



# SLOVENSKI STANDARD SIST EN 60335-2-42:1997

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Nadomešča:

SIST EN 60335-2-42:1995

SIST EN 60335-2-46:1995

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**Safety of household and similar electrical appliances - Part 2: Particular requirements for commercial electric forced convection ovens, steam cookers and steam-convection ovens (IEC 335-2-42:1994)**

Safety of household and similar electrical appliances -- Part 2-42: Particular requirements for commercial electric forced convection ovens, steam cookers and steam-convection ovens

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Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke -- Teil 2-42: Besondere Anforderungen für elektrische Heißluftöfen, Dämpfgeräte und Heißluftdämpfer für den gewerblichen Gebrauch

Sécurité des appareils électrodomestiques et analogues -- Partie 2-42: Règles particulières pour les fours électriques à convection forcée, les cuiseurs à vapeur électriques et les fours combinés vapeur-convection électriques à usage collectif

**Ta slovenski standard je istoveten z: EN 60335-2-42:1995**

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**ICS:**

97.040.20	Štedilniki, delovni pulti, pečice in podobni aparati	Cooking ranges, working tables, ovens and similar appliances
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**SIST EN 60335-2-42:1997**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60335-2-42**

November 1995

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ICS 97.040.20

Supersedes EN 60335-2-42:1989 + A1:1992 and EN 60335-2-46:1989 + A1:1992

Descriptors: Household electrical appliances, ovens, steam cookers, appliance for commercial use, safety requirements, protection against electric shock, fire protection, protection against mechanical hazard

English version

**Safety of household and similar electrical appliances**  
**Part 2: Particular requirements for commercial electric forced convection**  
**ovens, steam cookers and steam-convection ovens**  
**(IEC 335-2-42:1994)**

Sécurité des appareils  
électrodomestiques et analogues  
Partie 2: Règles particulières pour les  
fours électriques à convection forcée,  
les cuiseurs à vapeur électriques et les  
fours combinés vapeur-convection  
électriques à usage collectif  
(CEI 335-2-42:1994)

Sicherheit elektrischer Geräte für den  
Hausgebrauch und ähnliche Zwecke  
Teil 2: Besondere Anforderungen für  
elektrische Heißluftöfen,  
Dämpfgeräte und Heißluftdämpfer für  
den gewerblichen Gebrauch  
(IEC 335-2-42:1994)

This European Standard was approved by CENELEC on 1995-09-20. 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, 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 proposal to endorse IEC 335-2-42:1994, document CLC/TC 61 (SEC) 957, was circulated under the enquiry procedure in April 1994. This proposal was discussed during the Paris meeting in November 1994, when it was decided to submit a draft for EN 60335-2-42 to the formal vote.

This draft was circulated in March 1995 and was ratified by CENELEC as EN 60335-2-42 on 1995-09-20.

This European Standard has been prepared by the secretariat of CENELEC Technical Committee TC 61.

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) 1996-04-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 1998-04-01

This European Standard replaces EN 60335-2-42:1989 with its amendment A1:1992 and EN 60335-2-46:1989 with its amendment A1:1992.

For products which have complied with EN 60335-2-42:1989 including its amendment A1:1992 or with EN 60335-2-46:1989 including its amendment A1:1992 before 1998-04-01, as shown by the manufacturer or by a certification body, these previous standards may continue to apply for production until 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 forced convection ovens, steam cookers and steam-convection ovens.

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 of part 1 is to be adapted accordingly.

Subclauses and figures 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.

There are no national deviations from this European Standard, other than those listed in annex ZB to 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.

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### Endorsement notice

The text of the International Standard IEC 335-2-42:1994 was approved by CENELEC as a European Standard without any modification.

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NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC  
335-2-42

Troisième édition  
Third edition  
1994-03

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**Sécurité des appareils électrodomestiques  
et analogues**

**Partie 2:**

Règles particulières pour les fours électriques  
à convection forcée, les cuiseurs à vapeur  
électriques et les fours combinés vapeur-  
convection électriques à usage collectif

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**Safety of household and similar electrical  
appliances**

**Part 2:**

Particular requirements for commercial electric  
forced convection ovens, steam cookers and  
steam-convection ovens

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International Electrotechnical Commission  
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

**Part 2: Particular requirements for commercial electric forced  
convection ovens, steam cookers and  
steam-convection ovens**

## 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 cooperation 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, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 3) They have the form of recommendations for international use published in the form of standards, 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.

This part of International Standard IEC 335 has been prepared by sub-committee 61E: Safety of electrical commercial catering equipment, of IEC technical committee 61: Safety of household and similar electrical appliances.

It forms the third edition of IEC 335-2-42 and replaces the second edition, published in 1987, and its amendment 1 (1990). It also replaces IEC 335-2-46, published in 1986 and its amendment 1 (1990).

The text of this standard is based on the following documents:

DIS	Report on voting
61E(CO)125	61E(CO)129

Full information on the voting for the approval of this part 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 335-1 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 335-1, so as to convert it into the IEC standard: Safety requirements for commercial electric forced convection ovens, steam cookers and steam-convection ovens

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.

## NOTES

1 The following print types are used:

- requirements: in roman type;
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- notes: in small roman type.

Words in **bold** in the text are defined in clause 2.

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

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## SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

### Part 2: Particular requirements for commercial electric forced convection ovens, steam cookers and steam-convection ovens

#### 1 Scope

This clause of part 1 is replaced by:

This standard deals with the safety of electrically operated commercial forced convection ovens, steam cookers, steam-convection ovens and, exclusive of any other use, steam generators, 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;
- in many countries additional requirements are specified for pressure appliances.

This standard does not apply to:

- appliances where the cooking process is not only carried out by direct steam contact but also with the food partially or completely immersed in a liquid;
- 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;
- appliances with electrode heaters.

## 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 there are several such combinations 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:

#### Dry heat mode

The appliance is operated with all the shelves or the shelf trolley in position according to the manufacturer's instructions but with no load. The controls are set so that the mean value of the temperature over the **thermostat** cycle at the geometric centre of each usable space in the interior of the oven is maintained at  $220\text{ °C} \pm 4\text{ °C}$ . Stepped controls are set so that this temperature is  $220\text{ °C} \pm 15\text{ °C}$ .

For ovens which are unable to attain a temperature of  $220\text{ °C}$ , the controls are set at the maximum.

For ovens which are capable of attaining temperatures in excess of  $270\text{ °C}$  the controls are set so that the mean value of the temperature is  $50\text{ °C} \pm 4\text{ °C}$  below the maximum temperature attainable.

#### Steaming only mode

The appliance is operated in accordance with the manufacturer's instructions with all controls intended to be operated by the user adjusted to their maximum setting until reaching operating temperature. They are then readjusted, if possible, to the lowest setting that maintains that temperature.

Appliances with **steam generators** intended to be filled by hand or by a manually operated tap are filled to the **indicated level** on the **steam generator**.

Appliances with **steam generators** intended to be filled automatically are connected to a water supply having the pressure designated by the manufacturer. Where the manufacturer specifies a range of pressures, the pressure is adjusted to give the most unfavourable conditions.

The incoming water is maintained at:

- $15\text{ °C} \pm 5\text{ °C}$  in the case of appliances intended for connection to a cold water supply.
- $60\text{ °C} \pm 5\text{ °C}$  or the temperature indicated in the instruction sheet, whichever is the higher, in the case of appliances intended for connection to a hot water supply only.

NOTE 1 – If the appliance is intended for connection to either a hot or cold water supply, the temperature of the water is that which gives the most unfavourable results.

Lids, doors, and covers are in position and closed.

The **cooking compartment** of the appliance contains a water load, initially at  $15\text{ °C} \pm 5\text{ °C}$ , comprising 0,5 l/kg of the manufacturer's declared maximum food load. The water load is evenly distributed between the shelves or pans.

NOTE 2 – Since pans may be perforated to allow for circulation of steam, the water load may be contained in suitable containers evenly distributed over the shelves or pans.

#### Combination mode

The appliance is operated as for the steaming only mode but with the forced convection fan/s and elements for heating the **cooking compartment** on and the temperature controls set as for the dry heat mode.

In all the above cases 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.

**2.2.101 forced convection oven:** An appliance intended for the cooking of food by heated air which is circulated by mechanical means within the **cooking compartment**. The pressure within the **cooking compartment** does not differ significantly from atmospheric pressure.

**2.2.102 steam cooker:** An appliance intended for the cooking of food only by means of direct steam contact. The pressure within the **cooking compartment** can exceed atmospheric pressure.

**2.2.103 atmospheric steam cooker:** An appliance in which the pressure within the **cooking compartment** does not differ significantly from atmospheric pressure.

**2.2.104 steam-convection oven:** An appliance intended for the cooking of food either by means of direct steam contact or by heated air circulated by mechanical means within the **cooking compartment** or by a combination of these two modes. The pressure within the **cooking compartment** does not differ significantly from atmospheric pressure.

**2.2.105 rated pressure:** The maximum working pressure of **steam cookers** and **steam generators** assigned by the manufacturer to the pressurized parts of the appliance.

**2.2.106 steam generator:** That part of the appliance designed specifically for the generation of steam for exclusive use in a **cooking compartment**.

NOTE – The **steam generator** may be combined within the **cooking compartment**, remote from the **cooking compartment** but contained within the same casing or as a separate unit providing steam for one or more **cooking compartments**.

**2.2.107 cooking compartment:** That part of the appliance in which the cooking or food heating process takes place.

**2.2.108 Indicated level:** A mark on the appliance or **steam generator** to indicate the maximum liquid level for correct operation.