

# INTERNATIONAL STANDARD

# IEC 60335-2-15

Edition 5.1  
2005-10

Edition 5:2002 consolidated with amendment 1:2005

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## Household and similar electrical appliances – Safety –

### Part 2-15: Particular requirements for appliances for heating liquids

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –  
SAFETY –****Part 2-15: Particular requirements for appliances  
for heating liquids**

## 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 60335-2-15 consists of the fifth edition (2002) [documents 61/2134/FDIS and 61/2159/RVD], its amendment 1 (2005) [documents 61/2887/FDIS and 61/2903/RVD] and its corrigendum of November 2003.

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 5.1.

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 electrical appliances for heating liquids.

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.

- 7.12: Appliances that are not intended to be immersed in water for cleaning are nevertheless required to be marked with a warning unless the test of 15.101 is withstood (USA).
- 7.12: The instruction that appliances intended to be used with a connector incorporating a thermostat must only be used with the appropriate connector, is required to be marked on the appliance (USA).
- 7.12: The instruction that cordless kettles are only to be used with the stand provided, is required to be marked on the appliance (USA).
- 11.2: Appliances are generally positioned against one wall and 100 mm away from the other wall of the test corner (USA).
- 11.7: The test durations are different (USA).
- 15.102: The test is not applicable (USA).
- 19.13: The criteria are different (USA).
- 19.101: The test is not applicable (Japan).
- 19.101: The test is not carried out if the thermal cut-out has been tested and found to be reliable (USA).
- 22.7: The test for pressure cookers is carried out at five times the maximum normal operating pressure or 2,5 times the release pressure of the safety device, whichever is greater (USA).
- 22.103: The test is different (USA).
- 22.104: The test is different (USA).
- 22.108: The force is different (USA).
- 22.109: The requirement is not applicable (USA).
- 24.1.3: A different number of cycles is specified (USA).
- 25.8: A supply cord having a cross-sectional area of 0,75 mm<sup>2</sup> is not allowed for appliances having a rated current exceeding 6 A (Japan and USA).
- 25.8: Longer supply cords are allowed (Japan).

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.

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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.

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.

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.

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.

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## HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

### Part 2-15: Particular requirements for appliances for heating liquids

#### 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electrical appliances for heating liquids for household and similar purposes, their **rated voltage** being not more than 250 V.

NOTE 101 Some appliances may be used for heating food.

NOTE 102 Examples of appliances that are within the scope of this standard are

- coffee-makers;
- cooking pans;
- egg boilers;
- **feeding-bottle heaters**;
- kettles and other appliances for boiling water, having a **rated capacity** not exceeding 10 l;
- milk heaters;
- pressure cookers having a **rated cooking pressure** not exceeding 140 kPa and a **rated capacity** not exceeding 10 l;
- slow cookers;
- **steam cookers**;
- wash boilers;
- yoghurt makers.

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

NOTE 103 Examples of such appliances are

- glue pots with a water jacket;
- livestock feed boilers;
- sterilizers.

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

- the use of appliances by young children or infirm persons without supervision;
- playing with the appliance by young children.

NOTE 104 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, the national water supply authorities and similar authorities.

NOTE 105 This standard does not apply to

- frying pans and deep fat fryers (IEC 60335-2-13);
- storage water heaters (IEC 60335-2-21);
- instantaneous water heaters (IEC 60335-2-35);
- surface-cleaning appliances employing liquids or steam (IEC 60335-2-54);
- portable immersion heaters (IEC 60335-2-74);
- commercial dispensing appliances and vending machines (IEC 60335-2-75)
- appliances for medical purposes (IEC 60601);
- appliances intended exclusively for industrial purposes;
- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- appliances for high-frequency heating;
- pressure sterilizers;
- humidifiers for household and similar use (IEC 60335-2-98).

NOTE 106 Attention is drawn to the fact that in many countries requirements for pressure vessels are applied to pressure cookers.

## 2 Normative references

This clause of Part 1 is applicable.

## 3 Definitions

This clause of Part 1 is applicable except as follows.

### 3.1.9 Replacement:

#### normal operation

operation of the appliance under the following conditions

**3.1.9.101** Kettles, thermal pots, urns and other appliances for boiling water, coffee-makers, cooking pans, glue pots, milk heaters, slow cookers, sterilizers, wash boilers and yoghurt makers are operated with their container filled with the **rated capacity** of water, any lid being closed. The quantity of water in slow cookers is maintained above 50 % of their **rated capacity**.

Appliances with a heated surface intended to keep the liquid warm are operated with or without the container, whichever is the more unfavourable.

**3.1.9.102** Egg boilers and **steam cookers** are operated with their containers filled with the maximum quantity of water specified in the instructions.

**3.1.9.103 Feeding-bottle heaters** are operated with a bottle of heat-resistant glass, round or hexagonal in shape, having a mass between 190 g and 200 g and a capacity of approximately 225 ml, unless a particular bottle is specified, in which case that bottle is used. The bottle is filled to approximately its **rated capacity** of water or 200 ml, whichever is less, and is placed in the **feeding-bottle heater**. The heater is filled with water to the level specified in the instructions or, in the absence of instructions, to the maximum level.

**3.1.9.104** Livestock feed boilers are operated with the lid closed, the container being filled with half its **rated capacity** of water.

**3.1.9.105** Pressure cookers are operated in accordance with the instructions but with the container filled with water to a depth of 25 mm.