

Household and similar electrical appliances — Safety —

Part 2-9: Particular requirements for grills, toasters and similar portable cooking appliances

ICS 97.040.50

National foreword

This British Standard is the UK implementation of EN 60335-2-9:2003+A13:2010, incorporating corrigenda March 2011, July 2011 and June 2012. It is derived from IEC 60335-2-9:2002, incorporating amendments 1:2004 and 2:2006. It supersedes BS EN 60335-2-9:2003+A2:2006, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by **A1** **A1**.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags **C** **C**.

The start and finish of text introduced or altered by CENELEC amendment is indicated in the text by tags. For example, the common modifications introduced by CENELEC amendment A12 are indicated by **C12** **C12**.

The start and finish of text introduced or altered by corrigendum is indicated in the text by tags. Text altered by CEN corrigendum July 2011 is indicated in the text by **AC2** **AC2**.

The UK participation in its preparation was entrusted by Technical Committee CPL/61, Safety of household and similar electrical appliances, to Subcommittee CPL/61/7, Safety of electrical appliances - Heated appliance group.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Amendments/corrigenda issued since publication

Amd. No.	Date	Comments
15203	8 July 2004	Implementation of IEC amendment 1:2004 and its CENELEC endorsement A1:2004
16523	29 September 2006	Implementation of IEC amendment 2:2006 and its CENELEC endorsement A2:2006
A12	31 January 2008	Implementation of CENELEC amendment A12:2007
	31 March 2011	Implementation of CENELEC amendment A13:2010
	30 June 2011	Implementation of CENELEC corrigendum March 2011: text replacement in 11.Z102 and 11.Z104
	30 November 2011	Implementation of CENELEC corrigendum July 2011
	31 July 2012	Implementation of CENELEC corrigendum June 2012: clause 7.12.Z101 has been amended
	30 April 2014	Corrected errors in national implementation of CENELEC amendment A13:2010 affecting Clause 20
	30 June 2014	Corrected errors in national implementation of CENELEC amendment A13:2010 affecting Clause 7.12

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English version

**Household and similar electrical appliances –
Safety
Part 2-9: Particular requirements for grills, toasters
and similar portable cooking appliances
(IEC 60335-2-9:2002, modified)**

Appareils électrodomestiques et analogues –
Sécurité
Partie 2-9: Règles particulières
pour les grils, grille-pain et
appareils de cuisson mobiles analogues
(CEI 60335-2-9:2002, modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2-9: Besondere Anforderungen
für Grillgeräte, Brotröster und
ähnliche ortsveränderliche Kochgeräte
(IEC 60335-2-9:2002, modifiziert)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 61/2100/FDIS, future fifth edition of IEC 60335-2-9, prepared by the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote.

A proposal for an amendment, document CLC/TC 61(SEC)1371, was discussed during the Kista meeting of CENELEC TC 61 in May 2002, when it was decided to submit a draft amendment prA11 to the formal vote. As a result of the Kista meeting, a draft amendment prAA containing the relevant existing common modifications was also submitted to the formal vote.

The texts of the FDIS, prA11 and prAA were approved by CENELEC as a new edition of EN 60335-2-9 on 2003-03-01.

This European Standard replaces EN 60335-2-9:1995 + A1:1998 + A2:2000 + A11:2000 + A12:2002 + A13:2002.

The following dates are applicable:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2004-03-01
- date on which national standards
conflicting with the EN have to be withdrawn (dow) 2006-03-01

This part 2 has to be used in conjunction with EN 60335-1, Household and similar electrical appliances – Safety – Part 1: General requirements. It was established on the basis of the 2002 edition of that standard. Amendments and revisions of Part 1 have also to be taken into account and the dates when such changes become applicable will be stated in the relevant amendment or revision of Part 1.

This part 2 supplements or modifies the corresponding clauses of EN 60335-1, so as to convert it into the European Standard: Safety requirements for electric grills, toasters and similar portable cooking appliances.

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 of Part 1 is to be adapted accordingly.

NOTE 1 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.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letter Z.

NOTE 2 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.

There are no special national conditions causing a deviation from this European Standard, other than those listed in Annex ZA to EN 60335-1.

There are no national deviations from this European Standard, other than those listed in Annex ZB to EN 60335-1.

Introduction

An investigation by CENELEC TC 61 has shown that all risks from products within the scope of this standard are fully covered by the Low Voltage Directive, 73/23/EEC. For products having mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 98/37/EC, has shown that the risks are mainly of electrical origin and consequently this directive is not applicable. However, the relevant essential safety requirements of the Machinery Directive are covered by this standard together with the principal objectives of the Low Voltage Directive.

Endorsement notice

The text of the International Standard IEC 60335-2-9:2002 was approved by CENELEC as a European Standard with agreed common modifications .

Foreword to amendment A1

The text of document 61/2535/FDIS, future amendment 1 to IEC 60335-2-9:2002, prepared by the IEC Technical Committee 61, Safety of household and similar electrical appliances, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60335-2-9:2003 on 2004-03-01.

The following dates are applicable:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2004-12-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2007-03-01

This amendment supplements or modifies the corresponding clauses of EN 60335-2-9:2003.

There are no special national conditions causing a deviation from this amendment.

There are no national deviations from this amendment.

NOTE In this document, p is used in the margin to indicate instructions for preparing the printed version.

Endorsement notice

The text of amendment 1:2004 to the International Standard IEC 60335-2-9:2002 was approved by CENELEC as an amendment to the European Standard without any modification.

Foreword to amendment A2

The text of document 61/2946/FDIS, future amendment 2 to IEC 60335-2-9:2002, prepared by IEC Technical Committee 61, Safety of household and similar electrical appliances, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A2 to EN 60335-2-9:2003 on 2006-04-01.

The following dates are applicable:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2007-01-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2009-04-01

This amendment supplements or modifies the corresponding clauses of EN 60335-2-9:2003.

As a consequence of endorsing amendment 2:2006 to IEC 60335-2-9:2002, the common modifications in EN 60335-2-9:2003 are replaced by IEC text and therefore withdrawn, with the exception of the addition of 19.11.2 which remains valid.

There are no special national conditions causing a deviation from this amendment.

There are no national deviations from this amendment.

Endorsement notice

The text of amendment 2:2006 to the International Standard IEC 60335-2-9:2002 was approved by CENELEC as an amendment to the European Standard without any modification.

Foreword to amendment A12

A proposal to amend EN 60335-2-9:2003, document CLC/TC 61(SEC)1553, was discussed during the Malaga meeting of CENELEC TC 61 in June 2006, when it was decided to submit a draft for an amendment to the Unique Acceptance Procedure.

The draft was circulated in February 2007 and was approved by CENELEC as amendment A12 to EN 60335-2-9:2003 on 2007-10-01.

The following dates are applicable:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2008-10-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2010-10-01

Foreword to amendment A13

This amendment to the European Standard EN 60335-2-9:2003 was prepared by the Technical Committee CENELEC TC 61, Safety of household and similar electrical appliances.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A13 to EN 60335-2-9:2003 on 2010-10-01.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

- | | | |
|---|-------|------------|
| – latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2011-10-01 |
| – latest date by which the national standards conflicting with the amendment have to be withdrawn | (dow) | 2013-10-01 |

This amendment supplements or modifies the corresponding clauses of EN 60335-2-9:2003 and its amendments A1:2004, A2:2006 and A12:2007.

There are no special national conditions causing a deviation from this amendment.

There are no national deviations from this amendment.

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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 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.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-9: Particular requirements for grills, toasters and similar portable cooking appliances

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric **portable appliances** for household purposes that have a cooking function such as baking, roasting and grilling, their **rated voltage** being not more than 250 V.

NOTE 101 Examples of appliances that are within the scope of this standard are

– **barbecues** for indoor use;

– **breadmakers**;

– **contact grills** (griddles);

– **cookers**;

– **food dehydrators**;

– **hotplates**;

– **portable ovens**;

– **raclette grills**;

– **radiant grills**;

– **roasters**;

– **rotary grills**;

– **rotoisseries**;

– **toasters**;

– **waffle irons**;

Examples are illustrated in Figure 101.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in household and similar environments.

However, in general, it does not take into account:

- **children** playing with the appliance;
- the **use of the appliance** by **very young children**;
- the **use of the appliance** by **young children** without supervision.

It is recognized that **very vulnerable people** may have needs beyond the level addressed in this European Standard.

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

- **stationary ovens** and **stationary grills** (IEC 60335-2-6);
- warming plates (IEC 60335-2-12);
- frying pans and deep fat fryers (IEC 60335-2-13);
- microwave ovens (IEC 60335-2-25);
- barbecues for outdoor use (IEC 60335-2-78);
- appliances intended for commercial catering;
- 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

A1 This clause of Part 1 is applicable except as follows.

Addition:

IEC 60068-2-52, *Environmental testing — Part 2: Tests — Test Kb: Salt mist, cyclic (sodium chloride solution)* **A1**

A2 ISO 3864-1, *Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs in workplaces and public areas* **A2**

3 Definitions

This clause of Part 1 is applicable except as follows.

3.1.9 Replacement:

normal operation

A1 Operation of the appliance as specified in the following subclauses. **A1**

NOTE 101 Appliances not mentioned but which nevertheless perform one of the functions are operated as specified for this function as far as possible.

3.1.9.101 Toasters are loaded with the maximum number of slices of white bread specified in the instructions and operated in cycles, each cycle consisting of an operating period and a rest period. The bread is approximately 24 h old and the dimensions of the slices are approximately 100 mm × 100 mm × 10 mm. The rest periods have a duration of 30 s or the minimum period needed for the resetting of a control, whichever is longer. The slices of bread are replaced during each rest period. The operating period is established by adjusting controls to give the bread a golden-brown colour. For toasters without a control, each operating period is terminated as soon as the colour of the bread turns golden-brown.

Toasters incorporating a device for heating rolls are loaded with the maximum number of rolls specified in the instructions. The **toaster** is operated in cycles, each cycle consisting of an operating period followed by a rest period of 30 s when the rolls are turned or replaced. The control is adjusted in accordance with the instructions. If instructions are not given, the control is adjusted for the toasting operation.

Sandwich-toasting attachments are loaded with one or more sandwiches that are positioned in accordance with the instructions to produce the most unfavourable result. Each sandwich comprises two slices of white bread filled with a single slice of suitable cheese having an area equal to a slice of bread and a thickness of approximately 5 mm. The toaster is then operated in accordance with the instructions in cycles, each cycle consisting of a toasting operation followed by a rest period of 30 s, or the minimum period needed for the resetting of a control, whichever is longer.

NOTE Processed cheese and other cheeses that readily melt when heated are suitable.

3.1.9.102 Rotary grills are operated with the load on the rotating spit shown in Figure 102.

3.1.9.103 Waffle irons having a **thermostat** are operated with the **thermostat** adjusted to the highest setting. Other **waffle irons** are operated so that the temperature at the centre of the heated surface is maintained at $210\text{ °C} \pm 15\text{ °C}$ by switching the supply on and off.

C13 **3.1.9.104 Ovens** are operated with the door closed. **Ovens** having a **thermostat** are adjusted to its highest setting. Other **ovens** are operated so that the temperature in the centre of the cavity is maintained at $(240 \pm 15)\text{ °C}$ by switching the supply on and off. **C13**

3.1.9.105 Roasters are operated with the lid closed. The mean temperature in the centre of the container is maintained at $240\text{ }^{\circ}\text{C} \pm 4\text{ }^{\circ}\text{C}$, if necessary by switching the supply on and off.

3.1.9.106  **Radiant grills**, and **rotary grills**  are operated with the controls adjusted in accordance with the instructions, or if instructions are not provided with the controls adjusted to the highest setting. Doors or lids are open unless otherwise specified in the instructions.

Contact grills having a **thermostat** are operated with the **thermostat** adjusted to the highest setting. Other **contact grills** are operated so that the temperature at the centre of the heated surface is maintained at $275\text{ }^{\circ}\text{C} \pm 15\text{ }^{\circ}\text{C}$ by switching the supply on and off.

Raclette grills are operated with doors or lids open, unless otherwise specified in the instructions. Controls are adjusted in accordance with the instructions, pans being in position or removed, whichever is more unfavourable.

3.1.9.107 Barbecues are operated with food supports in the lowest position. Controls are adjusted to the highest setting, any covers or shields being positioned in accordance with the instructions.

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

3.1.9.108 Hotplates, other than **induction hotplates**, are operated with vessels containing water. The vessels are made of unpolished commercial quality aluminium, have a flat bottom and are covered with a lid. A suitable vessel is specified in Figure 103. Controls are adjusted to their highest setting until the water boils and then adjusted so that the water simmers. Water is added to maintain the level during boiling.

NOTE 1 The lid is positioned so that steam does not affect the test.

Induction hotplates are operated with vessels, as specified in Figure 104, containing cooking oil. Controls are adjusted to their highest setting until the oil temperature reaches $180\text{ }^{\circ}\text{C} \pm 4\text{ }^{\circ}\text{C}$ and are then adjusted so that this temperature is maintained. The oil temperature is measured 1 cm above the centre of the bottom of the vessel.

For all **hotplates**, the diameter of the bottom of the vessel is approximately equal to the diameter of the **cooking zone** and the quantity of liquid is specified in Table 101. The vessel is positioned centrally on the **cooking zone**.

Table 101 – Quantity of liquid in the vessel

Diameter of cooking zone mm	Quantity of water or oil l
≤ 110	0,6
> 110 and ≤ 145	1,0
> 145 and ≤ 180	1,5
> 180 and ≤ 220	2,0
> 220 and ≤ 300	3,0

NOTE 2 If several **cooking zones** are marked for one **hotplate**, the most unfavourable zone is used for the test.

NOTE 3 For non-circular **cooking zones**, the smallest non-circular vessel is used that will cover the **cooking zone** as far as possible, taking into account the **hob** rim and other vessels. The quantity of liquid is determined on the basis of the minor diameter of the **cooking zone**.

3.1.9.109 Raclette appliances are operated with the controls adjusted in accordance with the instructions, or if instructions are not provided, with the controls adjusted to the highest setting.