



NSAI
Standards

Irish Standard
I.S. EN IEC 60335-2-9:2023

Version 1.00

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

I.S. EN IEC 60335-2-9:2023 V1.00

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

NSAI/... xxx: A National adoption of a Technical Regulation (TR), Technical Specification (TS), CEN and/or CENELEC Workshop Agreement (CWA).

I.S. EN IEC 60335-2-9:2023 V1.00 was published under the authority of the NSAI and came into effect on: 2023-03-19

ICS number(s): 13.120, 97.040.50

NSAI
1 Swift Square
Northwood, Santry
Dublin 9
D09 A0E4
+353 1 807 3800
standards@nsai.ie
[NSAI.ie](https://www.nsa.ie)

Sales
+353 1 857 6730
[Standards.ie](https://www.nsa.ie)

Údarás um Chaighdeán Náisiúnta na hÉireann

National Foreword

I.S. EN IEC 60335-2-9:2023 V1.00 is the version of the NSAI adopted European document EN IEC 60335-2-9:2023, *Household and similar electrical appliances - Safety - Part 2-9: Particular requirements for grills, toasters and similar portable cooking appliances*, including any Corrections, Amendments etc. to EN IEC 60335-2-9:2023.

This normative document by CEN/CENELEC the elaboration of which includes a public enquiry, followed by a Formal Vote of CEN/CENELEC national members and final ratification. This European Standard is published as an identical national standard and every conflicting national standard will be withdrawn. The content of a European Standard does not conflict with the content of any other EN (and HD for CENELEC).

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

For relationships with other publications refer to the NSAI web store.

Conformance with this document does not of its self confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page intentionally left blank

EUROPEAN STANDARD

EN IEC 60335-2-9

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2023

ICS 13.120; 97.040.50

Supersedes EN 60335-2-9:2003; EN 60335-2-9:2003/A1:2004; EN 60335-2-9:2003/A2:2006; EN 60335-2-9:2003/A12:2007; EN 60335-2-9:2003/A13:2010; EN 60335-2-9:2003/A13:2010/AC:2011; EN 60335-2-9:2003/A13:2010/AC:2012

English Version

**Household and similar electrical appliances - Safety - Part 2-9:
Particular requirements for grills, toasters and similar portable
cooking appliances
(IEC 60335-2-9:2019)**

Appareils électrodomestiques et analogues - Sécurité -
Partie 2-9: Exigences particulières pour les grils, les grille-
pain et les appareils de cuisson mobiles analogues
(IEC 60335-2-9:2019)

Sicherheit elektrischer Geräte für den Hausgebrauch und
ähnliche Zwecke - Teil 2-9: Besondere Anforderungen für
Grillgeräte, Brotröster und ähnliche ortsveränderliche
Kochgeräte
(IEC 60335-2-9:2019)

This European Standard was approved by CENELEC on 2023-01-12. 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 CEN-CENELEC Management Centre 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 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN IEC 60335-2-9:2023) consists of the text of IEC 60335-2-9:2019 prepared by TC 61 “Safety of household and similar electrical appliances”.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2024-01-12
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2026-01-12

This document supersedes EN 60335-2-9:2003 and all of its amendments and corrigenda (if any).

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

This document is read in conjunction with EN IEC 60335-2-9:2023/A11:2023.

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

For relationship with EU Directive(s) / Regulation(s), see informative Annex ZZA, which is an integral part of EN IEC 60335-2-9:2023/A11:2023.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60335-2-9:2019 was approved by CENELEC as a European Standard.



IEC 60335-2-9

Edition 7.0 2019-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Household and similar electrical appliances – Safety –
Part 2-9: Particular requirements for grills, toasters and similar portable cooking
appliances**

**Appareils électrodomestiques et analogues – Sécurité –
Partie 2-9: Exigences particulières pour les grils, les grille-pain et les appareils
de cuisson mobiles analogues**



THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2019 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
 3, rue de Varembe
 CH-1211 Geneva 20
 Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC - webstore.iec.ch/advsearchform

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

Electropedia - www.electropedia.org

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 000 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

67 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.



IEC 60335-2-9

Edition 7.0 2019-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Household and similar electrical appliances – Safety –
Part 2-9: Particular requirements for grills, toasters and similar portable cooking
appliances**

**Appareils électrodomestiques et analogues – Sécurité –
Partie 2-9: Exigences particulières pour les grils, les grille-pain et les appareils
de cuisson mobiles analogues**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 97.040.50; 13.120

ISBN 978-2-8322-6890-2

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD	4
INTRODUCTION	7
1 Scope	8
2 Normative references	9
3 Terms and definitions	9
4 General requirement.....	14
5 General conditions for the tests	14
6 Classification	14
7 Marking and instructions.....	14
8 Protection against access to live parts	16
9 Starting of motor-operated appliances	17
10 Power input and current.....	17
11 Heating.....	17
12 Void.....	21
13 Leakage current and electric strength at operating temperature.....	21
14 Transient overvoltages	22
15 Moisture resistance	22
16 Leakage current and electric strength.....	23
17 Overload protection of transformers and associated circuits	24
18 Endurance	24
19 Abnormal operation	24
20 Stability and mechanical hazards.....	26
21 Mechanical strength	26
22 Construction	27
23 Internal wiring.....	30
24 Components	30
25 Supply connection and external flexible cords	31
26 Terminals for external conductors	32
27 Provision for earthing	32
28 Screws and connections	32
29 Clearances, creepage distances and solid insulation	32
30 Resistance to heat and fire	32
31 Resistance to rusting	33
32 Radiation, toxicity and similar hazards.....	33
Annexes	40
Annex C (normative) Ageing test on motors	41
Annex R (normative) Software evaluation	42
Bibliography.....	43
Figure 101 – Examples of appliances.....	35
Figure 102 – Load for testing rotating spits	36

Figure 103 – Vessel for testing hotplates	37
Figure 104 – Vessel for testing induction hotplates	37
Figure 105 – Probe for measuring surface temperatures	38
Figure 106 – Front view of appliance with identification of excluded areas	39
Table 101 – Quantity of liquid in the vessel.....	10
Table 102 – Temperature rises for external surfaces.....	19

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2-9: Particular requirements for grills, toasters and
similar portable cooking appliances**

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 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.

International Standard IEC 60335-2-9 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This seventh edition cancels and replaces the sixth edition published in 2008, Amendment 1: 2012 and Amendment 2:2016. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- aligns the text with IEC 60335-1, Ed 5, and its Amendments 1 and 2;
- revises the abnormal tests for a toaster (19.11.2, 19.102).

The text of this International Standard is based on the following documents:

FDIS	Report on voting
61/5797/FDIS	61/5838/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60335 series, published under the general title *Household and similar electrical appliances – Safety*, can be found on the IEC website.

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 fifth edition (2010) 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 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 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 this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document 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 this publication be adopted for implementation nationally not earlier than 12 months nor later than 36 months from the date of its publication.

The following differences exist in the countries indicated below:

- 3.1.9: Different loads and test methods are used (USA).
- 5.101: If the appliance incorporates a motor, the motor is tested at rated voltage (USA).
- 7.12: Identification of the connector is to be marked on the appliance (USA).
- 11.2: 9,5 mm thick plywood is used for the test corner (USA).
- 11.7: The test duration is based on the quantity of food (USA).
- 11.8: A temperature rise of 100 K is allowed for the wall of the test corner (USA).
- 11.101: There are no surface temperature limits on toasters having a metallic enclosure unless they are under cabinet or wall mounted, in which case it is allowed for the temperatures to reach 100 °C if a proper marking is provided (USA).
- 15.2: A different solution is used and the test is not carried out on ovens, hotplates or cookers (USA).
- 15.101: Appliances are immersed to the marked level only (USA).
- 19.2: A 300 mm deep simulated cabinet is located 400 mm above the countertop (USA).
- 19.2: The test is different. Additional tests are carried out on hotplates and cookers (USA):
- 19.101: Different test methods and numbers of cycles are used (USA).
- 19.102: A combustible cloth is placed above the toaster and the residual bread is left in place (USA).
- 19.104: Disks having different sizes are used (USA).
- 20.101: The test is not carried out (USA).
- 21.101: The test is different (USA).
- 22.105: The requirement is not applicable (USA).
- 22.108: The test is different (USA).
- 22.110: The test is different (USA).
- 22.111: The test is not carried out (USA).
- 22.112: The test is not carried out (USA).
- 24.1.3: The test is not carried out (USA).
- 24.101: The test is not carried out (USA).
- 25.7: The free length of the supply cord is specified; in some cases, it is 1,8 m to 2,1 m for appliances intended to be connected to fixed socket-outlets, while in others it is 0,6 m to 2,1 m for appliances normally used on a table or similar surface (USA).

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 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 and similar 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**;
- **candy floss appliances**;
- **contact grills** (griddles);
- **cookers**;
- **food dehydrators**;
- **hotplates**;
- **induction wok hotplates**;
- **pop-corn makers**;
- **portable ovens**;
- **raclette grills**;
- **radiant grills**;
- **roasters**;
- **rotary grills**;
- **rotisseries**;
- **toasters**;
- **waffle irons**;

Examples are illustrated in Figure 101.

Appliances intended for normal household and similar use and that may also be used by laymen in shops, in light industry and on farms, are within the scope of this standard. However, if the appliance is intended to be used professionally to process food for commercial consumption, the appliance is not considered to be for household and similar use only.

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 knowledgeprevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-