

SLOVENSKI STANDARD SIST EN 60335-1:2003

01-marec-2003

Nadomešča:

SIST EN 60335-1:1995/A1:1997 SIST EN 60335-1:1995/A11:1997 SIST EN 60335-1:1995/A12:1997 SIST EN 60335-1:1995/A13:1998 SIST EN 60335-1:1995/A14:1999 SIST EN 60335-1:1995/A15:2001 SIST EN 60335-1:1995/A16:2002

SIST EN 60335-1:1998

SIST EN 60335-1:1998/A2:2001

iTeh STANDARD PREVIEW

(standards.iteh.ai)

Gospodinjski in podobni električni aparati - Varnost - 1. del: Splošne zahteve (IEC 60335-1:2001; spremenjen) (vsebuje popravek AC:2009)

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

ICS:

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

SIST EN 60335-1:2003 en **SIST EN 60335-1:2003**

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 60335-1:2003 https://standards.iteh.ai/catalog/standards/sist/3511a97d-7201-4a08-9cd8f53a6b6727fc/sist-en-60335-1-2003

EUROPEAN STANDARD

EN 60335-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2002

ICS 13.120; 97.030

Supersedes EN 60335-1:1994 + A11:1995 + A12:1996 + A1:1996 + A13:1998 + A14:1998 + A2:2000 + A15:2000 + A16:2001 Incorporates corrigendum July 2009

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)

iTeh STANDARD PREVIEW (standards.iteh.ai)

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, 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

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 national level by publication of an identical national standard or by endorsement

(dop) 2003-07-01

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.

The STANDARD PREVIEW

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

(standards.iteh.ai)
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. https://standards.iteh.ai/catalog/standards/sist/3511a97d-7201-4a08-9cd8-

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 60695-2-2Annex 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.

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 July 2009 have been included in this copy.

- 3 -

Endorsement notice

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 as given below.

COMMON MODIFICATIONS

Introduction

p Add:

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.

4 General requirement

p Add:

The interpretations included in CLC/TR 50417 shall be taken into consideration together with the relevant requirements in the standards listed therein.

6 Classification SIST EN 60335-1:2003

https://standards.iteh.ai/catalog/standards/sist/3511a97d-7201-4a08-9cd8-

p 6.1 Delete "class 0" and "class 0".a6b6727fc/sist-en-60335-1-2003

7 Marking and instructions

p 7.1 Add:

The marking of **rated voltage** or **rated voltage** range, for appliances intended to be connected to the supply mains, shall cover:

- 230 V for single-phase appliances;
- 400 V for multi-phase appliances.

25 Supply connection and external flexible cords

p 25.6 Add:

Supply cords of single-phase **portable appliances** having a **rated current** not exceeding 16 A shall be fitted with a plug complying with the following standard sheets of IEC 60083:1975:

for class I appliances
 standard sheet C2b, C3b or C4;

for class II appliances standard sheet C5 or C6.

EN 60335-1:2002

- 4 -

- p 25.7 Add after the second dashed item:
 - ordinary polychloroprene sheathed flexible cord (code designation 60245 IEC 57).
- p Add before the note:

When **supply cords** having high flexibility are used, they shall not be lighter than

- rubber insulated and sheathed cord (code designation 60245 IEC 86);
- rubber insulated, crosslinked PVC sheathed cord (code designation 60245 IEC 87);
- crosslinked PVC insulated and sheathed cord (code designation 60245 IEC 88).
- p Add after the note:

NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.

iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 60335-1:2003</u> https://standards.iteh.ai/catalog/standards/sist/3511a97d-7201-4a08-9cd8f53a6b6727fc/sist-en-60335-1-2003

Annex ZA

(normative)

Special national conditions

Special national condition: National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions. If it affects harmonization, it forms part of the European Standard or Harmonization Document.

For the countries in which the relevant special national conditions apply, these provisions are normative. For other countries they are informative.

<u>Clause</u> <u>Special national condition</u>

7.12 Denmark

Supply cords of class I appliances, which are delivered without a plug, shall be provided with a visible tag with the following text:

Vigtigt!

Ledere med grøn/gul isolation må kun tilsluttes en klemme mærket



iTeh STANDARD PREVIEW

Important!
The conductor having green/yellow insulation shall only be connected to a terminal marked

SIST EN 033 = 1:2003

https://standards.iteh.ai/catalog/standards/sist/3511a97d-7201-4a08-9cd8-

If it is essential for the safety of the appliance, the tag shall be provided with a diagram showing the connection of the other conductors or with the following text:

For tilslutning af de øvrige ledere, se medfølgende installationsvejledning.

For the connection of the other conductors, see the enclosed instructions for installation.

19.5 Norway

The test is also applicable to appliances intended to be permanently connected to fixed wiring.

22.2 France and Norway

The second paragraph of this subclause, that deals with single-phase, permanently connected class I appliances having heating elements, is not applicable due to the supply system.

- 6 -

25.6 Plugs according to standard sheet C 2b are not allowed in Belgium, France, Spain and the United Kingdom.

Plugs according to standard sheet C 3b are not allowed in Austria, Finland, Germany, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Denmark

Replace the common modification by the following:

Supply cords of single-phase portable appliances having a rated current not exceeding 13 A shall be provided with a plug according to the following:

For appliances covered by a part 2 of EN 60335, it is also allowed until further notice, and unless otherwise specified, to use plugs in accordance with Section107-2-D1, ed. 3, 1998, Standard Sheet C 2b, C 3b or C 4.

If stationary single-phase appliances having a rated current not exceeding 13 A are provided with a supply cord and a plug, the plug shall be in accordance with the requirements specified above. (ards.iteh.a)

If multi-phase appliances and single-phase appliances having a rated current exceeding 13 A are provided with a supply cord and a plug, the plug shall comply with the following table: https://standards.iteh.ai/catalog/standards/sist/3511a97d-7201-4a08-9cd8-

f53a6b6727fc/sist-en-60335-1-2003

Class	Plug				
	Section 107-2-D1	EN 60309-2			
	Standard sheet	Standard sheet			
I	DK 6-1a	2-II, 2-IV			
П	DK 6-1a*	2-II, 2-IV*			
* Earthing contact not connected.					
NOTE These plugs are also allowed for appliances having a rated current equal to or less than 13 A.					

The maximum current for the plugs is as follows:

C5 : 2,5 A
DKA 2-1a and 1b : 10 A
DK 2-1a : 13A
C 1b and C 6 : 16 A
C 2b : 16 A
C 3b : 16 A
C 4 : 16 A

Ireland

Only plugs according to standard sheets B2 and C5 are allowed (see also Annex ZB).

Italy

Only plugs listed in CENELEC Report R0BT-005:2001 are allowed.

- 7 -

EN 60335-1:2002

Spain

For appliances for household use, only the following plugs are allowed:

- according to UNE 20315: ESC 10-1b, C2b, C4, C6 or ESB 25-5b;
- according to UNE-EN 50075.

Switzerland

Supply cords of portable household and similar electrical appliances having a rated current not exceeding 16 A shall be provided with a plug complying with SEV 1011:2009:

SEV 5932-2:2009	Plug Type 25	3L + N + PE	250 V/440 V, 16 A
SEV 5933-2:2009	Plug Type 21	L + N	250 V, 16 A
SEV 5934-2:2009	Plug Type 23	L + N + PE	250 V, 16 A
SEV 6532-2:2009	Plug Type 15	3L + N + PE	250 V/440 V, 10 A
SEV 6533-2:2009	Plug Type 11	L + N	250 V, 10 A
SEV 6534-2:2009	Plug Type 12	L + N + PE	250 V, 10 A

United Kingdom

Only plugs according to standard sheets B2 and C5 are allowed (see also Annex ZB).

25.8 Ireland and United Kingdom

In the table, replace the line for 10 A and 16 A by: PPVPV > 10 and \leq 13 1,25

> 13 and ≤ 16 (standards.iteh.ai)

SIST EN 60335-1:2003

https://standards.iteh.ai/catalog/standards/sist/3511a97d-7201-4a08-9cd8-f53a6b6727fc/sist-en-60335-1-2003

Annex ZB (informative)

A-deviations

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC member.

This European Standard falls under Directive 73/23/EEC.

NOTE (from CEN/CENELEC IR Part 2, 3.1.9): Where standards fall under EC Directives, it is the view of the Commission of the European Communities (OJ No C 59; 1982-03-09) that the effect of the decision of the Court of Justice in case 815/79 Cremonini/Vrankovich (European Court Reports 1980, p. 3583) is that compliance with A-deviations is no longer mandatory and that the free movement of products complying with such a standard should not be restricted except under the safeguard procedure provided for in the relevant Directive.

A-deviations in an EFTA-country are valid instead of the relevant provisions of the European Standard in that country until they have been removed.

Clause Deviation

Switzerland (Ordinance relating to Environmentally Hazardous Substances, SR 814.81 of 2005-05-18, Annex 2.15)

> Carbon-zinc batteries shall not be imported as commercial goods or supplied by a manufacturer unless they contain no more than 0,015 % cadmium...

ITEH STANDAKU PKEVIEV

Italy (Statutory Instrument No. 105 of 1949) teh. a1) 7.1

The voltage is 220 V/380 V. $\underline{\text{SIST EN } 60335\text{--}1:2003}$

https://standards.iteh.ai/catalog/standards/sist/3511a97d-7201-4a08-9cd8-

Ireland (Statutory Instrument No. 525 of 1997) 25.6

> These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and in general allow only plugs complying with I.S. 401:1997, or equivalent, to be fitted to domestic appliances.

United Kingdom (Statutory Instrument 1994 No 1768)

These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and in general allow only plugs to BS 1363 to be fitted to domestic appliances. It also allows plugs to BS 4573 and standard sheet C5 to be fitted to shavers and toothbrushes.

Annex ZC (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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>	EN/HD	<u>Year</u>
_	-	Safety of household and similar electrical appliances – Interpretations related to European Standards within the scope of CENELEC/TC 61	CLC/TR 50417	_1)
IEC 60051-2	1984	Direct acting indicating analogue electrical measuring instruments and their accessories Part 2: Special requirements for FVII ammeters and voltmeters	EN 60051-2	1989
IEC 60061-1 (mod)	_1) https://sta	(standards.iteh.ai) Lamp caps and holders together with gauges for the control of 1,2003 interchangeability and safety Part 1: Lamp caps 12,3003 in 12,2003	EN 60061-1 a08-9cd8-	1993 ²⁾
IEC 60065 (mod)	1998	Audio, video and similar electronic apparatus - Safety requirements	EN 60065 + corr. June	1998 1999
IEC 60068-2-32	_1)	Environmental testing Part 2: Tests - Test Ed: Free fall (procedure 1)	EN 60068-2-32	1993 ²⁾
IEC 60068-2-75	_1)	Environmental testing Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997 ²⁾
IEC/TR 60083	_1)	Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC	-	-
IEC 60085	_1)	Thermal evaluation and classification of electrical insulation	HD 566 S1	1990 ²⁾
IEC 60112	1979	Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions	HD 214 S2	1980 ²⁾
EN 60127	Series	Miniature fuses	EN 60127	Series

¹⁾ undated reference

²⁾ valid edition at date of issue

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60227 ³⁾	Series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	-	-
IEC 60238	_1)	Edison screw lampholders	EN 60238 + corr. February	1998 ²⁾ 1999
IEC 60245 4)	Series	Rubber insulated cables of rated voltages up to and including 450/750 V	-	-
IEC 60249-2-4	_1)	Base materials for printed circuits Part 2: Specifications Specification No. 4: Epoxide woven glass fabric copper-clad laminated sheet, general purpose grade	EN 60249-2-4 + corr. March	1994 ²⁾ 1994
IEC 60249-2-5	_1)	Base materials for printed circuits Part 2: Specifications Specification No. 5: Epoxide woven glass fabric copper-clad laminated sheet of defined flammability (vertical burning test)	EN 60249-2-5 + corr. March	1994 ²⁾ 1994
IEC 60252	_1)	AC motor capacitors	_	-
IEC 60320-1 (mod)	1994	Appliance couplers for household and similar general purposes Hehai Part 1: General requirements	EN 60320-1	1996
IEC 60320-2-3	_1) https://sta	Appliance couplers for household and similar general purposes 12.3511a97d-7201-4 Part 2-3: Appliance coupler with a03 degree of protection higher than IPX0	EN 60320-2-3 la08-9cd8-	1998 ²⁾
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	Series	Graphical symbols for use on equipment	EN 60417	Series
IEC 60529	_1)	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 ²⁾ 1993
IEC 60598-1 (mod)	1999	Luminaires Part 1: General requirements and tests	EN 60598-1 + A11 + A12	2000 2000 2002
IEC 60664-1 (mod)	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	HD 625.1 S1 + corr. November	1996 1996

The HD 21 series, which is related to, but not directly equivalent with the IEC 60227 series, applies instead.

The HD 22 series, which is related to, but not directly equivalent with the IEC 60245 series, applies instead.

Publication IEC 60664-3	<u>Year</u> 1992	Title Insulation coordination for equipment within low-voltage systems Part 3: Use of coatings to achieve insulation coordination of printed board assemblies	EN/HD HD 625.3 S1	<u>Year</u> 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	_1)	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 ²⁾
IEC 60695-2-12	_1)	Fire hazard testing Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability test method for materials	EN 60695-2-12	2001 ²⁾
IEC 60695-2-13	_1) iT	Fire hazard testing Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignitability test method for materials RD PREVII	EN 60695-2-13	2001 ²⁾
IEC 60695-10-2	_1) https://sta	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	- la08-9cd8-	-
IEC 60695-11-10	1999	Fire hazard testing Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10	1999
IEC 60730-1 (mod)	1999	Automatic electrical controls for household and similar use Part 1: General requirements	EN 60730-1	2000
IEC 60738-1	_1)	Thermistors - Directly heated positive step-function temperature coefficient Part 1: Generic specification	EN 60738-1	1999 ²⁾
IEC 60906-1	_1)	IEC System of plugs and socket-outlets for household and similar purposes Part 1: Plugs and socket-outlets 16 A 250 V a.c.	-	-
IEC 60990	1999	Methods of measurement of touch current and protective conductor current	EN 60990	1999

Publication IEC 60998-2-1 (mod)	<u>Year</u> _1)	Title Connecting devices for low-voltage circuits for household and similar purposes Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units	<u>EN/HD</u> EN 60998-2-1	<u>Year</u> 1993 ²⁾
IEC 60998-2-2	_1)	Connecting devices for low-voltage circuits for household and similar purposes Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units	EN 60998-2-2	1993 ²⁾
IEC 60999-1	_1)	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 mm² up to 35 mm² (included)	EN 60999-1	2000 ²⁾
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN/61032	1998
IEC 61058-1	2000	(standards.iteh.ai) Switches for appliances Part 1: General requirements SISTEN 60335-12003	-	-
IEC 61180-1	https://sta	High-voltage test reconsidues for 70v-7201-4 voltage equipment steel and procedure requirements	^a EN 61 180-1	1994 ²⁾
IEC 61180-2	_1)	High-voltage test techniques for low- voltage equipment Part 2: Test equipment	EN 61180-2	1994 ²⁾
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 61643-1	_1)	Surge protective devices connected to low-voltage power systems Part 1: Requirements and tests	-	-
ISO 1463	_1)	Metallic and oxide coatings - Measurement of coating thickness - Microscopical method	EN ISO 1463	1994 ²⁾
ISO 2178	_1)	Non-magnetic coatings on magnetic substrates - Measurement of coating thickness - Magnetic method	-	-

- 13 -EN 60335-1:2002

<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
ISO 2768-1	_1)	General tolerances Part 1: Tolerances for linear and angular dimensions without individual tolerance indications	EN 22768-1	1993 ²⁾
ISO 7000	-1)	Graphical symbols for use on equipment - Index and synopsis	-	-
ISO 9772	1994	Cellular plastics - Determination of horizontal burning characteristics of small specimens subjected to a small flame	-	-

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 60335-1:2003 https://standards.iteh.ai/catalog/standards/sist/3511a97d-7201-4a08-9cd8f53a6b6727fc/sist-en-60335-1-2003