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Elektriska hushållsapparater och liknande bruksföremål – Säkerhet – Del 2-72: Särskilda fordringar på maskiner med eller utan drivning för golvbehandling för kommersiellt och industriellt bruk

Household and similar electrical appliances –

Safety –

*Part 2-72: Particular requirements for floor treatment machines
with or without traction drive, for commercial use*

Som svensk standard gäller europastandarden EN 60335-2-72:2012. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60335-2-72:2012.

Nationellt förord

Europastandarden EN 60335-2-72:2012

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60335-2-72, Third edition, 2012 - Household and similar electrical appliances - Safety - Part 2-72: Particular requirements for floor treatment machines with or without traction drive, for commercial use**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60335-1, utgåva 5, 2012 och dess separat utgivna tillägg.

Tidigare fastställd svensk standard SS-EN 60335-2-72, utgåva 2, 2009, gäller ej fr o m 2015-05-03.

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English version

**Household and similar electrical appliances -
Safety -
Part 2-72: Particular requirements for floor treatment machines with or
without traction drive, for commercial use
(IEC 60335-2-72:2012, modified)**

Appareils électrodomestiques et
analogues -
Sécurité -
Partie 2-72: Exigences particulières pour
les machines de traitements des sols avec
ou sans commande de dispositif de
déplacement, à usage commercial
(CEI 60335-2-72:2012, modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke -
Teil 2-72: Besondere Anforderungen für
Bodenbehandlungsmaschinen, mit oder
ohne Fahrtrieb, für den gewerblichen
Gebrauch
(IEC 60335-2-72:2012, 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

Foreword

The text of document 61J/491/FDIS, future edition 3 of IEC 60335-2-72, 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 60335-2-72:2012.

A draft amendment, which covers common modifications to IEC 60335-2-72, 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 60335-2-72:2009.

The principal changes in EN 60335-2-72:2012 as compared with EN 60335-2-72:2009 are as follows (minor changes are not listed):

- the title has been changed for better distinction with regard to EN 60335-2-67;
- the scope has been revised editorially to avoid misunderstandings;
- Clause 3 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;
- the markings and instructions (Clause 7) have been revised basically;
- a new Annex DD 'Emission of acoustical noise' was added; and
- a new Annex EE '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 with or without traction drive, 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 60335-2-72:2012 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 60335-2-72:2012 was approved by CENELEC as a European Standard with agreed common modifications.

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	-
IEC 62061	-	Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems	EN 62061	-
ISO 3411	-	Earth-moving machinery - Human physical dimensions of operators and minimum operator space envelope	EN ISO 3411	-
ISO 5353	-	Earth-moving machinery, and tractors and machinery for agriculture and forestry - Seat index point	EN ISO 5353	-
ISO 6344-2	-	Coated abrasives - Grain size analysis - Part 2: Determination of grain size distribution of macrogrits P12 to P220	-	-
ISO 13849-1	-	Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design	EN ISO 13849-1	-
ISO 13857	-	Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs	EN ISO 13857	-
ISO 25119	Series	Tractors and machinery for agriculture and forestry - Safety-related parts of control systems	-	-
<i>Replace:</i>				
IEC 60068-2-78	2001	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	2001

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 60335-2-10	NOTE Harmonized as EN 60335-2-10.
IEC 60335-2-67	NOTE Harmonized as EN 60335-2-67.
IEC 60335-2-68	NOTE Harmonized as EN 60335-2-68.
IEC 60335-2-69	NOTE Harmonized as EN 60335-2-69.
IEC 62638	NOTE Harmonized as EN 62638.
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 7574-1	NOTE Harmonized as EN 27574-1.
ISO 7574-4	NOTE Harmonized as EN 27574-4.
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 2-72: Particular requirements for floor treatment machines with or without traction drive, for commercial use

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of powered ride-on and powered **walk-behind machines** intended for commercial indoor or outdoor use for the following applications:

- sweeping,
- scrubbing,
- wet or dry pick-up,
- polishing,
- application of wax, sealing products and powder based detergents,
- shampooing

of floors with an artificial surface.

Their cleaning motion is more linear than lateral or periodic.

NOTE 101 By contrast, the cleaning motion of machines covered by IEC 60335-2-67 is more lateral or periodic than linear.

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 may be equipped with a **traction drive** system. 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

- floor treatment appliances for household use according to IEC 60335-2-10;
- floor treatment machines for **commercial use** according to IEC 60335-2-67;
- 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);
- road sweepers;

NOTE 103 In Europe, EN 13019 covers road sweepers.

- machines designed for use on **slopes** with a gradient exceeding 20 %;
- machines equipped with a power take-off (PTO);
- 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 104 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;
- **ride-on machines** designed for transport over public roads can be subject to additional requirements (e.g. lighting, license plate etc.).

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*

IEC 62061, *Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems*

ISO 3411, *Earth moving machinery – Human physical dimensions of operators and minimum operator space envelope*

ISO 5353, *Earth-moving machinery, and tractors and machinery for agriculture and forestry – Seat index point*

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

ISO 13849-1, *Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design*

ISO 13857, *Safety of machinery – Safety distances to prevent hazard zones being reached by the upper and lower limbs*

ISO 25119 (all parts), *Tractors and machinery for agriculture and forestry – Safety-related parts of control systems*

Replacement:

IEC 60068-2-78:2001, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*