

**Majapidamis- ja muud taolised elektriseadmed. Ohutus.  
Osa 2-67: Erinõuded kommertskasutamiseks ettenähtud  
põrandahooldusmasinatele**

**Household and similar electrical appliances - Safety -  
Part 2-67: Particular requirements for floor treatment  
machines for commercial use**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

|   |  |
|---|--|
| See Eesti standard EVS-EN 60335-2-67:2012 sisaldab Euroopa standardi EN 60335-2-67:2012 ingliskeelset teksti.       | This Estonian standard EVS-EN 60335-2-67:2012 consists of the English text of the European standard EN 60335-2-67:2012.            |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.  | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation. |
| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 24.08.2012. | Date of Availability of the European standard is 24.08.2012.   |
| Standard on kättesaadav Eesti Standardikeskusest.   | The standard is available from the Estonian Centre for Standardisation.  |

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English version

**Household and similar electrical appliances -  
Safety -  
Part 2-67: Particular requirements for floor treatment machines for  
commercial use  
(IEC 60335-2-67:2012, modified)**

Appareils électrodomestiques et  
analogues -  
Sécurité -  
Partie 2-67: Exigences particulières pour  
les machines de traitement des sols, à  
usage commercial  
(CEI 60335-2-67:2012, modifiée)

Sicherheit elektrischer Geräte für den  
Hausgebrauch und ähnliche Zwecke -  
Teil 2-67: Besondere Anforderungen für  
Bodenbehandlungsmaschinen für den  
gewerblichen Gebrauch  
(IEC 60335-2-67:2012, 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.

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**CENELEC**

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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 61J/489/FDIS, future edition 4 of IEC 60335-2-67, 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 60335-2-67:2012.

A draft amendment, which covers common modifications to IEC 60335-2-67, 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 60335-2-67:2009.

The principal changes in EN 60335-2-67:2012 as compared with EN 60335-2-67:2009 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 have been made to Clauses 15, 22 and 25;
- a new Annex BB (LPG requirements) was added;
- a new Annex CC 'Emission of acoustical noise' was added; and
- a new Annex DD '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 floor treatment 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 60335-2-67:2012 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 60335-2-67:2012 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**;
- the use of the machine by **vulnerable people or very vulnerable people**."

### 3 Terms and definitions

#### 3.6.3

##### **accessible part**

*Modification:*

*Delete* "and probe 18".

### 7 Marking and instructions

#### **7.10** *Delete the following paragraphs:*

"Devices used to start/stop operational functions of the appliance, if any, shall be distinguished from other manual devices by means of shape, or size, or surface texture, or position, etc.

An indication that the device has been operated shall be given by:

- A tactile feedback or
- An audible and visual feedback.

NOTE Z1 The sound of the motor or sound of an actuator switching ON/OFF is regarded as audible feedback. The stopping of the typical function (e.g. stopping of the vibration on the body of the appliance or of a part of it) is regarded as tactile means.

NOTE Z2 Devices used to start/stop operational functions mean devices that are operated by the user to start/stop the intended function of the appliance.

A selector switch with an off-position clearly identifiable is allowed.

An ON/OFF switch, if any, is considered a suitable device to stop operational functions. A plug is not considered a suitable device to stop operational functions, as it can be difficult to be reached by vulnerable persons."

#### **7.12** *Add the following paragraph after the 4<sup>th</sup> one:*

"Children should be supervised to ensure that they do not play with the appliance."

*Delete the paragraph beginning with* "This appliance can be used..."

#### **7.12.Z1** *Delete this paragraph.*

#### **7.12.102 Information on noise**

*Replace the Note by the following requirement:*

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

#### **7.12.103 Information on vibration**

*Replace the Note by the following requirement:*

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

### 8 Protection against access to live parts

#### **8.1.1** *Replace the 3<sup>rd</sup> paragraph with the following one:*

*"Test probe B of EN 61032 is applied with a force not exceeding 1 N, the appliance being in every possible position except that appliances normally used on the floor and having a mass exceeding 40 kg are not tilted. Through openings, the test probe is applied to any depth that the probe will permit and is rotated or angled before, during and after insertion to any position. If the opening does not allow the entry of the probe, the force on the probe in the straight position is increased to 20 N. If the probe then enters the opening, the test is repeated with the probe in the angled position."*

## 8.2 Modifications:

*In the 3<sup>rd</sup> sentence, replace "test probes of EN 61032" by "test probe B of EN 61032".*

*In the 4<sup>th</sup> sentence, replace "test probe B and probe 18 of EN 61032 are" by "test probe B of EN 61032 is".*

## 20 Stability and mechanical hazards

**20.2** Replace the 1<sup>st</sup> paragraph of compliance by:

*"Compliance is checked by inspection, by the test of 21.1 and by applying a force not exceeding 5 N by means of a test probe that is similar to test probe B of EN 61032 but having a circular stop face with a diameter of 50 mm, instead of the non-circular face."*

## 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 CC and DD

*In the titles of Annex CC and Annex DD, 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> |
|---------------|-----------------------------------|
|---------------|-----------------------------------|

|             |                |
|-------------|----------------|
| <b>7.12</b> | <b>Finland</b> |
|-------------|----------------|

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



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 -<br>Part 1: Dry vacuum cleaners - Methods for<br>measuring the performance             | EN 60312-1   | -           |
| ISO 6344-2         | -           | Coated abrasives - Grain size analysis -<br>Part 2: Determination of grain size distribution<br>of macrogrits P12 to P220 | -            | -           |

**Annex ZE**  
(informative)

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

*This annex is not applicable.*

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## **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 60335-2-10   | NOTE Harmonized as EN 60335-2-10.   |
| IEC 60335-2-68   | NOTE Harmonized as EN 60335-2-68.   |
| 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 11201        | NOTE Harmonized as EN ISO 11201.    |
| ISO/TR 11688-1   | NOTE Harmonized as EN ISO 11688-1.  |

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## 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 2-67: Particular requirements for floor treatment machines, for commercial use

#### 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of powered floor treatment machines intended for commercial indoor or outdoor use for the following applications:

- scrubbing,
- wet or dry pick-up,
- polishing and dry buffing,
- application of wax, sealing products and powder based detergents,
- shampooing,
- stripping, grinding and scarifying

of floors with an artificial surface.

Their cleaning motion is more lateral or periodic than linear.

NOTE 101 By contrast, the cleaning motion of machines covered by IEC 60335-2-72 is more linear than lateral or periodic.

NOTE 102 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;
- all uses other than normal housekeeping purposes.

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

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

Battery powered machines may be equipped with a built-in battery charger.

This standard does not apply to

- vacuum cleaners and water-suction cleaning appliances for household use (IEC 60335-2-2);
- floor treatment appliances for household use according to IEC 60335-2-10;
- spray extraction machines for **commercial use** (IEC 60335-2-68);
- wet and dry vacuum cleaners, including power brush, for **commercial use** (IEC 60335-2-69);



- floor treatment machines with or without **traction drive**, for **commercial use**, according to IEC 60335-2-72;
- 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 for use in vehicles or on board of ships or aircraft.

NOTE 103 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.

## 2 Normative references

This clause of Part 1 is applicable except as follows.

*Addition:*

IEC 60312-1, *Vacuum cleaners for household use – Part 1: Dry vacuum cleaners – Methods for measuring the performance*

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

## 3 Terms and definitions

This clause of Part 1 is applicable except as follows.

### 3.1.9 *Replacement:*

#### **normal operation**

conditions under which the machine is operated in normal use, as intended by the manufacturer

It denotes the load corresponding to the **rated power input** or the highest obtainable load of all particular loads of the various functions that can be operated at the same time according to the manufacturer's instructions.

Tanks of machines, if applicable, are filled before starting the operation to the highest level as indicated on the tank, or completely if no marking is provided.

Socket-outlets for accessories are loaded with a resistive load in accordance with the marking. Suction functions, if applicable, are switched on during operation.

The **normal operation** related to the operational functions is specified in 3.1.9.101 to 3.1.9.103.

**3.1.9.101** Scrubbing, stripping, grinding and scarifying machines are operated with the appropriate brushes or pads on a surface of hydraulically pressed concrete paving slabs (see Annex AA).

An alternative is a smooth concrete area of a surface consistency comparable with hydraulically pressed concrete paving slabs.