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Responsible committee: CPL/61 Safety of household and similar electrical appliances

Interested committees:

Title: Draft BS EN IEC 60335-2-42 Household and similar electrical appliances - Safety. Part 2-42: Particular requirements for commercial electric forced convection ovens, steam cookers and steam-convection ovens.

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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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 Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.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.	



61/6162/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:
IEC 60335-2-42 ED6

DATE OF CIRCULATION:
2021-01-01

CLOSING DATE FOR VOTING:
2021-03-26

SUPERSEDES DOCUMENTS:
61/6143/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 2-42: Particular requirements for commercial electric forced convection ovens, steam cookers and steam-convection ovens

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 Bled - see 61/5848A/RM 2020/Web - see 61/5998A/DA.

History Refer to:

61/5780/DC and 61/5827A/INF in 61/5848A/RM item 16.

61/6082/DC and 61/6102A/INF in 61(2020Web/Secretariat)09 item 17.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-42: Particular requirements for commercial electric forced convection ovens, steam cookers and steam-convection ovens

FOREWORD

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- 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 60335-2-42 has been prepared by IEC technical committee 61:
2 Safety of household and similar electrical appliances.

3 This sixth edition cancels and replaces the fifth edition published in 2002, Amendment 1: 2008
4 and Amendment 2:2017. This edition 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 or deleted (1, 7.15, 9.101, 10.1, 11.7,
9 19.2, 19.7, 20.101, 21.101, 22.101, 22.101, 22.114, 27.2, 30.101);

10 – clarifications to some test specifications have been made (15.1.1, 15.2, 19.2, 19.7, 23.3,
11 25.3);

12 – a registered symbol to indicate risk of scalding has been introduced (7.6);



13 – conciliate the text of IEC 60335-2-42 with the one of other standards under IEC/TC61/MT32.

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

FDIS	Report on voting
61/XX/FDIS	61/XX/RVD

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

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

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

19 A list of all parts of the IEC 60335 series, under the general title: *Household and similar*
20 *electrical appliances – Safety*, can be found on the IEC website.

21 This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its
22 amendments. It was established on the basis of the sixth edition (2020) of that standard.

23 NOTE 1 When “Part 1” is mentioned in this standard, it refers to IEC 60335-1.

24 This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert
25 that publication into the IEC standard: Safety requirements for spin extractors.

26 When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as
27 far as is reasonable. When this standard states “addition”, “modification” or “replacement”, the
28 relevant text in Part 1 is to be adapted accordingly.

29 NOTE 2 The following numbering system is used:

- 30 – subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- 31 – unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including
32 those in a replaced clause or subclause;
- 33 – additional annexes are lettered AA, BB, etc.

34 NOTE 3 The following print types are used:

- 35 – requirements: in roman type;
- 36 – *test specifications: in italic type;*
- 37 – notes: in small roman type.

38 Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and the
39 associated noun are also in bold.

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

- 43 • reconfirmed,
- 44 • withdrawn,
- 45 • replaced by a revised edition, or
- 46 • amended.

47 The National Committees are requested to note that for this publication the stability date is
48 2024.

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

51 NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing
52 organizations may need a transitional period following publication of a new, amended or revised IEC publication in

53 which to make products in accordance with the new requirements and to equip themselves for conducting new or
54 revised tests.

55 It is the recommendation of the committee that the content of this publication be adopted for implementation nationally
56 not earlier than 12 months or later than 36 months from the date of publication.

57 The following differences exist in the countries indicated below.

58 – 6.1: Class 01 appliances are allowed (Japan).

59 – 6.2: For appliances intended to be installed in a kitchen, an appropriate degree of protection against harmful
60 ingress of water is required according to their height of installation (France).

61 – 13.2: Leakage current limits are different (Japan).

62 – 16.2: Leakage current limits are different (Japan).

63 – Clause 21: For appliances intended to be installed in a kitchen, different values of impact energy are applicable
64 according to the height of the impact point (France).
65

66 **Note of the Secretary:** National Committees are asked to reconfirm their in some countries
67 notes. They will be deleted unless reconfirmed.

68

69 INTRODUCTION

70 It has been assumed in the drafting of this International Standard that the execution of its
71 provisions is entrusted to appropriately qualified and experienced persons.

72 Guidance documents concerning the application of the safety requirements for appliances can
73 be accessed via TC 61 supporting documents on the IEC website –

74 <https://www.iec.ch/tc61/supportingdocuments>

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

77 This standard recognizes the internationally accepted level of protection against hazards such
78 as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal
79 use taking into account the manufacturer's instructions. It also covers abnormal situations that
80 can be expected in practice and takes into account the way in which electromagnetic
81 phenomena can affect the safe operation of appliances.

82 This standard takes into account the requirements of IEC 60364 as far as possible so that there
83 is compatibility with the wiring rules when the appliance is connected to the supply mains.
84 However, national wiring rules may differ.

85 If an appliance within the scope of this standard also incorporates functions that are covered
86 by another part 2 of IEC 60335, the relevant part 2 is applied to each function separately, as
87 far as is reasonable. If applicable, the influence of one function on the other is taken into
88 account.

89 When a part 2 standard does not include additional requirements to cover hazards dealt with in
90 Part 1, Part 1 applies.

91 NOTE 1 This means that the technical committees responsible for the part 2 standards have determined that it is
92 not necessary to specify particular requirements for the appliance in question over and above the general
93 requirements.

94 This standard is a product family standard dealing with the safety of appliances and takes
95 precedence over horizontal and generic standards covering the same subject.

96 NOTE 2 Horizontal and generic standards covering a hazard are not applicable since they have been taken into
97 consideration when developing the general and particular requirements for the IEC 60335 series of standards. For
98 example, in the case of temperature requirements for surfaces on many appliances, generic standards, such as
99 ISO 13732-1 for hot surfaces, are not applicable in addition to Part 1 or part 2 standards.

100 An appliance that complies with the text of this standard will not necessarily be considered to
101 comply with the safety principles of the standard if, when examined and tested, it is found to
102 have other features that impair the level of safety covered by these requirements.

103 An appliance employing materials or having forms of construction differing from those detailed
104 in the requirements of this standard may be examined and tested according to the intent of the
105 requirements and, if found to be substantially equivalent, may be considered to comply with the
106 standard.

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

108 – IEC standards published by TC 59 concerning methods of measuring performance;

109 – CISPR 11, CISPR 14-1 and relevant IEC 61000-3 series standards concerning electromagnetic emissions;

110 – CISPR 14-2 concerning electromagnetic immunity;

111 – IEC standards published by TC 111 concerning environmental matters.

112

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-42: Particular requirements for commercial electric forced convection ovens, steam cookers and steam-convection ovens

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electrically operated commercial **forced convection ovens, steam cookers, steam-convection ovens** and, exclusive of any other use, **steam generators**, **not intended for household and similar use**, their **rated voltage** being not more than 250 V for single-phase appliances connected between one phase and neutral and 480 V for other appliances.

These appliances are not intended for household and similar purposes. They are used for commercial processing of food in areas not open to the public, for example in kitchens of restaurants, canteens, hospitals and in commercial enterprises such as bakeries and butcheries.

This standard deals also with electrically operated commercial **forced convection ovens, steam cookers, steam-convection ovens** intended for use on board ships, for which Annex AA is applicable.

The electrical part of appliances making use of other forms of energy is also within the scope of this standard.

As far as is practicable, this standard deals with the common hazards presented by these types of appliances.

Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircrafts, additional requirements may 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 water supply authorities and similar authorities;

- in many countries additional requirements are specified for pressure appliances.

This standard does not apply to

- appliances designed 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);

- appliances for continuous mass production of food;

- microwave ovens (IEC 60335-2-90).

2 Normative references

This clause of Part 1 is applicable except as follows.

Addition:

- 154 IEC 60068-2-6, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*
- 155 IEC 60068-2-27, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*
- 156 IEC 60068-2-52:2017, *Environmental testing – Part 2: Tests – Test Kb: Salt mist, cyclic*
157 *(sodium, chloride solution)*
- 158 IEC 60584-1, *Thermocouples – Part 1: EMF specifications and tolerances*
- 159 ISO 898-1, *Mechanical properties of fasteners made of carbon steel and alloy steel – Part 1:*
160 *Bolts, screws and studs with specified property classes – Coarse thread and fine pitch thread*
- 161 ISO 3506-1, *Mechanical properties of corrosion-resistant stainless steel fasteners – Part 1:*
162 *Bolts, screws and studs*
- 163 ISO 3506-2, *Mechanical properties of corrosion-resistant stainless steel fasteners – Part 2:*
164 *Nuts*
- 165 ISO 3506-3, *Mechanical properties of corrosion-resistant stainless steel fasteners – Part 3: Set*
166 *screws and similar fasteners not under tensile stress*
- 167 ISO 3506-4, *Mechanical properties of corrosion-resistant stainless steel fasteners – Part 4:*
168 *Tapping screws*

169 3 Terms and definitions

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

171 3.1 Definitions relating to physical characteristics

172 3.1.4 Addition:

173 **Note 101 to entry:** The **rated power input** is the sum of the power inputs of all the individual elements in the
174 appliance that can be on at one time; where there are several such combinations possible, that giving the highest
175 power input is used in determining the **rated power input**.

176 3.1.9 Addition:

177 operation of the appliance under the following conditions

178 ▪ Dry heat mode

179 The appliance is operated with all the shelves or the shelf trolley in position according to the
180 manufacturer's instructions but with no load. The controls are set so that the mean value of the
181 temperature over the **thermostat** cycle at the geometric centre of each usable space in the
182 interior of the oven is maintained at $220\text{ °C} \pm 4\text{ °C}$. Stepped controls are set so that this
183 temperature is $220\text{ °C} \pm 15\text{ °C}$.

184 For ovens that are unable to attain a temperature of 220 °C , the controls are set at the
185 maximum.

186 For ovens that are capable of attaining temperatures in excess of 270 °C , the controls are set
187 so that the mean value of the temperature is $50\text{ °C} \pm 4\text{ °C}$ below the maximum temperature
188 attainable.

189 ▪ Steaming only mode

190 The appliance is operated in accordance with the manufacturer's instructions with all controls
191 intended to be operated by the user adjusted to their maximum setting until reaching operating

192 temperature. They are then readjusted, if possible, to the lowest setting that maintains that
193 temperature.

194 Appliances with **steam generators** intended to be filled by hand or by a manually operated tap
195 are filled to the **indicated level** on the **steam generator**.

196 Appliances with **steam generators** intended to be filled automatically are connected to a water
197 supply having the maximum pressure indicated by the manufacturer. Where the manufacturer
198 specifies a range of pressures, the pressure is adjusted to give the most unfavourable
199 conditions.

200 The incoming water is maintained at

- 201 – 15 °C ± 5 °C in the case of appliances intended for connection to a cold water supply;
- 202 – 60 °C ± 5 °C or the temperature indicated in the instruction sheet, whichever is the higher,
203 in the case of appliances intended for connection to a hot water supply only.

204 Note 1 to entry: If the appliance is intended for connection to either a hot or cold water supply, the temperature of
205 the water is that which gives the most unfavourable results.

206 Lids, doors, and covers are in position and closed.

207 The **cooking compartment** of the appliance contains a water load, initially at 15 °C ± 5 °C,
208 comprising 0,5 l/kg of the manufacturer's declared maximum food load. The water load is evenly
209 distributed between the shelves or pans.

210 **Note 1 to entry** Since pans may be perforated to allow for circulation of steam, the water load may be contained in
211 suitable containers evenly distributed over the shelves or pans.

212 ▪ Combination mode

213 The appliance is operated as for the steaming only mode but with the forced convection fan/s
214 and elements for heating the **cooking compartment** on and the temperature controls set as for
215 the dry heat mode.

216 In all the above cases, motors incorporated in the appliance are operated under the most
217 unfavourable conditions that can be expected in normal use, taking into account the
218 manufacturer's instructions.

219 **3.1.101**

220 **rated pressure**

221 the maximum working pressure of **steam cookers** and **steam generators** assigned by the
222 manufacturer to the pressurized parts of the appliance

223 **3.5 Definitions relating to types of appliances**

224 **3.5.101**

225 **forced convection oven**

226 an appliance intended for the cooking of food by heated air that is circulated by mechanical
227 means within the **cooking compartment**. The pressure within the **cooking compartment** does
228 not differ significantly from atmospheric pressure

229 **3.5.102**

230 **steam cooker**

231 an appliance intended for the cooking of food only by means of direct steam contact. The
232 pressure within the **cooking compartment** can exceed atmospheric pressure

233 **3.5.103**

234 **atmospheric steam cooker**

235 an appliance in which the pressure within the **cooking compartment** does not differ
236 significantly from atmospheric pressure