

INTERNATIONAL STANDARD



Household and similar electrical appliances – Safety –
Part 2-32: Particular requirements for massage appliances

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INTERNATIONAL STANDARD



Household and similar electrical appliances – Safety –
Part 2-32: Particular requirements for massage appliances

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CONTENTS

FOREWORD	4
INTRODUCTION	7
1 Scope	8
2 Normative references	9
3 Terms and definitions	9
4 General requirement	10
5 General conditions for the tests	10
6 Classification	10
7 Marking and instructions	10
8 Protection against access to live parts	11
9 Starting of motor-operated appliances	11
10 Power input and current	11
11 Heating	11
12 Void Charging of metal-ion batteries	12
13 Leakage current and electric strength at operating temperature	13
14 Transient overvoltages	13
15 Moisture resistance	13
16 Leakage current and electric strength	13
17 Overload protection of transformers and associated circuits	14
18 Endurance	14
19 Abnormal operation	14
20 Stability and mechanical hazards	14
21 Mechanical strength	15
22 Construction	15
23 Internal wiring	16
24 Components	16
25 Supply connection and external flexible cords	16
26 Terminals for external conductors	16
27 Provision for earthing	16
28 Screws and connections	16
29 Clearances, creepage distances and solid insulation	16
30 Resistance to heat and fire	16
31 Resistance to rusting	17
32 Radiation, toxicity and similar hazards	17
Annexes	18
Annex B (normative) Battery-operated appliances, separable batteries and detachable batteries for battery-operated appliances	19
Bibliography	20
List of comments	21
Figure 101 – Probe for measuring surface temperatures	17

Table 101 – Maximum temperature rises for specified external accessible surfaces
under normal operating conditions 12

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-32: Particular requirements for massage appliances

FOREWORD

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This commented version (CMV) of the official standard IEC 60335-2-32:2024 edition 6.0 allows the user to identify the changes made to the previous IEC 60335-2-32:2019 edition 5.0. Furthermore, comments from IEC TC 61 experts are provided to explain the reasons of the most relevant changes, or to clarify any part of the content.

A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text. Experts' comments are identified by a blue-background number. Mouse over a number to display a pop-up note with the comment.

This publication contains the CMV and the official standard. The full list of comments is available at the end of the CMV.

IEC 60335-2-32 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This sixth edition cancels and replaces the fifth edition published in 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);
- c) application of test probe 19 (8.1.1, 20.2, B.22.3, B.22.4).

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

Draft	Report on voting
61/7267/FDIS	61/7290/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/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 massage 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 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 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 can 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.

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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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 ~~may~~ 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 and generic standards~~ 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. ~~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.~~ **1**

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. **2**

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-32: Particular requirements for massage appliances

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of electric massage appliances for household and similar purposes, their **rated voltage** being not more than 250 V for single phase appliances and 480 V for other appliances including direct current (DC) supplied appliances and **battery-operated appliances**. **3**

~~NOTE 101~~ Examples of appliances within the scope of this standard are

- foot massagers;
- water filled foot massagers;
- hand-held massagers;
- massage beds;
- massage belts;
- massage chairs;
- massage pads.

Appliances not intended for normal household use but that nevertheless ~~may~~ can be a source of danger to the public, such as appliances intended to be used by ~~laymen~~ laypersons in shops, in light industry and on farms, are within the scope of this standard.

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 knowledgeprevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance.

~~NOTE 102~~ 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.

~~NOTE 103~~—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);
- electric foot care appliances that do not contain motors and other electric appliances for the care of skin or hair (IEC 60335-2-23);
- electric appliances for beauty care of persons and intended for household, commercial and similar purposes (IEC 60335-2-115⁴).

2 Normative references

This clause of Part 1 is applicable except as follows.

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

IEC 60584-1, *Thermocouples – Part 1: EMF specifications and tolerances*

3 Terms and definitions

This clause of Part 1 is applicable except as follows.

3.1 Definitions relating to physical characteristics

3.1.9 ~~Replacement~~ Modification: normal operation

Replace the first paragraph with the following: **4**

operation of the appliance under the following conditions:

Hand-held appliances are operated with no load other than that imposed by the vibrator head.

Appliances intended to be used under the feet of a sitting person are operated with the platform loaded with a mass of 5 kg, evenly distributed over an area of 100 mm × 300 mm. Appliances incorporating heating elements are operated with two sheets of thermal insulation placed on the foot platform. The sheets of thermal insulation are made of open cell polyether and have dimensions approximately 300 mm × 100 mm × 15 mm. They are positioned together and loaded with an evenly distributed mass of 10 kg. Appliances having a liquid container are filled with water in accordance with the instructions and loaded with a mass of 10 kg.

Note 101 to entry: The open-cell polyether has the following composition:

- cell count $18 \frac{+2}{0}$ per cm;
- specific mass $30 \text{ kg/m}^3 \frac{+10}{0} \%$
- hardness 120 N to 170 N at 40 % impression, measured according to ISO 2439.

Appliances intended to be used under the feet of a standing person are operated with the platform loaded with a mass of 90 kg, evenly distributed over an area of 200 mm × 300 mm.

⁴ ~~Under preparation. Stage at the time of publication: IEC 60335-2-115/CD:2019.~~

Massage belts are operated with the belt loaded with a force of 200 N. The force is applied in a horizontal direction by means of a roller, the belt being approximately symmetrical about the roller.

Massage pads are operated with the pad positioned between two layers of felt and placed on a flat horizontal surface. The felt has a thickness of approximately 25 mm, a mass of $4 \text{ kg/m}^2 \pm 0,4 \text{ kg/m}^2$ and extends at least 15 mm beyond the edges of the pad. The upper layer of felt is loaded with a mass of 90 kg, evenly distributed over an area of 300 mm × 300 mm.

Massage chairs are operated without load.

Massage beds are loaded with a mass of 90 kg, evenly distributed over an area of 0,5 m × 2 m.

Foot massage appliances that use water are filled with water at a temperature of $40 \text{ °C} \pm 2 \text{ °C}$.

4 General requirement

This clause of Part 1 is applicable.

5 General conditions for the tests

This clause of Part 1 is applicable.

6 Classification

This clause of Part 1 is applicable except as follows.

6.1 Modification:

Replace the first paragraph with the following:

Portable appliances shall be **class II** or **class III**. **Stationary appliances** shall be **class I**, **class II**, or **class III**.

7 Marking and instructions

This clause of Part 1 is applicable except as follows.

7.12 Addition:

The instructions for appliances having heated parts in contact with the skin shall include the substance of the following:

The appliance has a heated surface. Persons insensitive to heat must be careful when using the appliance.

The instructions for appliances having a liquid container that is filled with water shall include the substance of the following:

If water leaks from the appliance, the appliance should no longer be used.

8 Protection against access to live parts

This clause of Part 1 is applicable except as follows.

8.1.1 Addition:

In addition to the use of test probe 18, test probe 19 of IEC 61032 is also applied wherever test probe 18 is used and with the same test conditions used for test probe 18. **5**

8.1.4 Addition:

*All energized parts in foot massage appliances that use water are considered to be **live parts**.*

9 Starting of motor-operated appliances

This clause of Part 1 is not applicable.

10 Power input and current

This clause of Part 1 is applicable.

11 Heating

This clause of Part 1 is applicable except as follows.

11.2 Modification:

Replace the fourth paragraph with the following:

Combined appliances are positioned as specified **for motor-operated appliances**.

11.3 Addition:

*Where the external **accessible surfaces** are suitably flat and access permits, then the test probe of Figure 101 is used to measure the temperature rises of external **accessible surfaces** specified in Table 101. The probe is applied with a force of $4\text{ N} \pm 1\text{ N}$ to the surface in such a way that the best possible contact between the probe and the surface is ensured. The measurement is performed after a contact period of 30 s.*

The probe may be held in place using a laboratory stand clamp or similar device. Any measuring instrument giving the same results as the probe may be used.

11.7 ~~Replacement~~ Modification:

Replace the first paragraph with the following: **6**

Hand-held appliances are operated for 20 min.

Other appliances are operated until steady conditions are established.

Replace the first dashed item of the third paragraph with the following:

- the **battery** that has been **fully discharged** is charged while the appliance is operated as specified for 1 h or the time specified, whichever comes first, if allowed by the construction of the appliance; **7**

11.8 ~~Addition~~ Modification:

Replace the first paragraph with the following:

During the test, the temperature rises are monitored continuously and shall not exceed the values shown in Table 3 and Table 101.

Addition:

The temperature rise of parts in contact with skin or hair shall not exceed the limits specified for handles that are continuously held.

The water temperature at the middle of the water volume shall not exceed 50 °C.

For massage pads with heating elements, the temperature limits specified for heating pads in IEC 60335-2-17 apply.

Table 101 – Maximum temperature rises for specified external accessible surfaces under normal operating conditions

Surface	Temperature rise of external accessible surfaces ^{a, e}	
	Surfaces of appliances situated on the floor	Surfaces of hand-held appliances and other appliances
Bare metal	38	42
Coated metal ^b	42	49
Glass and ceramic	51	56
Plastic and plastic coating > 0,4 mm ^{c, d}	58	62

NOTE The temperature rise limits of handles, knobs, grips, keyboards, keypads and similar parts are specified in Table 3.

^a Temperature rises are not measured on the underside of appliances intended to be used on the floor, where these surfaces are inaccessible to a 75 mm diameter probe, ~~applied with a force not exceeding 1 N,~~ **8** having a hemispherical end.

^b Metal is considered coated when a coating having a minimum thickness of 90 µm made of enamel, powder or non-substantially plastic coating is used.

^c The temperature rise limit of plastic also applies for plastic material having a metal finish of thickness less than 0,1 mm.

^d When the thickness of the plastic coating does not exceed 0,4 mm, the temperature rise limits of coated metal for underlying metal apply or the temperature rise limits for glass or ceramic material for underlying glass or ceramic material apply.

^e The limits also apply to appliances intended for commercial use, such as those at airports, shopping malls, etc.

12 ~~Void~~ Charging of metal-ion batteries

This clause of Part 1 is applicable. **9**

13 Leakage current and electric strength at operating temperature

This clause of Part 1 is applicable except as follows.

13.2 Modification:

~~For stationary class I appliances, except fixed appliances, the leakage current shall not exceed 0,75 mA.~~

Replace the last two dashed items of the eighth paragraph with the following and delete the ninth paragraph:

- for **stationary class I appliances, except fixed appliances** 0,75 mA
- for **fixed class I motor-operated appliances** 3,5 mA
- for **fixed class I combined appliances** 3,5 mA or 0,75 mA per kW rated power input of the appliance with a maximum of 5 mA, whichever is higher **10**

14 Transient overvoltages

This clause of Part 1 is applicable.

15 Moisture resistance

This clause of Part 1 is applicable except as follows.

15.2 Addition:

Water filled foot massagers are completely filled with ~~water containing approximately 1 % NaCl~~ the spillage solution **11** and are then emptied within 30 s by being tilted or overturned in the most unfavourable way.

16 Leakage current and electric strength

This clause of Part 1 is applicable except as follows.

16.2 Modification:

~~For stationary class I appliances, except fixed appliances, the leakage current shall not exceed 0,75 mA.~~

Replace the last two dashed items of the fourth paragraph with the following and delete the sixth paragraph:

- for **stationary class I appliances, except fixed appliances** 0,75 mA
- for **fixed class I motor-operated appliances** 3,5 mA
- for **fixed class I combined appliances** 3,5 mA or 0,75 mA per kW rated power input of the appliance with a maximum of 5 mA, whichever is higher **12**

17 Overload protection of transformers and associated circuits

This clause of Part 1 is applicable.

18 Endurance

This clause of Part 1 is not applicable.

19 Abnormal operation

This clause of Part 1 is applicable except as follows.

19.1 Addition:

Appliances incorporating a liquid container that has to be filled by the user are also subjected to the test of 19.101.

19.7 ~~Modification~~ Addition:

Appliances intended to be used under the feet of a sitting person, massage pads, chairs and beds are operated until steady conditions are established. Other appliances are operated for 30 s.

19.9 Not applicable.

19.10 Addition:

*The test is also carried out with **detachable parts** in place.*

19.13 Addition:

During the test of 19.101, the temperature rise of the surface of the container shall not exceed 60 K.

19.101 *Appliances incorporating a liquid container that has to be filled by the user are supplied at **rated voltage** and operated without liquid.*

20 Stability and mechanical hazards

This clause of Part 1 is applicable except as follows.

20.1 Addition:

Hand-held appliances are subjected to the test while placed on their charging stands.

Modification:

Replace the seventh paragraph with the following:

The appliance shall not overturn unless the appliance or part of the appliance which overturns complies with all of the following:

- it only contains circuits operating at **safety extra-low voltage** according to 8.1.4;

- it only contains low power circuits according to 19.11.1;
- it is dropped from a height of 1 m on a rigidly supported concrete surface 5 times, the appliance being held in different positions likely to occur. After the drops, the appliance or part of the appliance as relevant shall show no damage so that compliance with 15.1 and 20.2 is not impaired;
- it has a maximum weight of 450 g when ready for use;
- it does not have sharp edges when ready for use. An edge with a radius of 1 mm or more is not considered a sharp edge.

20.2 Addition:

In addition to the use of test probe 18, test probe 19 of IEC 61032 is also applied wherever test probe 18 is used and with the same test conditions used for test probe 18. 13

21 Mechanical strength

This clause of Part 1 is applicable except as follows.

21.1 Addition:

Appliances intended to be used under the feet of a sitting person are loaded as specified for **normal operation** but with the mass increased to 90 kg. The mass is applied for 30 s.

Hand-held parts of appliances are also subjected to the test of 21.101.

21.101 The hand-held part of the appliance is placed in a sling that is constructed by tying together the four corners of a single layer of cheesecloth. The lowest point of the sling is suspended at a height of 900 mm above a concrete or similar hard surface.

The hand-held part of the appliance in the sling is dropped from a stationary position. The test is carried out a total of five times with the hand-held part of the appliance being positioned so that it falls onto the concrete surface in five different orientations.

The appliance shall not be damaged to such an extent that compliance with 8.1 and Clause 29 is impaired.

22 Construction

This clause of Part 1 is applicable except as follows.

22.101 Appliances shall be constructed so that hair cannot be drawn into the appliance or be entangled in moving parts.

Compliance is checked by inspection.

22.102 Appliances that use water and in which air is circulated shall be constructed so that the water cannot penetrate into the motor and come into contact with **live parts** or **basic insulation**.

Compliance is checked by the following test.

The overflow outlet is blocked and the appliance is filled until water overflows. Non-return valves are rendered inoperative one at a time.

After the test, there shall be no trace of water on insulation that could result in a reduction of clearances or creepage distances below the values specified in Clause 29.

23 Internal wiring

This clause of Part 1 is applicable.

24 Components

This clause of Part 1 is applicable except as follows.

24.2 ~~Modification~~ Addition:

Massage pads may be fitted with a switch in the flexible cord.

Massage chairs and massage beds may be fitted with a control in the flexible cord, provided that the length of the flexible cord is such that the control cannot make contact with the floor in normal use.

A control that does not contain **live parts** may be fitted in the flexible cord regardless of the length of the cord.

25 Supply connection and external flexible cords

This clause of Part 1 is applicable except as follows.

25.7 Addition:

Flat twin tinsel cord is allowed for **hand-held massage appliances** as long as they are fitted with a non-rewirable plug.

26 Terminals for external conductors

This clause of Part 1 is applicable.

27 Provision for earthing

This clause of Part 1 is applicable.

28 Screws and connections

This clause of Part 1 is applicable.

29 Clearances, creepage distances and solid insulation

This clause of Part 1 is applicable.

30 Resistance to heat and fire

This clause of Part 1 is applicable except as follows.

30.2 Modification:

Replace the two dashed items in the compliance criteria with the following:

- for massage appliances, 30.2.2 is applicable.

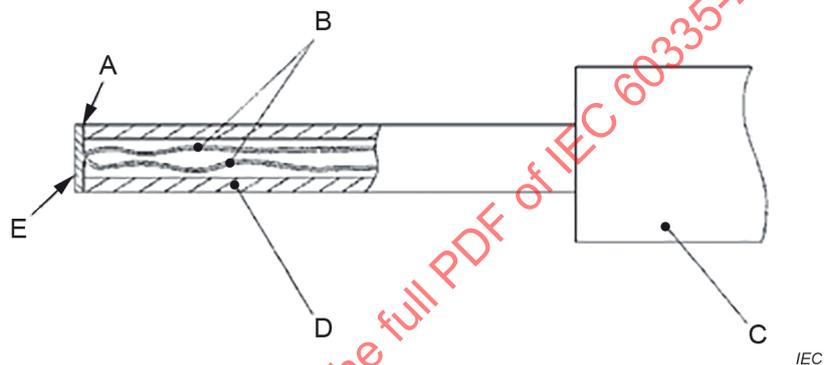
~~30.2.3~~ Not applicable. 14

31 Resistance to rusting

This clause of Part 1 is applicable.

32 Radiation, toxicity and similar hazards

This clause of Part 1 is applicable.



Key

- A adhesive
- B thermocouple wires 0,3 mm diameter to IEC 60584-1 Type K ~~(chrome alumel)~~
- C handle arrangement permitting a contact force of $4\text{ N} \pm 1\text{ N}$
- D polycarbonate tube: inside diameter 3 mm, outside diameter 5 mm
- E tinned copper disc: 5 mm diameter, 0,5 mm thick with a flat contact face

Figure 101 – Probe for measuring surface temperatures

Annexes

The annexes of Part 1 are applicable [except as follows](#).

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Annex B
(normative)

**Battery-operated appliances, separable batteries
and detachable batteries for battery-operated appliances**

This annex of Part 1 is applicable except as follows.

B.11.1 Addition:

*For **hand-held appliances** operated with detachable batteries or separable batteries that are disconnected from the appliance for charging purposes, the appliances is operated for 20 min or until the second battery is depleted, whichever occurs first.*

*For **hand-held appliances** incorporating integral batteries or separable batteries not disconnected from the appliance for charging purposes, and that cannot perform their intended function while the batteries are being charged, the appliance is operated for 20 min or until the battery is depleted, whichever occurs first. **15***

B.22.3 Addition:

In addition to the use of test probe 18, test probe 19 of IEC 61032 is also applied wherever test probe 18 is used and with the same test conditions used for test probe 18.

B.22.4 Addition:

*In addition to the use of test probe 18, test probe 19 of IEC 61032 is also applied wherever test probe 18 is used and with the same test conditions used for test probe 18. **16***

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Bibliography

The Bibliography of Part 1 is applicable except as follows.

Addition:

IEC 60335-2-23, *Household and similar electrical appliances – Safety – Part 2-23: Particular requirements for appliances for skin or hair care*

IEC 60335-2-115², *Household and similar electrical appliances – Safety – Part 2-115: Particular requirements for beauty care appliances*

ISO 2439:~~1980~~, *Flexible cellular polymeric materials – Determination of hardness (indentation technique)*

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² ~~Under preparation. Stage at the time of publication: IEC 60335-2-115/CD:2019.~~

List of comments

- 1 This revision is for alignment with IEC 60335-1:2020.
 - 2 This revision is for alignment with IEC 60335-1:2020.
 - 3 This revision is for alignment with IEC 60335-1:2020.
 - 4 This revision maintains the normal operation while charging as specified in IEC 60335-1:2020.
 - 5 Appliance can be placed on the floor or on surfaces below 850 mm where they would be accessible to children up to 3 years in age, so test probe 19 is applicable.
 - 6 This revision maintains the requirements for appliance outlets and socket outlets and the test duration for charging of battery-operated appliances as specified in IEC 60335-1:2020.
 - 7 This modification is for alignment with IEC 60335-1:2020 and aligns the test duration for operation of battery-operated appliances with that of mains operated appliances.
 - 8 The force is removed because this is now covered by Subclause 5.21 of IEC 60335-1:2020.
 - 9 This revision is for alignment with IEC 60335-1:2020.
 - 10 This is a clarification of what is being modified from IEC 60335-1.
 - 11 This revision is for alignment with IEC 60335-1:2020.
 - 12 This is a clarification of what is being modified from IEC 60335-1.
 - 13 Appliance can be placed on the floor or on surfaces below 850 mm where they would be accessible to children up to 3 years in age, so test probe 19 is applicable.
 - 14 These tests may be applicable for appliances for remote operation and for parts connected to the supply mains during the charging period as specified in Subclause 30.2 of IEC 60335-1:2020. This is now clarified in the modification to Subclause 30.2.
 - 15 The test duration of operation for hand-held battery-operated appliances is modified to align with that of mains operated appliances.
 - 16 Battery-operated appliance can be placed on the floor or on surfaces below 850 mm where they would be accessible to children up to 3 years in age, so test probe 19 is applied to battery-operated appliances, detachable batteries and separable batteries.
-

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Household and similar electrical appliances – Safety –
Part 2-32: Particular requirements for massage appliances**

**Appareils électrodomestiques et analogues – Sécurité –
Partie 2-32: Exigences particulières pour les appareils de massage**

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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	9
3 Terms and definitions	9
4 General requirement.....	10
5 General conditions for the tests	10
6 Classification.....	10
7 Marking and instructions.....	10
8 Protection against access to live parts.....	11
9 Starting of motor-operated appliances	11
10 Power input and current.....	11
11 Heating.....	11
12 Charging of metal-ion batteries.....	12
13 Leakage current and electric strength at operating temperature.....	13
14 Transient overvoltages	13
15 Moisture resistance	13
16 Leakage current and electric strength.....	13
17 Overload protection of transformers and associated circuits	13
18 Endurance	14
19 Abnormal operation	14
20 Stability and mechanical hazards.....	14
21 Mechanical strength	15
22 Construction	15
23 Internal wiring.....	16
24 Components	16
25 Supply connection and external flexible cords	16
26 Terminals for external conductors.....	16
27 Provision for earthing	16
28 Screws and connections	16
29 Clearances, creepage distances and solid insulation	16
30 Resistance to heat and fire	16
31 Resistance to rusting.....	17
32 Radiation, toxicity and similar hazards.....	17
Annexes	18
Annex B (normative) Battery-operated appliances, separable batteries and detachable batteries for battery-operated appliances	19
Bibliography.....	20
 Figure 101 – Probe for measuring surface temperatures	 17

Table 101 – Maximum temperature rises for specified external accessible surfaces under normal operating conditions 12

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-32: Particular requirements for massage 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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- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60335-2-32 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This sixth edition cancels and replaces the fifth edition published in 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);
- c) application of test probe 19 (8.1.1, 20.2, B.22.3, B.22.4).

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

Draft	Report on voting
61/7267/FDIS	61/7290/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/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 massage 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 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 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 can 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.

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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 2-32: Particular requirements for massage appliances

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of electric massage appliances for household and similar purposes, their **rated voltage** being not more than 250 V for single phase appliances and 480 V for other appliances including direct current (DC) supplied appliances and **battery-operated appliances**.

Examples of appliances within the scope of this standard are

- foot massagers;
- water filled foot massagers;
- hand-held massagers;
- massage beds;
- massage belts;
- massage chairs;
- massage pads.

Appliances not intended for normal household use but that nevertheless can be a source of danger to the public, such as appliances intended to be used by laypersons in shops, in light industry and on farms, are within the scope of this standard.

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 knowledgeprevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance.

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 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);
- electric foot care appliances that do not contain motors and other electric appliances for the care of skin or hair (IEC 60335-2-23);
- electric appliances for beauty care of persons and intended for household, commercial and similar purposes (IEC 60335-2-115).

2 Normative references

This clause of Part 1 is applicable except as follows.

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

IEC 60584-1, *Thermocouples – Part 1: EMF specifications and tolerances*

3 Terms and definitions

This clause of Part 1 is applicable except as follows.

3.1 Definitions relating to physical characteristics

3.1.9 *Modification:* normal operation

Replace the first paragraph with the following:

operation of the appliance under the following conditions:

Hand-held appliances are operated with no load other than that imposed by the vibrator head.

Appliances intended to be used under the feet of a sitting person are operated with the platform loaded with a mass of 5 kg, evenly distributed over an area of 100 mm × 300 mm. Appliances incorporating heating elements are operated with two sheets of thermal insulation placed on the foot platform. The sheets of thermal insulation are made of open cell polyether and have dimensions approximately 300 mm × 100 mm × 15 mm. They are positioned together and loaded with an evenly distributed mass of 10 kg. Appliances having a liquid container are filled with water in accordance with the instructions and loaded with a mass of 10 kg.

Note 101 to entry: The open-cell polyether has the following composition:

- cell count $18 \begin{smallmatrix} +2 \\ 0 \end{smallmatrix}$ per cm;
- specific mass $30 \text{ kg/m}^3 \begin{smallmatrix} +10 \\ 0 \end{smallmatrix} \%$
- hardness 120 N to 170 N at 40 % impression, measured according to ISO 2439.

Appliances intended to be used under the feet of a standing person are operated with the platform loaded with a mass of 90 kg, evenly distributed over an area of 200 mm × 300 mm.

Massage belts are operated with the belt loaded with a force of 200 N. The force is applied in a horizontal direction by means of a roller, the belt being approximately symmetrical about the roller.

Massage pads are operated with the pad positioned between two layers of felt and placed on a flat horizontal surface. The felt has a thickness of approximately 25 mm, a mass of $4 \text{ kg/m}^2 \pm 0,4 \text{ kg/m}^2$ and extends at least 15 mm beyond the edges of the pad. The upper layer of felt is loaded with a mass of 90 kg, evenly distributed over an area of 300 mm × 300 mm.

Massage chairs are operated without load.

Massage beds are loaded with a mass of 90 kg, evenly distributed over an area of 0,5 m × 2 m.

Foot massage appliances that use water are filled with water at a temperature of $40 \text{ °C} \pm 2 \text{ °C}$.

4 General requirement

This clause of Part 1 is applicable.

5 General conditions for the tests

This clause of Part 1 is applicable.

6 Classification

This clause of Part 1 is applicable except as follows.

6.1 Modification:

Replace the first paragraph with the following:

Portable appliances shall be **class II** or **class III**. **Stationary appliances** shall be **class I**, **class II**, or **class III**.

7 Marking and instructions

This clause of Part 1 is applicable except as follows.

7.12 Addition:

The instructions for appliances having heated parts in contact with the skin shall include the substance of the following:

The appliance has a heated surface. Persons insensitive to heat must be careful when using the appliance.

The instructions for appliances having a liquid container that is filled with water shall include the substance of the following:

If water leaks from the appliance, the appliance should no longer be used.

8 Protection against access to live parts

This clause of Part 1 is applicable except as follows.

8.1.1 Addition:

In addition to the use of test probe 18, test probe 19 of IEC 61032 is also applied wherever test probe 18 is used and with the same test conditions used for test probe 18.

8.1.4 Addition:

*All energized parts in foot massage appliances that use water are considered to be **live parts**.*

9 Starting of motor-operated appliances

This clause of Part 1 is not applicable.

10 Power input and current

This clause of Part 1 is applicable.

11 Heating

This clause of Part 1 is applicable except as follows.

11.2 Modification:

Replace the fourth paragraph with the following:

Combined appliances are positioned as specified **for motor-operated appliances**.

11.3 Addition:

*Where the external **accessible surfaces** are suitably flat and access permits, then the test probe of Figure 101 is used to measure the temperature rises of external **accessible surfaces** specified in Table 101. The probe is applied with a force of $4\text{ N} \pm 1\text{ N}$ to the surface in such a way that the best possible contact between the probe and the surface is ensured. The measurement is performed after a contact period of 30 s.*

The probe may be held in place using a laboratory stand clamp or similar device. Any measuring instrument giving the same results as the probe may be used.

11.7 Modification:

Replace the first paragraph with the following:

Hand-held appliances are operated for 20 min.

Other appliances are operated until steady conditions are established.

Replace the first dashed item of the third paragraph with the following:

- *the **battery** that has been **fully discharged** is charged while the appliance is operated as specified for 1 h or the time specified, whichever comes first, if allowed by the construction of the appliance;*

11.8 Modification:

Replace the first paragraph with the following:

During the test, the temperature rises are monitored continuously and shall not exceed the values shown in Table 3 and Table 101.

Addition:

The temperature rise of parts in contact with skin or hair shall not exceed the limits specified for handles that are continuously held.

The water temperature at the middle of the water volume shall not exceed 50 °C.

For massage pads with heating elements, the temperature limits specified for heating pads in IEC 60335-2-17 apply.

Table 101 – Maximum temperature rises for specified external accessible surfaces under normal operating conditions

Surface	Temperature rise of external accessible surfaces ^{a, e}	
	Surfaces of appliances situated on the floor	Surfaces of hand-held appliances and other appliances
Bare metal	38	42
Coated metal ^b	42	49
Glass and ceramic	51	56
Plastic and plastic coating > 0,4 mm ^{c, d}	58	62

NOTE The temperature rise limits of handles, knobs, grips, keyboards, keypads and similar parts are specified in Table 3.

^a *Temperature rises are not measured on the underside of appliances intended to be used on the floor, where these surfaces are inaccessible to a 75 mm diameter probe having a hemispherical end.*

^b *Metal is considered coated when a coating having a minimum thickness of 90 µm made of enamel, powder or non-substantially plastic coating is used.*

^c *The temperature rise limit of plastic also applies for plastic material having a metal finish of thickness less than 0,1 mm.*

^d *When the thickness of the plastic coating does not exceed 0,4 mm, the temperature rise limits of coated metal for underlying metal apply or the temperature rise limits for glass or ceramic material for underlying glass or ceramic material apply.*

^e *The limits also apply to appliances intended for commercial use, such as those at airports, shopping malls, etc.*

12 Charging of metal-ion batteries

This clause of Part 1 is applicable.

13 Leakage current and electric strength at operating temperature

This clause of Part 1 is applicable except as follows.

13.2 Modification:

Replace the last two dashed items of the eighth paragraph with the following and delete the ninth paragraph:

- for **stationary class I appliances**, except **fixed appliances** 0,75 mA
- for **fixed class I motor-operated appliances** 3,5 mA
- for **fixed class I combined appliances** 3,5 mA or 0,75 mA per kW
rated power input of the
appliance with a maximum
of 5 mA, whichever is
higher

14 Transient overvoltages

This clause of Part 1 is applicable.

15 Moisture resistance

This clause of Part 1 is applicable except as follows.

15.2 Addition:

Water filled foot massagers are completely filled with the spillage solution and are then emptied within 30 s by being tilted or overturned in the most unfavourable way.

16 Leakage current and electric strength

This clause of Part 1 is applicable except as follows.

16.2 Modification:

Replace the last two dashed items of the fourth paragraph with the following and delete the sixth paragraph:

- for **stationary class I appliances**, except **fixed appliances** 0,75 mA
- for **fixed class I motor-operated appliances** 3,5 mA
- for **fixed class I combined appliances** 3,5 mA or 0,75 mA per kW
rated power input of the
appliance with a maximum
of 5 mA, whichever is
higher

17 Overload protection of transformers and associated circuits

This clause of Part 1 is applicable.

18 Endurance

This clause of Part 1 is not applicable.

19 Abnormal operation

This clause of Part 1 is applicable except as follows.

19.1 Addition:

Appliances incorporating a liquid container that has to be filled by the user are also subjected to the test of 19.101.

19.7 Addition:

Appliances intended to be used under the feet of a sitting person, massage pads, chairs and beds are operated until steady conditions are established. Other appliances are operated for 30 s.

19.9 Not applicable.

19.10 Addition:

*The test is also carried out with **detachable parts** in place.*

19.13 Addition:

During the test of 19.101, the temperature rise of the surface of the container shall not exceed 60 K.

19.101 *Appliances incorporating a liquid container that has to be filled by the user are supplied at **rated voltage** and operated without liquid.*

20 Stability and mechanical hazards

This clause of Part 1 is applicable except as follows.

20.1 Addition:

Hand-held appliances are subjected to the test while placed on their charging stands.

Modification:

Replace the seventh paragraph with the following:

The appliance shall not overturn unless the appliance or part of the appliance which overturns complies with all of the following:

- *it only contains circuits operating at **safety extra-low voltage** according to 8.1.4;*
- *it only contains low power circuits according to 19.11.1;*
- *it is dropped from a height of 1 m on a rigidly supported concrete surface 5 times, the appliance being held in different positions likely to occur. After the drops, the appliance or part of the appliance as relevant shall show no damage so that compliance with 15.1 and 20.2 is not impaired;*

- *it has a maximum weight of 450 g when ready for use;*
- *it does not have sharp edges when ready for use. An edge with a radius of 1 mm or more is not considered a sharp edge.*

20.2 Addition:

In addition to the use of test probe 18, test probe 19 of IEC 61032 is also applied wherever test probe 18 is used and with the same test conditions used for test probe 18.

21 Mechanical strength

This clause of Part 1 is applicable except as follows.

21.1 Addition:

*Appliances intended to be used under the feet of a sitting person are loaded as specified for **normal operation** but with the mass increased to 90 kg. The mass is applied for 30 s.*

Hand-held parts of appliances are also subjected to the test of 21.101.

21.101 *The hand-held part of the appliance is placed in a sling that is constructed by tying together the four corners of a single layer of cheesecloth. The lowest point of the sling is suspended at a height of 900 mm above a concrete or similar hard surface.*

The hand-held part of the appliance in the sling is dropped from a stationary position. The test is carried out a total of five times with the hand-held part of the appliance being positioned so that it falls onto the concrete surface in five different orientations.

The appliance shall not be damaged to such an extent that compliance with 8.1 and Clause 29 is impaired.

22 Construction

This clause of Part 1 is applicable except as follows.

22.101 Appliances shall be constructed so that hair cannot be drawn into the appliance or be entangled in moving parts.

Compliance is checked by inspection.

22.102 Appliances that use water and in which air is circulated shall be constructed so that the water cannot penetrate into the motor and come into contact with **live parts** or **basic insulation**.

Compliance is checked by the following test.

The overflow outlet is blocked and the appliance is filled until water overflows. Non-return valves are rendered inoperative one at a time.

After the test, there shall be no trace of water on insulation that could result in a reduction of clearances or creepage distances below the values specified in Clause 29.

23 Internal wiring

This clause of Part 1 is applicable.

24 Components

This clause of Part 1 is applicable except as follows.

24.2 Addition:

Massage pads may be fitted with a switch in the flexible cord.

Massage chairs and massage beds may be fitted with a control in the flexible cord, provided that the length of the flexible cord is such that the control cannot make contact with the floor in normal use.

A control that does not contain **live parts** may be fitted in the flexible cord regardless of the length of the cord.

25 Supply connection and external flexible cords

This clause of Part 1 is applicable except as follows.

25.7 Addition:

Flat twin tinsel cord is allowed for **hand-held massage appliances** as long as they are fitted with a non-rewirable plug.

26 Terminals for external conductors

This clause of Part 1 is applicable.

27 Provision for earthing

This clause of Part 1 is applicable.

28 Screws and connections

This clause of Part 1 is applicable.

29 Clearances, creepage distances and solid insulation

This clause of Part 1 is applicable.

30 Resistance to heat and fire

This clause of Part 1 is applicable except as follows.

30.2 Modification:

Replace the two dashed items in the compliance criteria with the following:

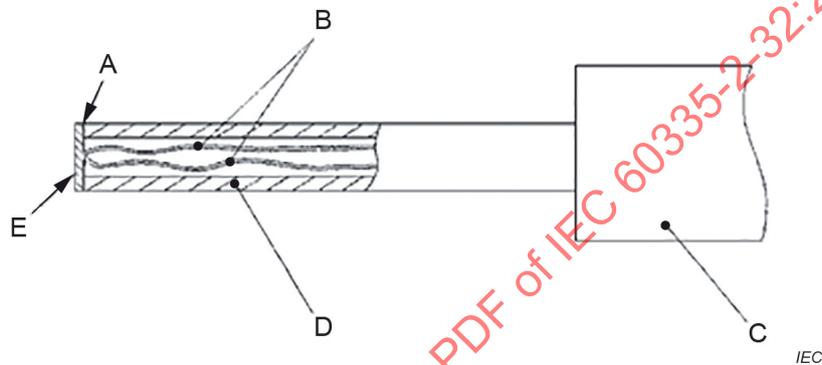
- for massage appliances, 30.2.2 is applicable.

31 Resistance to rusting

This clause of Part 1 is applicable.

32 Radiation, toxicity and similar hazards

This clause of Part 1 is applicable.

**Key**

- A adhesive
- B thermocouple wires 0,3 mm diameter to IEC 60584-1 Type K
- C handle arrangement permitting a contact force of $4\text{ N} \pm 1\text{ N}$
- D polycarbonate tube: inside diameter 3 mm, outside diameter 5 mm
- E tinned copper disc: 5 mm diameter, 0,5 mm thick with a flat contact face

Figure 101 – Probe for measuring surface temperatures

Annexes

The annexes of Part 1 are applicable except as follows.

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Annex B (normative)

Battery-operated appliances, separable batteries and detachable batteries for battery-operated appliances

This annex of Part 1 is applicable except as follows.

B.11.1 Addition:

For **hand-held appliances** operated with detachable batteries or separable batteries that are disconnected from the appliance for charging purposes, the appliance is operated for 20 min or until the second battery is depleted, whichever occurs first.

For **hand-held appliances** incorporating integral batteries or separable batteries not disconnected from the appliance for charging purposes, and that cannot perform their intended function while the batteries are being charged, the appliance is operated for 20 min or until the battery is depleted, whichever occurs first.

B.22.3 Addition:

In addition to the use of test probe 18, test probe 19 of IEC 61032 is also applied wherever test probe 18 is used and with the same test conditions used for test probe 18.

B.22.4 Addition:

In addition to the use of test probe 18, test probe 19 of IEC 61032 is also applied wherever test probe 18 is used and with the same test conditions used for test probe 18.

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Bibliography

The Bibliography of Part 1 is applicable except as follows.

Addition:

IEC 60335-2-23, *Household and similar electrical appliances – Safety – Part 2-23: Particular requirements for appliances for skin or hair care*

IEC 60335-2-115, *Household and similar electrical appliances – Safety – Part 2-115: Particular requirements for beauty care appliances*

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

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SOMMAIRE

AVANT-PROPOS	24
INTRODUCTION.....	27
1 Domaine d'application	28
2 Références normatives	29
3 Termes et définitions	29
4 Exigence générale	30
5 Conditions générales d'essais	30
6 Classification	30
7 Marquage et instructions	30
8 Protection contre l'accès aux parties actives	31
9 Démarrage des appareils à moteur	31
10 Puissance et courant	31
11 Échauffements.....	31
12 Charge des batteries à ions métalliques	32
13 Courant de fuite et rigidité diélectrique à la température de régime	33
14 Surtensions transitoires	33
15 Résistance à l'humidité.....	33
16 Courant de fuite et rigidité diélectrique	33
17 Protection contre la surcharge des transformateurs et des circuits associés	34
18 Endurance	34
19 Fonctionnement anormal	34
20 Stabilité et dangers mécaniques	34
21 Résistance mécanique.....	35
22 Construction	35
23 Conducteurs internes.....	36
24 Composants	36
25 Raccordement au réseau et câbles souples extérieurs	36
26 Bornes pour conducteurs externes	36
27 Dispositions en vue de la mise à la terre	36
28 Vis et connexions	37
29 Distances dans l'air, lignes de fuite et isolation solide.....	37
30 Résistance à la chaleur et au feu.....	37
31 Protection contre la rouille	37
32 Rayonnement, toxicité et dangers analogues	37
Annexes	38
Annexe B (normative) Appareils alimentés par batteries, batteries séparables et batteries amovibles pour les appareils alimentés par batteries	39
Bibliographie.....	40
Figure 101 – Calibre pour le mesurage des températures de surface	37

Tableau 101 – Échauffements maximaux pour les surfaces accessibles extérieures
spécifiées en conditions de fonctionnement normal..... 32

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

APPAREILS ÉLECTRODOMESTIQUES ET ANALOGUES – SÉCURITÉ –

Partie 2-32: Exigences particulières pour les appareils de massage

AVANT-PROPOS

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L'IEC 60335-2-32 a été établie par le comité d'études 61 de l'IEC: Sécurité des appareils électrodomestiques et analogues. Il s'agit d'une Norme internationale.

Cette sixième édition annule et remplace la cinquième édition parue en 2019. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

- a) texte aligné sur l'IEC 60335-1:2020;
- b) transformation de certaines notes en texte normatif (Article 1);
- c) application du calibre d'essai 19 (8.1.1, 20.2, B.22.3, B.22.4).

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
61/7267/FDIS	61/7290/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/publications.

Une liste de toutes les parties de la série IEC 60335, publiées sous le titre général: *Appareils électrodomestiques et analogues – Sécurité*, se trouve sur le site web de l'IEC.

La présente partie 2 doit être utilisée conjointement avec la dernière édition de l'IEC 60335-1 et ses amendements sauf si cette édition l'exclut; dans ce cas, la dernière édition qui n'exclut pas la présente partie 2 est utilisée. Elle a été établie sur la base de la sixième édition (2020) de cette norme.

NOTE 1 L'expression "la Partie 1" utilisée dans la présente norme fait référence à l'IEC 60335-1.

La présente partie 2 complète ou modifie les articles correspondants de l'IEC 60335-1, de façon à transformer cette publication en norme IEC: Exigences particulières pour les appareils de massage.

Lorsqu'un paragraphe particulier de la Partie 1 n'est pas mentionné dans cette partie 2, ce paragraphe s'applique pour autant que cela soit raisonnable. Lorsque la présente norme mentionne "addition", "modification" ou "remplacement", le texte correspondant de la Partie 1 doit être adapté en conséquence.

NOTE 2 Le système de numérotation suivant est utilisé:

- les paragraphes, tableaux et figures qui s'ajoutent à ceux de la Partie 1 sont numérotés à partir de 101;
- notes: à l'exception de celles qui sont dans un nouveau paragraphe ou de celles qui concernent des notes de la Partie 1, les notes sont numérotées à partir de 101, y compris celles des articles ou paragraphes qui sont modifiés ou remplacés;
- les annexes qui sont ajoutées sont désignées AA, BB, etc.

NOTE 3 Les caractères d'imprimerie suivants sont utilisés:

- exigences: caractères romains;
- *modalités d'essais: caractères italiques;*
- notes: petits caractères romains.

Les termes figurant en caractères **gras** dans le texte sont définis à l'Article 3. Lorsqu'une définition concerne un adjectif, l'adjectif et le nom associé figurent également en gras.

Le comité a décidé que le contenu de ce document ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous webstore.iec.ch dans les données relatives au document recherché. À cette date, le document sera

- reconduit,
- supprimé, ou
- révisé.

NOTE 4 L'attention des Comités nationaux est attirée sur le fait que les fabricants d'appareils et les organismes d'essai peuvent avoir besoin d'une période transitoire après la publication d'une nouvelle publication IEC, ou d'une publication amendée ou révisée, pour fabriquer des produits conformes aux nouvelles exigences et pour adapter leurs équipements aux nouveaux essais ou aux essais révisés.

Le comité recommande que le contenu de cette publication soit adopté pour application nationale au plus tôt 12 mois et au plus tard 36 mois après la date de publication.

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INTRODUCTION

Il a été admis par hypothèse, en établissant la présente Norme internationale, que l'exécution de ses dispositions était confiée à des personnes expérimentées et ayant une qualification appropriée.

Les documents de recommandations concernant l'application des exigences de sécurité des appareils peuvent être obtenus par le biais des documents d'accompagnement du comité d'études 61 sur le site web de l'IEC:

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

Cette information est donnée à l'intention des utilisateurs de la présente Norme internationale et ne constitue nullement un remplacement du texte normatif de la présente norme.

La présente norme reconnaît le niveau de protection internationalement accepté contre les risques électriques, mécaniques, thermiques, liés au feu et au rayonnement des appareils, lorsqu'ils fonctionnent comme en usage normal en tenant compte des instructions du fabricant. Elle couvre également les situations anormales qui peuvent être attendues dans la pratique et elle tient compte de la façon dont les phénomènes électromagnétiques peuvent altérer le fonctionnement sûr des appareils.

La présente norme tient compte autant que possible des exigences de l'IEC 60364, de façon à rester compatible avec les règles d'installation quand l'appareil est raccordé au réseau d'alimentation. Cependant, les règles nationales d'installation peuvent être différentes.

Si un appareil relevant du domaine d'application de la présente norme comporte également des fonctions couvertes par une autre partie 2 de l'IEC 60335, la partie 2 correspondante est appliquée à chaque fonction séparément, dans la limite du raisonnable. Si cela s'applique, l'influence d'une fonction sur les autres fonctions est prise en compte.

Lorsqu'une partie 2 ne comporte pas d'exigences complémentaires pour couvrir les dangers traités dans la Partie 1, la Partie 1 s'applique.

NOTE 1 Cela signifie que les comités d'études responsables pour les parties 2 ont déterminé qu'il n'était pas nécessaire de spécifier des exigences particulières pour l'appareil en question en plus des exigences générales.

Cette norme est une norme de famille de produits traitant de la sécurité d'appareils et a préséance sur les normes horizontales et génériques couvrant le même sujet.

NOTE 2 Les publications horizontales, les publications fondamentales de sécurité et les publications groupées de sécurité couvrant un danger ne s'appliquent pas, parce qu'elles ont été prises en considération lorsque les exigences générales et particulières ont été étudiées pour la série de normes IEC 60335. Un appareil conforme au texte de la présente norme n'est pas nécessairement jugé conforme aux principes de sécurité de la norme si, lorsqu'il est examiné et soumis aux essais, il apparaît qu'il présente d'autres caractéristiques qui compromettent le niveau de sécurité visé par ces exigences.

Un appareil utilisant des matériaux ou présentant des modes de construction différents de ceux décrits dans les exigences de la présente norme peut être examiné et soumis aux essais en fonction de l'objectif poursuivi par ces exigences et, s'il est jugé pratiquement équivalent, il peut être estimé conforme aux principes de sécurité de la présente norme.

NOTE 3 Les normes traitant des aspects non relatifs à la sécurité des appareils électrodomestiques sont:

- les normes IEC publiées par le comité d'études 59 concernant les méthodes de mesure de l'aptitude à la fonction;
- les normes CISPR 11, CISPR 14-1 et les normes applicables de la série IEC 61000-3 concernant les émissions électromagnétiques;
- la norme CISPR 14-2 concernant l'immunité électromagnétique;
- les normes IEC publiées par le comité d'études 111 concernant l'environnement.

APPAREILS ÉLECTRODOMESTIQUES ET ANALOGUES – SÉCURITÉ –

Partie 2-32: Exigences particulières pour les appareils de massage

1 Domaine d'application

L'article de la Partie 1 est remplacé par le texte suivant.

La présente partie de l'IEC 60335 traite de la sécurité des appareils électriques de massage pour usages domestiques et analogues dont la **tension assignée** n'est pas supérieure à 250 V pour les appareils monophasés et à 480 V pour les autres appareils, y compris les appareils alimentés en courant continu et les **appareils alimentés par batteries**.

Exemples d'appareils relevant du domaine d'application de la présente norme

- les appareils de massage des pieds;
- les appareils de massage des pieds remplis d'eau;
- les appareils de massage portatifs;
- les lits de massage;
- les ceintures de massage;
- les chaises de massage;
- les coussins de massage.

Les appareils non destinés à un usage domestique normal mais qui néanmoins peuvent constituer une source de danger pour le public, tels que les appareils destinés à être utilisés par des usagers non avertis dans des magasins, chez des artisans et dans des fermes, sont compris dans le domaine d'application de la présente norme.

Dans la mesure du possible, la présente norme traite des dangers courants que présentent les appareils et auxquels sont exposés tous les individus à l'intérieur et autour de l'habitation. Cependant, elle ne tient en général pas compte

- des personnes (y compris des enfants) dont
 - les capacités physiques, sensorielles ou mentales; ou
 - le manque d'expérience et de connaissanceles empêchent d'utiliser l'appareil en toute sécurité sans surveillance ou instruction;
- de l'utilisation de l'appareil comme jouet par des enfants.

L'attention est attirée sur le fait que

- pour les appareils destinés à être utilisés dans des véhicules ou à bord de navires ou d'avions, des exigences supplémentaires peuvent être nécessaires;
- dans de nombreux pays, des exigences supplémentaires sont spécifiées par les organismes nationaux de la santé publique, par les organismes nationaux responsables de la protection des travailleurs et par des organismes analogues.