SLOVENSKI STANDARD
SIST EN 60335-2-36:2001

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

Safety of household and similar electrical appliances -- 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

Sécurité des appareils électrodomestiques et analogues -- Partie 2-36: Règles particulières pour les cuisinières, les fours, les tables de cuisson et les foyers de cuisson électriques à usage collectif

Ta slovenski standard je istoveten z: **EN 60335-2-36:2000**

ICS:

97.040.20	Ġtedilniki, delovni pulti, peļ ice in podobni aparati	Cooking ranges, working tables, ovens and similar appliances

SIST EN 60335-2-36:2001 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60335-2-36

May 2000

ICS 97.040.20

Supersedes EN 60335-2-36:1995 + A1:1996 + A2:1999

English version

Safety of household and similar electrical appliances
Part 2-36: Particular requirements for commercial electric cooking ranges, ovens, hobs and hob elements
(IEC 60335-2-36:2000)

Sécurité des appareils électrodomestiques et analogues
Partie 2-36: Règles particulières pour les cuisinières, les fours, les tables de cuisson et les foyers de cuisson électriques à usage collectif
(CEI 60335-2-36:2000)

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
(IEC 60335-2-36:2000)

This European Standard was approved by CENELEC on 2000-04-01. 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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

Foreword

The text of document 61E/347/FDIS, future fourth edition of IEC 60335-2-36, 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 60335-2-36 on 2000-04-01.

This European Standard replaces EN 60335-2-36:1995 and its amendments A1:1996 and A2:1999.

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)	2001-01-01
- date on which national standards conflicting with the EN have to be withdrawn	(dow)	2003-04-01

This standard has to be used in conjunction with EN 60335-1, Safety of household and similar electrical appliances, Part 1: General requirements. It was established on the basis of the 1994 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 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 of part 1 is to be adapted accordingly.

Subclauses, figures and notes which are additional to those in part 1 are numbered starting with 101.

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

National deviations from this European Standard are listed in annex ZB and are in addition to those in EN 60335-1.

NOTE 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 2. When a definition of part 1 concerns an adjective, the adjective and the associated noun are also in bold.

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

p *Add*:

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. If the product has mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 89/392/EEC, 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 60335-2-36:2000 was approved by CENELEC as a European Standard without any modification.

p *Add*:

Annex ZB (informative)

A-deviations

Addition:

Clause	Deviation
7.15	**Austria** (Elektroschutzverordnung 1995 - BGBl. Nr. 706/1995, § 7.15) If the marking of fixed appliances is not visible after the appliance has been installed, the relevant information shall also be included in the instructions for use and on an additional label which can be fixed near the appliance after installation.

INTERNATIONAL STANDARD

IEC 60335-2-36

Fourth edition
2000-02

Safety of household and similar electrical appliances –

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

Sécurité des appareils électrodomestiques et analogues –

Partie 2-36:
Règles particulières pour les cuisinières, les fours, les tables de cuisson et les foyers de cuisson électriques à usage collectif

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –

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

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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 the 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 National Committees.
3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60335-2-36 has been prepared by subcommittee 61E: Safety of electrical commercial catering equipment, of IEC technical committee 61: Safety of household and similar electrical appliances.

It forms the fourth edition of IEC 60335-2-36 and replaces the third edition, published in 1993, its amendment 1 (1996) and amendment 2 (1998).

The text of this standard is based on the third edition, amendments 1 and 2 and the following documents:

FDIS	Report on voting
61E/347/FDIS	61E/361/RVD

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

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 third edition (1991) of that standard.

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert it into the IEC standard: Safety requirements for commercial electric cooking ranges, ovens, hobs and hob elements.

Where a particular subclause of part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. Where this standard states "addition", "modification" or "replacement", the relevant text in part 1 is to be adapted accordingly.

NOTE 1 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 2.

NOTE 2 Subclauses, notes and figures which are additional to those in part 1 are numbered starting from 101.

A bilingual version of this standard may be issued at a later date.

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –

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:

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

NOTE 1 These appliances are used for example in kitchens such as 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.

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

NOTE 2 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;

– for appliances intended to be used in tropical countries, special 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.

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;

– microwave ovens;

– steam-convection ovens;

– forced convection ovens (IEC 60335-2-42);

– steam cookers (IEC 60335-2-46);

– hot cupboards (IEC 60335-2-49).

2 Definitions

This clause of part 1 is applicable except as follows.

2.2.4 *Addition:*

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

2.2.9 *Replacement:*

normal operation: 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, which 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 which 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 mm ± 5 mm. The controls are set to maximum until the temperature of the oil attains a value of 180 °C and then adjusted to maintain the oil at a temperature of 180 °C ± 15 °C.

  A further test is made using initially cold water, the pan(s) being filled to a height of 60 mm ± 10 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 unfavorable 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 °C ± 4 °C. Stepped controls are set so that this temperature is 240 °C ± 15 °C. For ovens which are capable of attaining temperatures in excess of 290 °C, the controls are set so that the temperature is 50 °C ± 4 °C below the maximum temperature attainable. For ovens which are unable to attain a temperature of 240 °C, the controls are set to 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 which 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 to maximum.

– Motors incorporated in the appliance are operated in the intended manner under the most severe conditions which can be expected in normal use, taking into account the manufacturer's instructions.