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Interested committees:

Title: Draft BS EN IEC 60335-2-106 Household and similar electrical appliances - Safety. Part 2-106: Particular requirements for heated carpets and for heating units for room heating installed under removable floor coverings.

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



61/6175/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:
IEC 60335-2-106 ED2

DATE OF CIRCULATION:
2021-01-01

CLOSING DATE FOR VOTING:
2021-03-26

SUPERSEDES DOCUMENTS:
61/6134/RR

IEC TC 61 : SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES	
SECRETARIAT: United States of America	SECRETARY: Ms Randi Myers
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: ☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☒ SAFETY	
☐ SUBMITTED FOR CENELEC PARALLEL VOTING	☒ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

This document is still under study and subject to change. It should not be used for reference purposes.

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

TITLE:

Household and similar electrical appliances - Safety - Part 2-106: Particular requirements for heated carpets and for heating units for room heating installed under removable floor coverings

PROPOSED STABILITY DATE: 2024

NOTE FROM TC/SC OFFICERS:

This document is circulated according to the decisions taken at the meeting of TC 61 in 2020/Web - see 61/5998A/DA.

History Refer to:

61/5863/DC and 61/5912A/INF in 61 (2020Web/Secretariat) 10 item 31.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2-106: Particular requirements for heated carpets and for heating
units for room heating installed under removable floor coverings**

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.

1 International Standard IEC 60335-2-106 has been prepared by IEC technical committee 61:
2 Safety of household and similar electrical appliances.

3 This second edition cancels and replaces the first edition published in 2008. This edition
4 constitutes a technical revision.

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

7 – the text has been aligned with Part 1 Ed 6;

8 – some notes have been converted to normative text (1, 5.2, 5.3, 5.6, 7.12.1, 10.1, 18.101.1,
9 18.101.2, 18.102.5, 19.1, 19.103, 21.1, 21.104, 21.105, 30.102).

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

FDIS

Report on voting

61/XX/FDIS

61/XX/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.

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

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

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 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: Safety requirements for heated carpets and for heating units for room heating installed under removable floor coverings.

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.

The National Committees are requested to note that for this publication the stability date is 2024.

THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED AT THE PUBLICATION STAGE.

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.

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 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.

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 2-106: Particular requirements for heated carpets and for heating units for room heating installed under removable floor coverings

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of

- heated carpets and similar appliances;
 - **heating units** to heat the room in which they are located and that are intended to be installed directly under **materials used as a removable** floor covering such carpet, cushion vinyl, or loose laid laminate; ~~as that is itself intended to be removable~~;
- their **rated voltage** being not more than 250 V for single-phase installations and 480 V for other installations.

~~NOTE 101 – Examples of materials used as removable floor coverings are carpet, cushion vinyl, or loose laid laminate.~~

Attention is drawn to the fact that

- in many countries different wiring rules apply;
- 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 authorities for fire protection, the national authorities for building regulations, the national health authorities, the national authorities responsible for the protection of labour and similar authorities.

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);
- blankets, pads and similar flexible heating appliances (IEC 60335-2-17);
- heated mats and foot warmers (IEC 60335-2-81);
- flexible sheet heating systems permanently incorporated in the floor of the building structure (IEC 60335-2-96);
- flexible heating elements incorporated in other appliances.

2 Normative references

This clause of Part 1 is applicable except as follows.

Addition:

IEC 60884-1:2002, *Plugs and socket-outlets for household and similar purposes – Part 1: General requirements*

136 IEC 60884-1:2002/AMD1:2006
137 IEC 60884-1:2002/AMD2:2013¹

138 3 Terms and definitions

139 This clause of Part 1 is applicable except as follows.

140 3.1 Definitions relating to physical characteristics

141 3.1.9 Addition:

142 **heating units** are installed under a layer of material having a thermal resistance of
143 approximately 0,1 m²·K/W. **Heating units**, the current of which can vary depending on the
144 length of the heating element, and those that can supply other **heating units** are loaded so that
145 the current marked on the heating element flows through the **heating unit**.

146 3.5 Definitions relating to types of appliances

147 3.5.101

148 **heating unit**

149 heating element equipped with means for connection to the supply

150 3.5.102

151 **modular heating unit**

152 a prefabricated assembly consisting of a **heating unit** and other materials

153 3.5.105

154 **controlled appliance**

155 appliance incorporating means in the **flexible part** for sensing the changes in temperature when
156 the appliance is operated under **normal operation**, thus automatically controlling the average
157 power input

158 3.6 Definitions relating to parts of an appliance

159 3.6.101

160 **electrode**

161 conductive part incorporated in a flexible sheet heating element for supplying the heating
162 material

163 3.6.102

164 **flexible part**

165 all layers of material forming the permanent enclosure of the appliance together with the heating
166 element, **thermostats** and all other current-carrying parts contained within it, which are intended
167 to be under or part of the floor covering

168 Note 1 to entry: The **flexible part** may be provided with a detachable cover.

169 4 General requirement

170 This clause of Part 1 is applicable.

1) There exists a consolidated edition 3.2 (2013) that includes edition 3 and its Amendment 1 and Amendment 2.

5 General conditions for the tests

This clause of Part 1 is applicable except as follows.

5.2 Addition:

For laminated heated carpets, an additional appliance is required for the tests of 22.103.

*For **heating units**, two additional appliances are required for the test of 18.102. For **heating units** with deposited film or printed circuit heating elements, two additional appliances are required for the test of 21.102.*

For heated carpets that incorporate a wear indicator, such as a colour change, special samples with the textile layer worn or removed to expose the indicator are required for the tests of Clauses 11, 13, 18 and Subclauses 19.2, 19.101, 21.101, 21.102, 21.103 and 21.104.

The tests of 21.101 and 21.104 may be carried out on separate appliances.

~~NOTE 101 The tests of 21.101 and 21.104 may be carried out on separate appliances.~~

5.3 Addition:

The test of 21.101 may be carried out in conjunction with the conditioning in 18.102.2

~~NOTE 101 The test of 21.101 may be carried out in conjunction with the conditioning in 18.102.2.~~

5.6 Addition:

***Thermostats** sensitive to room air temperature or outdoor air temperature are short circuited. However, the **thermostat** is not short circuited if it can be set so that it does not cycle.*

For electronic controls, it may be necessary to render the sensing elements inoperative instead of short circuiting the **thermostat.**

~~NOTE 101 For electronic controls, it may be necessary to render the sensing elements inoperative instead of short circuiting the **thermostat**.~~

5.10 Addition:

*For **heating units** that are cut to measure, the tests are carried out after connecting the **supply leads** and protecting the edges in accordance with the instructions.*

6 Classification

This clause of Part 1 is applicable except as follows.

6.1 Addition:

If a **heating unit** is classified, the relevant requirements apply.

6.2 Addition:

Heating units and other floor mounted parts shall be at least IPX7.

Heated carpets and similar appliances shall be IPX7.

These requirements do not apply to the plug for appliances connected via a **supply cord** fitted with a plug or to wall mounted controls.

~~NOTE 101 This does not apply to the plug for appliances connected via a **supply cord** fitted with a plug or to wall mounted controls.~~

7 Marking and instructions

This clause of Part 1 is applicable except as follows.

7.1 Modification:

Instead of the marking of **rated power input** or **rated current**, the following applies:

Heating units shall be marked with their **rated power input** and the maximum **rated current** at 20 °C. **Heating units** that can be cut to measure shall be marked with their **rated power input** per metre length.

Heating units shall be marked with their maximum current if

- the current can vary depending on the length of the **heating unit**;
- other **heating units** can be supplied through them.

Appliances with **detachable controls** shall be marked with the reference number or by other means of identification of the control.

Addition:

Heating units shall be marked with the indication of orientation, unless they are symmetrical.

The marking shall be repeated at least once every 0,5 m of the heating element or on each section that can be cut to form a **heating unit**.

Heating units that can be cut to measure and have to be cut at specified places shall be marked appropriately.

Heating units intended to be installed only above a floor of concrete or similar material shall be permanently marked with the substance of the following:

In order to avoid a fire hazard, this heating unit is to be installed only above a floor of concrete or similar material.

7.12 Addition:

The instructions shall contain the substance of the following:

This appliance is for indoor use only.

For heated carpets that incorporate a wear indicator such as a colour change, the instructions shall clearly explain the purpose of the indicator and the action to be taken when it becomes visible.

Modification:

The instructions concerning persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge and children playing with the appliance are not required.

7.12.1 Addition:

Instructions shall include the substance of the following: