

Household and similar electrical appliances — Safety —

Part 2-14: Particular requirements for kitchen machines

The European Standard EN 60335-2-14:2003 has the status of a
British Standard

ICS 13.120; 97.040.50

National foreword

This British Standard is the official English language version of EN 60335-2-14:2003. It was derived by CENELEC from IEC 60335-2-14:2002. It supersedes BS EN 60335-2-14:1997 which will be withdrawn on 2006-05-01.

The CENELEC common modifications have been implemented at the appropriate places in the text and are indicated by tags [C] <C>.

The UK participation in its preparation was entrusted by Technical Committee CPL/61, Safety of household and similar electrical appliances, to Subcommittee CPL/61/01, Motorised appliance group, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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

Cross-references

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Supersedes EN 60335-2-14:1996 + A11:1998 + A1:1998 + A2:2000

English version

**Household and similar electrical appliances –
Safety –
Part 2-14: Particular requirements for kitchen machines
(IEC 60335-2-14:2002, modified)**

Appareils électrodomestiques et
analogues – Sécurité
Partie 2-14: Règles particulières pour
les machines de cuisine
(CEI 60335-2-14:2002, modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2-14: Besondere Anforderungen für
Küchenmaschinen
(IEC 60335-2-14:2002, modifiziert)

This European Standard was approved by CENELEC on 2003-05-01. 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.

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CENELEC

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Foreword

The text of the International Standard IEC 60335-2-14:2002 (61/2180/FDIS), prepared by the IEC Technical Committee 61, Safety of household and similar electrical appliances, together with the common modifications prepared by CENELEC TC 61, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 60335-2-14 on 2003-05-01.

This European Standard replaces EN 60335-2-14:1996 + A11:1998 + A1:1998 + A2:2000.

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) 2004-05-01
- date on which national standards
conflicting with the EN have to be withdrawn (dow) 2006-05-01

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 kitchen machines.

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.

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

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.

Endorsement notice

The text of the International Standard IEC 60335-2-14:2002 was approved by CENELEC as a European Standard with agreed common modifications.

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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.

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 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 2-14: Particular requirements for kitchen machines

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric kitchen machines for household and similar purposes, their **rated voltage** being not more than 250 V.

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

- bean slicers;
- berry-juice extractors;
- blenders;
- can openers;
- centrifugal juicers;
- churns;
- citrus-fruit squeezers;
- coffee mills not exceeding 500 g hopper capacity;
- cream whippers;
- egg beaters;
- **food mixers**;
- **food processors**;
- grain grinders not exceeding 3 l hopper capacity;
- graters;
- ice-cream machines, including those for use in refrigerators and freezers;
- knife sharpeners;
- knives;
- **mincers**;
- noodle makers;
- potato peelers;
- shredders;
- sieving machines;
- slicing machines.

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 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

- slicing machines having a circular knife the blade of which is inclined at an angle exceeding 45° to the vertical;
- food waste disposers (IEC 60335-2-16);
- ice-cream appliances with incorporated motor compressors (IEC 60335-2-24);
- kitchen machines intended for commercial purposes (IEC 60335-2-64);
- kitchen machines intended for industrial purposes;
- kitchen machines 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:

IEC 60811-1-4:1985, *Common test methods for insulating and sheathing materials of electric cables – Part 1: Methods for general application – Section Four – Tests at low temperature*

3 Definitions

This clause of Part 1 is applicable except as follows.

3.1.9 Replacement:

normal operation

operation of the appliance under the conditions specified in 3.1.9.101 to 3.1.9.119, or at **rated power input** if this is more unfavourable

NOTE 101 If the conditions are not specified, the appliance is operated with the most unfavourable load indicated in the instructions.

NOTE 102 **Rated power input** is obtained by applying a constant torque to the appliance placed in its normal position of use and without subjecting it to imbalance forces greater than those occurring in normal use.

NOTE 103 Operation at **rated power input** is considered to be more unfavourable if the power input determined during the test of 10.1 differs from the **rated power input** by more than

- –20 % for appliances having a **rated power input** not exceeding 300 W;
- –15 % (or –60 W if greater) for appliances having a **rated power input** exceeding 300 W.

3.1.9.101 Berry-juice extractors are fed with 1 kg of berries, such as currants, gooseberries or grapes. Pushers are pressed with a force of 5 N against the berries.

3.1.9.102 Blenders are operated with the bowl filled to its maximum indicated level with a mixture comprising two parts by mass of soaked carrots and three parts water. If this level is not indicated, the bowl is filled to two-thirds of its total capacity. The carrots are soaked in water for 24 h and cut so that the dimensions of the pieces do not exceed 15 mm. If the bowl is not provided, a cylindrical bowl is used which has a capacity of approximately 1 l and an inner diameter of approximately 110 mm.

Blenders for liquid are operated with water instead of the mixture.

3.1.9.103 Can openers are operated with cans of tinned steel having a diameter of approximately 100 mm.

3.1.9.104 Centrifugal juicers are operated with carrots that have been soaked in water for approximately 24 h. 5 kg of soaked carrots are gradually fed into juicers having separate outlets for the juice and residue. Other juicers are fed with batches of 0,5 kg of carrots, unless otherwise indicated in the instructions. Pushers are pressed with a force of 5 N against the carrots.

3.1.9.105 Cheese graters are operated with a 250 g piece of hard Parmesan cheese selected from a block of cheese about 16 months old and which has at least one plane surface. A force of 10 N is applied to the cheese unless the force is applied automatically.

3.1.9.106 Churns are filled with a mixture of eight parts by mass of heavy cream and one part of buttermilk. The quantity of the mixture is the maximum that allows the churn to operate without spillage.

3.1.9.107 Citrus-fruit squeezers are operated with orange halves pressed against the reamer with a force of 50 N.

3.1.9.108 Coffee mills having a separate container for collecting the ground coffee are operated with the hopper filled with roasted coffee beans.

Other coffee mills are operated with the hopper filled with the maximum quantity of roasted coffee beans stated in the instructions.

NOTE If necessary, the coffee beans are conditioned for 24 h at a temperature of $30\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ and a relative humidity of $(60 \pm 2)\%$.

Controls are set to the position resulting in the smallest grain size.

3.1.9.109 Cream whippers and egg beaters are operated in water with 80 % of the length of the effective part immersed in a bowl of water.

3.1.9.110 Food mixers with beaters for mixing cake batter are operated with the beater blades as close as possible to the bottom of a bowl containing dry sand having a grain size between $170\text{ }\mu\text{m}$ and $250\text{ }\mu\text{m}$. The height of the sand in the bowl is approximately 80 % of the length of the effective part of the beater.

Food mixers with kneaders for mixing yeast dough are operated with the kneaders in a bowl filled with a mixture of flour and water.

NOTE 1 The flour has a protein content of $(10 \pm 1)\%$, based on a negligible water content of the flour and without chemical additives.

NOTE 2 In case of doubt, the flour is to be more than two weeks but less than four months old. It is to be stored in plastic bags with as little air as possible.

The bowl is filled with a mass of flour in grams equal to 35 % of its capacity in cm^3 , 72 g of water at a temperature of $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ being added for each 100 g of flour.

NOTE 3 In case of doubt, the quantity of water is 1,2 times that necessary for the consistency of the mixture to be 500 Brabender units at $29\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$, measured using a farinograph.

For **hand-held food mixers**, the kneaders are moved in a figure-of-eight movement at a rate of 10 to 15 movements per minute. The kneaders are to touch the wall of the bowl at opposite points and be in contact with the bottom of the bowl. If a bowl is not provided, a bowl is used that has a height of approximately 130 mm and an inner diameter of approximately 170 mm at the top, tapering down to approximately 150 mm at the bottom. Its inner surface is smooth and the wall and bottom blend smoothly.

3.1.9.111 Food processors are operated as specified for **food mixers** with kneaders for mixing yeast dough. However, the quantity of the mixture is the maximum stated in the instructions. If an accessory rotating at high speed is used to prepare the dough, only 60 g of water is used for each 100 g of flour.