

# INTERNATIONAL STANDARD

# IEC 60335-2-3

Edition 5.1

2005-01

Edition 5:2002 consolidated with amendment 1:2004

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## Household and similar electrical appliances – Safety –

### Part 2-3: Particular requirements for electric irons

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Reference number  
IEC 60335-2-3:2002+A1:2004(E)

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International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland  
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: [inmail@iec.ch](mailto:inmail@iec.ch) Web: [www.iec.ch](http://www.iec.ch)

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Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

PRICE CODE

CF

*For price, see current catalogue*

## CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope .....	6
2 Normative references .....	6
3 Definitions .....	6
4 General requirement.....	8
5 General conditions for the tests .....	8
6 Classification.....	8
7 Marking and instructions.....	8
8 Protection against access to live parts .....	9
9 Starting of motor-operated appliances.....	9
10 Power input and current.....	9
11 Heating .....	9
12 Void .....	10
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 .....	13
22 Construction.....	14
23 Internal wiring.....	15
24 Components.....	15
25 Supply connection and external flexible cords .....	16
26 Terminals for external conductors .....	17
27 Provision for earthing.....	17
28 Screws and connections .....	17
29 Clearances, creepage distances and solid insulation .....	17
30 Resistance to heat and fire .....	17
31 Resistance to rusting .....	17
32 Radiation, toxicity and similar hazards .....	17
Annexes .....	18
Bibliography .....	18

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –  
SAFETY –****Part 2-3: Particular requirements for electric irons**

## 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 60335-2-3 is based on the fifth edition (2002) [documents 61/2096/FDIS and 61/2127/RVD], its amendment 1 (2004) [documents 61/2740/FDIS and 61/2798/RVD] and its corrigendum of June 2002.

It bears the edition number 5.1.

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

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 irons.

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 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.

The following differences exist in the countries indicated below:

- 6.1: Class 0 and Class 0I irons are not allowed (China and Turkey).
- 11.8: The modification to 60 K for polyvinyl chloride insulation does not apply (Japan).
- 11.8: For the test with the iron on the pointed support, all the temperature rise limits apply (USA).
- 19.4: The test is also carried out with the iron on the pointed supports (USA).
- 21.101: The drop test is different (USA).
- 22.105: The endurance test is not carried out (USA).
- 25.7: Polyvinyl chloride cords are not allowed (Canada, Japan and USA).
- 25.14: The flexing test is different (USA).

A bilingual version of this publication may be issued at a later date.

## 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 which 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 2-3: Particular requirements for electric irons

### 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric dry irons and **steam irons**, including those with a separate water reservoir or boiler having a capacity not exceeding 5 l, for household and similar purposes, their **rated voltage** being not more than 250 V.

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.

As far as is practicable, this standard deals with the common hazards presented by appliances which 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 101 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;
- additional requirements for pressure vessels may be specified by the national authorities responsible for the safety of pressure vessels.

NOTE 102 This standard does not apply to

- ironers (IEC 60335-2-44);
- appliances designed 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).

### 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.

The iron is placed on its **stand** and is operated with its **thermostat** at the highest setting.

If the iron does not have a **thermostat**, the surface temperature at the mid-point of the centre line of the **soleplate** is maintained at  $250\text{ °C} \pm 10\text{ °C}$  by switching the supply on and off, or at the highest temperature if it is lower.

**Steam irons** with a separate water reservoir or boiler are operated with the water reservoir or boiler filled with water.

**Pressurized steam irons** incorporating the boiler are operated with or without water, whichever is more unfavourable.

Other **steam irons** are operated empty

#### 3.101

##### steam iron

iron having means to produce and supply steam to the textile material during ironing

NOTE **Steam irons** may incorporate a means for blowing steam onto clothes.

#### 3.102

##### vented steam iron

**steam iron** in which steam is produced when the water contacts the **soleplate**, the water reservoir being at atmospheric pressure

NOTE The water reservoir may be incorporated in the iron or is connected to the iron by a hose.

#### 3.103

##### pressurized steam iron

**steam iron** in which steam is produced in a boiler at a pressure exceeding 50 kPa

NOTE The boiler may be incorporated in the iron or is connected to the iron by a hose.

#### 3.104

##### instantaneous steam iron

**steam iron** 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 The water reservoir and the boiler are connected to the iron by a hose.

#### 3.105

##### cordless iron

iron that is connected to the supply only when placed on its **stand**

NOTE **Cordless irons** may be directly connected to the supply mains during ironing by a **detachable part** to which the **supply cord** is fixed.

#### 3.106

##### soleplate

heated part of the iron which is pressed against the textile material while ironing

#### 3.107

##### stand

heel of the iron or a separate part provided with the iron, on which the iron is placed when at rest

NOTE The separate water reservoir or boiler may serve as the **stand**.

## 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.

### 5.2 Addition:

NOTE 101 If a **protective device** becomes open circuit during the tests of 21.101, the test is continued on a separate appliance.

NOTE 102 The test of 21.102 is carried out on a separate appliance. The additional test of 25.14 is carried out on a separate appliance.

### 5.3 Addition:

For irons with a **thermostat**, the test of 21.101 is carried out before the test of Clause 11.

The test of 22.102 is carried out during the test of Clause 11.

**5.101** Irons are tested as **heating appliances** even if they incorporate a motor.

**5.102** If a **cordless iron** can also be directly connected to the supply mains during ironing, the relevant tests are applicable for both modes of operation.

## 6 Classification

This clause of Part 1 is applicable.

## 7 Marking and instructions

This clause of Part 1 is applicable except as follows.

### 7.1 Modification:

Appliances shall be marked with their **rated power input**.

*Addition:*

Separate **stands** shall be marked with

- name, trademark or identification mark of the manufacturer or responsible vendor;
- model or type reference of the **stand**.

**Stands of cordless irons** shall be marked with their

- **rated voltage** or **rated voltage range**;
- **rated power input**.