

BS EN 60335-2-72:2012



BSI Standards Publication

Household and similar electrical appliances — Safety

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

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National foreword

This British Standard is the UK implementation of EN 60335-2-72:2012. It is derived from IEC 60335-2-72:2012. It supersedes BS EN 60335-2-72:2009 which will be withdrawn on 3 May 2015.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags **C** **C**.

The UK participation in its preparation was entrusted by Technical Committee CPL/61, Safety of household and similar electrical appliances, to Subcommittee CPL/61/10, Floor treatment machines (industrial).

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Amendments/corrigenda issued since publication

Date	Text affected
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**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.

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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/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.

Modifications to Annexes Z

The annexes of Part 1 are applicable except as follows:

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

Annex A	Germany
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The CO-emission of LPG driven machines, intended to be used indoors, has to comply with the value specified in Annex BB. The result shall be documented.

Annex BB	Germany
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For machines intended to be used indoors, except single cylinder engines, the exhaust gas shall not contain more than 0,1 % volume of carbon monoxide (CO). If adjustments are necessary, the adjusting means shall be easily accessible. The measurement shall be carried out with a warm engine, idling, using 98 % propane. The revolution speed of the engine shall be documented.

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

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.

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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 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**. ⓘ

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*

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 in accordance with the manufacturer's instructions. For machines provided with a seat or an **operator** platform, a mass of 75 kg secured in position at the appropriate height is used to simulate the **operator** in the most unfavourable position.

Socket-outlets for accessories are loaded with a resistive load in accordance with the marking.

Operational functions include all treatment and driving functions.

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 and sweeping machines are operated on a surface of hydraulically pressed concrete paving slabs (see Annex AA) intermittently at least 30 min switched on, and for a period of 5 min switched off.

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

3.1.9.102 Polishing and dry buffing machines are operated as follows.

PVC- or comparable flooring surfaces are considered to be suitable for establishing **normal operation**. The peak of input occurring during the drying process of the chemical applied to treat the surface is not taken as **normal operation** but is averaged by extending measurements over a period of at least 10 min.

3.1.9.103 Carpet shampooers are operated on a test surface consisting of a carpet, in accordance with IEC 60312-1, the carpet being fastened to the floor.

Prior to testing, the brush of the shampooing machine is conditioned by operating it for 15 min on a clean, dry concrete surface. After running on the concrete surface, the brush is immersed in a shampoo solution for at least 30 min.

The solution tank is filled and the machine is operated over a period of 10 min.

3.101

traction drive

system used to propel the machine, e.g. by powered wheels

Traction by the effect of rotating brushes is not included.

3.102

walk-behind machine

machine with or without a **traction drive** designed to be controlled by the **operator** walking behind the machine

It may be equipped with a detachable **sulky**.

3.103

ride-on machine

machine with a **traction drive** and with an **operator** seat or a platform on which the **operator** is sitting/standing during operation

3.104

sulky (trailer)

removable trailing seat or stand-on platform with wheels or skids designed to carry an **operator** in a sitting or standing position, while controlling a **walk-behind machine** with **traction drive**

3.105

wet cleaning machine

machine for applying and sucking up liquids

3.106

water-suction cleaning machine

machine for sucking up liquids

3.107

motorized cleaning head

hand-held or hand-guided cleaning device connected to the machine, with an integrated electrical motor

Note 1 to entry: The main cleaning head permanently attached is not regarded as a **motorized cleaning head**.

3.108

hopper

container to store picked up debris

3.109

parking brake

means, actuated by the **operator** in the normal operating position, to prevent a stationary machine from moving

3.110

service brake

means for decelerating and stopping a machine, with a **traction drive**, from its ground travel speed

3.111

operator presence control

OPC

control device that automatically interrupts the power, e.g. to a drive or an engine, when the **operator's** actuating force is removed

Note 1 to entry: Such devices can be, for example, continuous action controls ("hold-to-run" controls) or seat switches.

3.112

guard

part of the machine specifically designed to provide protection by means of a physical barrier, such as, for example, a casing, a shield, a cover, a screen, a door, an enclosure or a fence; other parts of the machine that fulfil a primarily operational function, such as, for example, the frame of the machine, may also fulfil a protective function but are not referred to as **guards**

Note 1 to entry: Three main kinds of **guards** can be distinguished: fixed **guards**, interlocking moveable **guards** and adjustable **guards**. Interlocking movable **guards** are required where frequent access is envisaged, while fixed **guards** can be used where frequent access is not envisaged.

3.113

operator

person installing, operating, adjusting, cleaning, moving, or performing user maintenance on the machine

3.114

gross vehicle weight

GVW

maximum allowable fully laden weight of the machine and its payload, as ready for use

Note 1 to entry: See 5.102 for further test conditions.

3.115

test solution

solution which 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

Note 1 to entry: The chemical designation of dodecyl sodium sulphate is $C_{12}H_{25}NaSO_4$.

3.116

level surface

plane with a gradient up to and including 2 %

3.117

slope

inclined plane with a gradient greater than 2 % but not exceeding 20 %

3.118

maximum cleaning gradeability

maximum gradient according to manufacturer's instruction and as indicated on the machine, on which the machine can be used safely for cleaning purposes

3.119

maximum transport gradeability

maximum gradient according to manufacturer's instruction, on which the machine can be used safely for transport purposes

3.120

built-in charger

charger mounted on or into the machine and designed to operate only on or into the machine.

Note 1 to entry: **Built-in chargers** can also be called on-board chargers.

3.121

built-in charger with power supply function

component intended to provide power for charging, operation or both

3.122

commercial use

intended use of machines covered by this standard, i.e. not intended for normal housekeeping purposes by private persons but which may be a source of danger to the public

I.e. in particular that

- the machines may be used by cleaning contractors, cleaning staff, etc.;
- they are used in commercial or public premises (i.e. offices, shops, hotels, hospitals, schools, etc.) or in industrial (plants etc.) and light industrial (workshops etc.) environments.

Note 1 to entry: **Commercial use** is also called professional use.

3.6.3

accessible part

Modification:

Delete “and probe 18”.

4 General requirement

This clause of Part 1 is applicable except as follows:

Replacement of the first paragraph by the following:

Machines shall be constructed so that they function safely so as to cause no danger to persons or surroundings during normal use, even in the event of carelessness, and during installation, adjusting, maintenance, cleaning, repairing or transportation.

Addition:

For the purposes of this standard, the term ‘appliance’ as used in Part 1 is to be read as ‘machine’.

5 General conditions for the tests

This clause of Part 1 is applicable except as follows.

5.101 *The **test solution** is to be stored in a cool atmosphere and used within seven days after its preparation.*

5.102 *The **GVW** includes, if applicable, full clean water tanks, empty dirty water tanks (half full for recycling systems), empty dust bags, **hopper** loaded at rated capacity, largest recommended batteries, all options such as cords, hoses, wands, cleaning agents, brooms and brushes.*

*For **ride-on machines**, the **GVW** includes a standard **operator**, weighing 75 kg.*

5.103 *Liquid containers of machines for wet scrubbing and shampooing are filled to the highest level indicated by the manufacturer.*

5.104 *Machines that are designed to have a **sulky** are tested with the **sulky** including the weight of a standard **operator** (75 kg) or without the **sulky**, whichever is the most unfavourable condition.*

6 Classification

This clause of Part 1 is applicable except as follows.

6.1 Replacement:

Machines shall be one of the following classes with respect to the protection against electric shock:

- class I,
- class II, or
- class III.

Compliance is checked by inspection and by the relevant tests.

6.2 Addition:

Mains supplied and battery powered machines for indoor use intended for dry cleaning only shall be at least IPX0. Other machines shall be at least IPX3.

7 Marking and instructions

This clause of Part 1 is applicable except as follows.

7.1 Replacement of the 4th dashed item as follows:

- the business name and address of the manufacturer and, if applicable, his authorized representative; any address shall be sufficient to ensure postal contact;

Addition:

Machines shall be marked in addition with the following:

- serial number, if any;
- designation of the machine and series or type, allowing the technical identification of the product. This may be achieved by a combination of letters and/or numbers;

NOTE 101 Designation of machine, series or type includes the model or type reference as required in Part 1.

- year of construction, i.e. the year in which the manufacturing process is completed;

NOTE 102 The year of construction can be part of the serial number.

- **GVW** of the machine, in kg;
- the symbol indicating the **maximum cleaning gradeability**, with the value of x.

NOTE 103 I.e. the machine might be able to drive on a higher gradient (**maximum transport gradeability**). This additional information can be given also in the instructions for use.

Machines intended to be used indoors and powered by internal combustion engines shall be marked in addition with the symbol according to Figure 106. It is acceptable to show this symbol in monochrome colour.

7.1.101 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;
- mass of the most usual configuration in kg.

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 (2002-10).

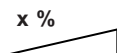
NOTE This symbol is an information sign and, except for the colours, the rules of ISO 3864-1 apply.

Compliance is checked by inspection.

7.1.102 Socket-outlets for accessories shall be marked with the maximum load in watts on the socket-outlet or close to it.

Compliance is checked by inspection.

7.6 Addition:



maximum cleaning gradeability 'x'



[symbol IEC 60417-5935 (2002-10)]

motorized cleaning head for water-suction cleaning

[C] 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." **[C]**

7.12 Modification:

Replace the 4th paragraph by the following text.

This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.

Addition:

The front cover of the instructions shall include the substance of the following warning:

CAUTION Read the instructions before using the machine.

This wording may be replaced by symbols ISO 7000-0434 (2004-01) and either ISO 7000-1641 (2004-01) or ISO 7000-0790 (2004-01).

The instructions shall contain at least the following:

- the business name and full address of the manufacturer and, if applicable, his authorized representative;
- designation of series or type of the machine as marked on the machine itself, except for the serial number;

NOTE 101 The designation of series or type can be abstracted, as long as the identification of the product is ensured.

- the general description of the machine;
- the GVW of the machine in kilograms;
- the transportation weight of the machine in kilograms, which includes the batteries but excludes options (e.g. driver cabin, FOPS, second and third side broom, front mounted sweeping attachment for scrubbers), fresh water (in case of scrubbers or combined machines), and the weight of a standard operator (75 kg);
- the intended use of the machine and the auxiliary equipment as covered by the scope of this standard;

NOTE 102 Examples of auxiliary equipment are suction nozzles, spray bars, and lights.

- the meaning of the symbols used on the machine and in the instructions;
- drawings, diagrams, descriptions and explanations necessary for the safe use, maintenance and repair of the machine and for checking its correct functioning;
- technical data including the markings on the machine;
- information regarding putting into service, safe operation, handling, transportation, and storage of the machine taking into account its GVW;
- instructions to enable adjustment and maintenance to be carried out safely, including the protective measures that should be taken during these operations;
- the conditions in which the machine meets the requirement of stability during use, transportation, assembly, dismantling when out of service, testing or foreseeable breakdowns;
- the procedure to be followed to prevent unsafe situations in the event of accident (e.g. contact with or spillage of detergents, battery acid, fuel or oil) or equipment breakdown (such as flat tire or component failure);
- the substance of the following:

This machine is intended for **commercial use**, for example in hotels, schools, hospitals, factories, shops, offices and rental businesses.

The instructions shall indicate the type and frequency of inspections and maintenance required for safe operation, including preventive maintenance measures. They shall, if applicable, give the specifications of the spare parts if they affect the health and safety of the **operator**.

In addition, the instructions shall give the following information, if applicable: