IEC 60335-2-85

Edition 2.1 2008-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Household and similar electrical appliances – Safety –
Part 2-85: Particular requirements for fabric steamers

Appareils électrodomestiques et analogues – Sécurité –
Partie 2-85: Règles particulières pour les appareils à vapeur pour tissus

IEC 60335-2-85:2002+A1:2008

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-85: Particular requirements for fabric steamers

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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This part of International Standard IEC 60335 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This consolidated version of IEC 60335-2-85 consists of the second edition (2002) [documents 61/2228/FDIS and 61/2303/RVD] and its amendment 1 (2008) [documents 61/3537/FDIS and 61/3589/RVD].

The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience.

It bears the edition number 2.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.

The French version of this standard has not been voted upon.

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments. It was established on the basis of the fourth edition (2001) of that standard.

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

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

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 following differences exist in the countries indicated below.

– Clause 1: Electrode-type appliances and appliances with bare heating elements are only allowed if they are for permanent connection to fixed wiring (Netherlands).

– 6.1: Class 0 electrode-type appliances are allowed (USA).
– 7.12: The instructions shall state that only demineralized water or distilled water is to be used (Denmark).
– 13.2: The additional measurement is not carried out (USA).
– 19.2: The test is different (USA).

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication 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 the amendment 1 be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

INTRODUCTION

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

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

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

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

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

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

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

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

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

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

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-85: Particular requirements for fabric steamers

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric **fabric steamers** intended for household and similar purposes, their **rated voltage** being not more than 250 V.

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

NOTE 101 Examples of such appliances are those for use in laundries and dry cleaners.

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 102 Attention is drawn to the fact that

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

NOTE 103 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);
– electric irons (IEC 60335-2-3);
– ironers (IEC 60335-2-44);
– appliances connected to the water mains.

2 Normative references

This clause of Part 1 is applicable.

3 Definitions

This clause of Part 1 is applicable except as follows.

3.1.6 *Addition:*

NOTE 101 For **electrode-type appliances**, if no current is assigned to the appliance, the **rated current** is calculated from the **rated voltage** and the mean value of the power input during the first 2 min of operation, the appliance being supplied at **rated voltage** and operated under **normal operation**.

3.1.9 *Replacement:*

normal operation
operation of the appliance in the normal position of use but away from any surface, with the container filled with water and with any lid closed

For **electrode-type appliances**, the water has a resistivity of approximately 500 Ωcm at a temperature of 20 °C

NOTE 101 The appropriate resistivity may be obtained by adding sodium chloride to the water.

3.101
fabric steamer
appliance for removing creases from garments and fabrics by directing steam at their surface

3.102
electrode-type appliance
appliance in which a conductive liquid is heated by a current flowing through it

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:*

Electrode-type appliances and appliances with bare heating elements shall be **class I, class II** or **class III.**

7 Marking and instructions

This clause of Part 1 is applicable except as follows.

7.1 *Modification:*

Electrode-type appliances shall be marked with their **rated power input**.

7.12 *Addition:*

The instructions shall include details regarding filling, cleaning and descaling.

The instructions shall state the substance of the following:

– care should be taken when using the appliance due to the emission of steam;
– unplug the appliance during filling and cleaning.

The instructions for **electrode-type appliances** shall include the substance of the following:

– the composition and quantity of solution to be used and advice not to use an excessive amount of salt;
– the appliance is not to be operated from a d.c. supply.

The instructions for appliances incorporating an appliance inlet, and intended to be partially or completely immersed in water for cleaning, shall state that the connector must be removed before the appliance is cleaned and the appliance inlet dried before the appliance is used again.

8 Protection against access to live parts

This clause of Part 1 is applicable.

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 except as follows.

10.1 *Modification:*

NOTE 101 For **electrode-type appliances**, the negative deviation is not limited.

11 Heating

This clause of Part 1 is applicable except as follows.

11.4 *Modification:*

Electrode-type appliances *are supplied at the most unfavourable voltage between 0,94 and 1,06 times* ***rated voltage****.*

11.7 *Replacement:*

Appliances are operated until steady conditions are established.

NOTE 101 Water is added to maintain the generation of steam.

The container of ***electrode-type appliances*** *is refilled as quickly as possible and as many times as necessary.*

NOTE 102 The appliance is not cleaned between refilling.

12 Void

13 Leakage current and electric strength at operating temperature

This clause of Part 1 is applicable except as follows.

13.1 *Modification:*

Electrode-type appliances *are supplied at 1,06 times* ***rated voltage****.*

13.2 *Addition:*

For ***electrode-type appliances*** *and appliances having bare heating elements, the leakage current is measured between a metallic mesh placed in the steam 10 mm from the outlet, and* ***accessible metal parts****.*

The leakage current shall not exceed 0,25 mA.

NOTE 101 **Accessible metal parts** include the metal foil.

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.

19.2 *Addition:*

Appliances are placed in any stable position on a black-painted plywood board. They are filled or empty, whichever is more unfavourable. However, the container of ***electrode-type appliances*** *is filled with a saturated solution of NaCl at 20 °C ± 5 °C, the appliance being supplied at* ***rated voltage****.*

NOTE 101 A solution is saturated when no more salt can be dissolved.

19.3 *Addition:*

This test is not applicable to ***electrode-type appliances****.*

20 Stability and mechanical hazards

This clause of Part 1 is applicable.

21 Mechanical strength

This clause of Part 1 is applicable.

22 Construction

This clause of Part 1 is applicable except as follows.

22.33 *Modification:*

Liquids may be heated using electrodes and may be in direct contact with their **live parts**, and with **live parts** of bare heating elements.

22.101 Appliances shall be constructed so that there are no sudden jets of steam or hot water likely to expose the user to a hazard when the appliance is used as in normal use.

Compliance is checked by inspection during the test of Clause 11.

22.102 Water containers shall be vented to the atmosphere. The aperture shall be at least 5 mm in diameter or 20 mm^2 in area with a minimum dimension of at least 3 mm.

Compliance is checked by inspection and by measurement.

22.103 **Electrode-type appliances** shall be constructed to ensure that when the filling aperture of the container is open, both electrodes are disconnected to provide **all-pole disconnection** under overvoltage category III conditions.

NOTE An appliance that requires the withdrawal of an appliance connector in order to gain access to the filling aperture is considered to meet this requirement.

Compliance is checked by inspection.

22.104 **Portable electrode-type appliances** and **portable appliances** having bare heating elements shall be constructed so that they do not give rise to a hazard when they are overturned.

Compliance is checked by the following test.

The appliance is filled and operated as in normal use. It is then overturned in the most unfavourable position. No water shall flow out before a ***protective device*** *providing* ***all-pole disconnection*** *operates.*