



SLOVENSKI STANDARD
SIST EN 60335-2-67:1999

01-julij-1999

BUXca Yý U
SIST EN 60335-2-67:1995

J Ufbcgh[cgdcX]b'g_l]b'dcXcVb]l `YY_f] b]l `UdUfUrcj `!&* +`"XY .`DcgYVbY
nU hYj Y'nUglfc^Y'nUbY[c`]b`]y Yb^Y^U`nU]bXi gHf]`g_c`]b`_ca YfWUbc`i dcfUvc
f197 `* \$' ') !&* +.% - +/`gdfYa Yb^YbL

Safety of household and similar electrical appliances -- Part 2-67: Particular requirements for floor treatment and floor cleaning machines, for industrial and commercial use

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke -- Teil 2-67: Besondere Anforderungen für Bodenbehandlungs- und Bodenreinigungsmaschinen für industrielle und gewerbliche Zwecke

<https://standards.iteh.ai/catalog/standards/sist/764849bd-b266-4180-a022-b8aa53f3cb42/sist-en-60335-2-67-1999>

Sécurité des appareils électrodomestiques et analogues -- Partie 2-67: Règles particulières pour les machines de traitement et de nettoyage des sols à usage industriel et commercial

Ta slovenski standard je istoveten z: EN 60335-2-67:1998

ICS:

97.080 Aparati za nego tal Floor treatment appliances

SIST EN 60335-2-67:1999 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60335-2-67:1999

<https://standards.iteh.ai/catalog/standards/sist/764849bd-b266-4180-a022-b8aa53f3cb42/sist-en-60335-2-67-1999>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60335-2-67

December 1998

ICS 23.080;91.140.65

Supersedes EN 60335-2-67:1994

Descriptors: Household electrical appliances, cleaning appliances, appliance for commercial use, safety requirements, protection against electric shock, fire protection, protection against mechanical hazard

English version

**Safety of household and similar electrical appliances
Part 2-67: Particular requirements for floor treatment and
floor cleaning machines, for industrial and commercial use
(IEC 60335-2-67:1997, modified)**

Sécurité des appareils
électrodomestiques et analogues
Partie 2-67: Règles particulières pour les
machines de traitement et de nettoyage
des sols à usage industriel et
commercial
(CEI 60335-2-67:1997, modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2-67: Besondere Anforderungen für
Bodenbehandlungs- und
Bodenreinigungsmaschinen für
industrielle und gewerbliche Zwecke
(IEC 60335-2-67:1997, modifiziert)

SIST EN 60335-2-67:1999
<https://standards.itec.int/catalog/standards/sist/764849bd-b266-4180-a022-b8aa53f3cb42/sist-en-60335-2-67-1999>

This European Standard was approved by CENELEC on 1998-10-01. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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 61J/55/FDIS, future second edition of IEC 60335-2-67 prepared by SC 61J of the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote in October 1996. The results of the vote were discussed during the Edinburgh meeting of CENELEC TC 61 in May 1997 when it was decided to circulate a new draft under the enquiry procedure, document CLC/TC 61 (SEC) 1119. The comments were discussed during the Fehrlortorf meeting in October 1997 when it was decided to submit a draft for EN 60335-2-67 to the formal vote.

This draft was circulated in June 1998 and was approved by CENELEC as EN 60335-2-67 on 1998-10-01.

This European Standard replaces EN 60335-2-67:1994.

The following dates are 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) 1999-04-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 2002-04-01

This standard has to be used in conjunction with EN 60335-1, Safety of household and similar electrical appliances, Part 1: General requirements. It was established on the basis of the 1994 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 floor treatment and floor cleaning machines for industrial and commercial use.

(standards.iteh.ai)

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.

Subclauses and figures which are additional to those in part 1 are numbered starting with 101. Annexes which are additional to those in part 1 are lettered AA, BB, etc.

Special national conditions causing a deviation from this European Standard are listed in annex ZA and are in addition to those in EN 60335-1.

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

NOTE - 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 2. When a definition of part 1 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.

Introduction

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, 73/23/EEC. If the product has mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 89/392/EEC, 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 60335-2-67:1997 was approved by CENELEC as a European Standard with common modifications as given below.

COMMON MODIFICATIONS**7 Marking and instructions**

p 7.12 Replace the text by:

The front cover of the instruction manual shall include the substance of the following:

CAUTION Read the instruction manual before using the appliance.

This wording may be replaced by symbols Nos. 0434 and 1641 of ISO 7000. If these symbols are used, their meaning is to be explained in the instructions for use.

The instruction manual shall include the substance of the following warnings, as applicable:

- **CAUTION** This appliance is not suitable for picking up hazardous dust;
- **CAUTION** This appliance is for dry use only and is not to be used or stored outdoors in wet conditions;
- **WARNING** Only use the brushes provided with the appliance or those specified in the instruction manual. The use of other brushes may impair safety;

The instruction manual shall give details regarding the following, as applicable:

- the precautions to be taken when using the appliance under specific conditions such as handling flammable liquids or dust, and dust hazardous to health;
- a statement that the appliance is to be disconnected from its power source during cleaning or maintenance and when replacing parts or converting the appliance to another function,
 - for mains operated appliances, the plug is to be removed from the socket-outlet,
 - for battery operated appliances, the key of the supply switch is to be removed or an equivalent disconnection is to be made;
- a statement that doors and covers are to be positioned as indicated in the instruction manual before using the appliance;
- the precautions to be taken when changing brushes or other attachments which require the appliance to be energized;
- the intended use of brushes which are specified for the appliance;
- a warning that large diameter brushes provided specifically for dry buffing are not intended for general polishing.

The instruction manual shall state

- the A-weighted sound pressure level L_{PA} in dB(A) emitted by the appliance. If the A-weighted sound pressure level exceeds 85 dB(A), it shall also state the sound power level L_{WA} in dB(A) and that appropriate ear protection has to be used.

NOTE - The sound level is measured in accordance with EN 60704-1.

- the weighted r.m.s. acceleration value to which the operator's arms are subjected in m/s^2 .

NOTE - The weighted r.m.s. acceleration value is measured in accordance with ISO 5349, the appliance being supplied at **rated voltage** and operated under **normal operation**.

The instruction manual shall include the substance of the following:

This appliance is suitable for commercial use, for example in hotels, schools, hospitals, factories, shops, offices and rental businesses.

The instruction manual for mains operated appliances shall include the substance of the following:

- do not allow the rotating brushes to come into contact with the supply cord;
- regularly examine the supply cord for damage, such as cracking or ageing. If damage is found, replace the cord before further use;
- only replace the supply cord with the type specified in the instruction manual;
- only use the socket outlet on the appliance for purposes specified in the instruction manual.

STANDARD PREVIEW
(standards.iteh.ai)

20 Stability and mechanical hazards

[SIST EN 60335-2-67:1999](https://standards.iteh.ai/catalog/standards/sist/764849bd-b266-4180-a022-b8aa53f3cb42/sist-en-60335-2-67-1999)

Add: <https://standards.iteh.ai/catalog/standards/sist/764849bd-b266-4180-a022-b8aa53f3cb42/sist-en-60335-2-67-1999>

20.Z101 Shaft ends and similar rotating parts shall be protected if they protrude by more than a quarter of their diameter, unless the end is rounded and less than 50 mm in length.

Injury due to unintentional closing or slamming of parts, such as movable side walls and covers, shall be prevented.

Wheels or rollers for the transport of appliances heavier than 20 kg shall be located or protected so that injury to the feet of the operator is prevented.

Compliance is checked by inspection, by measurement and by manual test.

25 Supply connection and external flexible cords

p 25.5 Replace this subclause number by "25.7".

Annex A:

p Replace by:

Annex A
(normative)**Normative references***Addition:*

IEC 60312	1998	Vacuum cleaners for household use Methods of measuring the performance	EN 60312	1998
IEC 60335-2-69 (mod)	1997	Safety of household and similar electrical appliances -- Part 2: Particular requirements for wet and dry vacuum cleaners, including power brush, for industrial and commercial use	EN 60335-2-69	1998
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529	1991
IEC 60704-1	1997	Household and similar electrical appliances Test code for the determination of airborne acoustical noise -- Part 1: General requirements	EN 60704-1	1997
ISO 5349	1986	Mechanical vibration – Guidelines for the measurement and the assessment of human exposure to hand-transmitted vibration	ENV 25349	1992
ISO 7000	1989	Graphical symbols for use on equipment Index and synopsis	-	-

p Add:

Annex ZA (normative)**Special national conditions***Addition:*

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

If a polyvinyl chloride sheathed cord is fitted, the instructions shall state that the appliance is not to be used outdoors at low temperatures.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60335-2-67:1999

<https://standards.iteh.ai/catalog/standards/sist/764849bd-b266-4180-a022-b8aa53f3cb42/sist-en-60335-2-67-1999>

NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC

60335-2-67

Deuxième édition
Second edition
1997-02

**Sécurité des appareils électrodomestiques
et analogues –**

**Partie 2:
Règles particulières pour les machines
de traitement et de nettoyage des sols,**

**à usage industriel et commercial
(standards.iteh.ai)**

**Safety of household and similar electrical
appliances –**

<https://standards.iteh.ai/catalog/standards/sist/764849bd-b266-4180-a022-b8aa53f3cb42/sist-en-60335-2-67-1999>

**Part 2:
Particular requirements for floor
treatment and floor cleaning machines,
for industrial and commercial use**

© IEC 1997 Droits de reproduction réservés — Copyright - all rights reserved

Aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'éditeur.

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission
Telefax: +41 22 919 0300

e-mail: inmail@iec.ch

3, rue de Varembé Geneva, Switzerland
IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

P

*Pour prix, voir catalogue en vigueur
For price, see current catalogue*

CONTENTS

	Page
FOREWORD	5
Clause	
1 Scope	9
2 Definitions.....	9
3 General requirement	11
4 General conditions for the tests.....	11
5 Void	11
6 Classification	11
7 Marking and instructions	11
8 Protection against access to live parts	13
9 Starting of motor-operated appliances	13
10 Power input and current	13
11 Heating	13
12 Void	15
13 Leakage current and dielectric strength at operating temperature.....	15
14 Void	15
15 Moisture resistance	15
16 Leakage current and electric strength.....	17
17 Overload protection of transformers and associated circuits.....	17
18 Endurance	17
19 Abnormal operation.....	17
20 Stability and mechanical hazards	19
21 Mechanical strength	19
22 Construction	21
23 Internal wiring	23
24 Components	23
25 Supply connection and external flexible cords	23
26 Terminals for external conductors.....	25
27 Provision for earthing	25
28 Screws and connections	25
29 Creepage distances, clearances and distances through insulation	25
30 Resistance to heat, fire and tracking	25
31 Resistance to rusting.....	25
32 Radiation, toxicity and similar hazards	25
Figure 101 – Impact test apparatus.....	27
Annexes	
A Normative references.....	29
AA Precast concrete flags.....	31

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES
Part 2: Particular requirements for floor treatment and floor cleaning
machines, for industrial and commercial use

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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 the 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 National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

This part of International Standard IEC 335 has been prepared by subcommittee 61J: Electrical motor-operated cleaning appliances for industrial use, of IEC technical committee 61: Safety of household and similar electrical appliances.

This second edition of IEC 60335-2-67 cancels and replaces the first edition published in 1992.

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

FDIS	Report on voting
61J/55/FDIS	61J/71/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 part 2 is to be used in conjunction with the latest edition of IEC 335-1 and its amendments. It was established on the basis of the third edition (1991) of that standard.

This part 2 supplements or modifies the corresponding clauses in IEC 335-1, so as to convert it into the IEC standard: *Safety requirements for floor treatment and floor cleaning machines, for industrial and commercial use.*