

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Household and similar electrical appliances - Safety -
Part 2-116: Particular requirements for furniture with electrically motorized parts**

**Appareils électrodomestiques et analogues - Sécurité -
Partie 2-116: Exigences particulières pour les mobiliers avec des parties à
motorisation électrique**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Household and similar electrical appliances - Safety -
Part 2-116: Particular requirements for furniture
with electrically motorized parts**

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.
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IEC 60335-2-116 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This second edition cancels and replaces the first edition published in 2019. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) alignment with IEC 60335-1:2020;
- b) deletion or conversion of some notes to normative text (Clause 1);
- c) introduction of surface temperature limits (11.3, 11.8);
- d) introduction of test probe 19 (8.1.1, 20.2);

- e) revision of Clause 20.2.105 with a new entrapment force test method, including time-force profiles and updated force limits.

The text of this International Standard is based on the following documents:

Draft	Report on voting
61/7493/FDIS	61/7513/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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.

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments unless that edition precludes it; in that case, the latest edition that does not preclude it is used. It was established on the basis of the sixth edition (2020) 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: Particular requirements for furniture with electrically motorized parts.

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 state "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:

- *test specifications: in italic 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.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations can 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.

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.

Guidance documents concerning the application of the safety requirements for appliances can be accessed via TC 61 supporting documents on the IEC website <https://www.iec.ch/tc61/supportingdocuments>

This information is given for the convenience of users of this International Standard and does not constitute a replacement for the normative text in this standard.

This standard only covers the risks associated with electrically motorized parts 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 such appliances. It does not cover risks associated with furniture containing heating elements.

Other safety aspects of furniture with and without electrically motorized parts are covered by the standards developed by ISO TC 136.

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 can 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 publications, basic safety publications and group safety publications 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.

NOTE 3 Standards dealing with non-safety aspects of household appliances are:

- IEC standards published by TC 59 concerning methods of measuring performance;
- CISPR 11, CISPR 14-1 and relevant IEC 61000-3 series standards concerning electromagnetic emissions;
- CISPR 14-2 concerning electromagnetic immunity;
- IEC standards published by TC 111 concerning environmental matters.

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.

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of **furniture** with electrically motorized parts intended for household and similar purposes, their **rated voltage** being not more than 250 V including direct current (DC) supplied **furniture** and **battery-operated furniture**.

Furniture incorporating electrically motorized parts not intended for normal household use but which nevertheless can be a source of danger to the public, such as **furniture** intended to be used by laymen in shops, offices, hotels, restaurants, cinemas, hospitals, schools, in light industry and on farms, are within the scope of this standard.

Examples of **furniture** incorporating electrically motorized parts, are

- electrically operated/height adjustable tables and desks;
- electrically operated/adjustable stands and wall attachment for e.g. TV sets and monitors;
- electrically operated/adjustable seating;
- beds with incorporated ventilators and filters;
- electrically operated/adjustable beds;
- electrically operated/adjustable storage units including kitchen units;
- electrically operated/adjustable **furniture** intended to be secured to the wall or ceiling;
- electrically operated extension elements (drawers and doors);
- electric check-out **furniture** in hotels and shops;
- **furniture** delivered in parts (ready to assemble or knock-down **furniture**).

This standard deals with the reasonably foreseeable hazards presented by **furniture** incorporating electrically motorized parts that are encountered by all persons. However, in general, it does not take into account

- persons whose physical, sensory or mental capabilities, or lack of experience and knowledge prevents them from using the **furniture** incorporating electric appliances, parts or components safely without supervision or instruction;
- children playing with **furniture** incorporating electrically motorized parts.

Additional requirements can be necessary for **furniture** incorporating electrically motorized parts intended to be used in vehicles or on board ships or aircraft. In many countries, additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national authorities for fire protection and similar authorities.

This standard does not apply to:

- **furniture** containing heating elements;
- **furniture** intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- massage beds and massage chairs (IEC 60335-2-32);
- medical electrical equipment (IEC 60601 series);
- audio/video, information and communication technology equipment (IEC 62368-1);
- electrical wheel chairs;
- special **furniture** incorporating electric appliances, parts or components, which are part of industrial production equipment;
- electric child care articles except electrical height adjustable changing (nursing) tables;

- **furniture** especially for use by children;
- **furniture** for outdoor use.

Massage beds and massage chairs with motorized parts, other than those performing the massaging function, are also evaluated to the applicable requirements of this standard.

For the purpose of this standard, the term "appliance" from here and onward is to be read as "**furniture** with electrically motorized parts".

2 Normative references

This clause of Part 1 is applicable.

3 Terms and definitions

This clause of Part 1 is applicable except as follows.

3.1 Definitions relating to physical characteristics

3.1.9 *Modification:* **normal operation**

Replace the first paragraph with the following:

operation with the appliance operating with its **rated load** and under the most unfavourable conditions specified in the instructions

3.1.101

rated duty cycle

maximum activation time (x seconds ON) followed by a minimum deactivation time (y seconds OFF) necessary for the safe operation of the appliance assigned by the manufacturer

3.1.102

rated load

load assigned to the appliance by the manufacturer

Note 1 to entry: For beds, the mattress is considered a part of the bed construction.

3.5 Definitions relating to types of appliances

3.5.101

furniture

article intended to support human activities such as seating, eating, sleeping, working or storing things

Note 1 to entry: Examples are chairs, desks, tables, work benches, cupboards, shelves and beds.

3.6 Definitions relating to parts of appliances

3.6.101

leading edge

edge of any part moving in an appliance that causes the highest reduction of the gap over time

3.7 Definitions relating to safety components

3.7.101

biased-off switch

hold-to-run device which initiates and maintains the movement only as long as the manual control is actuated