



SLOVENSKI STANDARD
SIST EN 60335-2-69:2003/A1:2005

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Household and similar electrical appliances - Safety -- Part 2-69: Particular requirements for wet and dry vacuum cleaners, including power brush, for industrial and commercial use

iTeh STANDARD PREVIEW

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke -- Teil 2-69: Besondere Anforderungen für Staub- und Wasserauger einschließlich kraftbetriebener Bürsten für industrielle und gewerbliche Zwecke

[SIST EN 60335-2-69:2003/A1:2005](https://standards.iteh.ai/catalog/standards/sist/46378103-51d7-49c0-a2f8-60335-2-69-2003/a1-2005)

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Appareils électrodomestiques et analogues - Sécurité -- Partie 2-69: Règles particulières pour les aspirateurs fonctionnant en présence d'eau ou à sec, y compris les brosses motorisées, à usage industriel et commercial

Ta slovenski standard je istoveten z: EN 60335-2-69:2003/A1:2004

ICS:

97.080

Aparati za nego tal

Floor treatment appliances

SIST EN 60335-2-69:2003/A1:2005

en

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EUROPEAN STANDARD

EN 60335-2-69/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2004

ICS 97.080

English version

**Household and similar electrical appliances –
Safety****Part 2-69: Particular requirements for wet and dry vacuum cleaners,
including power brush, for industrial and commercial use
(IEC 60335-2-69:2002/A1:2004)**

Appareils électrodomestiques et
analogues –
Sécurité
Partie 2-69: Règles particulières
pour les aspirateurs fonctionnant
en présence d'eau ou à sec,
y compris les brosses motorisées,
à usage industriel et commercial
(CEI 60335-2-69:2002/A1:2004)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2-69: Besondere Anforderungen
für Staub- und Wasserauger
einschließlich kraftbetriebener Bürsten
für industrielle und gewerbliche Zwecke
(IEC 60335-2-69:2002/A1:2004)

[SIST EN 60335-2-69:2003/A1:2005](https://standards.iteh.ai/catalog/standards/sist/46378103-51d7-49c0-a2f8-4bba37216e69/sist-en-60335-2-69-2003-a1-2005)

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This amendment A1 modifies the European Standard EN 60335-2-69:2003; it was approved by CENELEC on 2004-10-01. 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 61J/169/FDIS, future amendment 1 to IEC 60335-2-69:2002, prepared by SC 61J, Electrical motor-operated cleaning appliances for industrial use, of 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 A1 to EN 60335-2-69:2003 on 2004-10-01.

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) 2005-08-01
- 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 60335-2-69:2003.

As a consequence of endorsing amendment 1:2004 to IEC 60335-2-69:2002, the common modifications in EN 60335-2-69:2003 are replaced by IEC text and therefore withdrawn.

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

There are no national deviations from this amendment.

~~SIST EN 60335-2-69:2003/A1:2005~~
<https://standards.iteh.ai/catalog/standards/sist/46378103-51d7-49c0-a2f8-4bba37216e67/sist-en-60335-2-69-2003-a1-2005>
Endorsement notice

The text of amendment 1:2004 to the International Standard IEC 60335-2-69:2002 was approved by CENELEC as an amendment to the European Standard without any modification.

Annex ZC (normative)

Normative references to international publications with their corresponding European publications

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
Add:				
IEC 61241-1-1	- ¹⁾	Electrical apparatus for use in the presence of combustible dust Part 1-1: Electrical apparatus protected by enclosures and surface temperature limitation - Specification for apparatus	-	-
IEC 61241-10	2004	Part 10: Classification of areas where combustible dusts are or may be present	EN 61241-10	2004
ISO 2602	- ¹⁾	Statistical interpretation of test results - Estimation of the mean - Confidence interval	-	-
ISO 6344-2	- ¹⁾	Coated abrasives - Grain size analysis Part 2: Determination of grain size distribution of macrogrits P12 to P220	-	-
ISO 7731	- ¹⁾	Ergonomics - Danger signals for public and work areas - Auditory danger signals	-	-
ISO 11428	- ¹⁾	Ergonomics - Visual danger signals - General requirements, design and testing	-	-

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INTERNATIONAL STANDARD

IEC 60335-2-69

2002

AMENDMENT 1
2004-11

Amendment 1

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

**Part 2-69:
Particular requirements for wet and dry
vacuum cleaners, including power brush,
for industrial and commercial use**

[SIST EN 60335-2-69:2003/A1:2005](https://standards.iteh.ai/catalog/standards/sist/46378103-51d7-49c0-a2f8-4bba37216e69/sist-en-60335-2-69-2003-a1-2005)

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

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For price, see current catalogue

FOREWORD

This amendment 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.

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

FDIS	Report on voting
61J/169/FDIS	61J/172/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 this amendment and the base publication 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.

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[SIST EN 60335-2-69:2003/A1:2005](https://standards.iteh.ai/catalog/standards/sist/46378103-51d7-49c0-a2f8-44b272c659/iec-60335-2-69-3903-a1-2005)

[https://standards.iteh.ai/catalog/standards/sist/46378103-51d7-49c0-a2f8-](https://standards.iteh.ai/catalog/standards/sist/46378103-51d7-49c0-a2f8-44b272c659/iec-60335-2-69-3903-a1-2005)

Add the titles of the new Annexes CC and DD as follows:

Annex CC (normative) Particular requirements for vacuum cleaners, suction sweeping machines and dust extractors for the collection of dusts which are an explosion risk

Annex DD (normative) Particular requirements for vacuum cleaners for use in ESD protected areas

Add the titles of the following new figures:

Figure 102 – Apparatus for testing the abrasion resistance of current-carrying hoses

Figure 103 – Apparatus for testing the resistance to flexing of current-carrying hoses

Figure 104 – Configuration of the hose for the freezing treatment

Figure 105 – Flexing positions for the hose after removal from the freezing cabinet

Figure AA.2 – Test method for essential filter material

Figure AA.3 – *In situ* essential filter element test

Figure AA.4 – Assembled appliance test

Figure CC.1 – Marking – Type 22 vacuum cleaners and suction sweeping machines

Figure CC.2 – Marking – Type 22 dust extractor

Replace the title of Table AA.1 as follows:

Table AA.1 – Penetration limits

FOREWORD

Add the following new item to the list of differences existing in some countries:

- 7.12: No requirements for sound marking exist (USA)

2 Normative references

Add the following new references:

IEC 60704-2-1, *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 2-1: Particular requirements for vacuum cleaners*

IEC 61241-1-1, *Electrical apparatus for use in the presence of combustible dust – Part 1-1: Electrical apparatus protected by enclosures and surface temperature limitation – Specification for apparatus*

IEC 61241-10:2004, *Electrical apparatus for use in the presence of combustible dust – Part 10: Classification of areas where combustible dusts are or may be present*

ISO 2602, *Ergonomics – Danger signals for public and work areas – Auditory danger signals*

ISO 6344-2, *Coated abrasives – Grain size analysis – Part 2: Determination of grain size distribution of macrogrits P12 to P220*

ISO 7731, *Safety of machinery: Auditory danger signals; General requirements, design and testing*

ISO 11428, *Ergonomics – Visual danger signals – General requirements, design and testing*

3 Definitions

Add the following new definitions:

3.102

water-suction cleaning appliance

appliance for aspirating an aqueous solution that may contain foaming detergent

3.103

motorized cleaning head

accessory containing a motor that is supplied from the appliance and which is attached to the end of a hand-held hose or tube

NOTE The main cleaning head permanently attached is not regarded as a motorized cleaning head.

6 Classification

6.1 Replace the existing second paragraph of this subclause with the following:

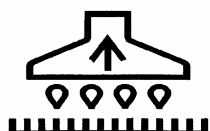
Metal parts that may continuously contact the body shall be considered as handles for which 22.36 applies.

7 Marking and instructions

7.1 *Delete this subclause.*

Add the following subclause:

7.6 *Addition:*



[symbol IEC 60417-5935 (DB:2000-10) motorized cleaning head for water-suction cleaning

7.12 *Replace the existing text of the addition by the following:*

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 ISO 7000-0434A/B and ISO 7000-1641 (DB:2004:01). 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 that 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;
- the intended use of brushes which are specified for the appliance.

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 (the sound level is measured in accordance with IEC 60704-2-1).

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.

For wet suction appliances, the instruction manual shall state the substance of the following:

- CAUTION If foam or liquid escapes from the appliance, switch off immediately.
- regularly clean the water level limiting device in accordance with the instructions and examine it for signs of damage.

The instructions for appliances having a current-carrying hose operating at other than **safety extra-low voltage** shall include the substance of the following:

CAUTION: This hose contains electrical connections:

- do not use to collect water;
- do not immerse in water for cleaning;
- the hose should be checked regularly and shall not be used if damaged.

If symbol IEC 60417-5935 is used, its meaning shall be explained.

Add the following subclauses:

7.14 Addition: [SIST EN 60335-2-69:2003/A1:2005](https://standards.iteh.ai/catalog/standards/sist/46378103-51d7-49c0-a2f8-4bba37216e69/sist-en-60335-2-69-2003-a1-2005)
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The height of symbol IEC 60417-5935 shall be at least 15 mm.

Compliance is checked by measurement.

7.101 Motorized cleaning heads shall be marked with

- **rated voltage** or **rated voltage range** in volts;
- **rated power input** in watts;
- name, trade mark or identification mark of the manufacturer or responsible vendor;
- model or type reference.

Motorized cleaning heads for water-suction cleaning appliances, except those of **class III construction** having a **working voltage** up to 24 V shall be marked with symbol IEC 60417-5935.

NOTE This symbol is an information sign and, except for the colours, the rules of ISO 3864 apply.

Compliance is checked by inspection.

7.102 Appliance outlets for accessories shall be marked with the maximum load in watts.

NOTE This marking may be on the appliance close to the appliance outlet.

Compliance is checked by inspection.

10 Power input and current

Add the following subclause:

10.1 Addition:

The power input of **motorized cleaning heads** is measured separately.

15 Moisture resistance

15.2 Replace the text after note 101 by the following:

Nozzles and **motorized cleaning heads of water-suction cleaning appliances** are placed in a container, the base of which is level with the surface supporting the appliance. The container is filled with a detergent solution to a level of 5 mm above its base, this level being maintained throughout the test.

The solution consists of 20 g of NaCl and 1 ml of a solution of 28 % by mass of dodecyl sodium sulphate in each 8 l of water.

The appliance is operated until its liquid container is completely full and for a further 5 min.

NOTE 102 The solution should be stored in a cool atmosphere and used within seven days of its preparation.

NOTE 103 The chemical designation of dodecyl sodium sulphate is $C_{12}H_{25}NaSO_4$.

NOTE 104 If it is not possible to overfill the container for soiled liquid, owing to the construction of the appliance, the test specified in 19.101 is considered to be adequate.

After each of these tests, the appliance shall withstand the electric strength test of 16.3.

Inspection shall show that there is no trace of liquid on insulation that could result in a reduction of **clearances** or **creepage distances** below the values specified in Clause 29.

NOTE 105 The appliance is allowed to stand in normal test room atmosphere for 24h before being subjected to the test of 15.3

Add the following subclause:

15.101 Motorized cleaning heads of water suction cleaning appliances shall be resistant to liquids that may come into contact with them.

Compliance is checked by the following tests.

The **motorized cleaning head** is subjected to an impact test as described in IEC 60068-2-75, the value of the impact being 2 J. The **motorized cleaning head** is rigidly supported and three blows are applied to every point of the enclosure that is likely to be weak.

It is then subjected to the free fall test procedure 1 of IEC 60068-2-32. It is dropped 4 000 times from a height of 100 mm onto a steel plate having a thickness of not less than 15 mm. It is dropped

- 1000 times on its right side;
- 1000 times on its left side;
- 1000 times on its front face;
- 1000 times on its cleaning surface.