



**NSAI**  
Standards

Irish Standard  
I.S. EN 60335-2-48:2003

# Household and similar electrical appliances - Safety -- Part 2-48: Particular requirements for commercial grillers and toasters (IEC 60335-2 -48:2002 (EQV))

## I.S. EN 60335-2-48:2003

*Incorporating amendments/corrigenda issued since publication:*

EN 60335-2-48:2003/AC:2007  
EN 60335-2-48:2003/A1:2008  
EN 60335-2-48:2003/A11:2012

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60335-2-48/A11**

April 2012

ICS 97.040.50

English version

**Household and similar electrical appliances -  
Safety -  
Part 2-48: Particular requirements for commercial electric grillers and  
toasters**

Appareils électrodomestiques et  
analogues -  
Sécurité -  
Partie 2-48: Règles particulières pour les  
grils et grille-pain électriques à usage  
collectif

Sicherheit elektrischer Geräte für den  
Hausgebrauch und ähnliche Zwecke -  
Teil 2-48: Besondere Anforderungen für  
elektrische Strahlungsgrillgeräte und  
Toaster für den gewerblichen Gebrauch

This amendment A11 modifies the European Standard EN 60335-2-48:2003; it was approved by CENELEC on 2011-12-21. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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

This amendment 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

**CENELEC**

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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

This document (EN 60335-2-48:2003/A11:2012) has been prepared by CLC/TC 61, "Safety of household and similar electrical appliances".

The following dates are 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) 2012-12-21
- latest date by which the national standards conflicting  
with the amendment have to be withdrawn (dow) 2014-12-21

This amendment supplements or modifies the corresponding clauses of EN 60335-1:2012, EN 60335-2-48:2003 and EN 60335-2-48:2003/A1:2008.

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

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60335-2-48/A1**

April 2008

ICS 97.040.50

English version

**Household and similar electrical appliances -  
Safety -  
Part 2-48: Particular requirements for commercial electric grillers  
and toasters  
(IEC 60335-2-48:2002/A1:2008)**

Appareils électrodomestiques  
et analogues -  
Sécurité -  
Partie 2-48: Règles particulières  
pour les grils et grille-pain électriques  
à usage collectif  
(CEI 60335-2-48:2002/A1:2008)

Sicherheit elektrischer Geräte  
für den Hausgebrauch  
und ähnliche Zwecke -  
Teil 2-48: Besondere Anforderungen  
für elektrische Strahlungsgrillgeräte  
und Toaster für  
den gewerblichen Gebrauch  
(IEC 60335-2-48:2002/A1:2008)

This amendment A1 modifies the European Standard EN 60335-2-48:2003; it was approved by CENELEC on 2008-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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.

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**CENELEC**

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

**I.S. EN 60335-2-48:2003**

EN 60335-2-48:2003/A1:2008

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## **Foreword**

The text of document 61E/597/FDIS, future amendment 1 to IEC 60335-2-48:2002, prepared by SC 61E, Safety of electrical commercial catering equipment, of 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 60335-2-48:2003 on 2008-03-01.

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) 2008-12-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2011-03-01

This amendment supplements or modifies the corresponding clauses of EN 60335-2-48:2003.

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

There are no national deviations from this amendment.

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

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## **Endorsement notice**

The text of amendment 1:2008 to the International Standard IEC 60335-2-48:2002 was approved by CENELEC as an amendment to the European Standard without any modification.

p In the Bibliography, add the following note to the standard mentioned:

ISO 13732-1                      NOTE Harmonized as EN ISO 13732-1:2006 (not modified).

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EUROPEAN STANDARD

**EN 60335-2-48**

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2003

ICS 97.040.50

Supersedes EN 60335-2-48:2000  
Incorporates Corrigendum September 2007

English version

**Household and similar electrical appliances –  
Safety  
Part 2-48: Particular requirements for  
commercial electric grillers and toasters  
(IEC 60335-2-48:2002)**

Appareils électrodomestiques  
et analogues –  
Sécurité  
Partie 2-48: Règles particulières  
pour les grils et grille-pain électriques  
à usage collectif  
(CEI 60335-2-48:2002)

Sicherheit elektrischer Geräte für den  
Hausgebrauch und ähnliche Zwecke  
Teil 2-48: Besondere Anforderungen  
für elektrische Strahlungsgrillgeräte und  
Toaster für den gewerblichen Gebrauch  
(IEC 60335-2-48:2002)

This European Standard was approved by CENELEC on 2003-02-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

**CENELEC**

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

**I.S. EN 60335-2-48:2003**

EN 60335-2-48:2003

- 2 -

## Foreword

The text of document 61E/409/FDIS, future fourth edition of IEC 60335-2-48, prepared by SC 61E of the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60335-2-48 on 2003-02-01.

This European Standard replaces EN 60335-2-48:2000.

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) 2003-11-01
- date on which national standards  
conflicting with the EN have to be withdrawn (dow) 2006-02-01

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 commercial electric grillers and toasters.

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.

The contents of the corrigendum of September 2007 have been included in this copy.

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

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## **Introduction**

p Add:

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.

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## **Endorsement notice**

The text of the International Standard IEC 60335-2-48:2002 was approved by CENELEC as a European Standard without any modification.

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### **HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –**

#### **Part 2-48: Particular requirements for commercial electric grillers and toasters**

### 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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- 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 part of International Standard IEC 60335 has been prepared by IEC subcommittee 61E: Safety of electrical commercial catering equipment, of IEC technical committee 61: Safety of household and similar electrical appliances.

This consolidated version of IEC 60335-2-48 consists of the fourth edition (2002) [documents 61E/409/FDIS and 61E/423/RVD] and its amendment 1 (2008) [documents 61E/597/FDIS and 61E/612/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 4.1.

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 commercial electric grillers and toasters.

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 of Part 1 concerns an adjective, the adjective and the associated noun are also in bold.

The following differences exist in the countries indicated below.

- 6.1: Class 01 appliances are allowed (Japan).
- 6.2: For appliances intended to be installed in a kitchen, an appropriate degree of protection against harmful ingress of water is required according to their height of installation (France).
- 13.2: Leakage current limits are different (Japan).
- 16.2: Leakage current limits are different (Japan).
- Clause 21: For appliances intended to be installed in a kitchen, different values of impact energy are applicable according to the height of the impact point (France).

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 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.

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.

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.

## HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

### Part 2-48: Particular requirements for commercial electric grillers and toasters

#### 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electrically operated commercial **grillers** and **toasters** not intended for household use, their **rated voltage** being not more than 250 V for single-phase appliances connected between one phase and neutral, and 480 V for other appliances.

**Rotary or continuous grillers and toasters** and similar appliances intended for grilling by radiant heat such as rotisseries, salamanders, etc. are within the scope of this standard.

NOTE 101 These appliances are used, for example in restaurants, canteens, hospitals and commercial enterprises such as bakeries, butcheries, etc.

The electrical part of appliances making use of other forms of energy is also within the scope of this standard.

As far as is practicable, this standard deals with the common hazards presented by these types of appliances.

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, the national water supply authorities and similar authorities;
- for appliances intended to be used outdoors, additional requirements may be necessary.

NOTE 103 This standard does not apply to

- 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);
- continuous process appliances for the mass production of food;
- griddles and griddle grills (IEC 60335-2-38).

#### 2 Normative references

This clause of Part 1 is applicable.

#### 3 Definitions

This clause of Part 1 is applicable except as follows.

##### 3.1.4 Addition:

NOTE 101 The **rated power input** is the sum of the power inputs of all the individual elements in the appliance that can be on at one time; where there are several such combinations possible, that giving the highest power input is used in determining the **rated power input**.

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