

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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

**Appareils électrodomestiques et analogues – Sécurité –
Partie 2-116: Exigences particulières pour les meubles avec des parties
électriquement motorisées**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2-116: Particular requirements for furniture
with electrically motorised 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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International Standard IEC 60335-2-116 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

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

FDIS	Report on voting
61/5929/FDIS	61/5945/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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. 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 furniture with electrically motorised 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 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.

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

- reconfirmed;
- withdrawn;
- replaced by a revised edition; or
- amended.

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.

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 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 motorised 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 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.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-116: Particular requirements for furniture with electrically motorised parts

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.

Furniture incorporating electrically motorised parts not intended for normal household use but which nevertheless may 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.

NOTE 101 Examples of **furniture** incorporating electrically motorised 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 motorised 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 motorised parts.

NOTE 102 Attention is drawn to the fact that

- for **furniture** incorporating electrically motorised parts intended to be used in vehicles or on board ships or aircraft, additional requirements can 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 authorities for fire protection and similar authorities.

NOTE 103 This standard does not apply to

- **furniture** containing heating elements;
- electrically operated hospital beds (IEC 60601-2-52);
- electrical wheel chairs;
- special **furniture** incorporating electric appliances, parts or components, which are part of industrial production equipment;
- cupboards for building in appliances like a dishwasher;

- electric child care articles except electrical height adjustable changing (nursing) tables;
- **furniture** especially for use by children;
- **furniture** for outdoor use.

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

Replacement:

3.1.9

normal operation

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

Where applicable, the **rated load** is distributed as follows.

For adjustable beds with a non-articulating frame, the **rated load** is evenly distributed over the bed surface.

For adjustable articulating beds, the **rated load** is evenly distributed over the three separate bed surface areas with 45 % for the head part, 25 % for the middle part and 30 % for the foot part.

For adjustable articulating chairs without a leg rest, the **rated load** is evenly distributed over the two separate chair surface areas with 35 % for the back-rest part and 65 % the seating surface part.

For adjustable articulating chairs with a leg rest, the **rated load** is evenly distributed over the three separate chair surface areas with 35 % for the back-rest part, 55 % for the seating surface part and 10 % for the leg rest part.

For other **furniture** or parts of the **furniture** with electrically motorized parts the **rated load** is evenly distributed over the load bearing surface.

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 **furniture** 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