEC TC 61 in November 2002. It was decided to submit the text of the corrigendum to the formal vote for acceptance as an amendment to EN 60335-1.

The draft was circulated in April 2003 and was approved by CENELEC as amendment A11 to EN 60335-1 on 2003-09-23.

The following dates are applicable:

- latest date by which the amendment has to be implemented (dop) 2004-10-01
at national level by publication of an identical
national standard or by endorsement
- date on which the national standards conflicting with the (dow) 2006-10-01
amendment have to be withdrawn

Foreword to amendment A1

The text of document 61/2569/FDIS, future amendment 1 to IEC 60335-1:2001, prepared by the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60335-1:2002 on 2004-09-22.

The following dates are applicable:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-07-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2007-10-01

This amendment supplements or modifies the corresponding clauses of EN 60335-1:2002.

Annex R is normative and forms an integral part of this standard.

Annexes P and Q are for information only.

There are no special national conditions causing a deviation from this amendment.

National deviations from this amendment are listed in Annex ZB and are in addition to those in EN 60335-1.

Endorsement notice

The text of amendment 1:2004 to the International Standard IEC 60335-1:2001 was approved by CENELEC as an amendment to the European Standard without any modification.

Foreword to amendment A12

This amendment to EN 60335-1:2002 was prepared by the Technical Committee CENELEC TC 61 based on a decision at the Balsthal meeting in June 2004.

The text of the draft was submitted to the Unique Acceptance Procedure in May 2005 and was approved by CENELEC as amendment A12 to EN 60335-1:2002 on 2005-12-01.

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) 2006-12-01
 - date on which national standards conflicting with the amendment have to be withdrawn (dow) 2007-10-01
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Foreword to amendment A2

The text of document 61/2996/FDIS, future amendment 2 to IEC 60335-1:2001, prepared by the IEC Technical Committee 61, Safety of household and similar electrical appliances, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A2 to EN 60335-1:2002 on 2006-07-01.

The following dates are applicable:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2007-04-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2009-07-01

This amendment supplements or modifies the corresponding clauses of EN 60335-1:2002.

There are no special national conditions causing a deviation from this amendment.

There are no national deviations from this amendment.

Endorsement notice

The text of amendment 2:2006 to the International Standard IEC 60335-1:2001 and its corrigendum August 2006 was approved by CENELEC as an amendment to the European Standard without any modification.

Foreword to amendment A13

A proposal to amend EN 60335-1:2002, document TC61/DE0596/NP, was discussed during the Malaga meeting of CENELEC TC 61 in June 2006, when it was decided to submit a draft for an amendment to the formal vote.

The draft was circulated in May 2008 and was approved by CENELEC as amendment A13 to EN 60335-1:2002 on 2008-10-01.

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) 2009-07-01
 - date on which national standards conflicting with the amendment have to be withdrawn (dow) 2009-07-01
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INTRODUCTION

It has been assumed in the drafting of this international standard that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. **A1** 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. **A1**

This standard takes into account the requirements of IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

If the functions of an appliance are covered by different parts 2 of IEC 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

NOTE 1 Throughout this publication, when "Part 2" is mentioned, it refers to the relevant part of IEC 60335.

This standard is a product family standard dealing with the safety of appliances and takes precedence over horizontal and generic standards covering the same subject.

Individual countries may wish to consider the application of the standard, as far as is reasonable, to appliances not mentioned in a part 2, and to appliances designed on new principles.

An appliance that complies with the text of this standard will not necessarily be considered to comply with the safety principles of the standard if, when examined and tested, it is found to have other features which impair the level of safety covered by these requirements.

An appliance employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

NOTE 2 Standards dealing with non-safety aspects of household appliances are

- IEC standards published by TC 59 concerning methods of measuring performance;
- CISPR 11, CISPR 14-1, IEC 61000-3-2 and IEC 61000-3-3 concerning electromagnetic emissions;
- CISPR 14-2 concerning electromagnetic immunity.

C The principal objectives of the Low Voltage Directive, 73/23/EEC, are covered by this standard. The essential safety requirements of the following directives, which can be applicable to some household and similar appliances, have also been taken into account:

- 98/37/EC – Machinery directive;
- 89/106/EEC – Construction products directive;
- 97/23/EC – Pressure equipment directive. **C**

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 1: General requirements

1 Scope

This International Standard deals with the safety of electrical appliances for household and similar purposes, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

Appliances not intended for normal household use but which nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in shops, in light industry and on farms, are within the scope of this standard.

NOTE 1 Examples of such appliances are catering equipment, cleaning appliances for industrial and commercial use, and appliances for hairdressers.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account

- A_2 persons (including children) whose
 - physical, sensory or mental capabilities; or
 - lack of experience and knowledgeprevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance. A_2

NOTE 2 Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;

A_1 *Text deleted* A_1

- in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

NOTE 3 This standard does not apply to

- appliances intended exclusively for industrial purposes;
- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- audio, video and similar electronic apparatus (IEC 60065);
- appliances for medical purposes (IEC 60601);
- hand-held motor-operated electric tools (IEC 60745);
- personal computers and similar equipment (IEC 60950);
- transportable motor-operated electric tools (IEC 61029).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

A_1 *Text deleted* A_1