



**SLOVENSKI STANDARD**  
**oSIST prEN IEC 60335-2-17:2024**  
**01-julij-2024**

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**Gospodinjski in podobni električni aparati - Varnost - 2-17. del: Posebne zahteve za grelne odeje, blazine, pregrinjala in podobne upogljive grelne naprave**

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

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 2-17: Besondere Anforderungen an Wärmездеcken, Wärmeunterbetten, Heizkissen, Kleidung und ähnliche schmiegsame Wärmegeräte

Appareils électrodomestiques et analogues - Sécurité - Partie 2-17: Exigences particulières pour les couvertures, coussins, vêtements et appareils chauffants souples analogues

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**Ta slovenski standard je istoveten z: prEN IEC 60335-2-17:2024**

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**ICS:**

13.120	Varnost na domu	Domestic safety
97.030	Električni aparati za dom na splošno	Domestic electrical appliances in general

**oSIST prEN IEC 60335-2-17:2024**      **en**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN IEC 60335-2-17**

May 2024

ICS 13.120; 97.040.50

Will supersede EN 60335-2-17:2013; EN 60335-2-17:2013/A11:2019; EN 60335-2-17:2013/A1:2020; EN 60335-2-17:2013/A2:2021

English Version

**Household and similar electrical appliances - Safety - Part 2-17:  
Particular requirements for blankets, pads, clothing and similar  
flexible heating appliances  
(IEC 60335-2-17:2022)**

Appareils électrodomestiques et analogues - Sécurité -  
Partie 2-17: Exigences particulières pour les couvertures,  
coussins, vêtements et appareils chauffants souples  
analogues  
(IEC 60335-2-17:2022)

Sicherheit elektrischer Geräte für den Hausgebrauch und  
ähnliche Zwecke - Teil 2-17: Besondere Anforderungen an  
Wärmezudecken, Wärmeunterbetten, Heizkissen, Kleidung  
und ähnliche schmiegsame Wärmegeräte  
(IEC 60335-2-17:2022)

This draft European Standard is submitted to CENELEC members for enquiry.  
Deadline for CENELEC: 2024-08-16.

The text of this draft consists of the text of IEC 60335-2-17:2022.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**prEN IEC 60335-2-17:2024 (E)****1 European foreword**

2 This document (prEN IEC 60335-2-17:2024) consists of the text of IEC 60335-2-17:2022 prepared by  
3 IEC/TC 61 "Safety of household and similar electrical appliances".

4 This document is currently submitted to the Enquiry.

5 The following dates are proposed:

- latest date by which the existence of this document has to be announced at national level (doa) dor + 6 months
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) dor + 12 months
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) dor + 36 months (to be confirmed or modified when voting)

6 This document is read in conjunction with prEN IEC 60335-2-17:2024/prAA:2024.

7 This document will supersede EN 60335-2-17:2013 and all of its amendments and corrigenda (if any).

8 This document has been prepared under a standardization request addressed to CENELEC by the European  
9 Commission. The Standing Committee of the EFTA State subsequently approves these requests for its  
10 Member States.

11 For relationship with EU legislation, see informative Annexes ZZA and ZZC, which are an integral part of  
12 prEN IEC 60335-2-17:2024/prAA:2024.

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IEC 60335-2-17

Edition 4.0 2022-10

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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

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Partie 2-17: Exigences particulières pour les couvertures, coussins, vêtements  
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# INTERNATIONAL ELECTROTECHNICAL COMMISSION

## HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

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

#### 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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- 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.

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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://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 will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](https://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.

The following differences exist in the countries indicated below.

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

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## 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.

## HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

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

#### 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<sup>2</sup> 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<sup>2</sup>.

**3.5.106****mattress**

appliance for supporting the human body and which incorporates an upholstered **flexible part** for heating the bed

Note 1 to entry: The appliance may be placed on the floor and referred to as a mat.

**3.5.107****controlled appliance**

appliance incorporating means in the **flexible part**, such as **heating elements with PTC characteristics** or other means, for sensing changes in temperature when the appliance is operated under **normal operation**, thus automatically controlling the average power input

**3.5.108****moisture-proof appliance**

appliance having a **flexible part** that is suitable for use under moist conditions

**3.5.109****wrap**

appliance comprising a **flexible part** intended to be draped over the human body in order to keep it warm

**3.6 Definitions relating to parts of an appliance****3.6.101****flexible part**

all layers of material forming the permanent enclosure of the appliance together with the **heating element**, **electro-conductive textile**, **thermostats** and all other current-carrying parts contained within it

Note 1 to entry: The flexible part may be inside a detachable cover.

**3.6.102****heating element**

heating conductor, including any core and insulation, together with any other integrated conductor

**3.6.103****heated area**

area of the **flexible part** enclosed within the outer perimeter of the **heating element** or **electro-conductive textile**

It includes a margin outside the perimeter that has a width equal to 0,5 times the average distance between adjacent runs of the **heating element**.

The **heated area** includes the return length of the **heating element** if the average distance between this part and the adjacent **heating element** does not exceed the average distance between adjacent runs of the **heating element**.