

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

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

**Appareils électrodomestiques et analogues – Sécurité –
Partie 2-9: Règles particulières pour les grils, les grille-pain et les appareils de
cuisson mobiles analogues**



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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

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FOREWORD

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

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

FDIS	Report on voting
61/4448/FDIS	61/4501/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.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

NOTE 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.

Contents

Replace the title of Clause 3 by the following:

Terms and definitions

1 Scope

Add the following two dashes to Note 101:

- candy floss appliances;
- induction wok hotplates.

2 Normative references

Add the following:

IEC 60584-1, *Thermocouples – Part 1: Reference tables*

3 Definitions

Replace the title of Clause 3 but not the clause number, by the following:

Terms and definitions

3.1.9.108 Add the following text as a new third paragraph:

Induction wok hotplates are operated with a wok pan supplied by the manufacturer with the **induction wok hotplate** at the point of sale.

Add the following new subclause:

3.1.9.113 Candy floss appliances are operated without ingredients.

Add the following new definitions:

3.121

induction wok hotplate

induction hotplate with a surface of an approximate spherical shape to accept a wok that is supplied with the appliance at the point of sale

3.122

candy floss appliance

appliance comprised of a heater and a spinning head intended for preparing candy floss

3.123

hot functional surface

surface that is intentionally heated by an internal heat source and that has to be hot to carry out the intended function of the appliance

7 Marking and instructions

7.1 In the addition, replace the third paragraph by the following:

If appliances have **accessible surfaces**, for which temperature rise limits are specified in Table 102 and for which the provisions of footnote b to Table 102 apply, then the appliance shall be marked with symbol IEC 60417-5041 (2002-10), the rules of ISO 3864-1 applying except for the specified colours, or with the substance of the following:

CAUTION: Hot surfaces

7.12 Delete the fourth paragraph in the addition.

Replace the fifth paragraph in the addition by the following:

If symbol IEC 60417-5041 (2002-10) is marked on appliances, its meaning shall be explained.

Add the following after the paragraph starting with: "The instructions for **breadmakers**"

The instructions for **candy floss appliances** shall state the maximum quantities of sugar and other ingredients that may be used.

7.14 Replace 12 mm by 20 mm.

7.15 *Replace the addition with the following:*

The marking specified for hot surfaces shall be visible when the appliance is operated as in normal use, including when actuating any switch, adjusting any control or opening a lid or door. It shall not be placed on a **hot functional surface**.

11 Heating

11.1 *Add the following to the addition:*

*Compliance for **ovens, rotary grills and cookers** is also checked by the test of 11.102.*

*Compliance for **contact grills, waffle irons, radiant grills, raclette grills, barbecues, candy floss appliances and hot plates**, is also checked by the test of 11.103.*

*Compliance for **breadmakers, pop-corn makers, and food dehydrators** is also checked by the test of 11.104.*

*Compliance for **roasters** is also checked by the test of 11.105.*

11.3 *Add the following to the addition, after Note 101:*

For flat surfaces, temperature rises are measured using the probe of Figure 105. The probe is applied with a force of $4\text{ N} \pm 1\text{ N}$ to the surface in such a way that the best possible contact between the probe and the surface is ensured.

NOTE 102 The probe can be held in place using a laboratory stand clamp or similar device.

NOTE 103 Any measuring instrument giving the same results as the probe can be used.

11.4 *Add the following to the addition as a new first paragraph:*

Breadmakers are operated as specified for **combined appliances**.

11.7 *Add the following text immediately before NOTE 101:*

Candy floss appliances are operated until steady conditions are established.

11.8 *Add the following text to the addition:*

The temperature rise limits for touch controls also include all surfaces within 5 mm of the touch controls, regardless of their shape.

Add the following table:

Table 102 – Temperature rises for external surfaces

Surface^a	Temperature rise of external surfaces K^b
Bare metal	45
Coated metal ^e	55
Glass and ceramic	60
Plastic and plastic coating > 0,4 mm ^{c, d}	65

^a The following surfaces or elements shall not be taken into consideration:

- hot functional surfaces;
- handles or control knobs including keypads, keyboards and the like: part of the equipment that a user needs to touch to operate or adjust the equipment. The equipment has to be installed according to the manufacturer's instructions;
- surfaces within 5 mm of touch controls regardless of their shape.

^b When the required values are not met, the maximum temperature rise shall not be higher than two times the values indicated.

^c The temperature rise limit of plastic also applies for plastic material having a metal finish of thickness less than 0,1 mm.

^d When the thickness of the plastic coating does not exceed 0,4 mm, the temperature rise limits of the coated metal or of glass and ceramic material apply.

^e Metal is considered coated when a coating having a minimum thickness of 90 µm made by enamel, powder or non-substantially plastic coating is used.

11.101 Replace the text by the following:

Toasters are placed as specified in 11.2 and are operated for three cycles at **rated power** under **normal operation**.

During the test, the temperature rise of surfaces shall not exceed the values specified in Table 102.

Temperature rises are not measured on:

- the top side of top loaded appliances and surfaces within 25 mm below the top surface;
- surfaces within 25 mm around the outline of the **hot functional surface**;
- surfaces within 25 mm from the ventilation openings;
- underside surfaces that are not accessible with test probe 41 of IEC 61032, the probe being applied with a force not exceeding 1 N.

Add the following new subclauses:

11.102 Ovens, rotary grills and cookers are placed as specified in 11.2 and are supplied at **rated power input** and operated under **normal operation**.

All **heating units** that can be energised simultaneously during normal use are switched on.

Ovens are operated without shelves or other accessories.

Temperature rises are not measured on the following surfaces (see Figure 106):

- surfaces on the oven door within 10 mm from the edge of the door (Zone 1);
- surfaces around the oven door within 10 mm from the left, right or lower edge of the door, or 25 mm from the upper edge of the door (Zone 2);
- surfaces within 25 mm of vents (Zone 3);

- underside surfaces that are not accessible with test probe 41 of IEC 61032, the probe being applied with a force not exceeding 1 N;
- the rear surface of appliances which, according to the instructions, shall be placed against a wall;
- surfaces within 25 mm from the level of the top surface of **cookers** when the **hotplates** are in operation.

Appliances are operated until steady conditions are established or for 60 min, whichever is shorter.

During the test, the temperature rise of surfaces shall not exceed the values specified in Table 102.

Ovens having settings higher than 240 °C are also operated at the maximum setting until steady conditions are established or for 60 min, whichever is shorter. The temperature rise limits of Table 102 for top surfaces and door surfaces are increased by 10 K.

11.103 Contact grills, waffle irons, radiant grills, raclette grills, barbecues, candy floss appliances and hot plates are placed as specified in 11.2 and are supplied at **rated power input** and operated under **normal operation**.

During the test, the temperature rise of surfaces shall not exceed the values specified in Table 102.

Temperature rises are not measured on

- surfaces within 25 mm around the outline of the **hot functional surface**;
- surfaces within 25 mm from the ventilation openings;
- underside surfaces that are not accessible with test probe 41 of IEC 61032, the probe being applied with a force not exceeding 1 N;
- the lid of **contact grills**, if any, used to prevent splashing.

11.104 Breadmakers, pop-corn makers and food dehydrators are placed as specified in 11.2 and are supplied at **rated power input** and operated under **normal operation**.

During the test, the temperature rise of surfaces shall not exceed the values specified in Table 102.

Temperature rises are not measured on

- surfaces within 25 mm from the edge of the lid;
- surfaces within 25 mm from the ventilation openings;
- windows and surfaces within 25 mm from the edge of the window;
- underside surfaces that are not accessible with test probe 41 of IEC 61032, the probe being applied with a force not exceeding 1 N.

11.105 Roasters are placed as specified in 11.2 and are supplied at **rated power input** and operated under **normal operation**.

During the test, the temperature rise of surfaces shall not exceed the values specified in Table 102.

Temperature rises are not measured on:

- the lids;
- surfaces within 25 mm from the edge of the lid;

- surfaces within 25 mm from the ventilation openings;
- underside surfaces that are not accessible with probe 41 of IEC 61032, the probe being applied with a force not exceeding 1 N.

13 Leakage current and electrical strength at operating temperature

13.1 Add the following text to the addition:

Induction wok hotplates are operated with the wok pan that is supplied by the manufacturer with the **induction wok hotplate** at the point of sale.

15 Moisture resistance

15.2 Add the following at the end of the second paragraph of the addition.

For **induction wok hotplates**, the test is performed using the wok pan that is supplied by the manufacturer with the **induction wok hotplate** at the point of sale.

16 Leakage current and electrical strength

16.1 Add the following text to the addition:

Induction wok hotplates are operated with the wok pan that is supplied by the manufacturer with the **induction wok hotplate** at the point of sale.

19 Abnormal operation

19.1 Add the following to the third paragraph of the addition.

However, **induction wok hotplates** are not subjected to the test of 19.104.

19.2 Add the following text to the addition:

Induction wok hotplates are operated with an empty wok pan that is supplied by the manufacturer with the **induction wok hotplate** at the point of sale.

21 Mechanical strength

21.101 Add the following as a new third paragraph to the test specification:

Induction wok hotplates are tested with a wok pan that is supplied by the manufacturer with the **induction wok hotplate** at the point of sale. The wok pan is filled with sand or shot so that the total mass, including the mass of the wok pan, is equal to $1,8 \text{ kg} \pm 0,01 \text{ kg}$.

22 Construction

22.101 Add the following sentence to the requirement:

Hotplates shall not incorporate a timer that is intended to delay the operation of a heating element.

22.113 Replace the requirement by the following:

Toasters having an ejector mechanism shall be constructed so that they switch off automatically after the normal toasting time even if the ejector mechanism is blocked by the bread.

Add the following new subclauses:

22.114 Heating elements in **candy floss appliances** shall be located so that they are not exposed to sugar during normal use of the appliance.

Compliance is checked by the following test.

*The maximum amount of sugar specified in instructions is scattered onto the most unfavourable places of the upper surface of the **candy floss appliance**. The sugar shall not contact the heating elements.*

22.115 For appliances incorporating a **hotplate** with at least one **heating unit** controlled by an **electronic circuit**, safety shall not be impaired in the event of a fault in the **electronic circuit**.

Compliance is checked by the following test:

*The appliance is operated under the conditions specified in Clause 11 but supplied at **rated voltage**.*

*The fault conditions in a) to g) of 19.11.2 are applied one at a time to the **electronic circuit** controlling the duty cycle of each **hotplate heating unit** in turn. If relays are used to energize the **heating unit**, the relays are rendered inoperative one at a time in addition.*

*The control setting shall not change to a higher setting for longer than 2 min. However, for **induction hotplates** a change to a higher setting is allowed provided the oil temperature does not exceed 270 K.*

The software used to comply with the requirement shall contain measures to control the fault/error conditions specified in Table R.1 and is evaluated in accordance with the relevant requirements of Annex R.

30 Resistance to heat and fire

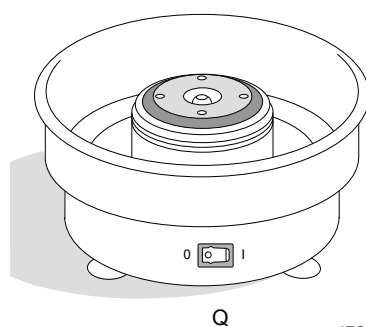
30.2 *In the third dashed item of the addition add the following:*

- **hotplates**

Figures

Figure 101 – Examples of appliances

Add the following new subfigure:



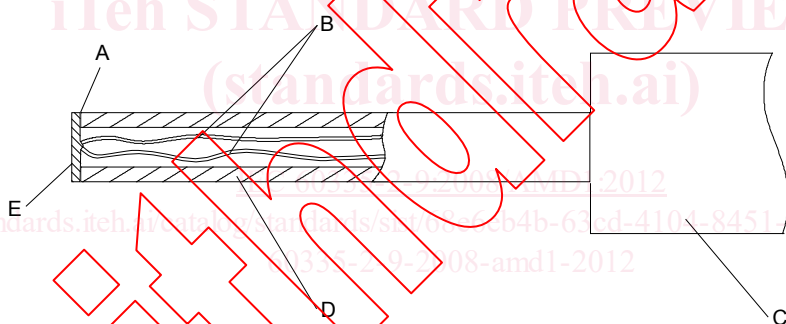
Q

IEC 2110/12

Add the following to the key:

Q Candy floss appliance

Add the following new figures:



IEC 807/02

Key

- A adhesive
- B thermocouple wires 0,3 mm diameter to IEC 60584-1 Type K (chrome alumel)
- C handle arrangement permitting a contact force of $4\text{ N} \pm 1\text{ N}$
- D polycarbonate tube: inside diameter 3 mm, outside diameter 5 mm
- E tinned copper disc: 5 mm diameter, 0,5 mm thick

Figure 105 – Probe for measuring surface temperatures