

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

Household and similar electrical appliances – Safety –  
Part 2-78: Particular requirements for outdoor barbecues

Appareils électrodomestiques et analogues – Sécurité –  
Partie 2-78: Règles particulières pour les barbecues pour extérieur

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –  
SAFETY –****Part 2-78: Particular requirements for outdoor barbecues**

## FOREWORD

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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 60335-2-78 consists of the second edition (2002) [documents 61/2225/FDIS and 61/2300/RVD] and its amendment 1 (2008) [documents 61/3535/FDIS and 61/3587/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 outdoor barbecues.

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 31: The test is not carried out (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 2-78: Particular requirements for outdoor barbecues

### 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of outdoor **barbecues** for household and similar use, 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, in light industry and on farms, are within the scope of this standard.

NOTE 101 Examples of such appliances are those used by restaurants and hotels.

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 on board ships, 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

- barbecues for indoor use (IEC 60335-2-9);
- appliances intended to burn charcoal or similar combustible fuels;
- 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).

### 2 Normative references

This clause of Part 1 is applicable except as follows.

*Addition:*

60068-2-52, *Environmental testing – Part 2: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)*



### 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

**Barbecues** are operated with the food support in the lowest position, any cover or shield being placed in accordance with the instructions.

NOTE 101 **Barbecues** are operated without water even if the use of water is recommended in the instructions.

#### 3.101

##### **barbecue**

appliance having a radiant heating element located under the food support

### 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 the test of 5.101 has to be carried out, three additional samples are required.

### 6 Classification

This clause of Part 1 is applicable except as follows.

#### 6.2 *Addition:*

Appliances shall be at least IPX4.

### 7 Marking and instructions

This clause of Part 1 is applicable except as follows.

#### 7.1 *Addition:*

Appliances intended to be partially immersed in water for cleaning, shall be marked with the maximum level of immersion and the substance of the following:

Do not immerse beyond this level.

### 7.12 Addition:

The instructions shall state the substance of the following:

- **WARNING:** Charcoal or similar combustible fuels must not be used with this appliance;
- the appliance should be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA;
- the appliance is to be connected to a socket-outlet having an earthing contact (for **class I appliances**);
- the supply cord should be regularly examined for signs of damage and the appliance is not to be used if the cord is damaged.

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

The instructions for appliances intended to be used with water shall state the maximum quantity of water to be poured into the appliance.

## 8 Protection against access to live parts

This clause of Part 1 is applicable.

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## 9 Starting of motor-operated appliances

This clause of Part 1 is not applicable.

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## 10 Power input and current

This clause of Part 1 is applicable.

## 11 Heating

This clause of Part 1 is applicable except as follows.

### 11.2 Modification:

*Appliances are placed on the floor of the test corner and away from the walls.*

### 11.7 Replacement:

*Appliances are operated until steady conditions are established.*

## 12 Void

### 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 except as follows.

**15.101** Appliances intended to be partially or completely immersed in water for cleaning shall have adequate protection against the effects of immersion.

*Compliance is checked by the following tests, which are carried out on three additional appliances.*

*The appliances are operated under **normal operation** at 1,15 times **rated power input**, until the **thermostat** operates for the first time. Appliances without a **thermostat** are operated until steady conditions are established. The appliances are disconnected from the supply, any appliance connector being withdrawn. They are then completely immersed in water containing approximately 1 % NaCl and having a temperature between 10 °C and 25 °C, unless they are marked with the maximum level of immersion, in which case they are immersed 50 mm deeper than this level.*

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*After 1 h, the appliances are removed from the saline solution, dried and subjected to the leakage current test of 16.2.*

NOTE Care should be taken to ensure that all moisture is removed from the insulation around the pins of appliance inlets.

*This test is carried out four more times, after which the appliances shall withstand the electric strength test of 16.3, the voltage being as specified in Table 4.*

*The appliance having the highest leakage current after the fifth immersion is dismantled and inspection shall show that there is no trace of liquid on insulation that could result in a reduction of **clearances** and **creepage distances** below the values specified in Clause 29.*

*The remaining two appliances are operated under **normal operation** for 240 h at 1,15 times **rated power input**. After this period, the appliances are disconnected from the supply and immersed again for 1 h. They are then dried and subjected to the electric strength test of 16.3, the voltage being as specified in Table 4.*

*Inspection shall show that there is no trace of liquid on insulation that could result in a reduction of **clearances** and **creepage distances** below the values specified in Clause 29.*

## 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:

*Lids and hoods are open or closed, whichever is more unfavourable. Detachable parts are in position or removed, whichever is the more unfavourable.*

## 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 Modification:

*The impact energy is increased to 0,70 J.*

## 22 Construction

This clause of Part 1 is applicable except as follows.

**22.101** Appliances shall not have bare-heating elements.

*Compliance is checked by inspection.*

**22.102** Appliances shall be constructed so that their heating elements are fixed in position or prevented from operating when they are not in their normal position of use.

*Compliance is checked by inspection.*

NOTE This requirement does not apply if the appliance complies with the standard with the element placed in any position.