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CONSOLIDATED VERSION

Household and similar electrical appliances - Safety -
Part 2-17: Particular requirements for blankets, pads, clothing and similar flexible heating appliances

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Household and similar electrical appliances - Safety - Part 2-17: Particular requirements for blankets, pads, clothing and similar flexible heating appliances

FOREWORD

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This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 60335-2-17 edition 4.1 contains the fourth edition (2022-10) [documents 61/6671/FDIS and 61/6747/RVD] and its amendment 1 (2026-10) [documents 61/7628/FDIS and 61/7662/RVD].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

IEC 60335-2-17 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2012, Amendment 1:2015 and Amendment 2:2019. 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) conversion of some notes to normative text (Clause 1, 19.106, 21.103, 21.104, 21.110, 30.1, 30.102, Annex BB, CC.19.3);
c) clarification of the definition of control unit (3.6.105);
d) revision for adjusting the supply voltage of appliances, other than controlled appliances, when operation at rated power input times a factor is specified (5.12);
e) clarification of testing of blankets that cannot be folded with five thicknesses (19.101);
f) updated compliance criteria to include breakage of electrodes (21.1);
g) clarification of the test method for mattresses based on the rigidity index of the flexible part (21.111.1, Annex DD);
h) clarification for testing heating elements with a non-circular construction (21.111.3);
i) addition of requirements to protect the user from overheating in the event of an interruption in the mains supply (22.111)
j) inclusion of pressure test method from IEC 60320-1:2001 (30.1);
k) update of test methods for resistance to fire tests (30.101.1, 30.102).

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

Draft	Report on voting
61/6671/FDIS	61/6747/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/standardsdev/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 blankets, pads, clothing and similar flexible heating 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 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 and its amendment 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 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.

– 6.1: Class 0 products are allowed (Japan).

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 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 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.

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.

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.

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of electric **blankets**, **pads**, clothing and other flexible appliances that heat the bed or human body, for household and similar purposes, their **rated voltage** being not more than 250 V including direct current (DC) supplied appliances and **battery-operated appliances**.

This standard also applies to **control units** supplied with the appliance.

Appliances not intended for normal household use but which nevertheless possibly pose a source of danger to the public, such as appliances intended to be used in beauty parlours or by persons in cold ambient temperatures, are within the scope of this standard.

Requirements and tests for clothing are given in normative Annex CC.

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 knowledge prevents them from using the appliance safely without supervision or instruction;
– children playing with the appliance.

Children are considered to be old enough to use an appliance without supervision when they have been adequately instructed by a parent or guardian and are deemed competent to use the appliance safely.

Attention is drawn to the fact that

– for appliances 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 and similar authorities.

This standard does not apply to

– 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);
– rigid bed warmers, such as those of metal or ceramic material;
– water bed heaters (IEC 60335-2-66);
– heating appliances for breeding and rearing animals (IEC 60335-2-71);
– foot warmers and heating mats (IEC 60335-2-81);
– appliances specifically intended for use under medical supervision (IEC 60601-2-35);
– heated carpets (IEC 60335-2-106).

2 Normative references

This clause of Part 1 is applicable except as follows.

Addition:

ISO/IEC Guide 37, *Instructions for use of products by consumers*

ISO 2439, *Flexible cellular polymeric materials – Determination of hardness (indentation technique)*

ISO 3758, *Textiles – Care labelling code using symbols*

3 Terms and definitions

This clause of Part 1 is applicable except as follows.

3.1 Definitions relating to physical characteristics

3.1.9 *Addition:*
operation of the appliance under the following conditions:

– **blankets** and **pads** are placed between sheets of thermal insulation;
– **duvets** are placed on a sheet of thermal insulation but not covered;
– **mattresses** are covered by a sheet of thermal insulation

Note 101 to entry: The specification for the thermal insulation is given in normative Annex AA

The **flexible part** is supported on a plywood base 20 mm thick and positioned not less than 300 mm above the floor. The size of the plywood base is such that the thermal insulation can be fully supported over its entire area. The size of the sheets of thermal insulation is such that the edges extend at least 100 mm beyond the outline of the **heated area**.

Control units held in the hand when they are actuated and cord switches are positioned to hang away from the plywood base. Other **control units** are placed on a supporting surface away from the plywood base.

3.5 Definitions relating to types of appliances

3.5.101
blanket
appliance comprising a substantially flat **flexible part** that is intended to form part of the bedding, for heating the bed

3.5.102
underblanket
blanket intended to be used under the occupant of the bed

3.5.103
overblanket
blanket intended to be used over the occupant of the bed

3.5.104
duvet
quilted **overblanket** intended to be used without additional bedding over the occupant of the bed, the **heating element**, **electro-conductive textile**, providing supplementary heat

3.5.105
pad
appliance comprising a **flexible part** having a **heated area** not exceeding 0,3 m^2 on each face and which is intended to heat part of the human body

If the **pad** is constructed in a cylindrical or similar form, the limit for the **heated area** is 0,6 m^2.