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REDLINE VERSION

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

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-69: Particular requirements for wet and dry vacuum cleaners, including power brush, for 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.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
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.

DISCLAIMER
This Redline version is not an official IEC Standard and is intended only to provide the user with an indication of what changes have been made to the previous version. Only the current version of the standard is to be considered the official document.

This Redline version provides you with a quick and easy way to compare all the changes between this standard and its previous edition. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

International Standard IEC 60335-2-69 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 fifth edition cancels and replaces the fourth edition published in 2012. It constitutes a technical revision.

The principal changes in this edition as compared with the third edition of IEC 60335-2-69 are as follows (minor changes are not listed):

– 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;
– the standard has been aligned with the newest amendment of IEC 60335-1:2010+A1:2013;
– Annex AA was revised and restructured;
– Annex CC was revised;
– general additions for vacuum cleaners with blowing functions have been introduced;
– a new Annex GG ‘Particular requirements for mobile wet vacuum cleaners for rescue and firefighting services (MWF)’ was added.

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

FDIS	Report on voting
61J/637/FDIS	61J/646/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 wet and dry vacuum cleaners, including power brush, 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:

– sub clauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
– unless notes are in a new sub clause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or sub clause;
– 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.

NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

The following differences exist in the countries indicated below.

– 22.207: A mobile power generator in accordance with DIN 14685 is required (Germany)

– 25.6: A safety plug in accordance with DIN 49443 is required. (Germany)

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 website 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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of electrical motor-operated vacuum cleaners, including **back-pack vacuum cleaners**, and **dust extractors**, for wet suction, dry suction, or wet and dry suction, intended for commercial indoor or outdoor use with or without attachments. They may be provided with a blowing or inflating function.

It also deals with the safety of **centrally-sited vacuum cleaners**, excluding the installation of the system.

NOTE 101 Attention is drawn to the fact that additional requirements on the safe installation of **centrally-sited vacuum cleaners** are not addressed by this standard but need to be taken into account.

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:

- 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 also applies to machines handling **hazardous dust**, such as asbestos.

NOTE 103 Additional requirements for machines handling **hazardous dust** are given in Annex AA. Attention is drawn to the fact that in many countries additional requirements on hazardous substances might apply.

NOTE 104 Radioactive substances are not covered by definition of **hazardous dust** for the purposes of this standard.

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);
- spray extraction machines for **commercial use** (IEC 60335-2-68);
- hand-held mains-operated electrical garden blowers, vacuums and blower vacuums (IEC 60335-2-100);
- hand-held and transportable motor-operated electric tools (IEC 60745 series, IEC 61029 series, IEC 62841 series);
- appliances for medical purposes (IEC 60601-1);

– machines designed for use in corrosive environments;
– machines designed for picking up liquids with a flash point below 55 °C;
– machines designed for use in explosive environments (dust, vapour or gas), except those designed for use in zone 22.

NOTE 105 The flash point temperature limit may vary in different countries. National regulations will need to be taken into account.

NOTE 106 Additional requirements for vacuum cleaners designed for collecting **combustible dust** in zone 22 are given in Annex CC.

NOTE 107 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*

IEC 60335-2-41, *Household and similar electrical appliances – Safety – Part 2-41: Particular requirements for pumps*

IEC 61540, *Petit appareillage – Dispositifs différentiels mobiles sans dispositif de protection contre les surintensités incorporé pour usages domestiques et analogues (PCDM)*

ISO 2602, *Statistical interpretation of test results – Estimation of the mean – Confidence interval*

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INTERNATIONAL STANDARD

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

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

IEC 60335-2-69:2016-06(en-fr)

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

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NOTE 103 Additional requirements for machines handling **hazardous dust** are given in Annex AA. Attention is drawn to the fact that in many countries additional requirements on hazardous substances might apply.

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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APPAREILS ÉLECTRODOMESTIQUES ET ANALOGUES – SÉCURITÉ –

Partie 2-69: Exigences particulières pour les aspirateurs fonctionnant en présence d'eau ou à sec, y compris les brosses motorisées, à usage commercial

AVANT-PROPOS

1) La Commission Electrotechnique Internationale (IEC) est une organisation mondiale de normalisation composée de l'ensemble des comités électrotechniques nationaux (Comités nationaux de l'IEC). L'IEC a pour objet de favoriser la coopération internationale pour toutes les questions de normalisation dans les domaines de l'électricité et de l'électronique. A cet effet, l'IEC – entre autres activités – publie des Normes internationales, des Spécifications techniques, des Rapports techniques, des Spécifications accessibles au public (PAS) et des Guides (ci-après dénommés "Publication(s) de l'IEC"). Leur élaboration est confiée à des comités d'études, aux travaux desquels tout Comité national intéressé par le sujet traité peut participer. Les organisations internationales, gouvernementales et non gouvernementales, en liaison avec l'IEC, participent également aux travaux. L'IEC collabore étroitement avec l'Organisation Internationale de Normalisation (ISO), selon des conditions fixées par accord entre les deux organisations.
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La Norme internationale IEC 60335-2-69 a été établie par le sous-comité 61J: Appareils de nettoyage à moteur électrique pour usage commercial, du comité d'études 61 de l'IEC: Sécurité des appareils électrodomestiques et analogues.

Cette cinquième édition annule et remplace la quatrième édition parue en 2012. Elle constitue une révision technique.

Les principales modifications de cette édition, par rapport à la quatrième édition de l'IEC 60335-2-69, sont les suivantes (les modifications mineures ne sont pas mentionnées):

– le domaine d'application a été révisé sur le plan rédactionnel afin d'éviter toute incompréhension;
– les termes et définitions ont été révisés conformément à la révision des exigences;
– la norme a été révisée de manière générale et mise à jour concernant l'état de l'art, dans la mesure du nécessaire, en particulier quelques modifications ont été apportées aux Articles 15, 22 et 25;
– la norme a été alignée avec l'amendment le plus récent de l'IEC 60335-1:2010+A1:2013;
– l'Annexe AA a été révisée et restructurée;
– l'Annexe CC a été révisée;
– des additions générales pour les aspirateurs avec des fonctions de soufflage ont été introduites;
– une nouvelle Annexe GG 'Exigences particulières relatives aux aspirateurs mobiles fonctionnant en présence d'eau pour les services de sauvetage et de lutte contre l'incendie (MWF)' a été ajoutée.

Le texte de cette norme est issu des documents suivants:

FDIS	Rapport de vote
61J/637/FDIS	61J/646/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette norme.

Cette publication a été rédigée selon les Directives ISO/IEC, Partie 2.

La présente partie 2 doit être utilisée conjointement avec la dernière édition de l'IEC 60335-1 et ses amendements. Elle a été établie sur la base de la cinquième édition (2010) de cette norme.

NOTE 1 L'expression "Partie 1" utilisée dans la présente Norme fait référence à l'IEC 60335-1.

La présente partie 2 complète ou modifie les articles correspondants de l'IEC 60335-1 de façon à transformer cette publication en norme IEC: Exigences de sécurité pour les aspirateurs fonctionnant en présence d'eau ou à sec, y compris les brosses motorisées, à usage commercial.

Lorsqu'un paragraphe particulier de la Partie 1 n'est pas mentionné dans cette partie 2, ledit paragraphe s'applique, pour autant qu'il soit raisonnable. Lorsque la présente Norme indique "addition", "modification" ou "remplacement", le texte correspondant de la Partie 1 doit être adapté en conséquence.

NOTE 2 Le système de numérotation suivant est utilisé:

– les paragraphes, tableaux et figures numérotés à partir de 101 viennent en supplément de ceux de la Partie 1;
– notes: à l'exception de celles qui sont dans un nouveau paragraphe ou de celles qui concernent des notes de la Partie 1, les notes sont numérotées à partir de 101, y compris celles des articles ou paragraphes qui sont modifiés ou remplacés;
– les annexes suplémentaires sont appelées AA, BB, etc.

NOTE 3 Les caractères d'imprimerie suivants sont employés:

– exigences: caractères romains;
– *spécifications d'essai: caractères italiques;*
– notes: petits caractères romains.

NOTE 4 L'attention des Comités Nationaux est attirée sur le fait que les fabricants d'appareils et les organismes d'essai peuvent avoir besoin d'une période transitoire après la publication d'une nouvelle publication IEC, ou d'une

publication amendée ou révisée, pour fabriquer des produits conformes aux nouvelles exigences et pour adapter leurs équipements aux nouveaux essais ou aux essais révisés.

Le comité recommande que le contenu de cette publication soit entériné au niveau national au plus tôt 12 mois et au plus tard 36 mois après la date de publication.

Les différences ci-dessous existent dans les pays indiqués ci-après.

– 22.207: Un générateur portable conforme à la norme DIN 14685 (Allemagne) est exigé

– 25.6: Une prise de sécurité conforme à la norme DIN 49443 est exigée (Allemagne)

Les mots en **gras** sont définis à l'Article 3. Si une définition concerne un adjectif, ce dernier et le nom qui lui est associé sont également présentés en gras.

Une liste de toutes les parties de la série IEC 60335, publiées sous le titre général: *Appareils électrodomestiques et analogues – Sécurité*, peut être consultée sur le site Web de l'IEC.

Le comité a décidé que le contenu de cette publication ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous "http://webstore.iec.ch" dans les données relatives à la publication recherchée. A cette date, la publication sera

- reconduite,
- supprimée,
- remplacée par une édition révisée, ou
- amendée.

IMPORTANT – Le logo "colour inside" qui se trouve sur la page de couverture de cette publication indique qu'elle contient des couleurs qui sont considérées comme utiles à une bonne compréhension de son contenu. Les utilisateurs devraient, par conséquent, imprimer cette publication en utilisant une imprimante couleur.

INTRODUCTION

Il a été considéré en établissant la présente Norme internationale que l'exécution de ses dispositions était confiée à des personnes expérimentées et ayant une qualification appropriée.

Cette norme reconnaît le niveau de protection internationalement accepté contre les dangers électriques, mécaniques, thermiques, liés au feu et au rayonnement des appareils lorsqu'ils fonctionnent comme en usage normal en tenant compte des instructions du fabricant. Elle couvre également les situations anormales pouvant être attendues dans la pratique et prend en considération la manière dont les phénomènes électromagnétiques peuvent affecter la sécurité de fonctionnement des appareils.

Cette norme tient compte autant que possible des exigences de l'IEC 60364, de façon à garantir la compatibilité avec les règles d'installation quand l'appareil est raccordé au réseau d'alimentation. Cependant, des règles nationales d'installation peuvent être différentes.

Si un appareil compris dans le domaine d'application de la présente norme comporte également des fonctions qui sont couvertes par une autre partie 2 de l'IEC 60335, la partie 2 correspondante est appliquée à chaque fonction séparément, pour autant qu'il est raisonnable. Si cela est applicable, l'influence d'une fonction sur les autres fonctions est prise en compte.

Si la partie 2 d'une norme n'inclut pas d'exigences supplémentaires pour couvrir les dangers traités dans la Partie 1, la Partie 1 s'applique.

NOTE 1 Cela signifie que les comités d'études responsables pour les parties 2 ont déterminé qu'il n'était pas nécessaire de spécifier des exigences particulières pour l'appareil en question en plus des exigences générales.

Cette norme est une norme de famille de produits traitant de la sécurité d'appareils et prévaut sur les normes horizontales et génériques couvrant le même sujet.

NOTE 2 Les normes horizontales et génériques couvrant un danger ne sont pas applicables puisqu'elles ont été prises en considération lors du développement des exigences générales et particulières pour la série de normes IEC 60335. Par exemple, dans le cas des exigences de température de surface pour de nombreux appareils, des normes génériques, comme l'ISO 13732-1 pour les surfaces chaudes, ne sont pas applicables en plus de la Partie 1 ou des parties 2.

Un appareil satisfaisant au texte de la présente norme ne sera pas nécessairement jugé comme satisfaisant aux principes de sécurité de la norme si, lorsqu'il est examiné et soumis aux essais, il apparaît qu'il présente d'autres caractéristiques qui compromettent le niveau de sécurité visé par ces exigences.

Un appareil utilisant des matériaux ou présentant des modes de construction différents de ceux décrits dans les exigences de cette norme peut être examiné et soumis à essai en fonction de l'objectif visé par ces exigences et, s'il est jugé pratiquement équivalent, il peut être estimé comme satisfaisant à la norme.

APPAREILS ÉLECTRODOMESTIQUES ET ANALOGUES – SÉCURITÉ –

Partie 2-69: Exigences particulières pour les aspirateurs fonctionnant en présence d'eau ou à sec, y compris les brosses motorisées, à usage commercial

1 Domaine d'application

L'article de la Partie 1 est remplacé par l'article suivant.

La présente partie de l'IEC 60335 traite de la sécurité des aspirateurs électriques à moteur, y compris les **aspirateurs dorsaux** et les **extracteurs de poussière**, pour aspiration d'eau, aspiration à sec, ou aspiration d'eau et à sec, destinés à un usage commercial en extérieur et en intérieur avec ou sans accessoires. Ils peuvent être fournis avec une fonction de soufflage ou de gonflage.

Elle traite également de la sécurité des **aspirateurs à unité centrale d'aspiration**, à l'exception de l'installation du système.

NOTE 101 L'attention est attirée sur le fait que les exigences supplémentaires relatives à l'installation en toute sécurité des **aspirateurs à unité centrale d'aspiration** ne sont pas traitées par la présente norme mais nécessitent d'être prises en compte.

NOTE 102 La présente norme s'applique aux machines destinées à un **usage commercial**. La liste suivante, bien que non exhaustive, fournit une indication des lieux inclus dans le domaine d'application:

- lieux publics tels que des hôtels, des écoles, des hôpitaux;
- sites industriels, par exemple des usines et des ateliers de fabrication;
- commerces de détail, par exemple des boutiques et des supermarchés;
- locaux commerciaux, par exemple des bureaux et des banques;
- toutes utilisations autres que l'entretien domestique normal.

Ces appareils ne sont pas équipés d'un dispositif de transmission. Les systèmes d'alimentation suivants sont couverts:

- moteurs alimentés par secteur avec une **tension assignée** maximale de 250 V pour les appareils monophasés et 480 V pour les autres appareils,
- les moteurs alimentés par batterie.

La présente norme s'applique en outre aux machines manipulant de la **poussière dangereuse**, telle que de l'amiante.

NOTE 103 Des exigences supplémentaires concernant les machines manipulant de la **poussière dangereuse** sont indiquées à l'Annexe AA. L'attention est attirée sur le fait que dans de nombreux pays, des exigences supplémentaires relatives aux substances dangereuses pourraient s'appliquer.

NOTE 104 Les substances radioactives ne sont pas couvertes par la définition de **poussière dangereuse** pour les besoins de la présente norme.

La présente norme ne s'applique pas

- aux aspirateurs et aux appareils de nettoyage à aspiration d'eau à usage domestique (IEC 60335-2-2);
- aux machines de traitement des sols à **usage commercial** (IEC 60335-2-67, IEC 60335-2-72);

– aux machines de nettoyage par pulvérisation et aspiration à **usage commercial** (IEC 60335-2-68);
– aux souffleurs, aspirateurs et aspiro-souffleurs portatifs pour le jardin, alimentés par le secteur (IEC 60335-2-100);
– aux outils électroportatifs à moteur et portables (série IEC 60745, série IEC 61029, série IEC 62841);
– aux appareils destinés à des usages médicaux (IEC 60601-1);
– aux machines destinées à être utilisées dans des environnements corrosifs;
– aux machines destinées à aspirer des liquides dont le point d'éclair est inférieur à 55 °C;
– aux machines destinées à être utilisées dans des environnements explosifs (poussière, vapeur ou gaz), à l'exception de celles destinées à être utilisées en zone 22.

NOTE 105 La limite de température du point d'éclair peut varier dans différents pays. Il est nécessaire de prendre en considération les réglementations nationales.

NOTE 106 Des exigences supplémentaires pour les aspirateurs destinés à recueillir de la **poussière combustible** en zone 22 sont données à l'Annexe CC.

NOTE 107 L'attention est attirée sur le fait que, dans de nombreux pays, des exigences supplémentaires relatives à l'utilisation en toute sécurité de l'équipement couvert peuvent être spécifiées par les organismes sanitaires nationaux, par les organismes nationaux responsables de la protection des travailleurs, par les organismes nationaux responsables de l'alimentation en eau et par des organismes similaires.

2 Références normatives

L'article de la Partie 1 est applicable avec les exceptions suivantes.

Addition:

IEC 60312-1, *Vacuum cleaners for household use – Part 1: Dry vacuum cleaners – Methods for measuring the performance* (disponible en anglais seulement)

IEC 60335-2-41, *Appareils électrodomestiques et analogues – Sécurité – Partie 2-41: Règles particulières pour les pompes*

IEC 61540, *Electrical accessories – Portable residual current devices without integral overcurrent protection for household and similar use (PRCDs)*

ISO 2602, *Interprétation statistique de résultats d'essais – Estimation de la moyenne – Intervalle de confiance*

ISO 6344-2, *Abrasifs appliqués – Granulométrie – Partie 2: Détermination de la distribution granulométrique des macrograins P12 à P220*

ISO 7731, *Ergonomie – Signaux de danger pour lieux publics et lieux de travail – Signaux de danger auditifs*

ISO 11428, *Ergonomie – Signaux visuels de danger – Exigences générales, conception et essais*