



SLOVENSKI STANDARD
SIST EN 60335-2-9:1997/A1:1998
01-december-1998

Safety of household and similar electrical appliances - Part 2-9: Particular requirements for toasters, grills, roasters and similar appliances - Amendment A1 (IEC 60335-2-9:1993/A1:1998)

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

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

Sécurité des appareils électrodomestiques et analogues -- Partie 2-9: Règles particulières pour les grills, grille-pain et appareils de cuisson mobiles analogues

Ta slovenski standard je istoveten z: EN 60335-2-9:1995/A1:1998

ICS:

13.120	Varnost na domu	Domestic safety
97.040.20	Varovanje pri kuhanju in pečenju v kuhinjskih aparatih	Cooking ranges, working tables, ovens and similar appliances

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EUROPEAN STANDARD

EN 60335-2-9/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 1998

ICS 13.120; 97.040.50

Descriptors: Household electrical appliances, toasters, waffle irons, grills, safety requirements, protection against electric shock, fire protection, protection against mechanical hazard

English version

Safety of household and similar electrical appliances
Part 2-9: Particular requirements for toasters, grills, roasters and
similar appliances
 (IEC 60335-2-9:1993/A1:1998)

Sécurité des appareils
 électrodomestiques et analogues
 Partie 2-9: Règles particulières pour
 les grille-pain, les grills, les cocottes
 et appareils analogues
 (CEI 60335-2-9:1993/A1:1998)

Sicherheit elektrischer Geräte für den
 Hausgebrauch und ähnliche Zwecke
 Teil 2-9: Besondere Anforderungen für
 Brottröster, Grillgeräte, Bratgeräte und
 ähnliche Geräte
 (IEC 60335-2-9:1993/A1:1998)

SIST EN 60335-2-9:1997/A1:1998

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This amendment A1 modifies the European Standard EN 60335-2-9:1995; it was approved by CENELEC on 1998-01-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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

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Ref. No. EN 60335-2-9:1995/A1:1998 E

Foreword

The text of document 61/1340/FDIS, future amendment to IEC 60335-2-9:1993 prepared by the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60335-2-9 on 1998-01-01.

The following dates are applicable:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1998-11-01
- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2005-02-01

This amendment supplements or modifies the corresponding clauses of EN 60335-2-9:1995.

There are no special national conditions causing a deviation from this amendment.

There are no national deviations from this amendment.

Endorsement notice

The text of amendment 1:1998 to the International Standard IEC 60335-2-9:1993 was approved by CENELEC as an amendment to the European Standard without any modification.

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**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC**

60335-2-9

1993

AMENDEMENT 1
AMENDMENT 1

1998-02

Amendement 1

**Sécurité des appareils électrodomestiques
et analogues –**

Partie 2-9:

**Règles particulières pour les grille-pain, les grils,
les cocottes et appareils analogues**

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Amendment 1

**Safety of household and similar
electrical appliances –**

Part 2-9:

**Particular requirements for toasters, grills,
roasters and similar appliances**

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Commission Electrotechnique Internationale
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FOREWORD

This amendment has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

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

FDIS	Report on voting
61/1340/FDIS	61/1384/RVD

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

Title

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Replace the title by:

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

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FOREWORD

List of additional differences existing in some countries:

Replace the text of 15.2 by:

- 15.2: A different solution is used and the test is not carried out on ovens, hotplates or cookers (USA).

Add:

- 19.2: The test is different. Additional tests are carried out on hot plates and cookers (USA).
 19.102: Disks having different sizes are used (USA).
 21.101: The test is different (USA).
 22.110: The test is not carried out (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).

1 Scope

NOTE 1 *Add:*

- hotplates;
- cookers;
- food dehydrators.

NOTE 3 *Add:*

- warming plates (IEC 60335-2-12);
- microwave ovens (IEC 60335-2-25).

Delete:

- appliances for high-frequency heating;

2 Definitions

2.2.9 *Add:*

Hotplates, other than **induction hotplates**, are operated with vessels containing cold water. The vessel is made of unpolished commercial quality aluminium, has a flat bottom and is covered with a lid. Thermal controls are adjusted to their highest setting until the water boils and then adjusted so that the water boils gently. Water is added to maintain the level during boiling.

NOTE 3 – The lid is positioned so that steam does not affect the test.

In case of doubt, vessels as specified in figure 102 are used.

Induction hotplates are operated with vessels as specified in figure 103 which contain approximately half their capacity of cooking oil at room temperature. Thermal controls are adjusted to their highest setting until the oil temperature reaches $180\text{ °C} \pm 4\text{ °C}$ and then adjusted so that this temperature is maintained. The oil temperature is measured 1 cm above the centre of the bottom of the vessel.

For all **hotplates**, the diameter of the bottom of the vessel is approximately equal to the diameter of the **cooking zone** and the quantity of liquid is specified in table 101. The vessel is positioned centrally on the **cooking zone**.

Table 101 – Quantity of liquid in the vessel

Diameter of cooking zone mm	Quantity of water or oil l
≤ 110	0,6
> 110 and ≤ 145	1
> 145 and ≤ 180	1,5
> 180 and ≤ 220	2
> 220 and ≤ 300	3

NOTES

4 If several **cooking zones** are marked for one **hotplate**, the most unfavourable zone is used for the test.

5 For non-circular **cooking zones**, the smallest non-circular vessel is used which will cover the **cooking zone** as far as possible, taking into account the **hob** rim and the other vessels. The quantity of liquid is determined on the basis of the minor diameter of the **cooking zone**.

Food dehydrators are operated empty.

Add the following subclauses:

2.112 **hotplate**: Appliance having one or more **heating units** on which vessels can be placed for cooking purposes.

NOTE – **Hotplates** do not incorporate an **oven** or a grill.

2.113 **cooker**: Appliance incorporating a **hotplate** and an **oven**.

NOTE – **Cookers** may incorporate a grill.

2.114 **heating unit**: Any part of the appliance which fulfils an independent cooking or warming function.

2.115 **touch control**: Control actuated by contact or proximity of a finger, with little or no movement of the contact surface.

2.116 **induction hotplate**: **Hotplate** which can heat at least one metallic vessel by means of eddy currents.

NOTE – The eddy currents are induced in the bottom of the vessel by the electromagnetic field of a coil.

2.117 **cooking zone**: Area marked on a **hotplate** where the vessel is placed when heating food.

2.118 **food dehydrator**: Appliance for dehydrating food by means of air which is heated by a heating element.

NOTE – The appliance may incorporate a fan.

7 Marking and instructions

7.12 *Add:*

If the top surface of a **hotplate** is of glass-ceramic or similar material and protects **live parts**, the instructions shall include the substance of the following warning:

WARNING – If the surface is cracked, switch off the appliance to avoid the possibility of electric shock.

The instructions for **induction hotplates** shall include the substance of the following:

Metallic objects such as knives, forks, spoons and lids should not be placed on the hotplate since they can get hot.

10 Power input and current

Replace the text by:

This clause of part 1 is applicable except as follows:

10.1 Addition:

The power input of **induction hotplates** is measured separately and the tolerances for **motor-operated appliances** apply.

10.2 Addition:

The current of **induction hotplates** is measured separately and the tolerances for **motor-operated appliances** apply.

11 Heating

11.2 Add:

Hotplates and cookers are placed as specified for **ovens**.

Add:

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11.3 Addition:

NOTE 3 – If the magnetic field of an **induction hotplate** unduly influences the results, the temperature rises can be determined using a high-resistance platinum resistance with twisted connecting wires or any equivalent means. The resistances are positioned so that the temperatures are influenced as little as possible.

11.4 Add:

Induction hotplates are operated as specified for **motor-operated appliances**.

11.7 Replace the fourth paragraph by:

Radiant grills are operated for a period of 30 min, for the maximum period indicated in the instructions for use or for the maximum period allowed by a timer, whichever is the longest, the controls being set at their highest position.

11.7 Add:

Induction hotplates are operated for 30 min. Other **hotplates** are operated for 60 min.

For **cookers**, combinations of **heating units** which can be energized simultaneously are tested together, the **heating units** being switched on for the duration specified.

Food dehydrators are operated until steady conditions are established.

11.8 Replace the modification by:

For **radiant grills, rotary grills, raclette grills, hotplates** and **cookers**, instead of 65 K, the temperature rise of the wall of the test corner shall not exceed 75 K.

Replace the last paragraph by:

The temperature-rise limits of motors, transformers or components of **electronic circuits** and parts directly influenced by them may be exceeded when the appliance is operated at 1,15 times **rated power input**.

13 Leakage current and electric strength at operating temperature

Replace the text by:

This clause of part 1 is applicable except as follows:

13.1 Modification:

Instead of the first two paragraphs of the test specification, the following applies:

Compliance is checked by the tests of 13.2 and 13.3, which are made after the appliance has been operated under the conditions specified in clause 11. Controls are adjusted to their highest setting. The appliance is operated until the leakage current has stabilized or for the time specified in 11.7, whichever is shorter.

If a grill is incorporated in the **oven**, either the **oven** or the **grill** is operated, whichever is more unfavourable.

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For **hotplates**, the tests are carried out with a vessel filled as specified in 2.2.9, placed on each **cooking zone**.

Induction hotplates are tested as **motor-operated appliances**.

13.2 Addition:

If there is earthed metal between **live parts** and the surface of glass-ceramic or similar material, each vessel is connected in turn to the earthed metal. The leakage current shall not exceed the relevant value specified for **class I appliances**.

If there is no earthed metal between **live parts** and the surface of glass-ceramic or similar material, the leakage current is measured between **live parts** and each of the vessels in turn, and shall not exceed 0,25 mA.

For **induction hotplates**, the leakage current is measured between **live parts** and each vessel in turn using the circuit shown in figure 104. It shall not exceed 0,7 mA (peak) multiplied by the operating frequency in kHz or 70 mA (peak), whichever is less.

13.3 Addition:

If there is earthed metal between **live parts** and the surface of glass-ceramic or similar material, the vessels are connected together and to the earthed metal. A test voltage of 1 000 V is applied between **live parts** and the vessels.

If there is no earthed metal between **live parts** and the surface of glass-ceramic or similar material, a test voltage of 3 750 V is applied between **live parts** and the vessels which are connected together.

NOTE 5 – Care has to be taken to ensure that other insulation is not overstressed.

When the **working voltage** (U) of **induction hotplates** exceeds 250 V, the following test voltages apply:

- 1 000 V is increased to $1,2 U + 700$ V;
- 2 750 V is increased to $1,2 U + 2 450$ V;
- 3 750 V is increased to $2,4 U + 3 150$ V.

NOTE 6 – U is measured between the terminals of the coil and the earth.

15 Moisture resistance

15.2 Replace the addition by:

For **ovens**, 0,5 l of water containing approximately 1 % NaCl is poured uniformly over the bottom surface of the **oven**.

Hotplates and **cookers** are positioned so that the top surface is horizontal. A vessel having the largest diameter shown in figure 102, which does not exceed the diameter of the **cooking zone**, is completely filled with water containing approximately 1 % NaCl and positioned centrally over the **cooking zone**. A further quantity of approximately 0,5 l of the solution is poured steadily into the vessel over a period of 15 s.

The test is made for each **cooking zone** separately, after removing any residual solution from the appliance.

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If the heating element of a **hotplate** incorporates a thermal control, 0,02 l of the saline solution is poured over the **cooking zone** so that it flows over the control. A vessel is then placed on the **cooking zone** to depress any movable part.

For other appliances where a vessel is placed over heating elements in normal use, the spillage test is carried out by steadily pouring water on the heating surface over a period of 1 min. The water contains approximately 1 % NaCl, the quantity being equal to 0,1 l per 100 cm² of the heating surface.

The spillage test is not made on **roasters**.

16 Leakage current and electric strength

Replace the text by:

This clause of part 1 is applicable except as follows:

16.1 Addition:

For **hotplates**, the tests are carried out with a vessel filled as specified in 2.2.9, placed on each **cooking zone**.

Induction hotplates are tested as **motor-operated appliances**.

16.2 Addition:

If there is earthed metal between **live parts** and the surface of glass-ceramic or similar material, each vessel is connected in turn to the earthed metal. The leakage current shall not exceed the relevant value specified for **class I appliances**.