
Gospodinjski in podobni električni aparati - Varnost - 2-36. del: Posebne zahteve za komercialne električne štedilnike, pečice, kuhalne plošče in njihove elemente

Household and similar electrical appliances - Safety - Part 2-36: Particular requirements for commercial electric cooking ranges, ovens, hobs and hob elements

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 2-36: Besondere Anforderungen für elektrische Herde, Brat- und Backöfen und Kochplatten für den gewerblichen Gebrauch

Appareils électrodomestiques et analogues - Sécurité - Partie 2-36: Exigences particulières pour les cuisinières, les fours, les tables de cuisson et les foyers de cuisson électriques à usage commercial

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**Household and similar electrical appliances – Safety –
Part 2-36: Particular requirements for commercial electric cooking ranges,
ovens, hobs and hob elements**

**Appareils électrodomestiques et analogues – Sécurité –
Partie 2-36: Exigences particulières pour les cuisinières, les fours, les tables
de cuisson et les foyers de cuisson électriques à usage commercial**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-36: Particular requirements for commercial electric cooking ranges, ovens, hobs and hob elements

FOREWORD

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IEC 60335-2-36 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This seventh edition cancels and replaces the sixth edition published in 2017. This edition constitutes a technical revision.

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

- a) the text has been aligned with IEC 60335-1:2020;
- b) some notes have been converted to normative text, modified or deleted (Clause 1, 7.1, 7.15, 11.4, 13.3, 21.101, 22.101, 27.2, 30.101);
- c) conciliation of the text of IEC 60335-2-36 with other standards under IEC/TC61/MT32;
- d) exclusion of battery-operated appliances and appliances used in areas open to the public (Clause 1);

- e) relocation of cleaning instructions from 7.12.1 to 7.12;
- f) clarification of the testing procedure in 15.1.1;
- g) clarification on the test conditions in 19.1 and 23.3;
- h) introduction of 22.110;
- i) clarifications in the requirements in 25.3.

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

Draft	Report on voting
61/6377/FDIS	61/6427/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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 unless that edition precludes it; in that case, the latest edition that does not preclude it is used. It was established on the basis of the sixth edition (2020) 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: Particular requirements for commercial electric cooking ranges, ovens, hobs and hob elements.

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 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 or later than 36 months from the date of publication.

The content of the corrigendum 1 (2026-05) has been included in this copy.

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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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.

Guidance documents concerning the application of the safety requirements for appliances can be accessed via TC 61 supporting documents on the IEC website

<https://www.iec.ch/tc61/supportingdocuments>

This information is given for the convenience of users of this International Standard and does not constitute a replacement for the normative text in this standard.

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 publications, basic safety publications and group safety publications 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.

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.

NOTE 3 Standards dealing with non-safety aspects of household appliances are:

- IEC standards published by TC 59 concerning methods for measuring performance;
- CISPR 11, CISPR 14-1 and relevant IEC 61000-3 series standards concerning electromagnetic emissions;
- CISPR 14-2 concerning electromagnetic immunity;
- IEC standards published by TC 111 concerning environmental matters.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-36: Particular requirements for commercial electric cooking ranges, ovens, hobs and hob elements

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of electrically operated commercial **cooking and baking ranges**, ovens, **hobs, hob elements** and similar appliances, 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.

These appliances are not intended for household and similar purposes. They are used for commercial processing of food in areas not open to the public, for example in kitchens of restaurants, canteens, hospitals and in commercial enterprises such as bakeries and butcheries.

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.

Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements can 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;
- in many countries, additional requirements are specified for pressure appliances.

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);
- appliances for continuous mass production of food;
- steam cookers, forced and steam convection ovens (IEC 60335-2-42);
- appliances for keeping food and crockery warm (IEC 60335-2-49);
- commercial microwave ovens (IEC 60335-2-90);
- **battery-operated appliances.**

2 Normative references

This clause of Part 1 is applicable except as follows.

Addition:

IEC 60584-1, *Thermocouples – Part 1: EMF specifications and tolerances*

ISO 185, *Grey cast irons – Classification*

ISO 898-1, *Mechanical properties of fasteners made of carbon steel and alloy steel – Part 1: Bolts, screws and studs with specified property classes – Coarse thread and fine pitch thread*

ISO 3506-1, *Fasteners – Mechanical properties of corrosion-resistant stainless steel fasteners – Part 1: Bolts, screws and studs with specified grades and property classes*

ISO 3506-2, *Fasteners – Mechanical properties of corrosion-resistant stainless steel fasteners – Part 2: Nuts with specified grades and property classes*

ISO 3506-3, *Mechanical properties of corrosion-resistant stainless steel fasteners – Part 3: Set screws and similar fasteners not under tensile stress*

ISO 3506-4, *Mechanical properties of corrosion-resistant stainless steel fasteners – Part 4: Tapping screws*

3 Terms and definitions

This clause of Part 1 is applicable except as follows.

3.1 Definitions relating to physical characteristics

3.1.4 *Addition:*

Note 101 to entry: 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**.

3.1.9 *Replacement:*

operation of the appliance under the following conditions:

Solid **hob elements** are operated with no load and sheathed **hob elements** are operated with a load made of dull black, cold or hot rolled steel, 9 mm to 10 mm thick, that covers not less than 90 % and not more than 100 % of the element surface. The **hob elements** are operated with the controls set to give the temperatures as set out below, the temperature being measured at the geometrical centre or the hottest point of the solid element or load, if the element is unevenly heated.

Stepped controls are set to the first position that gives a temperature equal to or greater than 275 °C. Cycling controls are set so that the mean value of the temperature over the cycle is 275 °C ± 5 °C. If this temperature cannot be reached, the control is set at the maximum.

Non-induction heating sources beneath a glass-ceramic or similar material are operated with a pan or pans containing initially cold water, the pan(s) being filled to a height of 60 mm ± 10 mm. The pan or pans are of aluminium, of ordinary quality, not brightly polished, with a base concavity not exceeding 0,1 mm. The pan or pans shall cover the **cooking zone** to the greatest extent possible.

The pan or pans are covered with a lid. The controls are set at maximum until the water boils and then adjusted to maintain boiling. Water is added to maintain the water level during boiling.

Induction heating sources beneath a glass-ceramic or similar material are operated with the pan or pans recommended by the manufacturer.

If one pan is used, it shall cover as closely as possible, but not less than, the full area of the **cooking zone**. The pan is positioned centrally.

For non-circular **cooking zones**, a combination of the smallest number of pans is chosen to cover as much as possible the area of the **cooking zone**.

The pan or pans in each case are filled with initially cold frying oil to a height of $30 \text{ mm} \pm 5 \text{ mm}$. The controls are set at maximum until the temperature of the oil attains a value of $180 \text{ }^\circ\text{C}$ and then adjusted to maintain the oil at a temperature of $180 \text{ }^\circ\text{C} \pm 15 \text{ }^\circ\text{C}$. The oil temperature is measured 10 mm above the centre of the bottom of the vessel.

A further test is made using initially cold water, the pan(s) being filled to a height of $60 \text{ mm} \pm 10 \text{ mm}$. The pan or pans are covered with a lid. The controls are set at maximum until the water boils and then adjusted to maintain boiling. Water is added to maintain the water level during boiling.

The condition providing the most unfavourable results (oil or water) is used.

Ovens are operated with no load and with the controls set so that the mean value of the temperature over the thermostat cycle at the geometric centre of the usable space in the interior of the oven is maintained at $240 \text{ }^\circ\text{C} \pm 4 \text{ }^\circ\text{C}$. Stepped controls are set so that this temperature is $240 \text{ }^\circ\text{C} \pm 15 \text{ }^\circ\text{C}$. For ovens that are capable of attaining temperatures in excess of $290 \text{ }^\circ\text{C}$, the controls are set so that the temperature is $50 \text{ }^\circ\text{C} \pm 4 \text{ }^\circ\text{C}$ below the maximum temperature attainable. For ovens that are unable to attain a temperature of $240 \text{ }^\circ\text{C}$, the controls are set at maximum.

Griddle plates are operated with no load and with the controls set so as to give the temperatures set out below, the temperature being measured at the hottest point of each controlled cooking surface. Stepped controls are set to the first position that gives a temperature equal to or greater than $275 \text{ }^\circ\text{C}$. Cycling controls are set so that the mean value of the temperature over the cycle is $275 \text{ }^\circ\text{C} \pm 5 \text{ }^\circ\text{C}$. If this temperature cannot be reached, the control is set at maximum.

Motors and **detachable electrical parts** incorporated in the appliance are operated under the most unfavourable conditions that can be expected in normal use taking into account the manufacturer's instructions.

3.5 Definitions relating to types of appliances

3.5.101

cooking and baking range

single cooking or baking appliance incorporating one or more ovens together with one or more **hob elements** or **griddle plates** or a combination of these

Note 1 to entry: An appliance incorporating a forced convection oven, steam-convection oven or microwave oven is considered to be an appliance incorporating another appliance (see also 5.102).

3.5.102

hob

appliance consisting of a **hob surface** and one or more **hob elements**

Note 1 to entry: It may be a separate appliance or part of a **cooking and baking range**.

Note 2 to entry: A **hob** may also incorporate a **griddle plate**.