

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

AMENDMENT 1  
AMENDEMENT 1

Household and similar electrical appliances – Safety –  
Part 2-99: Particular requirements for commercial electric hoods  
(standards.iteh.ai)

Appareils électrodomestiques et analogues – Sécurité –  
Partie 2-99: Règles particulières pour les hottes de cuisine électriques à usage  
commercial  
<https://standards.iteh.ai/catalog/standards/sist/9ccd00a6-c01a-44c6-bcc7-1ca937a98a07/iec-60335-2-99-2003-amd1-2017>





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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
61/5366/FDIS	61/5394/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 website 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- withdrawn,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.

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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.

## 1 Scope

*Add the following at the end of the first paragraph:*

The following extraction systems are covered as well:

- back draft ventilation systems;
- downdraft ventilation systems;
- fume extraction modules.

*Add, in the second paragraph, the words, "and similar", after the words, ".....not intended for household", to read:*

"...not intended for household and similar use,...".

*Replace Note101 by the following:*

NOTE 101 **Hoods** are used for example in kitchens of restaurants, canteens, hospitals and in commercial enterprises such as bakeries, butcheries, etc.

*In Note 102, add the following dashed item:*

- for **hoods** incorporating a filter system with means for ionizing the air, IEC 60335-2-65 also applies.

## 2 Normative references

*Replace the existing text by the following:*

This clause of Part 1 is applicable except as follows.

*Addition:*

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, *Mechanical properties of corrosion-resistant stainless steel fasteners – Part 1: Bolts, screws and studs*

ISO 3506-2, *Mechanical properties of corrosion-resistant stainless steel fasteners – Part 2: Nuts*

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*

<https://standards.iteh.ai/catalog/standards/sist/9eed06a8-c6fa-44eb-8ee7-1ca937a98a07/iec-60335-2-99-2003-amd1-2017>

## 3 Definitions

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

### Terms and definitions

**3.101** *Replace the term definition and notes as follows:*

**motor-operated appliance** intended to collect and remove contaminated air from catering appliances

Note 1 to entry: The contaminated air may pass through filter systems and be discharged back into the room or removed from the room.

## 7 Marking and instructions

**7.6** *Delete this subclause.*

**7.12** *Replace the last paragraph of the addition by the following:*

The instructions shall include the substance of the following:

These appliances are intended to be used for commercial applications, for example in kitchens of restaurants, canteens, hospitals and in commercial enterprises such as bakeries, butcheries, etc., but not for continuous mass production of food.

If the manufacturer wants to limit the use of the appliance to less than the above, this has to be clearly stated in the instructions.

*Modification:*

The instructions concerning persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge and children playing with the appliance are not applicable.

**7.12.1** Add to the last sentence of the second paragraph “or a steam cleaner”.

Add the following new subclause:

**7.12.9** Not applicable.

## 11 Heating

**11.2** Replace the text as follows:

**11.2** Replacement:

**Hoods** are operated in accordance with the manufacturer’s instructions.

**Hoods** intended to be placed above a hob are installed so that the distance between their lowest point and the hob surface is the minimum distance specified in the instructions for installation. The hob selected for the test shall have uniformly arranged gas burners with a total heat input equal to  $30 \text{ kW/m}^2$  of the gross area (width times depth) of the **hood**. Vessels containing water are placed without lids on the gas burners, which are operated to maintain boiling. The diameters or sizes of the vessels are approximately equal to that of the cooking zones.

Other **hoods** are operated in the most severe conditions according to the manufacturer’s instructions.

**Hoods** intended to be used in combination with other appliances are tested in combination with the other appliance in **normal operation**. **Hoods** that are not interlocked with the appliance are also tested with the appliance in operation and the fan switched off.

**Hoods** are placed in a test corner as follows:

- **hoods** normally fixed to a wall are fixed to one of the walls, as near to the other wall and floor or ceiling as is likely to occur, taking into account the instructions;
- **hoods** normally fixed to a ceiling are fixed to the ceiling as near to the walls as is likely to occur, taking into account the instructions;
- other **hoods** are placed as near to the walls as possible.

Dull black-painted plywood approximately 20 mm thick is used for the test corner.

**Hoods** intended to be used in combination with other appliances are placed as required for the appliance.

## 13 Leakage current and electric strength at operating temperature

**13.2** Replace the text of the modification by the following:

Instead of the permissible leakage current for **stationary class I appliances**, the following applies:

- for cord and plug connected appliances 0,75 mA or 1 mA per kW **rated power input** of the appliance with a maximum of 10 mA, whichever is higher.
- for other appliances 0,75 mA or 1 mA per kW **rated power input** of the appliance with no maximum, whichever is higher.

For **portable class I appliances**, instead of the permissible leakage current, the following applies:

- for cord and plug connected appliances 0,75 mA or 1 mA per kW **rated power input** of the appliance with a maximum of 10 mA, whichever is higher.

## 15 Moisture resistance

Delete Subclause 15.3 and replace the text by the following:

This clause of Part 1 is applicable.

## 16 Leakage current and electric strength

16.2 Replace the text of the modification by the following

Instead of the permissible leakage current for **stationary class I appliances**, the following applies:

- for cord and plug connected appliances 0,75 mA or 1 mA per kW **rated power input** of the appliance with a maximum of 10 mA, whichever is higher;
- for other appliances 0,75 mA or 1 mA per kW **rated power input** of the appliance with no maximum, whichever is higher.

For **portable class I appliances**, instead of the permissible leakage current, the following applies:

- for cord and plug connected appliances 0,75 mA or 1 mA per kW **rated power input** of the appliance with a maximum of 10 mA, whichever is higher.

## 19 Abnormal operation

19.101 Replace the existing text as follows:

**Hoods** intended to be placed above a hob are operated as specified in 11.2, but without vessels and with all gas burners switched on.

## 20 Stability and mechanical hazards

Add the following new subclause:

20.1 Addition:



**Portable hoods** provided with wheels are placed in the most unfavourable position against an edge with a height equal to the radius of the wheels plus 10 mm. If the wheels differ in size, that edge height that is the most unfavourable is chosen.

A force equal to 8 % of the mass of the fully equipped appliance is applied horizontally to the middle of the top edge of the appliance but not higher than 900 mm, in the most unfavourable direction.

The appliance shall not tilt.

## 22 Construction

22.8 Delete Note 101.

22.102 Replace the existing text by the following:

For three-phase appliances, **thermal cut-outs** protecting motors the unexpected starting of which may cause a hazard shall be of the non-self-resetting and trip-free type, and shall provide **all-pole disconnection** from related supply circuits.

For single-phase appliances, **thermal cut-outs** protecting motors the unexpected starting of which may cause a hazard shall be of the non-self-resetting and trip-free type, and shall provide at least one-pole disconnection.

If the **non-self-resetting thermal cut-out** is only accessible after removing parts with the aid of a **tool**, the trip-free type is not required.

NOTE **Thermal cut-outs** of the trip-free type have an automatic action, with a reset actuating member, so constructed that the automatic action is independent of manipulation or position of the reset mechanism.

Compliance is checked by inspection and by manual test.

22.105 Replace the existing text by the following:

**Hoods** shall be constructed so that parts liable to accumulate deposits of grease, including parts located behind a filter, can be cleaned.

Compliance is checked by inspection.

22.106 Delete this subclause.

## 25 Supply connection and external flexible cords

25.7 Replace the existing text as follows:

25.7 Addition:

**Supply cords** shall be oil-resistant, sheathed cords. Their properties shall be at least those of ordinary polychloroprene sheathed cords (code designation 60245 IEC 57).

## 28 Screws and connections

Replace the existing text by the following:



This clause of Part 1 is applicable except as follows.

**28.1 Addition:**

Screws made of carbon steel and alloy steel shall be made in accordance with ISO 898-1.

Screws made of corrosion-resistant stainless-steel shall be made in accordance with ISO 3506-1, or ISO 3506-2, or ISO 3506-3, or ISO 3506-4.

**28.4 Addition:**

Screws that make mechanical connections and electrical connections shall be so designed that the contact pressure does not change appreciably through loosening of the screwed assembly parts during operational stress and contact corrosion.

Screws that make mechanical connections and provide earthing continuity shall be so designed that the contact pressure does not change appreciably through loosening of the screwed assembly parts due to operational stress and contact corrosion. They shall be designed so that a minimum contact pressure remains.

*Compliance is checked by inspection and by measuring the assembling torques for screwed connections providing earthing continuity by applying a torque as specified in Table 102 to turn the screw in the fastening direction. The screw shall not turn.*

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*The screw shall not have been unfastened prior to performing this test.*

**Table 102 – Assembling torques for screwed connections providing earthing continuity**

IEC 60335-2-99:2003/AMD1:2017  
<https://standards.iteh.ai/catalog/standards/iec-60335-2-99-2003-amd1-2017>

Outer thread diameter of the screw mm	Assembling torque Nm	
	Screwed connections for the mechanical strength of the screws A2-70 according to ISO 3506-1, or ISO 3506-2, or ISO 3506-3, or ISO 3506-4 and 5.8 according to ISO 898-1	Screwed connections for the mechanical strength of the screws > 8.8 according to ISO 898-1
> 2,8 and ≤ 3,6	0,8	1,3
> 3,6 and ≤ 4,2	1,9	3,0
> 4,2 and ≤ 5,3	3,7	6,0
> 5,3 and ≤ 6,3	6,5	10,0
M 8	15,0	25,0
M 10	31,0	50,0

**30 Resistance to heat and fire**

**30.1** Replace the text of the addition by the following:

*The ball pressure test is carried out on the exposed parts of the appliance at a temperature of at least 105 °C ± 2 °C.*

**30.2.1** Replace the text of the modification by the following:

*The glow-wire test is carried out at 650 °C. The glow-wire flammability index (GWFI) according to IEC 60695-2-12 shall be at least 650 °C.*

Add the following new Annex P:

## Annex P (informative)

### Guidance for the application of this standard to appliances used in tropical climates

#### 13 Leakage current and electric strength at operating temperature

##### 13.2 Modification:

Instead of the permissible leakage current for **stationary class I appliances**, the following applies:

- for cord and plug connected appliances      0,5 mA or 0,5 mA per kW **rated power input** of the appliance with a maximum of 5 mA, whichever is higher;
- for other appliances                                      0,5 mA or 0,5 mA per kW **rated power input** of the appliance with no maximum, whichever is higher.

For **portable class I appliances**, instead of the permissible leakage current, the following applies:

- for cord and plug connected appliances      0,5 mA or 0,5 mA per kW **rated power input** of the appliance with a maximum of 5 mA, whichever is higher.

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#### 16 Leakage current and electric strength

##### 16.2 Modification:

Instead of the permissible leakage current for **stationary class I appliances**, the following applies:

- for cord and plug connected appliances      0,5 mA or 0,5 mA per kW **rated power input** of the appliance with a maximum of 5 mA, whichever is higher;
- for other appliances                                      0,5 mA or 0,5 mA per kW **rated power input** of the appliance with no maximum, whichever is higher.

For **portable class I appliances**, instead of the permissible leakage current, the following applies:

- for cord and plug connected appliances      0,5 mA or 0,5 mA per kW **rated power input** of the appliance with a maximum of 5 mA, whichever is higher.

## Bibliography

*Add the following reference to the addition:*

IEC 60335-2-65, *Household and similar electrical appliances – Safety – Part 2-65: Particular requirements for air-cleaning appliances*

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