

# SLOVENSKI STANDARD

## SIST EN 60335-1:2003/A1:2005

01-april-2005

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**Gospodinjski in podobni električni aparati - Varnost - 1. del: Splošne zahteve - Dopolnilo A1 (IEC 60335-1:2001/A1:2004) (vsebuje popravek AC:2007)**

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

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke -- Teil 1: Allgemeine Anforderungen

Appareils électrodomestiques et analogues -- Sécurité -- Partie 1: Prescriptions générales

**Ta slovenski standard je istoveten z: EN 60335-1:2002/A1:2004**

SIST EN 60335-1:2003/A1:2005  
<https://standards.iteh.ai/catalog/standards/sist/d125d5bc-8697-43c3-9e91-1fb7ad535e09/sist-en-60335-1-2003-a1-2005>

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**ICS:**

13.120	Varnost na domu	Domestic safety
97.030	Električni aparati za dom na splošno	Domestic electrical appliances in general

**SIST EN 60335-1:2003/A1:2005**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60335-1/A1**

December 2004

ICS 13.120;97.030

Incorporates Corrigendum January 2007

English version

**Household and similar electrical appliances –  
Safety  
Part 1: General requirements  
(IEC 60335-1:2001/A1:2004)**

Appareils électrodomestiques et  
analogues –  
Sécurité  
Partie 1: Prescriptions générales  
(CEI 60335-1:2001/A1:2004)

Sicherheit elektrischer Geräte für den  
Hausgebrauch und ähnliche Zwecke  
Teil 1: Allgemeine Anforderungen  
(IEC 60335-1:2001/A1:2004)

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SIST EN 60335-1:2003/A1:2005

<https://standards.iteh.ai/catalog/standards/sist/d125d3bc-8697-43e3-9e91-1f7ad535ef40/sist-en-60335-1-2003-a1-2005>  
This amendment A1 modifies the European Standard EN 60335-1:2002; it was approved by CENELEC on 2004-09-22. 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, 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 61/2569/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.

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p NOTE In this document, p is used in the margin to indicate instructions for preparing the printed version.

The contents of the corrigendum of January 2007 have been included in this copy.

[SIST EN 60335-1:2003/A1:2005](https://standards.iteh.ai/catalog/standards/sist/d125d3bc-8697-43c3-9e91-1fb7ad535e09/sist-en-60335-1-2003-a1-2005)  
<https://standards.iteh.ai/catalog/standards/sist/d125d3bc-8697-43c3-9e91-1fb7ad535e09/sist-en-60335-1-2003-a1-2005>

## 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.

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p Add:

## **Annex ZA** (informative)

### **Special national conditions**

*Replace the special national condition for Subclause 25.8 by:*

#### **25.8 Ireland and United Kingdom**

In Table 11, replace the line for 10 A and 16 A by:

> 10 and ≤ 13	1,25 (1,0) <sup>b</sup>
> 13 and ≤ 16	1,5 (1,0) <sup>b</sup>

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## **Annex ZB** (informative)

## **iTeh STANDARD PREVIEW** **(standards.iteh.ai)**

*Addition:*

<u>Clause</u>	<u>Deviation</u>
<b>29.3</b>	<p><b>Germany</b> (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz,) Article 4, sentence 1 of paragraph 1 [Law on technical labour equipment and consumer products {Equipment and product safety law}] of 6 January 2004.</p> <p>The provisions of the third dashed item are not applicable for appliances, where the insulation is accessible. Appropriate additional measures, such as a multi-layered insulation or adequate thickness, shall be taken if used for accessible insulation to ensure that the appliance will not become hazardous in case of the presence of one failure (e.g. a hole in the layer).</p>

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p Replace Annex ZC by:

### Annex ZC (normative)

#### Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60061-1 (mod)	- <sup>1)</sup>	Lamp caps and holders together with gauges for the control of interchangeability and safety -- Part 1: Lamp caps	EN 60061-1	1993 <sup>2)</sup>
IEC 60068-2-2	- <sup>1)</sup>	Environmental testing -- Part 2: Tests - Test B: Dry heat	EN 60068-2-2	1993 <sup>2)</sup>
IEC 60068-2-32	- <sup>1)</sup>	Environmental testing -- Part 2: Tests - Test Ed: Free fall (procedure 1)	EN 60068-2-32	1993 <sup>2)</sup>
IEC 60068-2-75	- <sup>1)</sup>	Environmental testing -- Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997 <sup>2)</sup>
IEC/TR 60083	- <sup>1)</sup>	Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC	-	-
IEC 60085	- <sup>1)</sup>	Electrical insulation - Thermal classification	EN 60085	2004 <sup>2)</sup>
IEC 60112	2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
EN 60127	Series	Miniature fuses	EN 60127	Series
IEC 60227 <sup>3)</sup>	Series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	-	-
IEC 60238	- <sup>1)</sup>	Edison screw lampholders	EN 60238 + corr. February	1998 <sup>2)</sup> 1999

<sup>1)</sup> undated reference

<sup>2)</sup> valid edition at date of issue

<sup>3)</sup> The HD 21 series, which is related to, but not directly equivalent with the IEC 60227 series, applies instead.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60245 <sup>4)</sup>	Series	Rubber insulated cables of rated voltages up to and including 450/750 V	-	-
IEC 60249-2-4	1987	Base materials for printed circuits --		
+ A1	1989	Part 2: Specifications -- Specification	EN 60249-2-4	1994
+ A2	1992	No. 4: Epoxide woven glass fabric	+ corr. March	1994
A3	1993	copper-clad laminated sheet, general	A3	1994
A4	1994	purpose grade	A4	1995
A5	2000		A5	2000
IEC 60249-2-5	1987	Base materials for printed circuits --		
+ A1	1989	Part 2: Specifications -- Specification	EN 60249-2-5	1994
+ A2	1992	No. 5: Epoxide woven glass fabric	+ corr. March	1994
A3	1993	copper-clad laminated sheet of defined	A3	1994
A4	1994	flammability (vertical burning test)	A4	1995
A5	2000		A5	2000
IEC 60252	- <sup>1)</sup>	AC motor capacitors	-	-
IEC 60320-1 (mod)	- <sup>1)</sup>	Appliance couplers for household and similar general purposes -- Part 1: General requirements	EN 60320-1	2001 <sup>2)</sup>
IEC 60320-2-2	- <sup>1)</sup>	Appliance couplers for household and similar general purposes -- Part 2-2: Interconnection couplers for household and similar equipment	EN 60320-2-2	1998 <sup>2)</sup>
IEC 60320-2-3	- <sup>1)</sup>	Appliance couplers for household and similar general purposes -- Part 2-3: Appliance coupler with a degree of protection higher than IPX0	EN 60320-2-3	1998 <sup>2)</sup>
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 60417	data-base	Graphical symbols for use on equipment	-	-
IEC 60529	- <sup>1)</sup>	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 <sup>2)</sup> 1993
IEC 60598-1 + IS1 (mod)	2003 2004	Luminaires Part 1: General requirements and tests	EN 60598-1	2004
IEC 60664-1 + A1 + A2	1992 2000 2002	Insulation coordination for equipment within low-voltage systems -- Part 1: Principles, requirements and tests	EN 60664-1	2003

<sup>4)</sup> The HD 22 series, which is related to, but not directly equivalent with the IEC 60245 series, applies instead.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60664-3	1992	Insulation coordination for equipment within low-voltage systems -- Part 3: Use of coatings to achieve insulation coordination of printed board assemblies	HD 625.3 S1	1997
IEC 60695-2-2	1991	Fire hazard testing -- Part 2: Test methods -- Section 2: Needle-flame test	EN 60695-2-2	1994
IEC 60695-2-11	- <sup>1)</sup>	Fire hazard testing -- Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001 <sup>2)</sup>
IEC 60695-2-12	- <sup>1)</sup>	Fire hazard testing -- Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability test method for materials	EN 60695-2-12	2001 <sup>2)</sup>
IEC 60695-2-13	- <sup>1)</sup>	Fire hazard testing -- Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignitability test method for materials	EN 60695-2-13	2001 <sup>2)</sup>
IEC 60695-10-2	- <sup>1)</sup>	Fire hazard testing -- Part 10: Guidance and test methods for the minimization of the effects of abnormal heat on electrotechnical products involved in fires -- Section 2: Method for testing products made from non-metallic materials for resistance to heat using the ball pressure test	-	-
IEC 60695-11-10	- <sup>1)</sup>	Fire hazard testing -- Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10	1999 <sup>2)</sup>
IEC 60730-1 (mod)	1999	Automatic electrical controls for household and similar use -- Part 1: General requirements	EN 60730-1	2000
IEC 60730-2-8 (mod)	2000	Automatic electrical controls for household and similar use -- Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements	EN 60730-2-8	2002
IEC 60738-1	- <sup>1)</sup>	Thermistors - Directly heated positive step-function temperature coefficient -- Part 1: Generic specification	EN 60738-1	1999 <sup>2)</sup>
IEC 60906-1	- <sup>1)</sup>	IEC System of plugs and socket-outlets for household and similar purposes -- Part 1: Plugs and socket-outlets 16 A 250 V a.c.	-	-



<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60990	1999	Methods of measurement of touch current and protective conductor current	EN 60990	1999
IEC 60999-1	1999	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units -- Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm <sup>2</sup> up to 35 mm <sup>2</sup> (included)	EN 60999-1	2000
IEC 61000-4-2	- <sup>1)</sup>	Electromagnetic compatibility (EMC) -- Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	1995 <sup>2)</sup>
IEC 61000-4-3	- <sup>1)</sup>	Electromagnetic compatibility (EMC) -- Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	2002 <sup>2)</sup>
IEC 61000-4-4	- <sup>1)</sup>	Electromagnetic compatibility (EMC) -- Part 4-4 : Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	2004 <sup>2)</sup>
IEC 61000-4-5	- <sup>1)</sup>	Electromagnetic compatibility (EMC) -- Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	1995 <sup>2)</sup>
IEC 61000-4-6	- <sup>1)</sup>	Electromagnetic compatibility (EMC) -- Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	1996 <sup>2)</sup>
IEC 61000-4-11 A1	1994 2000	Electromagnetic compatibility (EMC) -- Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11 A1	1994 <sup>5)</sup> 2001
IEC 61000-4-13	- <sup>1)</sup>	Electromagnetic compatibility (EMC) -- Part 4-13: Testing and measurement techniques - Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests	EN 61000-4-13	2002 <sup>2)</sup>
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998
IEC 61058-1 + A1 (mod)	2000 2001	Switches for appliances -- Part 1: General requirements	EN 61058-1	2002

<sup>5)</sup> EN 61000-4-11 & A1 are superseded by EN 61000-4-11:2004, which is based on IEC 61000-4-11:2004.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61180-1	- <sup>1)</sup>	High-voltage test techniques for low-voltage equipment -- Part 1: Definitions, test and procedure requirements	EN 61180-1	1994 <sup>2)</sup>
IEC 61180-2	- <sup>1)</sup>	High-voltage test techniques for low-voltage equipment -- Part 2: Test equipment	EN 61180-2	1994 <sup>2)</sup>
IEC 61558-1 (mod)	1997	Safety of power transformers, power supply units and similar -- Part 1: General requirements and tests	EN 61558-1	1997
IEC 61558-2-6	1997	Safety of power transformers, power supply units and similar -- Part 2-6: Particular requirements for safety isolating transformers for general use	EN 61558-2-6	1997
IEC 61770	- <sup>1)</sup>	Electric appliances connected to the water mains - Avoidance of backsiphonage and failure of hose-sets	EN 61770	1999 <sup>2)</sup>
ISO 2768-1	- <sup>1)</sup>	General tolerances Part 1: Tolerances for linear and angular dimensions without individual tolerance indications	EN 22768-1	1993 <sup>2)</sup>
ISO 7000	- <sup>1)</sup>	Graphical symbols for use on equipment - Index and synopsis	-	-
ISO 9772	2001	Cellular plastics - Determination of horizontal burning characteristics of small specimens subjected to a small flame	-	-

# NORME INTERNATIONALE INTERNATIONAL STANDARD

**CEI  
IEC**

**60335-1**

2001

AMENDEMENT 1  
AMENDMENT 1  
2004-03

Amendement 1

**Appareils électrodomestiques et analogues –  
Sécurité –**

**Partie 1:**  
**Prescriptions générales**  
(standards.iteh.ai)

Amendment 1

<https://standards.iteh.ai/catalog/standards/sist/d125d3bc-8697-43c3-9e91-1b7a1535e09/sist-en-60335-1-2003-a1-2005>

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

**Part 1:**  
**General requirements**

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International Electrotechnical Commission  
Международная Электротехническая Комиссия

CODE PRIX  
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## FOREWORD

This amendment has been prepared by 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
61/2569/FDIS	61/2639/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.

The contents of the corrigendum of December 2005 have been included in this copy.

**STANDARD PREVIEW**  
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## CONTENTS

[SIST EN 60335-1:2003/A1:2005](https://standards.iteh.ai/catalog/standards/sist/d125d3bc-8697-43c3-9e91-11b7ad535e09/sist-en-60335-1-2003-a1-2005)

*Replace the title of Annex D by the following new title:*

Thermal motor protectors

*Add the following new titles to the list of annexes:*

Annex P (informative) Guidance for the application of this standard to appliances used in damp warm equable climates

Annex Q (informative) Sequence of tests for the evaluation of electronic circuits

Annex R (normative) Software evaluation

*Replace the title of Figure 5 by the word "Void".*

*Replace the title of Table 10 by the following title:*

Dimensions of cables and conduits

## FOREWORD

*Replace the third and fourth paragraphs below the table by the following:*

Annexes B, C, D, E, F, G, H, I, J, K, M, N and R form an integral part of this standard.

Annexes A, L, O, P and Q are for information only.

In Note 1, *replace* "Proof tracking tests" *by* "Proof tracking test".

*Add to Note 1 the following item:*

- Annex R      Software evaluation      IEC 60730-1

*In the list of differences existing in some countries add the following new items:*

- 19.11: Different tests are carried out to evaluate solid state devices used in protective electronic circuits (USA).
- 22.46: The evaluation of software is different (USA).
- 29.3 The third dashed item of the test specification does not apply (Germany).

*Renumber the existing item “Clause 21” as “21.1”.*

## 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 second dashed item of Note 2.*

## 2 Normative references

*Delete from the existing list the following normative references:*

- IEC 60051-2      [SIST EN 60335-1:2003/A1:2005](https://standards.iteh.ai/catalog/standards/sist/d125d3bc-8697-43c3-9e91-1fb7ad535e09/sist-en-60335-1-2003-a1-2005)  
<https://standards.iteh.ai/catalog/standards/sist/d125d3bc-8697-43c3-9e91-1fb7ad535e09/sist-en-60335-1-2003-a1-2005>
- IEC 60065
- IEC 60998-2-1
- IEC 60998-2-2
- IEC 61643
- ISO 1463
- ISO 2178

*Replace the reference to IEC 60112:1979, by the following new reference:*

IEC 60112:2003, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*