

SLOVENSKI STANDARD

SIST EN 60335-2-2:2011

01-april-2011

Nadomešča:

SIST EN 60335-2-2:2003

SIST EN 60335-2-2:2003/A1:2005

SIST EN 60335-2-2:2003/A2:2007

Gospodinjski in podobni električni aparati - Varnost - 2-2. del: Posebne zahteve za sesalnike prahu in aparate za čiščenje s sesanjem vode

Household and similar electrical appliances - Safety -- Part 2-2: Particular requirements for vacuum cleaners and water-suction cleaning appliances

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke -- Teil 2-2: Besondere Anforderungen für Staubsauger und Wassersauger

Appareils électrodomestiques et analogues - Sécurité -- Partie 2-2: Règles particulières pour les aspirateurs et les appareils de nettoyage à aspiration d'eau

Ta slovenski standard je istoveten z: EN 60335-2-2:2010

ICS:

13.120	Varnost na domu	Domestic safety
97.080	Aparati za nego tal	Floor treatment appliances

SIST EN 60335-2-2:2011

en,fr

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60335-2-2:2011

<https://standards.iteh.ai/catalog/standards/sist/581b6974-1828-4cfl-afce-21bf09196866/sist-en-60335-2-2-2011>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60335-2-2

February 2010

ICS 13.120; 97.080

Supersedes EN 60335-2-2:2003 + A1:2004 + A2:2006

English version

**Household and similar electrical appliances -
Safety -
Part 2-2: Particular requirements for vacuum cleaners
and water-suction cleaning appliances
(IEC 60335-2-2:2009)**

Appareils électrodomestiques
et analogues -
Sécurité -
Partie 2-2: Règles particulières
pour les aspirateurs et les appareils
de nettoyage à aspiration d'eau
(CEI 60335-2-2:2009)

Sicherheit elektrischer Geräte
für den Hausgebrauch
und ähnliche Zwecke -
Teil 2-2: Besondere Anforderungen
für Staubsauger und Wassersauger
(IEC 60335-2-2:2009)

(standards.iteh.ai)

SIST EN 60335-2-2:2011

[https://standards.iteh.ai/catalog/standards/sist/581b6974-1828-4cfl-afce-](https://standards.iteh.ai/catalog/standards/sist/581b6974-1828-4cfl-afce-11d1b6974-1828-4cfl-afce-11d1b6974-1828-4cfl-afce)

This European Standard was approved by CENELEC on 2010-02-01. 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, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 61/3871/FDIS, future edition 6 of IEC 60335-2-2, prepared by IEC TC 61, Safety of household and similar electrical appliances, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60335-2-2 on 2010-02-01.

This European Standard supersedes EN 60335-2-2:2003 + A1:2004 + A2:2006.

The principal change in EN 60335-2-2:2010 as compared with EN 60335-2-2:2003 is as follows (minor changes are not listed):

- the text is aligned with EN 60335-1:2002, and its amendments A1:2004 and A2:2006 (see text marked with a marginal bar).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2010-11-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2015-02-01

This Part 2 has to be used in conjunction with EN 60335-1, Household and similar electrical appliances – Safety – Part 1: General requirements. It was established on the basis of the 2002 edition of that standard. Amendments and revisions of Part 1 have also to be taken into account and the dates when such changes become applicable will be stated in the relevant amendment or revision of Part 1.

This Part 2 supplements or modifies the corresponding clauses of EN 60335-1, so as to convert it into the European Standard: Safety requirements for vacuum cleaners and water-suction cleaning appliances.

When a particular subclause of Part 1 is not mentioned in this Part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

NOTE 1 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letter Z.

NOTE 2 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.

There are no special national conditions causing a deviation from this European Standard, other than those listed in Annex ZA to EN 60335-1.

There are no national deviations from this European Standard, other than those listed in Annex ZB to EN 60335-1.

Introduction

p Add:

An investigation by CENELEC TC 61 has shown that all risks from products within the scope of this standard are fully covered by the Low Voltage Directive, 2006/95/EC. For products having mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 2006/42/EC, has shown that the risks are mainly of electrical origin and consequently this directive is not applicable. However, the relevant essential safety requirements of the Machinery Directive are covered by this standard together with the principal objectives of the Low Voltage Directive.

Endorsement notice

The text of the International Standard IEC 60335-2-2:2009 was approved by CENELEC as a European Standard without any modification.

Bibliography

p Add the following notes to the standards mentioned:

IEC 60335-2-69 NOTE Harmonized as EN 60335-2-69.

ISO 13732-1 NOTE Harmonized as EN ISO 13732-1.

iteh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60335-2-2:2011
<https://standards.iteh.ai/catalog/standards/sist/581b6974-1828-4cfl-afce-21bf09196866/sist-en-60335-2-2-2011>

p Add:

Annex ZC (normative)

Normative references to international publications with their corresponding European publications

Addition:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60312	-	Vacuum cleaners for household use - Methods of measuring the performance	EN 60312	-
ISO 6344-2	-	Coated abrasives - Grain size analysis - Part 2: Determination of grain size distribution of macrogrits P12 to P220	-	-

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 60335-2-2:2011](https://standards.iteh.ai/catalog/standards/sist/581b6974-1828-4cfl-afce-21bf09196866/sist-en-60335-2-2-2011)

<https://standards.iteh.ai/catalog/standards/sist/581b6974-1828-4cfl-afce-21bf09196866/sist-en-60335-2-2-2011>



IEC 60335-2-2

Edition 6.0 2009-12

INTERNATIONAL STANDARD

**Household and similar electrical appliances – Safety –
Part 2-2: Particular requirements for vacuum cleaners and water-suction
cleaning appliances**

[SIST EN 60335-2-2:2011
https://standards.iteh.ai/catalog/standards/sist/581b6974-1828-4cfl-afce-
21bf09196866/sist-en-60335-2-2-2011](https://standards.iteh.ai/catalog/standards/sist/581b6974-1828-4cfl-afce-21bf09196866/sist-en-60335-2-2-2011)

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE

U

ICS 13.120; 97.080

ISBN 978-2-88910-139-9

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	9
3 Definitions	9
4 General requirement.....	10
5 General conditions for the tests	10
6 Classification.....	11
7 Marking and instructions.....	11
8 Protection against access to live parts.....	12
9 Starting of motor-operated appliances	12
10 Power input and current	12
11 Heating	13
12 Void.....	13
13 Leakage current and electric strength at operating temperature.....	13
14 Transient overvoltages	13
15 Moisture resistance.....	13
16 Leakage current and electric strength.....	15
17 Overload protection of transformers and associated circuits	15
18 Endurance.....	15
19 Abnormal operation.....	15
20 Stability and mechanical hazards	16
21 Mechanical strength	17
22 Construction.....	18
23 Internal wiring.....	19
24 Components	19
25 Supply connection and external flexible cords	19
26 Terminals for external conductors.....	20
27 Provision for earthing	20
28 Screws and connections.....	20
29 Clearances, creepage distances and solid insulation	20
30 Resistance to heat and fire.....	20
31 Resistance to rusting.....	20
32 Radiation, toxicity and similar hazards.....	20
Annexes	24
Annex B (normative) Appliances powered by rechargeable batteries.....	24
Annex C (normative) Ageing test on motors	26
Bibliography.....	27
Figure 101 – Apparatus for testing the abrasion resistance of current-carrying hoses	21
Figure 102 – Apparatus for testing the resistance to flexing of current-carrying hoses	22

Figure 103 – Configuration of the hose for the freezing treatment	23
Figure 104 – Flexing positions for the hose after removal from the freezing cabinet	23

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

[SIST EN 60335-2-2:2011](https://standards.iteh.ai/catalog/standards/sist/581b6974-1828-4cfl-afce-21bf09196866/sist-en-60335-2-2-2011)

<https://standards.iteh.ai/catalog/standards/sist/581b6974-1828-4cfl-afce-21bf09196866/sist-en-60335-2-2-2011>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2-2: Particular requirements for vacuum cleaners
and water-suction cleaning appliances**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60335-2-2 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This sixth edition cancels and replaces the fifth edition published in 2002 including its Amendment 1 (2004) and Amendment 2 (2006). It constitutes a technical revision.

The principal changes in this edition as compared with the fifth edition of IEC 60335-2-2 is as follows (minor changes are not listed):

- the text is aligned with IEC 60335-1:2001, and its Amendments 1 and 2 (see text marked with a marginal bar).

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

FDIS	Report on voting
61/3871/FDIS	61/3923/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments. It was established on the basis of the fourth edition (2001) of that standard.

NOTE 1 When "Part 1" is mentioned in this standard, it refers to IEC 60335-1.

This Part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Safety requirements for vacuum cleaners and water-suction cleaning appliances.

When a particular subclause of Part 1 is not mentioned in this Part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

NOTE 2 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.

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 committee has decided that the contents of the base publication and its amendments will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

The following differences exist in the countries indicated below.

- 3.1.9: Normal operation is defined differently (USA).
- 6.1: Class 0 appliances are allowed (Canada, Japan, USA).

- 6.1: Household vacuum cleaners are required to be class II or class III (Denmark, France, Italy, Netherlands, Norway and Turkey).
- 6.2: IPX4 is not required (USA).
- 7.1: The additional marking for appliance outlets for accessories is not required (USA).
- 10.1: The power input of booster settings is taken into account (USA).
- 11.5: Booster settings are activated every 2 min out of 8 min (USA).
- 11.7: The test is carried out with one-third of the cord unreeled until steady conditions are established (USA).
- 15.2: The test is carried out differently (USA).
- 16.3: The test is carried out differently (USA).

A list of all parts of the IEC 60335 series, under the general title: *Household and similar electrical appliances – Safety*, can be found on the IEC website.

A bilingual version of this publication may be issued at a later date.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60335-2-2:2011

<https://standards.iteh.ai/catalog/standards/sist/581b6974-1828-4cfl-afce-21bf09196866/sist-en-60335-2-2-2011>