

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Household and similar electrical appliances – Safety –
Part 2-30: Particular requirements for room heaters

Appareils électrodomestiques et analogues – Sécurité –
Partie 2-30: Exigences particulières pour les appareils de chauffage des locaux



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IEC 60335-2-30

Edition 5.0 2009-11

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

U

ICS 13.120; 97.100.10

ISBN 978-2-83220-357-6

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2-30: Particular requirements for room heaters**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60335-2-30 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This fifth edition cancels and replaces the fourth edition published in 2002, its Amendment 1 (2004) and Amendment 2 (2007). It constitutes a technical revision.

The principal changes in this edition as compared with the fourth edition of IEC 60335-2-30 are as follows (minor changes are not listed):

- some additional instructions are introduced for heaters without a built-in thermostat, or those installed in the floor or in a bathroom (7.12 and 7.12.1);
- a spillage test is introduced for appliances having a grille and that are built into the floor (15.2).

This bilingual version (2012-09) corresponds to the monolingual English version, published in 2009-11.

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

FDIS	Report on voting
61/3910/FDIS	61/3957/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.

The French version of this standard has not been voted upon.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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 fourth edition (2001) of that standard.

NOTE 1 When "Part 1" is mentioned in this standard, it refers to IEC 60335-1.

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Safety requirements for room heaters.

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 in Part 1 is to be adapted accordingly.

NOTE 2 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause; [IEC 60335-2-30:2009](https://standards.iteh.ai/catalog/standards/sist/76df4e59-b457-4c91-b54a-fc795a77f821/iec-60335-2-30-2009)
- additional annexes are lettered AA, BB, etc.

NOTE 3 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 3. When a definition concerns an adjective, the adjective and the associated noun are also in bold.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the maintenance result 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 4 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.

The following differences exist in the countries indicated below.

- 3.105: The immediate surround of a fireguard is extended to 50 mm (Austria, Germany and United Kingdom).
- 7.1: All heaters, except those for mounting at high level, are to be marked with a warning against covering (Norway).
- 7.1: All heaters, except those for permanent connection to fixed wiring, are to be marked with the minimum distances to combustible surfaces (Norway).
- 7.1: Appliances are not required to be marked "Do not cover" (USA).
- 7.12: Some of the instructions specified are to be marked on the heater (Norway and USA).
- Clause 11: The test methods are different (USA).
- 11.8: For other metal surfaces accessible to the test rod, the limit is 95 K (Australia).
- 11.8: For all fixed heaters, other than those for mounting at high level, the limit is 115 K for metallic air-outlet grilles and their surrounds (France).
- 11.8: For heaters used in hygiene rooms of dwellings, nurseries or after-school centres, the temperatures of surfaces accessible to test probe B of IEC 61032 are not to exceed 60 °C (Sweden).
- Clause 19: The tests are different (Canada and USA).
- 19.103: Visibly glowing radiant heaters, other than those for mounting at high level, have to withstand the test of this subclause (Sweden).
- 20.1: The test is different (USA).
- 22.7: The test is different (USA).
- 22.24: The test is different (USA).
- 22.101: The requirement is different (Canada and USA).
- 22.102: The requirement is different (Canada and USA).
- 22.103: The requirement is different (Canada and USA).
- 22.105: The requirement is different (USA).
- 22.108: The requirement is different (USA).
- 24.1.3: The number of cycles of operation is 6 000 (USA).
- 24.1.4: Thermal cut-outs that protect heating elements against overheating, incorporated in fan heaters and in stationary heaters intended to be mounted on or near to a wall, other than those for mounting at high level, are to be of the non-self-resetting type (Sweden).
- 25.3: Fixed appliances are to be appliances intended to be permanently connected to fixed wiring (France).

A list of all parts of the IEC 60335 series, under the general title: *Household and similar electrical appliances – Safety*, can be found on the IEC website.

The contents of the corrigendum of November 2014 have been included in this copy.

INTRODUCTION

It has been assumed in the drafting of this International Standard that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. It also covers abnormal situations that can be expected in practice and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

This standard takes into account the requirements of IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

If an appliance within the scope of this standard also incorporates functions that are covered by another part 2 of IEC 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

When a part 2 standard does not include additional requirements to cover hazards dealt with in Part 1, Part 1 applies.

NOTE 1 This means that the technical committees responsible for the part 2 standards have determined that it is not necessary to specify particular requirements for the appliance in question over and above the general requirements.

This standard is a product family standard dealing with the safety of appliances and takes precedence over horizontal and generic standards covering the same subject.

[IEC 60335-2-30:2009](https://standards.iteh.ai/catalog/standards/sist/76df1e59-b457-4c91-b54a-f3195c77821d/iec-60335-2-30-2009)

NOTE 2 Horizontal and generic standards covering a hazard are not applicable since they have been taken into consideration when developing the general and particular requirements for the IEC 60335 series of standards. For example, in the case of temperature requirements for surfaces on many appliances, generic standards, such as ISO 13732-1 for hot surfaces, are not applicable in addition to Part 1 or part 2 standards.

An appliance that complies with the text of this standard will not necessarily be considered to comply with the safety principles of the standard if, when examined and tested, it is found to have other features that impair the level of safety covered by these requirements.

An appliance employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-30: Particular requirements for room heaters

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric room heaters for household and similar purposes, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

NOTE 101 Examples of appliances that are within the scope of this standard are

- convector heaters;
- **fan heaters**;
- heaters for use in greenhouses;
- liquid-filled radiators;
- panel heaters;
- radiant heaters;
- tubular heaters;
- **ceiling mounted heat lamp appliances**.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

For extraction fans of **ceiling mounted heat lamp appliances**, IEC 60335-2-80 is applicable as far as is reasonable.

<https://standards.iteh.ai/catalog/standards/sist/76df4e59-b457-4c91-b54a-fc795a77f821/iec-60335-2-30-2009>

Appliances not intended for normal household use but which nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in the shops, in light industry and on farms, are within the scope of this standard.

As far as is practicable, this standard deals with the common hazards presented by appliances which are encountered by all persons in and around the home. However, in general, it does not take into account

- persons (including children) whose
 - physical, sensory or mental capabilities; or
 - lack of experience and knowledgeprevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance.

NOTE 102 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;
- in many countries, additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour and similar authorities;
- for appliances intended to be used in the presence of combustible dust, for example in barns or stables, additional requirements may be necessary.

NOTE 103 This standard does not apply to

- appliances intended exclusively for industrial purposes;
- appliances intended to be used where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- heaters that are built into air conditioners (IEC 60335-2-40);
- clothes dryers and towel rails (IEC 60335-2-43);
- heaters for saunas (IEC 60335-2-53);
- thermal-storage room heaters (IEC 60335-2-61);
- heating appliances for breeding and rearing animals (IEC 60335-2-71);
- foot warmers and heating mats (IEC 60335-2-81);
- flexible sheet heating elements for room heating (IEC 60335-2-96);
- heated carpets;
- central heating systems;
- heating cables (IEC 60800).

2 Normative references

This clause of Part 1 is applicable except as follows.

Addition:

IEC 60335-2-5:2002, *Household and similar electrical appliances – Safety – Part 2-5: Particular requirements for dishwashers*
Amendment 1 (2005)
Amendment 2 (2008)¹⁾

IEC 60335-2-43, *Household and similar electrical appliances – Safety – Part 2-43: Particular requirements for clothes dryers and towel rails*

IEC 60335-2-80, *Household and similar electrical appliances – Safety – Part 2-80: Particular requirements for fans*

ISO 2758, *Paper – Determination of bursting strength*

ISO 3864-1, *Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs in workplaces and public areas*

3 Definitions

This clause of Part 1 is applicable except as follows.

3.101

visibly glowing radiant heater

heater incorporating at least one **visibly glowing heating element**

3.102

fan heater

heater in which the movement of the air over the heating element is assisted by a fan

3.103

heater for mounting at high level

heater intended to be fixed at a height of at least 1,8 m above the floor

¹⁾ There exists a consolidated edition 5.2 (2008) that includes edition 5 and its Amendments 1 and 2.

3.104**fireguard**

that part of the enclosure of a **visibly glowing radiant heater** through which the heating element is normally visible and which is intended to guard against direct access to the heating element

3.105**immediate surround**

any surface within 25 mm of the boundary of an air-outlet grille or within 50 mm of the boundary of a **fireguard**

NOTE Details of the way in which this distance is determined are shown in Figure 101 for air-outlet grilles and Figure 102 for **fireguards**.

3.106**ceiling mounted heat lamp appliance**

heater for recessed mounting at high level into a ceiling and incorporating one or more heat lamps

It may also incorporate an extraction fan and an illumination lamp. The fan may be installed separately in ducting or may be an integral part of the heater.

NOTE The heat lamp is not considered to be a **visibly glowing heating element**.

4 General requirement

This clause of Part 1 is applicable.

5 General conditions for the tests

This clause of Part 1 is applicable except as follows.

5.2 Addition:

NOTE 101 If heaters are intended to be installed adjacent to each other, a sufficient number are required in order to determine the effects of adjacent heaters on the appliance under test.

5.3 Addition:

The appliance that is used for the tests of Clause 19 is also used for the test of 22.24. The test of 22.24 is carried out after the tests of Clause 29 if it is carried out on the same appliance.

5.6 Addition:

Thermostats sensitive to the room air temperature, such as those having a sensing element located in the air inlet, are short-circuited. However, if the **thermostat** can be set so that it does not cycle, it is not short-circuited.

NOTE 101 For electronic controls, it may be necessary to render the sensing element inoperative instead of short-circuiting the **thermostat**.

5.10 Addition:

Heaters intended to be installed adjacent to each other are installed in accordance with the instructions.

5.101 *Heaters intended to be used as both **portable appliances** and **fixed appliances** are subjected to the tests applicable to both types of appliances.*

5.102 *If the heater is a combination of two or more types, it is subjected to the tests relevant for each type, unless the tests for one type cover the other.*

*Heaters for wall-mounting are tested both as **heaters for mounting at high level** and as heaters for mounting other than at high level, unless the installation instructions state that the heater has to be installed at least 1,8 m above the floor.*

6 Classification

This clause of Part 1 is applicable except as follows.

6.2 Addition:

Heaters intended for use in greenhouses or building sites shall be at least IPX4.

7 Marking and instructions

This clause of Part I is applicable except as follows.

7.1 Addition:

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Heaters intended to be filled with liquid by the user shall be marked with the maximum and minimum liquid levels.

[IEC 60335-2-30:2009](https://standards.iteh.ai/catalog/standards/sist/76df4e59-b457-4c91-b54a-1c1795a77482/iec-60335-2-30-2009)

Heaters shall be marked with symbol IEC 60417-5641 (2002-10) combined with the prohibition sign of ISO 3864-1, except for colours, or with the substance of the following:

WARNING: Do not cover.

This marking is not required for

- **heaters for mounting at high level;**
- **visibly glowing radiant heaters;**
- heaters constructed so that they cannot be covered;
- heaters also intended to dry clothes and which comply with IEC 60335-2-43;
- heaters for mounting under benches.

Heaters having a **fireguard** that is intended to be removed for transportation or storage shall be marked to state that the heater must not be operated without this guard in place.

For **ceiling mounted heat lamp appliances**, the maximum rated wattage and type of each lamp shall be marked.

7.6 Addition:



Do not cover

NOTE 101 This symbol incorporates symbol IEC 60417-5641 (2002-10) combined with the prohibition sign of ISO 3864-1, except for colours.

7.12 Addition:

If the “Do not cover” symbol is marked on the appliance, its meaning shall be explained.

The instructions for heaters marked “Do not cover” or with the “Do not cover” symbol shall contain the substance of the following:

WARNING: In order to avoid overheating, do not cover the heater.

The instructions shall state that the heater must not be located immediately below a socket-outlet.

The instructions for heaters with heating elements that are in direct contact with panels made of glass, ceramic or similar material that are **accessible parts** shall include the substance of the following warning:

WARNING: The heater must not be used if the glass panels are damaged.

NOTE 101 This warning must be modified appropriately if the panels are of ceramic or similar material.

The instructions for **visibly glowing radiant heaters**, other than **heaters for mounting at high level**, shall include the substance of the following:

Do not use this heater with a programmer, timer, separate remote-control system or any other device that switches the heater on automatically, since a fire risk exists if the heater is covered or positioned incorrectly.

The instructions for **visibly glowing radiant heaters** having a **fireguard** that can be partly removed without the aid of a **tool** shall include the substance of the following:

- the fireguard of this heater is intended to prevent direct access to heating elements and must be in place when the heater is in use;
- the fireguard does not give full protection for young children and for infirm persons.

The instructions for **portable heaters** shall include the substance of the following:

Do not use this heater in the immediate surroundings of a bath, a shower or a swimming pool.

Instructions shall be provided for cleaning the reflector of **visibly glowing radiant heaters**, if appropriate.

Instructions shall be provided for replacing the lamps of fuel-effect heaters.

The instructions for oil-filled radiators shall include the substance of the following:

- this heater is filled with a precise quantity of special oil. Repairs requiring opening of the oil container are only to be made by the manufacturer or his service agent who should be contacted if there is an oil leak;
- when scrapping the heater, follow the regulations concerning the disposal of oil.

Instructions shall be provided for routine cleaning of **ceiling mounted heat lamp appliances** including removal of covers, if applicable.

The instructions for room heaters without a built-in room thermostat or thermal control limiting the room temperature shall include the substance of the following:

WARNING: This heater is not equipped with a device to control the room temperature. Do not use this heater in small rooms when they are occupied by persons not capable of leaving the room on their own, unless constant supervision is provided.

7.12.1 Addition:

The installation instructions for heaters intended to be fixed by screws or other means shall give details on the method of fixing.

The installation instructions for **stationary visibly glowing radiant heaters** and **ceiling mounted heat lamp appliances** shall warn about the possible danger of installation close to curtains and other combustible materials.

The installation instructions for **heaters for mounting at high level** shall state that the heater must be installed at least 1,8 m above the floor.

The installation instructions for **fixed heaters** likely to be used in a bathroom shall state that the heater is to be installed so that switches and other controls cannot be touched by a person in the bath or shower. This instruction is not necessary if the heater is at least IPX4.

If rollers or feet are supplied separately with the heater, the installation instructions shall state how they have to be fixed to the heater.

The installation instructions for heaters intended to be installed in wardrobes or ceilings shall give details for proper installation in a wardrobe or in the ceiling.

The installation instructions for **ceiling mounted heat lamp appliances** that are recessed into a ceiling space or cavity shall give details for proper installation in the ceiling and shall state the substance of the following:

The appliance shall, under no circumstances, be covered with insulating material or similar material.

National regulations concerning the discharge of air have to be fulfilled.

Joists, beams and rafters shall not be cut or notched to install the appliance.

The installation instructions for heaters for mounting under church benches shall state

- that the heater is intended for installation under benches that are fixed in position;
- the minimum distance between the underside of the installed heater and the floor;
- the minimum distances of the relevant surfaces of the heaters to the front and rear edge of the underside of the bench which shall be not less than 50 mm.

The installation instructions for heaters intended to be built into the floor and that incorporate a floor level grille shall state the substance of the following:

After installation ensure that any drain holes are free from obstruction.

Ensure that any floor level grille has a mechanical strength consistent with the national building codes.

7.14 Addition:

The height of the “Do not cover” symbol shall be at least 15 mm.

The height of the words “Do not cover” shall be at least 3 mm.

The height of the words relating to the maximum rated wattage and type of heat lamp shall be at least 6 mm.

Compliance is checked by measurement.

7.15 Addition:

For **heaters for mounting at high level**, the indication of the different positions of switches shall be visible from a distance of 1 m.

The marking concerning covering shall be visible after the heater has been installed. It shall not be placed on the bottom of, or on the back of, **portable heaters**.

The marking concerning removable **fireguards** shall be visible before fitting the **fireguard**.

For **ceiling mounted heat lamp appliances**, the marking relating to the maximum rated wattage and type of heat lamp shall be visible when replacing a lamp in accordance with the instructions.

8 Protection against access to live parts

This clause of Part 1 is applicable except as follows.

8.1 Addition:

This requirement does not apply to **live parts** of screw-type or bayonet-type lampholders incorporated in **ceiling mounted heat lamp appliances** that are accessible only when the heat lamp is extracted.

8.1.1 Addition:

Detachable fireguards are not removed if their removal requires the use of a **tool**, provided that

- the instructions state that the plug must be removed from the socket-outlet before cleaning the reflector, or
- the heater incorporates a switch having a contact separation in all poles that provides full disconnection under overvoltage category III conditions.

8.1.3 Not applicable.**8.2 Addition:**

During **user maintenance** and after the removal of **detachable parts** during replacement of heat lamps, the **basic insulation** of internal wiring may be touched provided it is electrically equivalent to the insulation of cords complying with IEC 60227 or IEC 60245.

NOTE 101 Parts of **ceiling mounted heat lamp appliances** that are recessed into a ceiling space or cavity are regarded as accessible as the mounting surface does not provide adequate protection against electric shock.