

This is a preview of "BS EN 60335-2-2:2010". Click [here](#) to purchase the full version from the ANSI store.

**BS EN 60335-2-2:2010**



BSI Standards Publication

# Household and similar electrical appliances — Safety

Part 2-2: Particular requirements for vacuum cleaners and water-suction cleaning appliances

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

*raising standards worldwide™*



This is a preview of "BS EN 60335-2-2:2010". [Click here to purchase the full version from the ANSI store.](#)

This British Standard is the UK implementation of EN 60335-2-2:2010. It is identical to IEC 60335-2-2:2009. It supersedes BS EN 60335-2-2:2003, which will be withdrawn on 1 February 2015.

The UK participation in its preparation was entrusted by Technical Committee CPL/61, Safety of household and similar electrical appliances, to Subcommittee CPL/61/1, Motorised appliance group.

A list of organizations represented on this committee 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. © BSI 2010

ISBN 978 0 580 65768 9

ICS 97.080

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 May 2010.

#### **Amendments issued since publication**

<b>Amd. No.</b>	<b>Date</b>	<b>Text affected</b>
-----------------	-------------	----------------------

---

This is a preview of "BS EN 60335-2-2:2010". [Click here to purchase the full version from the ANSI store.](#)

EUROPÄISCHE NORM

February 2010

ICS 13.120; 97.080

Supersedes EN 60335-2-2:2003 + A1:2004 + A2:2006

English version

**Household and similar electrical appliances -  
Safety -  
Part 2-2: Particular requirements for vacuum cleaners  
and water-suction cleaning appliances  
(IEC 60335-2-2:2009)**

Appareils électrodomestiques  
et analogues -  
Sécurité -  
Partie 2-2: Règles particulières  
pour les aspirateurs et les appareils  
de nettoyage à aspiration d'eau  
(CEI 60335-2-2:2009)

Sicherheit elektrischer Geräte  
für den Hausgebrauch  
und ähnliche Zwecke -  
Teil 2-2: Besondere Anforderungen  
für Staubsauger und Wassersauger  
(IEC 60335-2-2:2009)

This European Standard was approved by CENELEC on 2010-02-01. 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 Central Secretariat 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 Central Secretariat 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

# CENELEC

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

**Central Secretariat: Avenue Marnix 17, B - 1000 Brussels**

This is a preview of "BS EN 60335-2-2:2010". [Click here to purchase the full version from the ANSI store.](#)

## Foreword

The text of document 61/3871/FDIS, future edition 6 of IEC 60335-2-2, prepared by IEC TC 61, Safety of household and similar electrical appliances, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60335-2-2 on 2010-02-01.

This European Standard supersedes EN 60335-2-2:2003 + A1:2004 + A2:2006.

The principal change in EN 60335-2-2:2010 as compared with EN 60335-2-2:2003 is as follows (minor changes are not listed):

- the text is aligned with EN 60335-1:2002, and its amendments A1:2004 and A2:2006 (see text marked with a marginal bar).

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

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2010-11-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2015-02-01

This Part 2 has to be used in conjunction with EN 60335-1, Household and similar electrical appliances – Safety – Part 1: General requirements. It was established on the basis of the 2002 edition of that standard. Amendments and revisions of Part 1 have also to be taken into account and the dates when such changes become applicable will be stated in the relevant amendment or revision of Part 1.

This Part 2 supplements or modifies the corresponding clauses of EN 60335-1, so as to convert it into the European Standard: Safety requirements for vacuum cleaners and water-suction cleaning appliances.

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 of Part 1 is to be adapted accordingly.

NOTE 1 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.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letter Z.

NOTE 2 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.

There are no special national conditions causing a deviation from this European Standard, other than those listed in Annex ZA to EN 60335-1.

There are no national deviations from this European Standard, other than those listed in Annex ZB to EN 60335-1.

This is a preview of "BS EN 60335-2-2:2010". [Click here to purchase the full version from the ANSI store.](#)

---

## Introduction

p Add:

An investigation by CENELEC TC 61 has shown that all risks from products within the scope of this standard are fully covered by the Low Voltage Directive, 2006/95/EC. For products having mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 2006/42/EC, has shown that the risks are mainly of electrical origin and consequently this directive is not applicable. However, the relevant essential safety requirements of the Machinery Directive are covered by this standard together with the principal objectives of the Low Voltage Directive.

---

## Endorsement notice

The text of the International Standard IEC 60335-2-2:2009 was approved by CENELEC as a European Standard without any modification.

---

## Bibliography

p Add the following notes to the standards mentioned:

IEC 60335-2-69	NOTE	Harmonized as EN 60335-2-69.
ISO 13732-1	NOTE	Harmonized as EN ISO 13732-1.

---

This is a preview of "BS EN 60335-2-2:2010". [Click here to purchase the full version from the ANSI store.](#)

## Annex ZC (normative)

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

*Addition:*

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60312	-	Vacuum cleaners for household use - Methods of measuring the performance	EN 60312	-
ISO 6344-2	-	Coated abrasives - Grain size analysis - Part 2: Determination of grain size distribution of macrogrits P12 to P220	-	-

This is a preview of "BS EN 60335-2-2:2010". [Click here to purchase the full version from the ANSI store.](#)

## CONTENTS

INTRODUCTION.....	7
1 Scope.....	8
2 Normative references .....	9
3 Definitions .....	9
4 General requirement.....	10
5 General conditions for the tests .....	10
6 Classification.....	11
7 Marking and instructions.....	11
8 Protection against access to live parts.....	12
9 Starting of motor-operated appliances .....	12
10 Power input and current .....	12
11 Heating .....	13
12 Void.....	13
13 Leakage current and electric strength at operating temperature.....	13
14 Transient overvoltages .....	13
15 Moisture resistance .....	13
16 Leakage current and electric strength.....	15
17 Overload protection of transformers and associated circuits .....	15
18 Endurance.....	15
19 Abnormal operation .....	15
20 Stability and mechanical hazards .....	16
21 Mechanical strength .....	17
22 Construction.....	18
23 Internal wiring.....	19
24 Components .....	19
25 Supply connection and external flexible cords .....	19
26 Terminals for external conductors.....	20
27 Provision for earthing .....	20
28 Screws and connections.....	20
29 Clearances, creepage distances and solid insulation .....	20
30 Resistance to heat and fire.....	20
31 Resistance to rusting.....	20
32 Radiation, toxicity and similar hazards.....	20
Annexes .....	24
Annex B (normative) Appliances powered by rechargeable batteries.....	24
Annex C (normative) Ageing test on motors .....	26
Bibliography.....	27
Figure 101 – Apparatus for testing the abrasion resistance of current-carrying hoses .....	21
Figure 102 – Apparatus for testing the resistance to flexing of current-carrying hoses .....	22

This is a preview of "BS EN 60335-2-2:2010". [Click here to purchase the full version from the ANSI store.](#)

Figure 103 – Configuration of the hose for the freezing treatment ..... 23  
Figure 104 – Flexing positions for the hose after removal from the freezing cabinet..... 23



## 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.

This is a preview of "BS EN 60335-2-2:2010". [Click here to purchase the full version from the ANSI store.](#)

## HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

### Part 2-2: Particular requirements for vacuum cleaners and water-suction cleaning appliances

#### 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric vacuum cleaners and **water-suction cleaning appliances** for household and similar purposes, including vacuum cleaners for animal grooming, their **rated voltage** being not more than 250 V. It also applies to **centrally-sited vacuum cleaners** and **automatic battery-powered cleaners**.

This standard also applies to **motorized cleaning heads** and current-carrying hoses associated with a particular vacuum cleaner.

Appliances not intended for normal household use, but which nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in shops and other premises for normal housekeeping purposes, are within the scope of this standard.

NOTE 101 Examples of such appliances are appliances intended to be used for normal housekeeping purposes in hotels, offices, schools, hospitals and similar premises.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account

- persons (including children) whose
  - physical, sensory or mental capabilities; or
  - lack of experience and knowledgeprevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance.

NOTE 102 Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;
- in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

NOTE 103 This standard does not apply to

- appliances intended exclusively for industrial purposes;
- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- wet and dry vacuum cleaners, including power brush, for commercial use (IEC 60335-2-69).