

INTERNATIONAL STANDARD



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

[IEC 60335-2-85:2022](https://standards.iteh.ai/catalog/standards/sist/4cfl8da9-29a3-4702-8b7f-d2f0ba2a74ed/iec-60335-2-85-2022)

<https://standards.iteh.ai/catalog/standards/sist/4cfl8da9-29a3-4702-8b7f-d2f0ba2a74ed/iec-60335-2-85-2022>



THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2022 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

IEC Products & Services Portal - products.iec.ch

Discover our powerful search engine and read freely all the publications previews. With a subscription you will always have access to up to date content tailored to your needs.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 300 terminological entries in English and French, with equivalent terms in 19 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

[IEC 60335-2-85:2022](https://standards.iteh.ai/catalog/standards/sist/4cfl8da9-29a3-4702-8b7f-d2f0ba2a74ed/iec-60335-2-85-2022)

<https://standards.iteh.ai/catalog/standards/sist/4cfl8da9-29a3-4702-8b7f-d2f0ba2a74ed/iec-60335-2-85-2022>



IEC 60335-2-85

Edition 3.0 2022-10
COMMENTED VERSION

INTERNATIONAL STANDARD



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

[IEC 60335-2-85:2022](https://standards.iteh.ai/catalog/standards/sist/4cfl8da9-29a3-4702-8b7f-d2f0ba2a74ed/iec-60335-2-85-2022)

<https://standards.iteh.ai/catalog/standards/sist/4cfl8da9-29a3-4702-8b7f-d2f0ba2a74ed/iec-60335-2-85-2022>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 97.060

ISBN 978-2-8322-5873-6

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

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

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

This commented version (CMV) of the official standard IEC 60335-2-85:2022 edition 3.0 allows the user to identify the changes made to the previous IEC 60335-2-85:2002+AMD1:2008+AMD2:2017 CSV edition 2.2. 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 60335-2-85 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This third edition cancels and replaces the second edition published in 2002, Amendment 1:2008 and Amendment 2:2017. This edition constitutes a technical revision.

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

- a) alignment with IEC 60335-1:2020;
- b) conversion of some notes to normative text (Clause 1);
- c) introduction of pressurized fabric steamer.

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

Draft	Report on voting
61/6673/FDIS	61/6748/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.

[IEC 60335-2-85:2022](#)

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 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 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.

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.

ITEH STANDARD PREVIEW
(standards.iteh.ai)

[IEC 60335-2-85:2022](#)

<https://standards.iteh.ai/catalog/standards/sist/4cfl8da9-29a3-4702-8b7f-d2f0ba2a74ed/iec-60335-2-85-2022>

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.

[https://standards.iteh.ai/catalog/standards/sist/4cfl8da9-29a3-4702-8b7f-d2f0ba2a74ed/iec-](https://standards.iteh.ai/catalog/standards/sist/4cfl8da9-29a3-4702-8b7f-d2f0ba2a74ed/iec-60335-2-85-2022)

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 2-85: Particular requirements for fabric steamers

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of electric **fabric steamers** 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**

Appliances not intended for normal household use, but that nevertheless ~~may be~~ possibly pose a source of danger to the public, such as appliances intended to be used by laymen in shops, laundries and dry cleaners, 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 knowledgeprevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance.

~~NOTE 102—Attention is drawn to the fact that~~

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

~~NOTE 103—This standard does not apply to~~

- appliances intended 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);
- surface-cleaning appliances for household use employing liquids or steam (IEC 60335-2-54);
- appliances connected to the water mains.

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

3.1.6 Addition:

Note 101 to entry: 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~~ Addition: 4

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. 5~~

3.5 Definitions relating to types of appliances

3.5.101

fabric steamer

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

3.5.102

electrode-type appliance

appliance in which a conductive liquid is heated by a current flowing through it

3.5.103 ~~vented fabric steamer~~

fabric steamer in which steam is produced when the water contacts the heated nozzle of the fabric steamer, the water reservoir being at atmospheric pressure

Note 1 to entry: The water reservoir can be incorporated in the fabric steamer or connected to the fabric steamer by a hose.

3.5.104

instantaneous fabric steamer

fabric steamer in which small quantities of water are pumped from the water reservoir and in which steam is produced when the water contacts the walls of the boiler, the water reservoir and the boiler being at atmospheric pressure

Note 1 to entry: The water reservoir and the boiler are connected to the iron by a hose.

3.5.105

pressurized fabric steamer

fabric steamer in which steam is produced in a boiler at a pressure exceeding 50 kPa

Note 1 to entry: The boiler can be incorporated in the fabric steamer or connected to the fabric steamer by a hose.

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.

5.101 *Fabric steamers are tested as heating appliances even if they incorporate a motor.* **6**

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

NOTE The appropriate resistivity can be obtained by adding sodium chloride to the water. **7**

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:* <https://standards.iteh.ai/catalog/standards/sist/4cfl8da9-29a3-4702-8b7f-d2f0ba2a74ed/iec-60335-2-85-2022>

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 filling, or decalcifying, or rinsing, or inspection apertures that are under pressure shall not be opened during use (for fabric steamers with pressurized compartments only); **8**
- the fabric steamer is not to be used if it has been dropped, if there are visible signs of damage or if it is leaking. **9**

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 DC 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~~ Addition:

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

11 Heating

This clause of Part 1 is applicable except as follows.

11.2 Addition:

***Fabric steamers** are tested with and without steam emission, the water reservoir or boiler being filled with water. 10*

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~~ Modification: 11

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.

Addition:

*For **instantaneous fabric steamers** with a manual steam actuator, steam is emitted in cycles, each cycle having a period of 10 s with steam emission and a period of 10 s with the steam emission interrupted. 12*

11.8 Addition:

*Temperature rises of **accessible surfaces** of hoses that supply steam to parts held in the hand shall comply with the temperature rise limits for handles that are held for short periods only in normal use. However, if a non-metallic hose is covered by textile material, the temperature rise of the surface of the textile material shall not exceed 80 K.*

*The temperature rise limits of motors, transformers and components of **electronic circuits**, including parts directly influenced by them, may be exceeded when the appliance is operated at 1,15 times **rated power input**.*

NOTE 101 The pressure in **pressurized appliances** is measured so that the test of 22.7 can be carried out. 13

12 ~~Void~~ Charging of metal-ion batteries 14

This clause of Part 1 is applicable.

13 Leakage current and electric strength at operating temperature

This clause of Part 1 is applicable except as follows.

13.1 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

<https://standards.iteh.ai/catalog/standards/sist/4cfl8da9-29a3-4702-8b7f-d2f0ba2a74ed/iec-60335-2-85-2022>

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 It can be necessary to conduct the test with and without water to determine the most unfavourable condition.

NOTE ~~101~~ 102 A solution is saturated when no more salt can be dissolved.

19.3 Addition:

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

19.4 Addition:

*For **pressurized fabric steamers**, any control that limits the pressure during the test of Clause 11 is rendered inoperative. 15*

20 Stability and mechanical hazards

This clause of Part 1 is applicable.

21 Mechanical strength

This clause of Part 1 is applicable except as follows.

21.1 Addition:

*IEC 60335-2-85:2022
<https://standards.iteh.ai/catalog/standards/sist/4cfl8da9-29a3-4702-8b7f-d2f0ba2a74ed/iec-compliance-is-also-checked-by-holding-hand-held-appliances-and-hand-held-parts-of-appliances-incorporating-electrical-components-in-the-most-unfavourable-position-at-a-height-of-2-m-and-dropping-them-onto-a-concrete-floor>. This test is carried out three times.*

NOTE 101 It can be necessary to conduct the test in various positions to determine the most unfavourable position. 16

22 Construction

This clause of Part 1 is applicable except as follows.

22.7 Replacement:

Pressurized fabric steamers and **instantaneous fabric steamers** shall incorporate adequate safeguards against the risk of excessive pressure.

If jets of steam or hot water are emitted through **protective devices**, the electrical insulation shall not be affected or the user exposed to a hazard.

Compliance is checked by inspection and by the following test.

*For **pressurized fabric steamers**, the maximum pressure occurring during the test of Clause 11 with the boiler filled but without steam emission is measured. All pressure-regulating devices that operated during the test are rendered inoperative and the pressure shall not exceed three times the previously measured value. Any pressure-limiting **protective device** is then rendered inoperative and the pressure in the boiler is raised hydraulically to five times the pressure measured originally or twice the pressure measured with the pressure-regulating*

devices rendered inoperative, whichever is higher. This pressure is maintained for 1 min. There shall be no leakage from the appliance. Hoses that are subjected to the pressure within the boiler when the fabric steamer is located in its rest position or during normal use of the appliance are also subjected to the hydraulic pressure test.

Pressurized fabric steamers in which the device regulating the steam supply is within the boiler are operated as specified in Clause 11 but with all pressure-regulating devices operating during the test of Clause 11 rendered inoperative. All vents in the nozzle are sealed and the device regulating the steam supply is opened. There shall be no leakage from the hose except at an intentionally weak place within the enclosure of the boiler. If this occurs, the test is repeated on another appliance that shall also leak in the same way.

All vents in the nozzle of **instantaneous fabric steamers** are sealed and the pressure in the water reservoir is raised hydraulically until the pressure-limiting **protective device** operates. The pressure shall not exceed 50 kPa. The outlet through the **protective device** is then sealed and the pressure is raised to 100 kPa and maintained at this value for 1 min. There shall be no leakage from the appliance. **17**

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 Fabric steamers shall be constructed so that there ~~are~~ is no spillage of water or no sudden jets of steam or hot water likely to expose the user to a hazard when the **appliance fabric steamer** is used as in ~~normal use~~ accordance with the instructions.

When removing the filling cap of boilers, the pressure shall be relieved in a controlled manner before the cap is removed completely, to avoid the emission of jets of steam or hot water in a manner likely to expose the user to a hazard. **18**

Compliance is checked by inspection during the test of Clause 11 and by removing the filling cap at the end of the test.

22.102 For vented fabric steamers or instantaneous fabric steamers, ~~Water containers~~ the boilers, cavities, pipes or similar areas where water is heated shall be vented to the atmosphere. The aperture shall be at least 5 mm in diameter or 20 mm² in area with a minimum dimension of at least 3 mm.

For **pressurized fabric steamers** the pressure-limiting **protective devices** that operate during the tests of 19.4 and 22.7 shall have an inlet aperture at least 5 mm in diameter or 20 mm² in area and a width of at least 4 mm. The area of the aperture at the outlet shall not be less than that of the aperture at the inlet. **19**

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.