

INTERNATIONAL STANDARD



**Household and similar electrical appliances – Safety –
Part 2-8: Particular requirements for shavers, hair clippers and similar
appliances**

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**Household and similar electrical appliances – Safety –
Part 2-8: Particular requirements for shavers, hair clippers and similar
appliances**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2-8: Particular requirements for shavers,
hair clippers and similar appliances****FOREWORD**

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This commented version (CMV) of the official standard IEC 60335-2-8:2022 edition 7.0 allows the user to identify the changes made to the previous IEC 60335-2-8:2012+AMD1:2015+AMD2:2018 CSV edition 6.2. 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 60335-2-8 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This seventh edition cancels and replaces the sixth edition published in 2012, Amendment 1:2015 and Amendment 2:2018. 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, 3.1.9, 19.10, 20.1, 22.103);
- c) clarification of holding the appliance with negligible effect on normal operation (3.1.9);
- d) addition of requirements for detachable power supply parts (6.2, 21.102, 21.103, 24.2);
- e) allowance to waive instructions relating to hot blades on animal shearers and commercial animal clippers based on temperatures measured in Clause 11 (7.12);
- f) clarification and consolidation of requirements in 22.26 and 22.36;
- g) clarification of applicability of 30.2.2 and 30.2.3;
- h) clarification of requirements for interconnection cords for class II constructions.

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

Draft	Report on voting
61/6674/FDIS	61/6750/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

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

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments unless that edition precludes it; in that case, the latest edition that does not preclude it is used. It was established on the basis of the sixth edition (2020) of that standard.

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

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Particular requirements for shavers, hair clippers and similar appliances.

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

NOTE 2 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;

- additional annexes are lettered AA, BB, etc.

NOTE 3 The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

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

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

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

The following differences exist in the countries indicated below.

- 6.1: Class 0 appliances are allowed provided that their rated voltage does not exceed 150 V (Japan).
- 6.1, 22.36: Class 0 appliances are not allowed (Australia, New Zealand).

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.

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~~ 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 2-8: Particular requirements for shavers, hair clippers and similar appliances

1 Scope

This clause of Part 1 is replaced by the following.

~~Battery-operated appliances and other d.c. supplied appliances are within the scope of this standard. Dual supply appliances, either mains supplied or battery operated, are regarded as battery-operated appliances when operated in the battery mode.~~

This part of 60335 deals with the safety of electric shavers, hair clippers, epilators, appliances used for manicure and pedicure and similar appliances intended for household and similar purposes, their **rated voltage** being not more than 250 V, including direct current (DC) supplied appliances and **battery-operated appliances**. **3**

~~NOTE 101—Examples of similar appliances are epilators and those appliances used for manicure and pedicure.~~

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

~~NOTE 102—Examples of such appliances are animal clippers, animal shearers and appliances for hairdressers.~~

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account

- persons (including children) whose
 - physical, sensory or mental capabilities; or
 - lack of experience and knowledge
 prevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance.

~~NOTE 103—Attention is drawn to the fact that~~

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements ~~may~~ can be necessary;
- in many countries additional requirements are specified by national health authorities, national authorities responsible for the protection of labour and similar authorities.

~~NOTE 104—This standard does not apply to~~

- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- massage appliances (IEC 60335-2-32);
- beauty care appliances incorporating lasers and intense light sources (IEC 60335-2-113);
- skin beauty care appliances (IEC 60335-2-115);

- appliances for medical purposes (IEC 60601).

2 Normative references

This clause of Part 1 is applicable.

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~~ Addition: **4** **normal operation**

operation of the appliance under the following conditions:

The appliance is held by a clamp or other appropriate means so as to have negligible effect on blade movement, temperature and load **5**. The appliance is held with its major axis and the major axis of the cutting head or other accessory positioned in a horizontal plane and operated without applying a load.

Appliances having adjustable shearing or clipping heads are operated with the blades adjusted so that the power input is 0,8 times **rated power input**, or 1,2 times the power input obtained after removing any **detachable parts** that could influence the load, whichever is the more unfavourable. No further adjustments are made.

~~NOTE 101—The clamp is selected so that there is negligible effect on the heat transfer from the appliance.~~

Note 1 to entry: It can be necessary to conduct a test under each loading condition to determine the more unfavourable condition.

3.5 Definitions relating to types of appliances

3.5.101

animal shearer

appliance for commercial use for shearing the fleece of an animal such as a sheep

3.5.102

animal clipper

appliance for commercial use in parlours or for household use for trimming the hair of an animal such as a dog

3.5.103

washable shaver

shaver, the hand-held part of which can be cleaned under water

3.5.104

wet shaver

shaver, the hand-held part of which ~~may~~ can be used in a bath or shower

3.5.105

washable clipper

clipper, the hand-held part of which can be cleaned under water

3.5.106

wet clipper

clipper, the hand-held part of which ~~may~~ can be used in a bath or shower

3.5.107

washable epilator

epilator, the hand-held part of which can be cleaned under water

3.5.108

wet epilator

epilator, the hand-held part of which ~~may~~ can be used in a bath or shower

4 General requirement

This clause of Part 1 is applicable.

5 General conditions for the tests

This clause of Part 1 is applicable except as follows.

5.8.2 Addition:

*If an appliance is marked for use at two different **rated voltages**, and the instructions indicate that it is suitable for use at two different ranges of voltages, the appliance is assumed to have two **rated voltage ranges**.*

6 Classification

This clause of Part 1 is applicable except as follows.

6.1 Modification:

Animal shearers shall be **class I**, **class II** or **class III**.

Washable shavers, wet shavers, washable clippers, wet clippers, washable epilators and wet epilators shall be **class II** or **class III**.

Other appliances having a **rated voltage** not exceeding 150 V shall be of **class 0**, **class I**, **class II** or **class III**.

Other appliances shall be **class II** or **class III**.

6.2 Addition:

Washable shavers, wet shavers, washable clippers, wet clippers, washable epilators and wet epilators shall be at least IPX7. However, parts that are intended to be fixed and ~~transformers~~ **detachable power supply parts** with pins for insertion into socket outlets shall be at least IPX4. This classification does not apply to parts of **class III construction**.

7 Marking and instructions

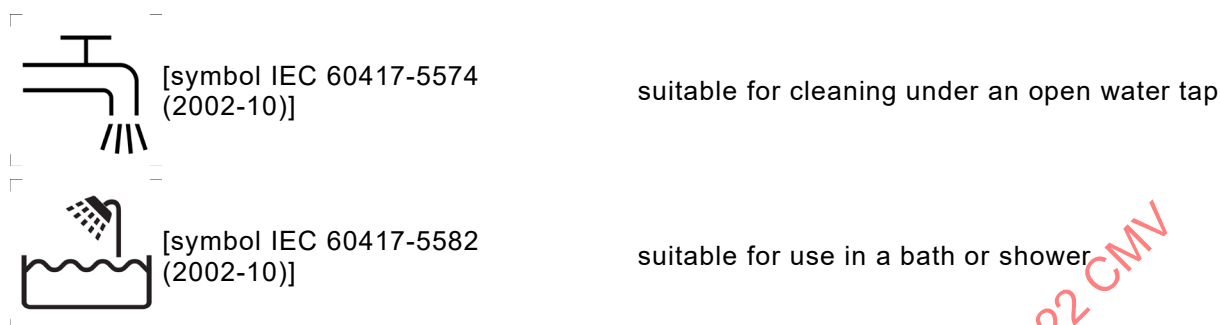
This clause of Part 1 is applicable except as follows.

7.1 Addition:

Hand-held parts of **washable shavers, washable clippers, and washable epilators** shall be marked with symbol IEC 60417-5574 (2002-10).

Hand-held parts of **wet shavers**, **wet clippers**, and **wet epilators** shall be marked with symbol IEC 60417-5582 (2002-10).

7.6 Addition:



7.12 Addition:

The instructions for **animal clippers** shall state that the appliance is intended for trimming purposes only.

If **animal clippers** and hair clippers are not intended for commercial use, the instructions shall state that they are for household use only, ~~this shall be stated.~~ **6**

If the temperature rise of the cutting blades exceeds the limit specified in Table 3 for handles held for short periods only, the instructions for **animal clippers** for commercial use and **animal shearers** shall include the substance of the following: **7**

WARNING: Cutting blades ~~may~~ can become hot after prolonged use.

If symbol IEC 60417-5574 (2002-10) or symbol IEC 60417-5582 (2002-10) is used, its meaning shall be explained.

The instructions for appliances, other than **washable shavers**, **wet shavers**, **washable clippers**, **wet clippers**, **washable epilators** or **wet epilators** shall include the substance of the following.

WARNING: Keep the appliance dry.

The instructions for **washable shavers**, **washable clippers**, and **washable epilators** with **detachable interconnection cords** shall include the substance of the following:

WARNING: Detach the hand-held part from the supply cord before cleaning it in water.

7.12.1 Addition:

The instructions for **washable shavers**, **wet shavers**, **washable clippers**, **wet clippers**, **washable epilators** and **wet epilators**, other than those classified IPX7, shall state that the parts that have to be fixed must be installed so they cannot fall into water.

7.14 Addition:

The height of symbol IEC 60417-5574 (2002-10) and symbol IEC 60417-5582 (2002-10) shall be at least 5 mm.

8 Protection against access to live parts

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

8.1.1 Modification: 8

Test probe 18 of IEC 61032 is not applied to:

- **animal clippers** for commercial use;
- **animal shearers**; and
- hair clippers for commercial use.

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.

11.7 ~~Replacement~~ Modification:

Appliances intended for household use only are operated continuously for 10 min.

Animal shearers are operated until steady conditions are established.

Animal clippers and other appliances are operated for 10 min followed by a rest period of 10 min. This cycle of operation is repeated until steady conditions are established.

For appliances incorporating **integral batteries** or **separable batteries** not disconnected from the appliance for charging purposes: 9

- 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;
- the **battery** that has been **fully discharged** is charged, for a duration of 24 h or until it is **fully charged** whichever is shorter, without the **battery-operated appliance** performing its intended function.

11.8 Addition:

The temperature rise of parts that are in contact with skin in normal use, or are held in the hand, shall not exceed the limits specified for handles which are continuously held in normal use. The temperature rise of parts of hair clippers or trimmers that are in contact with hair in normal use, and ~~may~~ can contact the skin for short periods, shall not exceed the limits specified for handles which in normal use are held for short periods only. The temperature rise limit of cutting blades of animal clippers for commercial use and **animal shearers** that ~~may~~ can come in contact with the animal skin or hair in normal use is 50 K.

12 ~~Void~~ Charging of metal-ion batteries 10

This clause of Part 1 is applicable.

13 Leakage current and electric strength at operating temperature

This clause of Part 1 is applicable.

14 Transient overvoltages

This clause of Part 1 is applicable.

15 Moisture resistance

This clause of Part 1 is applicable.

16 Leakage current and electric strength

This clause of Part 1 is applicable.

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:

Hand-held appliances are also subjected to the test of 19.101.

19.7 Addition:

Appliances that are not hand-held or are not kept switched on by hand are tested for 5 min.

19.10 Addition:

~~NOTE 101~~ The lowest possible load is obtained with the appliance operating under **normal operation** but after removal of any **detachable part** that ~~may~~ can influence the load.

19.101 Hand-held appliances are placed on a soft-wood board in the most unfavorable position. They are supplied at **rated voltage** and operated until steady conditions are established.

20 Stability and mechanical hazards

This clause of Part 1 is applicable except as follows.

20.1 Replacement:

Appliances, other than **fixed appliances** and **hand-held appliances** without a charging stand, intended to be used on a surface such as the floor or a table, shall have adequate stability.

*Compliance is checked by the following test, appliances incorporating an appliance inlet being fitted with an appropriate connector and flexible cord. **Hand-held appliances** with a charging stand are subjected to the test while placed on their charging stand.*

*The appliance, not connected to the supply mains, is placed in any normal position of use on a plane inclined at an angle of 10° to the horizontal, the **supply cord** resting on the inclined plane in the ~~most unfavourable~~ position *resulting in the least stable condition*. However, if part of an appliance comes into contact with the horizontal supporting surface when the appliance is tilted through an angle of 10°, the appliance is placed on a horizontal support and tilted in the ~~most unfavourable~~ direction through an angle of 10° *resulting in the least stability*.*

~~NOTE 101~~ *The test on the horizontal support can be necessary for appliances provided with rollers, castors or feet. In this case, castors or wheels can be blocked to prevent the appliance from rolling.*

*Appliances intended to be filled with liquid by the user ~~in normal use~~ are tested empty or filled with the ~~most unfavourable~~ quantity of water up to the capacity indicated in the instructions *resulting in the least stable condition*. 11*

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

- *it only contains circuits operating at **SELV** according to 8.1.4;*
- *it only contains low power circuits according to 19.11.1;*
- *it is dropped from a height of 700 mm on a rigidly supported hard wood board 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 maintain compliance with 15.1 and 20.2;*
- *if the weight is more than 200 g, 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.*

The test is repeated on appliances with heating elements with the angle of inclination increased to 15°. If the appliance overturns in one or more positions, it is subjected to the tests of Clause 11 in each of these overturned positions.

During this test, temperature rises shall not exceed the values shown in Table 9.

20.2 Modification: 12

Test probe 18 of IEC 61032 is not applied to:

- ***animal clippers** for commercial use;*
- ***animal shearers**; and*
- *hair clippers for commercial use.*

21 Mechanical strength

This clause of Part 1 is applicable except as follows.

21.1 Addition:

Blows with an impact energy of 0,5 J are only applied to those parts that could hit the floor if the appliance is dropped. Three blows are applied to other parts with an impact energy of 0,35 J.

Blows are not applied to cutting heads.

21.101 Hand-held parts of appliances shall have adequate mechanical strength and be constructed to withstand such rough handling that ~~may~~ can be expected in normal use.

Compliance is checked by the following test.

*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 cheese cloth. The lowest point of the sling is suspended at a height of 700 mm for **animal clippers** and **animal shearers** above a rigidly supported hardwood board surface and at a height 900 mm above a concrete or similar hard surface for other appliances.*

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 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.

21.102 The enclosure of a **detachable power supply part**, other than those with pins for insertion into the socket outlet, shall have adequate mechanical strength against crushing. **13**

Compliance is checked by the following test.

*The appliance is operated under the conditions of Clause 11 with the **detachable power supply part** placed on the floor of the test corner.*

*After steady conditions are established, a force of 1 350 N is applied for 1 min to the **detachable power supply part** enclosure. The force is applied using a flat surface of 100 mm × 250 mm and repeated with the **detachable power supply part** placed in all possible different orientations.*

*The **detachable power supply part** shall not be damaged to such an extent that compliance with this standard is impaired. In particular, it shall not emit flames or molten material and the requirements of 8.1 and Clause 29 shall be fulfilled.*

21.103 The enclosure of a **detachable power supply part**, other than those with pins for insertion into the socket outlet, shall have adequate mechanical strength against dropping. **14**

*The **detachable power supply part** 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 **detachable power supply part** in the sling is dropped from a stationary position. The test is carried out a total of five times with the **detachable power supply part** 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.

~~22.26 Addition:~~

~~Hand-held parts of washable shavers, washable clippers and washable epilators shall be class III construction having a working voltage not exceeding 24 V.~~

~~Hand-held parts of wet shavers, wet clippers and wet epilators shall be class III construction having a working voltage not exceeding 12 V, except when they are being charged, when the working voltage shall not exceed 24 V.~~

~~Compliance is checked by inspection and by measurement.~~

22.36 Addition:

Hand-held parts shall be class II construction or class III construction.

For appliances having a rated voltage not exceeding 150 V, hand-held parts except those of washable shavers, wet shavers, washable clippers, wet clippers, washable epilators and wet epilators may be of class 0 construction.

Hand-held parts of washable shavers, washable clippers and washable epilators shall be class III construction having a working voltage not exceeding 24 V.

Hand-held parts of wet shavers, wet clippers and wet epilators shall be class III construction having a working voltage not exceeding 12 V, except when they are being charged, when the working voltage shall not exceed 24 V.

For other appliances having a rated voltage exceeding 150 V, hand-held parts shall be class II construction or class III construction. 15

22.40 ~~Replacement~~ Modification of the first sentence: 16

Animal shearers and animal clippers shall be fitted with a switch to control the motor.

~~Compliance is checked by inspection.~~

22.101 Appliances shall not have openings that would allow small items to penetrate and touch live parts.

Compliance is checked by inspection and by measuring the distance between the supporting surface and live parts through openings. This distance shall be at least 6 mm. However, if the appliance is fitted with legs, this distance is increased to 10 mm if the appliance is intended to stand on a table and to 20 mm if it is intended to stand on the floor.

22.102 Shavers and hair clippers shall be constructed so that the penetration of clippings cannot give rise to electrical or mechanical faults.

Compliance is checked by inspection.

22.103 Washable shavers, wet shavers, washable clippers, wet clippers, washable epilators and wet epilators, other than those classified IPX7, shall be constructed so that parts that are intended to be fixed can be fixed securely. These parts shall not be fixed by keyhole

slots, hooks and similar means, without further means to prevent inadvertently lifting them off the support.

Compliance is checked by inspection.

~~NOTE Keyhole slots, hooks and similar means, without further means to prevent the appliance from being inadvertently lifted off the support, are not considered to be adequate means for fixing the appliance securely.~~

23 Internal wiring

This clause of Part 1 is applicable.

24 Components

This clause of Part 1 is applicable except as follows.

24.1.3 Addition:

Switches incorporated in **animal clippers** for commercial use and **animal shearers**, and hair clippers for ~~hairedressers~~ commercial use, the number of cycles of operation declared for IEC 61058-1:2016, Subclause ~~7.1.4~~ 7.4 shall be at least 50 000.

For switches incorporated in hair clippers intended for household use only and **animal clippers** intended for household use only, the number of cycles of operation declared for IEC 61058-1:2016, Subclause ~~7.1.4~~ 7.4 shall be at least 3 000.

For switches incorporated in shavers intended for household use only, the number of cycles of operation declared for IEC 61058-1:2016, Subclause ~~7.1.4~~ 7.4 shall be at least 6 000.

24.2 Modification:

Appliances may be fitted with a **detachable power supply part** in a flexible cord. **17**

25 Supply connection and external flexible cords

This clause of Part 1 is applicable except as follows.

25.5 Addition:

Type Z attachment is allowed for appliances intended for household use only.

Type X attachments are not allowed on appliances with an IP classification exceeding IPX4.

25.7 Addition:

Flat twin tinsel cord is allowed for appliances intended for household use only as long as they are fitted with a non-rewirable plug.

Rubber insulated **supply cords** of **animal shearers** shall be polychloroprene sheathed and not be lighter than ordinary polychloroprene sheathed flexible cord (code designation 60245 IEC 57).

Supply cords shall have a length of at least 1,7 m. This requirement is not applicable to **supply cords** on **battery** charging units.

25.14 Modification:

The number of flexings for **type Z attachment** is 100 000 and for other attachments 50 000.

25.23 Addition:

For **interconnection cords** for parts of **class III construction** that are charged by connection to a **detachable power supply part**, **interconnection cords** are not required to comply with the requirements for **supply cords**. If the appliance can perform its intended function when connected to the **detachable power supply part**, the **interconnecting cord** length shall comply with 25.7. **18**

25.24 Addition:

Interconnection cords of **washable shavers**, **washable clippers** and **washable epilators** shall be detachable.

Wet shavers, **wet clippers** and **wet epilators** shall not have an **interconnection cord** unless they cannot be operated when connected to the supply mains.

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 shavers, hair clippers, epilators, appliances used for manicure and pedicure, **animal clippers**, **animal shearers** and similar appliances, 30.2.2 is applicable*

~~**30.2.3 Not applicable.**~~ **19****31 Resistance to rusting**

This clause of Part 1 is applicable.

32 Radiation, toxicity and similar hazards

This clause of Part 1 is applicable.

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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.

11 Heating

B.11.1 Modification: 20

Battery-operated appliances are tested under the conditions of **normal operation** with the appliance operated as specified in 11.7.

For 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 as specified until it cannot perform its intended function due to the depletion of the **batteries**.

20 Stability and mechanical hazards 21

Table B.2 Replacement:

Table B.2 – Total area of openings for metal-ion cells

Capacity of the single metal-ion cell with the highest capacity	Min. total area of openings
Ah	mm ²
$0,2 \leq Ah < 1$	6
$1 \leq Ah < 3$	10
$3 \leq Ah < 5$	20
$5 \leq Ah < 25$	30
$25 \leq Ah < 100$	50
$Ah \geq 100$	100

Table B.3 Replacement:

Table B.3 – Volume of air injected at 2 070 kPa

Capacity of the single metal-ion cell with the highest capacity	Volume of air (± 10 %)
Ah	ml
$0,2 \leq Ah < 1$	6
$1 \leq Ah < 3$	10
$3 \leq Ah < 5$	20
$5 \leq Ah < 25$	30
$25 \leq Ah < 100$	50
$Ah \geq 100$	100

22 Construction

B.22.3 Modification:

Test probe 18 of IEC 61032 is not applied to

- **animal clippers** for commercial use;
- **animal shearers**; and
- hair clippers for commercial use. **22**

B.22.4 Modification:

Test probe 18 of IEC 61032 is not applied to

- **animal clippers** for commercial use;
- **animal shearers**; and
- hair clippers for commercial use. **23**

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Annex C (normative)

Ageing test on motors

This annex of Part 1 is applicable except as follows.

Modification:

The value of p in Table C.1 is

- 500 for appliances intended for household use only;
- 2 000 for other appliances.

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Bibliography

The bibliography of Part 1 is applicable except as follows.

Addition:

IEC 60335-2-32, *Household and similar electrical appliances – Safety – Part 2-32: Particular requirements for massage appliances*

IEC 60335-2-113, *Household and similar electrical appliances – Safety – Part 2-113: Particular requirements for beauty care appliances incorporating lasers and intense light sources*

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

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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 Clamping tightly can place addition load on the vibrator coil resulting in overloading and higher temperatures.
 - 6 This instruction should also be provided for hair clippers that are not intended for commercial use.
 - 7 This marking is not necessary if the temperature rise of the cutting blades is less than the limit specified for handles held for short periods only.
 - 8 Clarification is provided when test probe 18 is not to be applied for commercial appliances.
 - 9 The operation of the appliance while the battery is charging, if possible, is modified to replace continuous operation with operation as specified above.
 - 10 This revision is for alignment with IEC 60335-1:2020.
 - 11 The most unfavourable condition is better defined with respect to the compliance criteria for this test.
 - 12 Clarification is provided when test probe 18 is not to be applied for commercial appliances.
 - 13 Addition of a crushing force test on detachable power supply parts to address the possibility of the part being stepped upon or something being placed on top of the part.
 - 14 Addition of a drop test on detachable power supply parts to address the possibility of the part being dropped.
 - 15 Subclauses 22.26 and 22.36 are clarified and combined.
 - 16 This revision maintains the remote operation requirement specified in IEC 60335-1:2020.
 - 17 With the addition of the tests specified in 21.102 and 21.103, a detachable power supply part may be provided in a flexible cord.
 - 18 Clarification of applicable requirements for interconnection cords in class III construction.
 - 19 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.
 - 20 Modification to the test duration to replace continuous operation with the operating periods and, if applicable, rest periods specified in Subclause 11.7.
 - 21 Tables B.2 and B.3 are replaced to include more precise specifications for cells with a capacity between 0,2 Ah and 5 Ah.
 - 22 Clarification is provided when test probe 18 is not to be applied for commercial appliances.
 - 23 Clarification is provided when test probe 18 is not to be applied for commercial appliances.
-

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Household and similar electrical appliances – Safety –
Part 2-8: Particular requirements for shavers, hair clippers and similar
appliances**

**Appareils électrodomestiques et analogues – Sécurité –
Partie 2-8: Exigences particulières pour les rasoirs, les tondeuses et appareils
analogues**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-8: Particular requirements for shavers, hair clippers and similar 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) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60335-2-8 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This seventh edition cancels and replaces the sixth edition published in 2012, Amendment 1:2015 and Amendment 2:2018. 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, 3.1.9, 19.10, 20.1, 22.103);
- c) clarification of holding the appliance with negligible effect on normal operation (3.1.9);
- d) addition of requirements for detachable power supply parts (6.2, 21.102, 21.103, 24.2);

- e) allowance to waive instructions relating to hot blades on animal shearers and commercial animal clippers based on temperatures measured in Clause 11 (7.12);
- f) clarification and consolidation of requirements in 22.26 and 22.36;
- g) clarification of applicability of 30.2.2 and 30.2.3;
- h) clarification of requirements for interconnection cords for class III constructions.

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

Draft	Report on voting
61/6674/FDIS	61/6750/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

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

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments unless that edition precludes it; in that case, the latest edition that does not preclude it is used. It was established on the basis of the sixth edition (2020) of that standard.

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

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Particular requirements for shavers, hair clippers and similar appliances.

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

NOTE 2 The following numbering system is used:

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

NOTE 3 The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type*;
- notes: in small roman type.

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

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

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

The following differences exist in the countries indicated below.

- 6.1: Class 0 appliances are allowed provided that their rated voltage does not exceed 150 V (Japan).
- 6.1, 22.36: Class 0 appliances are not allowed (Australia, New Zealand).

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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 2-8: Particular requirements for shavers, hair clippers and similar appliances

1 Scope

This clause of Part 1 is replaced by the following.

This part of 60335 deals with the safety of electric shavers, hair clippers, epilators, appliances used for manicure and pedicure and similar appliances intended for household and similar purposes, their **rated voltage** being not more than 250 V, including direct current (DC) supplied appliances and **battery-operated appliances**.

Appliances not intended for normal household use, but which nevertheless possibly pose a source of danger to the public, such as appliances intended to be used by laymen in shops and on farms, are within the scope of this standard. Examples of such appliances are **animal shearers**.

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 national health authorities, national authorities responsible for the protection of labour and similar authorities.

This standard does not apply to

- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- massage appliances (IEC 60335-2-32);
- beauty care appliances incorporating lasers and intense light sources (IEC 60335-2-113);
- skin beauty care appliances (IEC 60335-2-115);
- appliances for medical purposes (IEC 60601).

2 Normative references

This clause of Part 1 is applicable.

3 Terms and definitions

This clause of Part 1 is applicable except as follows.

3.1 Definitions relating to physical characteristics

3.1.9 *Addition:*

operation of the appliance under the following conditions:

The appliance is held by a clamp or other appropriate means so as to have negligible effect on blade movement, temperature and load. The appliance is held with its major axis and the major axis of the cutting head or other accessory positioned in a horizontal plane and operated without applying a load.

Appliances having adjustable shearing or clipping heads are operated with the blades adjusted so that the power input is 0,8 times **rated power input**, or 1,2 times the power input obtained after removing any **detachable parts** that could influence the load, whichever is the more unfavourable. No further adjustments are made.

Note 1 to entry: It can be necessary to conduct a test under each loading condition to determine the more unfavourable condition.

3.5 Definitions relating to types of appliances

3.5.101

animal shearer

appliance for commercial use for shearing the fleece of an animal such as a sheep

3.5.102

animal clipper

appliance for commercial use in parlours or for household use for trimming the hair of an animal such as a dog

3.5.103

washable shaver

shaver, the hand-held part of which can be cleaned under water

3.5.104

wet shaver

shaver, the hand-held part of which can be used in a bath or shower

3.5.105

washable clipper

clipper, the hand-held part of which can be cleaned under water

3.5.106

wet clipper

clipper, the hand-held part of which can be used in a bath or shower

3.5.107

washable epilator

epilator, the hand-held part of which can be cleaned under water

3.5.108

wet epilator

epilator, the hand-held part of which can be used in a bath or shower

4 General requirement

This clause of Part 1 is applicable.

5 General conditions for the tests

This clause of Part 1 is applicable except as follows.

5.8.2 Addition:

*If an appliance is marked for use at two different **rated voltages**, and the instructions indicate that it is suitable for use at two different ranges of voltages, the appliance is assumed to have two **rated voltage ranges**.*

6 Classification

This clause of Part 1 is applicable except as follows.

6.1 Modification:

Animal shearers shall be **class I**, **class II** or **class III**.

Washable shavers, wet shavers, washable clippers, wet clippers, washable epilators and wet epilators shall be **class II** or **class III**.

Other appliances having a **rated voltage** not exceeding 150 V shall be of **class 0**, **class I**, **class II** or **class III**.

Other appliances shall be **class II** or **class III**.

6.2 Addition:

Washable shavers, wet shavers, washable clippers, wet clippers, washable epilators and wet epilators shall be at least IPX7. However, parts that are intended to be fixed and **detachable power supply parts** with pins for insertion into socket outlets shall be at least IPX4. This classification does not apply to parts of **class III construction**.

7 Marking and instructions

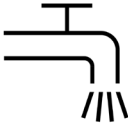
This clause of Part 1 is applicable except as follows.

7.1 Addition:

Hand-held parts of **washable shavers, washable clippers**, and **washable epilators** shall be marked with symbol IEC 60417-5574 (2002-10).

Hand-held parts of **wet shavers, wet clippers**, and **wet epilators** shall be marked with symbol IEC 60417-5582 (2002-10).

7.6 Addition:

	[symbol IEC 60417-5574 (2002-10)]	suitable for cleaning under an open water tap
	[symbol IEC 60417-5582 (2002-10)]	suitable for use in a bath or shower

7.12 Addition:

The instructions for **animal clippers** shall state that the appliance is intended for trimming purposes only.

If **animal clippers** and hair clippers are not intended for commercial use, the instructions shall state that they are for household use only.

If the temperature rise of the cutting blades exceeds the limit specified in Table 3 for handles held for short periods only, the instructions for **animal clippers** for commercial use and **animal shearers** shall include the substance of the following:

WARNING: Cutting blades can become hot after prolonged use.

If symbol IEC 60417-5574 (2002-10) or symbol IEC 60417-5582 (2002-10) is used, its meaning shall be explained.

The instructions for appliances, other than **washable shavers, wet shavers, washable clippers, wet clippers, washable epilators** or **wet epilators** shall include the substance of the following.

WARNING: Keep the appliance dry.

The instructions for **washable shavers, washable clippers**, and **washable epilators** with **detachable interconnection cords** shall include the substance of the following:

WARNING: Detach the hand-held part from the supply cord before cleaning it in water.

7.12.1 Addition:

The instructions for **washable shavers, wet shavers, washable clippers, wet clippers, washable epilators** and **wet epilators**, other than those classified IPX7, shall state that the parts that have to be fixed must be installed so they cannot fall into water.

7.14 Addition:

The height of symbol IEC 60417-5574 (2002-10) and symbol IEC 60417-5582 (2002-10) shall be at least 5 mm.

8 Protection against access to live parts

This clause of Part 1 is applicable except as follows.

8.1.1 Modification:

Test probe 18 of IEC 61032 is not applied to:

- **animal clippers** for commercial use;
- **animal shearers**; and
- **hair clippers** for commercial use.

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.

11.7 Modification:

Appliances intended for household use only are operated continuously for 10 min.

Animal shearers are operated until steady conditions are established.

Animal clippers and other appliances are operated for 10 min followed by a rest period of 10 min. This cycle of operation is repeated until steady conditions are established.

For appliances incorporating **integral batteries** or **separable batteries** not disconnected from the appliance for charging purposes:

- 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;
- the **battery** that has been **fully discharged** is charged, for a duration of 24 h or until it is **fully charged** whichever is shorter, without the **battery-operated appliance** performing its intended function.

11.8 Addition:

The temperature rise of parts that are in contact with skin in normal use, or are held in the hand, shall not exceed the limits specified for handles which are continuously held in normal use. The temperature rise of parts of hair clippers or trimmers that are in contact with hair in normal use, and can contact the skin for short periods, shall not exceed the limits specified for handles which in normal use are held for short periods only. The temperature rise limit of cutting blades of animal clippers for commercial use and **animal shearers** that can come in contact with the animal skin or hair in normal use is 50 K.

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.

14 Transient overvoltages

This clause of Part 1 is applicable.

15 Moisture resistance

This clause of Part 1 is applicable.

16 Leakage current and electric strength

This clause of Part 1 is applicable.

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:

Hand-held appliances are also subjected to the test of 19.101.

19.7 Addition:

Appliances that are not hand-held or are not kept switched on by hand are tested for 5 min.

19.10 Addition:

*The lowest possible load is obtained with the appliance operating under **normal operation** but after removal of any **detachable part** that can influence the load.*

19.101 Hand-held appliances are placed on a soft-wood board in the most unfavorable position. They are supplied at **rated voltage** and operated until steady conditions are established.

20 Stability and mechanical hazards

This clause of Part 1 is applicable except as follows.

20.1 Replacement:

Appliances, other than **fixed appliances** and **hand-held appliances** without a charging stand, intended to be used on a surface such as the floor or a table, shall have adequate stability.

*Compliance is checked by the following test, appliances incorporating an appliance inlet being fitted with an appropriate connector and flexible cord. **Hand-held appliances** with a charging stand are subjected to the test while placed on their charging stand.*

*The appliance, not connected to the supply mains, is placed in any normal position of use on a plane inclined at an angle of 10° to the horizontal, the **supply cord** resting on the inclined plane in the position resulting in the least stable condition. However, if part of an appliance comes into contact with the horizontal supporting surface when the appliance is tilted through an angle of 10°, the appliance is placed on a horizontal support and tilted in the direction through an angle of 10° resulting in the least stability.*

The test on the horizontal support can be necessary for appliances provided with rollers, castors or feet. In this case, castors or wheels can be blocked to prevent the appliance from rolling.

Appliances intended to be filled with liquid by the user are tested empty or filled with the quantity of water up to the capacity indicated in the instructions resulting in the least stable condition.

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

- *it only contains circuits operating at **SELV** according to 8.1.4;*
- *it only contains low power circuits according to 19.11.1;*
- *it is dropped from a height of 700 mm on a rigidly supported hard wood board 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 maintain compliance with 15.1 and 20.2;*
- *if the weight is more than 200 g, 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.*

The test is repeated on appliances with heating elements with the angle of inclination increased to 15°. If the appliance overturns in one or more positions, it is subjected to the tests of Clause 11 in each of these overturned positions.

During this test, temperature rises shall not exceed the values shown in Table 9.

20.2 Modification:

Test probe 18 of IEC 61032 is not applied to:

- **animal clippers** for commercial use;
- **animal shearers**; and
- *hair clippers for commercial use.*

21 Mechanical strength

This clause of Part 1 is applicable except as follows.

21.1 Addition:

Blows with an impact energy of 0,5 J are only applied to those parts that could hit the floor if the appliance is dropped. Three blows are applied to other parts with an impact energy of 0,35 J.

Blows are not applied to cutting heads.

21.101 Hand-held parts of appliances shall have adequate mechanical strength and be constructed to withstand such rough handling that can be expected in normal use.

Compliance is checked by the following test.

*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 cheese cloth. The lowest point of the sling is suspended at a height of 700 mm for **animal clippers** and **animal shearers** above a rigidly supported hardwood board surface and at a height 900 mm above a concrete or similar hard surface for other appliances.*

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 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.

21.102 The enclosure of a **detachable power supply part**, other than those with pins for insertion into the socket outlet, shall have adequate mechanical strength against crushing.

Compliance is checked by the following test.

*The appliance is operated under the conditions of Clause 11 with the **detachable power supply part** placed on the floor of the test corner.*

*After steady conditions are established, a force of 1 350 N is applied for 1 min to the **detachable power supply part** enclosure. The force is applied using a flat surface of 100 mm × 250 mm and repeated with the **detachable power supply part** placed in all possible different orientations.*

*The **detachable power supply part** shall not be damaged to such an extent that compliance with this standard is impaired. In particular, it shall not emit flames or molten material and the requirements of 8.1 and Clause 29 shall be fulfilled.*

21.103 The enclosure of a **detachable power supply part**, other than those with pins for insertion into the socket outlet, shall have adequate mechanical strength against dropping.

*The **detachable power supply part** 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 **detachable power supply part** in the sling is dropped from a stationary position. The test is carried out a total of five times with the **detachable power supply part** 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.

22.36 Addition:

Hand-held parts of **washable shavers**, **washable clippers** and **washable epilators** shall be **class III construction** having a **working voltage** not exceeding 24 V.

Hand-held parts of **wet shavers**, **wet clippers** and **wet epilators** shall be **class III construction** having a **working voltage** not exceeding 12 V, except when they are being charged, when the **working voltage** shall not exceed 24 V.

For other appliances having a **rated voltage** exceeding 150 V, hand-held parts shall be **class II construction** or **class III construction**.

22.40 Modification of the first sentence:

Animal shearers and **animal clippers** shall be fitted with a switch to control the motor.

22.101 Appliances shall not have openings that would allow small items to penetrate and touch **live parts**.

*Compliance is checked by inspection and by measuring the distance between the supporting surface and **live parts** through openings. This distance shall be at least 6 mm. However, if the appliance is fitted with legs, this distance is increased to 10 mm if the appliance is intended to stand on a table and to 20 mm if it is intended to stand on the floor.*

22.102 Shavers and hair clippers shall be constructed so that the penetration of clippings cannot give rise to electrical or mechanical faults.

Compliance is checked by inspection.

22.103 Washable shavers, wet shavers, washable clippers, wet clippers, washable epilators and wet epilators, other than those classified IPX7, shall be constructed so that parts that are intended to be fixed can be fixed securely. These parts shall not be fixed by keyhole slots, hooks and similar means, without further means to prevent inadvertently lifting them off the support.

Compliance is checked by inspection.

23 Internal wiring

This clause of Part 1 is applicable.

24 Components

This clause of Part 1 is applicable except as follows.

24.1.3 Addition:

*Switches incorporated in **animal clippers** for commercial use and **animal shearers**, and hair clippers for commercial use, the number of cycles of operation declared for IEC 61058-1:2016, Subclause 7.4 shall be at least 50 000.*

*For switches incorporated in hair clippers intended for household use only and **animal clippers** intended for household use only, the number of cycles of operation declared for IEC 61058-1:2016, Subclause 7.4 shall be at least 3 000.*

For switches incorporated in shavers intended for household use only, the number of cycles of operation declared for IEC 61058-1:2016, Subclause 7.4 shall be at least 6 000.

24.2 Modification:

Appliances may be fitted with a **detachable power supply part** in a flexible cord.

25 Supply connection and external flexible cords

This clause of Part 1 is applicable except as follows.

25.5 Addition:

Type Z attachment is allowed for appliances intended for household use only.

Type X attachments are not allowed on appliances with an IP classification exceeding IPX4.

25.7 Addition:

Flat twin tinsel cord is allowed for appliances intended for household use only as long as they are fitted with a non-rewirable plug.

Rubber insulated **supply cords** of **animal shearers** shall be polychloroprene sheathed and not be lighter than ordinary polychloroprene sheathed flexible cord (code designation 60245 IEC 57).

Supply cords shall have a length of at least 1,7 m. This requirement is not applicable to **supply cords** on **battery** charging units.

25.14 Modification:

*The number of flexings for **type Z attachment** is 100 000 and for other attachments 50 000.*

25.23 Addition:

For **interconnection cords** for parts of **class III construction** that are charged by connection to a **detachable power supply part**, **interconnection cords** are not required to comply with the requirements for **supply cords**. If the appliance can perform its intended function when connected to the **detachable power supply part**, the **interconnecting cord** length shall comply with 25.7.

25.24 Addition:

Interconnection cords of **washable shavers**, **washable clippers** and **washable epilators** shall be detachable.

Wet shavers, **wet clippers** and **wet epilators** shall not have an **interconnection cord** unless they cannot be operated when connected to the supply mains.

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 shavers, hair clippers, epilators, appliances used for manicure and pedicure, **animal clippers, animal shearers** and similar 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.

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.

11 Heating

B.11.1 Modification:

Battery-operated appliances are tested under the conditions of **normal operation** with the appliance operated as specified in 11.7.

For 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 as specified until it cannot perform its intended function due to the depletion of the **batteries**.

20 Stability and mechanical hazards

Table B.2 Replacement:

Table B.2 – Total area of openings for metal-ion cells

Capacity of the single metal-ion cell with the highest capacity	Min. total area of openings
Ah	mm ²
$0,2 \leq Ah < 1$	6
$1 \leq Ah < 3$	10
$3 \leq Ah < 5$	20
$5 \leq Ah < 25$	30
$25 \leq Ah < 100$	50
$Ah \geq 100$	100

Table B.3 Replacement:

Table B.3 – Volume of air injected at 2 070 kPa

Capacity of the single metal-ion cell with the highest capacity	Volume of air ($\pm 10\%$)
Ah	ml
$0,2 \leq Ah < 1$	6
$1 \leq Ah < 3$	10
$3 \leq Ah < 5$	20
$5 \leq Ah < 25$	30
$25 \leq Ah < 100$	50
$Ah \geq 100$	100

22 Construction

B.22.3 Modification:

Test probe 18 of IEC 61032 is not applied to

- **animal clippers** for commercial use;
- **animal shearers**; and
- *hair clippers for commercial use.*

B.22.4 Modification:

Test probe 18 of IEC 61032 is not applied to

- **animal clippers** for commercial use;
- **animal shearers**; and
- *hair clippers for commercial use.*

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Annex C (normative)

Ageing test on motors

This annex of Part 1 is applicable except as follows.

Modification:

The value of p in Table C.1 is

- *500 for appliances intended for household use only;*
- *2 000 for other appliances.*

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Bibliography

The bibliography of Part 1 is applicable except as follows.

Addition:

IEC 60335-2-32, *Household and similar electrical appliances – Safety – Part 2-32: Particular requirements for massage appliances*

IEC 60335-2-113, *Household and similar electrical appliances – Safety – Part 2-113: Particular requirements for beauty care appliances incorporating lasers and intense light sources*

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

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

APPAREILS ÉLECTRODOMESTIQUES ET ANALOGUES – SÉCURITÉ –

Partie 2-8: Exigences particulières pour les rasoirs, les tondeuses et appareils analogues

AVANT-PROPOS

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L'IEC 60335-2-8 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 septième édition annule et remplace la sixième édition parue en 2012, l'Amendement 1:2015 et l'Amendement 2:2018. Cette édition constitue une révision technique.

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

- a) le texte a été aligné sur l'IEC 60335-1:2020;
- b) certaines notes ont été converties en texte normatif (Article 1, 3.1.9, 19.10, 20.1, 22.103);

- c) la procédure visant à maintenir l'appareil sans influencer le fonctionnement normal de manière significative a été explicitée (3.1.9);
- d) des exigences ont été ajoutées pour les parties d'alimentation amovibles (6.2, 21.102, 21.103, 24.2);
- e) l'exemption des instructions relatives à l'échauffement des lames chaudes sur les tondeuses pour bétail et les tondeuses pour animaux domestiques à usage commercial est tolérée en fonction des températures mesurées à l'Article 11 (7.12);
- f) les exigences en 22.26 et en 22.36 ont été explicitées et consolidées;
- g) l'applicabilité des 30.2.2 et 30.2.3 a été explicitée;
- h) les exigences relatives aux câbles d'interconnexion pour les constructions de la classe III ont été clarifiées.

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

Projet	Rapport de vote
61/6674/FDIS	61/6750/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/standardsdev/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 rasoirs, les tondeuses et appareils analogues.

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;
- 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 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 en **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. A cette date, le document sera

- reconduit,
- supprimé,
- remplacé par une édition révisée, ou
- amendé.

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 (obligatoire) au plus tôt 12 mois et au plus tard 36 mois après la date de publication.

Les différences suivantes existent dans les pays indiqués ci-après.

- 6.1: Les appareils de la classe 0 sont admis à condition que leur tension assignée ne dépasse pas 150 V (Japon);
- 6.1, 22.36: Les appareils de la classe 0 ne sont pas admis (Australie, Nouvelle-Zélande).

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 pour les appareils peuvent être consultés dans les documents de support du CE 61, accessibles sur le site web de l'IEC à l'adresse:

<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, des 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.

La présente 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 ne sera 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 d'aptitude à la fonction;
- les normes CISPR 11 et CISPR 14-1, ainsi que 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.

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APPAREILS ÉLECTRODOMESTIQUES ET ANALOGUES – SÉCURITÉ –

Partie 2-8: Exigences particulières pour les rasoirs, les tondeuses et appareils analogues

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 rasoirs, tondeuses, épilateurs, appareils de manucure et de pédicure électriques et autres appareils analogues, destinés à un usage domestique et analogue, dont la **tension assignée** est inférieure ou égale à 250 V, y compris les appareils alimentés en courant continu et les **appareils alimentés par batteries**.

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

Dans la mesure du possible, la présente norme traite des dangers courants que présentent les appareils et auxquels sont exposés tous les individus situés 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;
- des enfants qui jouent avec l'appareil.

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, par les organismes nationaux responsables de la protection des travailleurs et par des organismes similaires.

La présente norme ne s'applique pas

- aux appareils destinés à être utilisés dans des locaux qui présentent des conditions particulières, telles que la présence d'une atmosphère corrosive ou explosive (poussière, vapeur ou gaz);
- aux appareils de massage (IEC 60335-2-32);
- aux appareils destinés aux soins esthétiques comportant des lasers et des sources de lumière de forte intensité (IEC 60335-2-113);
- aux appareils destinés aux soins esthétiques de la peau (IEC 60335-2-115);
- aux appareils destinés à des usages médicaux (IEC 60601).

2 Références normatives

L'article de la Partie 1 s'applique.

3 Termes et définitions

L'article de la Partie 1 s'applique, avec les exceptions suivantes.

3.1 Définitions relatives aux caractéristiques physiques

3.1.9 *Addition:*

fonctionnement de l'appareil dans les conditions suivantes:

L'appareil est maintenu par une pince ou tout autre moyen approprié de manière à ne pas influencer le mouvement, la température et la charge des lames de manière significative. L'appareil est maintenu, son axe principal et l'axe principal de la tête coupante ou de l'accessoire étant tous les deux placés dans un plan horizontal et mis en fonctionnement sans application d'une charge.

Les appareils équipés de têtes de coupe réglables sont mis en fonctionnement en réglant les lames de telle façon que la puissance soit égale à 0,8 fois la **puissance assignée**, ou 1,2 fois la puissance obtenue après avoir retiré toute **partie amovible** susceptible d'influencer la charge, si cette valeur est plus défavorable. Aucun réglage ultérieur n'est effectué.

Note 1 à l'article: Il peut être nécessaire d'effectuer l'essai sous chaque condition de charge afin de déterminer la condition la plus défavorable.

3.5 Définitions relatives aux types d'appareils

3.5.101

tondeuse pour bétail

appareil à usage commercial destiné à tondre la toison d'un animal tel qu'un mouton

3.5.102

tondeuse pour animaux domestiques

appareil à usage commercial utilisé dans les salons de toilettage ou à usage domestique pour couper les poils d'un animal tel qu'un chien

3.5.103

rasoir lavable

rasoir dont la partie tenue à la main peut être nettoyée sous l'eau

3.5.104

rasoir supportant l'eau

rasoir dont la partie tenue à la main peut être utilisée dans un bain ou une douche

3.5.105

tondeuse lavable

tondeuse dont la partie tenue à la main peut être nettoyée sous l'eau

3.5.106

tondeuse supportant l'eau

tondeuse dont la partie tenue à la main peut être utilisée dans un bain ou une douche

3.5.107

épilateur lavable

épilateur dont la partie tenue à la main peut être nettoyée sous l'eau

3.5.108**épilateur supportant l'eau**

épilateur dont la partie tenue à la main peut être utilisée dans un bain ou une douche

4 Exigences générales

L'article de la Partie 1 s'applique.

5 Conditions générales d'essais

L'article de la Partie 1 s'applique, avec l'exception suivante.

5.8.2 Addition:

*Si le marquage indique que l'appareil utilise deux **tensions assignées** et que les instructions précisent qu'il est adapté pour un usage à deux plages de tensions, il est présumé que l'appareil comporte deux **plages de tensions assignées**.*

6 Classification

L'article de la Partie 1 s'applique, avec les exceptions suivantes.

6.1 Modification:

Les **tondeuses pour bétail** doivent être de la **classe I**, de la **classe II** ou de la **classe III**.

Les **rasoirs lavables**, les **rasoirs supportant l'eau**, les **tondeuses lavables**, les **tondeuses supportant l'eau**, les **épilateurs lavables** et les **épilateurs supportant l'eau** doivent être de la **classe II** ou de la **classe III**.

Les autres appareils dont la **tension assignée** ne dépasse pas 150 V doivent être de la **classe 0**, de la **classe I**, de la **classe II** ou de la **classe III**.

Les autres appareils doivent être de la **classe II** ou de la **classe III**.

6.2 Addition:

Les **rasoirs lavables**, les **rasoirs supportant l'eau**, les **tondeuses lavables**, les **tondeuses supportant l'eau**, les **épilateurs lavables** et les **épilateurs supportant l'eau** doivent être classés au moins IPX7. Cependant, les parties qui sont destinées à être fixes et les **parties d'alimentation amovibles** qui comportent des broches destinées à être introduites dans des socles de prises de courant doivent être classés au moins IPX4. Cette classification ne s'applique pas aux **parties de la classe III**.

7 Marquage et instructions

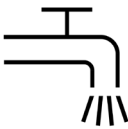
L'article de la Partie 1 s'applique, avec les exceptions suivantes.

7.1 Addition:

Pour les **rasoirs lavables**, **tondeuses lavables** et **épilateurs lavables**, les parties tenues à la main doivent porter le symbole IEC 60417-5574 (2002-10).

Pour les **rasoirs supportant l'eau**, **tondeuses supportant l'eau** et **épilateurs supportant l'eau**, les parties tenues à la main doivent porter le symbole IEC 60417-5582 (2002-10).

7.6 Addition:

	[symbole IEC 60417-5574 (2002-10)]	approprié à un nettoyage sous l'eau courante
	[symbole IEC 60417-5582 (2002-10)]	approprié à une utilisation dans un bain ou une douche

7.12 Addition:

Les instructions des **tondeuses pour animaux domestiques** doivent indiquer que l'appareil est uniquement destiné à la coupe des poils.

Si les **tondeuses pour animaux domestiques** et les tondeuses ne sont pas destinées à un usage commercial, les instructions doivent indiquer que ces appareils sont destinés uniquement à un usage domestique.

Si l'échauffement des lames de coupe dépasse les limites spécifiées dans le Tableau 3 pour les poignées qui ne sont tenues que pendant de courtes périodes, les instructions des **tondeuses pour animaux domestiques** à usage commercial et les **tondeuses pour bétail** doivent comporter en substance les indications suivantes:

MISE EN GARDE: Les lames de coupe peuvent devenir chaudes en cas d'utilisation prolongée.

Si le symbole IEC 60417-5574 (2002-10) ou IEC 60417-5582 (2002-10) est utilisé, sa signification doit être expliquée.

Les instructions des appareils, autres que les **rasoirs lavables**, les **rasoirs supportant l'eau**, les **tondeuses lavables**, les **tondeuses supportant l'eau**, les **épilateurs lavables** ou les **épilateurs supportant l'eau**, doivent comporter en substance les indications suivantes:

MISE EN GARDE: Maintenir l'appareil au sec.

Les instructions des **rasoirs lavables**, **tondeuses lavables** et **épilateurs lavables** avec **câbles d'interconnexion amovibles** doivent comporter en substance les indications suivantes:

MISE EN GARDE: Enlever la partie tenue à la main du câble d'alimentation avant de la nettoyer sous l'eau.

7.12.1 Addition:

Les instructions des **rasoirs lavables**, des **rasoirs supportant l'eau**, des **tondeuses lavables**, des **tondeuses supportant l'eau**, des **épilateurs lavables** et des **épilateurs supportant l'eau**, autres que ceux classés IPX7, doivent indiquer qu'il importe d'installer les parties qui doivent être installées à poste fixe de manière à ce qu'elles ne puissent pas tomber dans l'eau.