



Irish Standard
I.S. EN 60335-2-68:2012

Household and similar electrical appliances - Safety -- Part 2-68: Particular requirements for spray extraction machines, for commercial use (IEC 60335-2-68:2012 (MOD))

I.S. EN 60335-2-68:2012

Incorporating amendments/corrigenda issued since publication:

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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|---|--|---|
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60335-2-68

August 2012

ICS 97.020

Supersedes EN 60335-2-68:2009

English version

**Household and similar electrical appliances -
Safety -
Part 2-68: Particular requirements for spray extraction machines, for
commercial use
(IEC 60335-2-68:2012, modified)**

Appareils électrodomestiques et
analogues -
Sécurité -
Partie 2-68: Exigences particulières pour
les machines de nettoyage par
pulvérisation et aspiration, à usage
commercial
(CEI 60335-2-68:2012, modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke -
Teil 2-68: Besondere Anforderungen für
Sprühextraktionsmaschinen für den
gewerblichen Gebrauch
(IEC 60335-2-68:2012, modifiziert)

This European Standard was approved by CENELEC on 2012-05-03. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

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Foreword

The text of document 61J/490/FDIS, future edition 4 of IEC 60335-2-68, prepared by SC 61J, "Electrical motor-operated cleaning appliances for commercial use", of IEC/TC 61, "Safety of household and similar electrical appliances" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60335-2-68:2012.

A draft amendment, which covers common modifications to IEC 60335-2-68, was prepared by CLC/TC 61, "Safety of household and similar electrical appliances" and approved by CENELEC.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-05-03
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2015-05-03

This document supersedes EN 60335-2-68:2009.

The principal changes in EN 60335-2-68:2012 as compared with EN 60335-2-68:2009 are as follows (minor changes are not listed):

- the title has been changed for better distinction with regard to EN 60335-2-72;
- the scope has been revised editorially to avoid misunderstandings;
- terms and definitions has been revised with regard to the requirements revised;
- the standard has been revised in general and updated regarding state-of-the-art, as far as necessary, in particular some changes has been made to Clauses 15, 22 and 25;
- the markings and instructions (Clause 7) have been revised basically;
- a new Annex AA 'Emission of acoustical noise' was added; and
- a new Annex BB 'Emission of vibration' was added.

This part 2 is to be used in conjunction with the EN 60335-1:2012 and its amendments.

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

This part 2 supplements or modifies the corresponding clauses in EN 60335-1, so as to convert that publication into the European Standard: *Safety requirements for spray extraction machines for commercial use*.

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.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60335-2-68:2012 are prefixed "Z".

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

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 60335-2-68:2012 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

1 Scope

Add the following paragraph before the last one:

"This standard deals with the reasonably foreseeable hazards presented by machines that are encountered by all persons.

However, in general, it does not take into account:

- **children** playing with the machine;
- the use of the machine by **children**;
- user maintenance by **children**, including the cleaning of the machine.

It is recognized that **very vulnerable people** may have needs beyond the level addressed in this standard."

7 Marking and instructions

7.12 Replace the 4th paragraph beginning with "This appliance can be used..." with the following:

Machines shall not be used by children. Children should be supervised to ensure that they do not play with the appliance.

This machine can be used by people with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the machine in a safe way and understand the hazards involved."

7.12.102 Information on noise

Replace the Note with the following requirement:

"The instructions shall provide information on airborne noise emission as indicated in AA.2.7."

7.12.103 Information on vibration

Replace the Note with the following requirement:

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"The instructions shall provide information on vibration emission as indicated in BB.2."

25 Supply connection and external flexible cords

25.7 Addition:

Add the following before the last paragraph:

"

- Halogen-free thermoplastic compound sheathed.

 Their properties shall be at least those of halogen-free thermoplastic compound sheathed cords (code designation H05Z1Z1H2-F or H05Z1Z1-F);

- Cross-linked halogen-free compound sheathed.

 Their properties shall be at least those of cross-linked halogen-free thermoplastic compound sheathed cords (code designation H07ZZ-F).

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

Modifications to Annexes AA and BB

In the titles of Annex AA and Annex BB, replace "(informative)" with "(normative)" so as to make these two annexes normative.

Modifications to Annexes Z

The annexes of Part 1 are applicable except as follows:

Add the following special national condition to Annex ZA of EN 60335-1:2012:

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.

NOTE If it affects harmonization, it forms part of the European Standard / 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> |
|---------------|-----------------------------------|
|---------------|-----------------------------------|

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| 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 temperature.

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Apply the following changes to Annex ZC of EN 60335-1:2012:

Annex ZC
(normative)

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

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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> |
|--------------------|-------------|---|--------------|-------------|
| <i>Add:</i> | | | | |
| IEC 60312-1 | - | Vacuum cleaners for household use - Part 1: Dry vacuum cleaners - Methods for measuring the performance | EN 60312-1 | - |
| ISO 6344-2 | - | Coated abrasives - Grain size analysis - Part 2: Determination of grain size distribution of macrogrits P12 to P220 | - | - |

Annex ZE
(informative)

**Specific additional requirements for appliances and machines intended
for commercial use**

This annex is not applicable.

Annex ZZ
(informative)

Coverage of Essential Requirements of EU Directive 2006/42/EC

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in Annex I of the EU Directive 2006/42/EC.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

Bibliography

Addition to EN 60335-1:2012:

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

| | |
|------------------|-------------------------------------|
| IEC 60335-2-2 | NOTE Harmonized as EN 60335-2-2. |
| IEC 60335-2-67 | NOTE Harmonized as EN 60335-2-67. |
| IEC 60335-2-69 | NOTE Harmonized as EN 60335-2-69. |
| IEC 60335-2-72 | NOTE Harmonized as EN 60335-2-72. |
| IEC 60745 series | NOTE Harmonized in EN 60745 series. |
| IEC 61029 series | NOTE Harmonized in EN 61029 series. |
| ISO 3743-1 | NOTE Harmonized as EN ISO 3743-1. |
| ISO 3744 | NOTE Harmonized as EN ISO 3744. |
| ISO 4871 | NOTE Harmonized as EN ISO 4871. |
| ISO 5349-1 | NOTE Harmonized as EN ISO 5349-1. |
| ISO 9614-2 | NOTE Harmonized as EN ISO 9614-2. |
| ISO 11203 | NOTE Harmonized as EN ISO 11203. |
| ISO/TR 11688-1 | NOTE Harmonized as EN ISO 11688-1. |

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-68: Particular requirements for spray extraction machines, for commercial use

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.
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- 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 60335-2-68 has been prepared by subcommittee 61J: Electrical motor-operated cleaning appliances for commercial use, of IEC technical committee 61: Safety of household and similar electrical appliances.

This fourth edition cancels and replaces the third edition published in 2002 and its Amendments 1 (2005) and 2 (2007). It constitutes a technical revision.

The principal changes in this edition as compared with the third edition of IEC 60335-2-68 are as follows (minor changes are not listed):

- the title has been changed for better distinction with regard to IEC 60335-2-72;
- the scope has been revised editorially to avoid misunderstandings;
- terms and definitions has been revised with regard to the requirements revised;

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- the standard has been revised in general and updated regarding state-of-the-art, as far as necessary, in particular some changes has been made to Clauses 15, 22 and 25;
- the markings and instructions (Clause 7) have been revised basically;
- a new Annex AA 'Emission of acoustical noise' was added; and
- a new Annex BB 'Emission of vibration' was added.

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

| | |
|--------------|------------------|
| FDIS | Report on voting |
| 61J/490/FDIS | 61J/499/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 fifth edition (2010) 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 spray extraction machines for commercial use.

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;
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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.

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.

The committee has decided that the contents of this publication will remain unchanged until the stability 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.

INTRODUCTION

It has been assumed in the drafting of this International Standard that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. 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.

This standard takes into account the requirements of IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

If an appliance within the scope of this standard also incorporates functions that are covered by another part 2 of IEC 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

When a part 2 standard does not include additional requirements to cover hazards dealt with in Part 1, Part 1 applies.

NOTE 1 This means that the technical committees responsible for the part 2 standards have determined that it is not necessary to specify particular requirements for the appliance in question over and above the general requirements.

This standard is a product family standard dealing with the safety of appliances and takes precedence over horizontal and generic standards covering the same subject.

NOTE 2 Horizontal and generic standards covering a hazard are not applicable since they have been taken into consideration when developing the general and particular requirements for the IEC 60335 series of standards. For example, in the case of temperature requirements for surfaces on many appliances, generic standards, such as ISO 13732-1 for hot surfaces, are not applicable in addition to Part 1 or part 2 standards.

An appliance that complies with the text of this standard will not necessarily be considered to comply with the safety principles of the standard if, when examined and tested, it is found to have other features that impair the level of safety covered by these requirements.

An appliance employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-68: Particular requirements for spray extraction machines, for commercial use

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electrical portable, non-self-propelled motor-operated **spray extraction machines** with or without attachments and with or without electrical heating elements, intended for commercial indoor use.

NOTE 101 This standard applies to machines for **commercial use**. The following list, although not comprehensive, gives an indication of locations that are included in the scope:

- public use areas such as hotels, schools, hospitals;
- industrial locations, for example factories and manufacturing shops;
- retail outlets, for example shops and supermarkets;
- business premises, for example offices and banks;
- rental services for those machines;
- all uses other than normal housekeeping purposes.

They are not equipped with a traction drive. The following power systems are covered:

- mains powered motors up to a **rated voltage** of 250 V for single-phase appliances and 480 V for other appliances,
- battery powered motors.

This standard applies to machines in which the pressure of the employed **cleaning agent** does not exceed 2,5 MPa, and in which the product of the pressure (in MPa) and the flow of **cleaning agent** (in litres per minute) does not exceed 100, and in which the temperature of the **cleaning agent** at the spray nozzle outlet does not exceed 85 °C.

This standard does not apply to

- vacuum cleaners and water-suction cleaning appliances for household use (IEC 60335-2-2);
- floor treatment machines for **commercial use** (IEC 60335-2-67, IEC 60335-2-72);
- wet and dry vacuum cleaners, including power brush, for **commercial use** (IEC 60335-2-69);
- hand-held and transportable motor-operated electric **tools** (IEC 60745 series, IEC 61029 series);
- machines designed for use in corrosive or explosive environments (dust, vapour or gas);
- machines designed for picking up hazardous dusts (as defined in IEC 60335-2-69), inflammable substances, or glowing particles;
- machines designed to handle hazardous solvents, such as flammable or explosive liquids;

NOTE 102 Attention is drawn to the fact that in many countries, additional requirements on the safe use of the equipment covered can be specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

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