AS/NZS 60335.2.30:2015
(Incorporating Amendment Nos 1 and 2)

Australian/New Zealand Standard™

Household and similar electrical appliances—Safety

Part 2.30: Particular requirements for room heaters (IEC 60335-2-30 Ed 5.1, MOD)

STANDARDS Australia

STANDARDS NEW ZEALAND
PAEREWA AOTEAROA

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-002, Safety of Household and Similar Electrical Appliances and Small Power Transformers. It was approved on behalf of the Council of Standards Australia on 27 April 2015 and by the Council of Standards New Zealand on 18 June 2015.
This Standard was published on 30 June 2015.

The following are represented on Committee EL-002:

Australian Industry Group
National Retailers Association (Australia)
Business New Zealand
Consumer Electronic Suppliers Association, Australia
Consumers' Federation of Australia
Electrical Regulatory Authorities, Australia
Electrical consultants
Engineers Australia
JAS-ANZ
Testing Interests New Zealand
WorkSafe, New Zealand
New Zealand Electric Fence Energizer Manufacturers' Standards Group

---

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.saiglobal.com or Standards New Zealand web site at www.standards.govt.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 14910.

Australian/New Zealand Standard™

Household and similar electrical appliances—Safety

Part 2.30: Particular requirements for room heaters (IEC 60335-2-30 Ed 5.1, MOD)

Originated in Australia as AS C103—1937.
Final Australian edition AS 3103—1990.
Originated in New Zealand as NZS 1999:1965.
Final New Zealand edition NZS/AS 3103:1990.
Jointly revised and redesignated AS/NZS 3103:1993.
Jointly revised and redesignated AS/NZS 3350.2.30:1997.
Jointly revised and redesignated AS/NZS 60335.2.30:2004.
Second edition AS/NZS 60335.2.30:2009.
Jointly revised and redesignated AS/NZS 60335.2.30:2015.
Reissued incorporating Amendment No. 1 (November 2015).
Reissued incorporating Amendment No. 2 (November 2017).

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, PO Box 1473, Wellington 6140.

ISBN 978 1 76035 091 8

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

AS/NZS 60335.2.30:2015

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2.30: Particular requirements for room heaters

Foreword

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-002- Safety of Household and Similar Electrical Appliances and Small Power Transformers to supersede AS/NZS 60335.2.30:2009 three years from the date of publication.

A2

The objective of this Standard is to provide manufacturers, designers, regulatory authorities, testing laboratories and similar organizations with safety requirements designed to give the user protection against hazards that might occur during normal operation and abnormal operation of the appliance and which may be used as the basis for approval for sale or for connection to the electricity supply mains in Australia and New Zealand

A1
A2

The text of IEC 60335-2-30 Ed 5, prepared by IEC Technical Committee TC 61, was submitted to the Standards Australia/Standards New Zealand Combined Procedure (dual public comment and committee vote) for adoption of the IEC standard as a Standards Australia/Standards New Zealand joint standard.

The principal changes in this edition as compared with the 2009 edition of AS/NZS 60335.2.30 and its amendments 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 Standard incorporates Amendment No. 1 (November 2015). The changes required by the amendments are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected. Where an application date other than immediate is applicable to an amendment the date of application (DOA) and the date of withdrawal (DOW) if relevant, is indicated by the marginal bar against the part affected.

A2
DOW
30/11/19

Unless otherwise indicated, the application date of AS/NZS 60335.2.30:2015 is 30 June 2018 and the application date of the changes introduced by Amendment No. 1 is 30 November 2016. Up until these dates it is anticipated that regulatory authorities will approve room heaters as follows:

– Up until 30 November 2016: AS/NZS 60335.2.30:2009 and its amendments or AS/NZS 60335.2.30:2015, or AS/NZS 60335.2.30:2015 + A1:2015;

– After 30 November 2016 and up until 30 June 2018: AS/NZS 60335.2.30:2009 and its amendments or AS/NZS 60335.2.30:2015 + A1:2015;

– After 30 June 2018: AS/NZS 60335.2.30:2015 + A1:2015.

A2
DOA
30/11/19

The text of IEC 60335-2-30 Ed 5 amendment 1, prepared by IEC Technical Committee TC 61, was submitted to the Standards Australia/Standards New Zealand Combined Procedure (dual public comment and committee vote) for adoption as an amendment to the Standards Australia/Standards New Zealand joint standard AS/NZS 60335.2.30:2015.

This Standard incorporates Amendment No. 1 (November 2015) and Amendment No. 2 (November 2017). The changes required by the amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected. Where an application date other than immediate is applicable to an amendment the date of application (DOA) and the date of withdrawal (DOW) if relevant, is indicated by the marginal bar against the part affected. Unless otherwise indicated, the application dates of the changes introduced by Amendment No. 2 is (30 November 2019).

A2 DOA 30/11/19

This standard is an adoption with national modifications of the fifth edition of IEC 60335-2-30*, Household and similar electrical appliances – Safety – Part 2-30: Particular requirements for room heaters* including its amendment 1 (2016). It has been varied as indicated to take account of Australian and New Zealand conditions.

A2 DOW 30/11/19

This Standard is an adoption with national modifications of the fifth edition of IEC 60335-2-30, *Household and similar electrical appliances – Safety – Part 2-30: Particular requirements for room heaters.* It has been varied as indicated to take account of Australian and New Zealand conditions.

This part 2 has to be used in conjunction with the latest edition of AS/NZS 60335.1 Household and similar electrical appliances – Safety – Part 1: General requirements and its Amendments. It was established on the basis of AS/NZS 60335.1:2011.

This part 2 supplements or modifies the corresponding clauses of AS/NZS 60335.1 so as to convert it into the Australian/New Zealand Standard: Safety requirements for appliances 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 of Part 1 is to be adapted accordingly.

NOTE 1 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;
– additional annexes are lettered AA, BB, etc.;
– subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letters AZ.

NOTE 2 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.

p NOTE 3 In this document, p is used in the margin to indicate instructions for preparing a consolidated version.

The essential safety requirements in AS/NZS 3820[1] that could be applicable to requirements for room heaters are covered by this standard.

A2 DOW 30/11/19

The national variations to IEC 60335-2-30 Ed 5 form the Australian and New Zealand national variations for purposes of the IECEE scheme for recognition of results of testing to standards for safety of electrical equipment (the CB scheme).

A2 DOA 30/11/19

The national variations to IEC 60335-2-30 Ed 5.1 form the Australian and New Zealand national variations for purposes of the IECEE scheme for recognition of results of testing to standards for safety of electrical equipment (the CB scheme).

[1] AS/NZS 3820 *Essential safety requirements for electrical equipment*

A2 DOW 30/11/19

The text of the International Standard IEC 60335-2-30 Ed 5 was approved as a joint Australia/New Zealand Standard with the agreed national variations as given below.

A2 DOA 30/11/19

The text of the International Standard IEC 60335-2-30 Ed 5.1 was approved as a joint Australia/New Zealand Standard with the agreed national variations as given below.

AUSTRALIAN NATIONAL VARIATIONS

The following national variations to this Part 2 are additional to those listed in the national variations of AS/NZS 60335.1:2011.

p **1** *Insert* the following variation after the existing sixth dashed item in Note 101:

– ceiling recessed radiant heaters;

Insert the following variation after the existing ninth dashed item in Note 102:

– recessed luminaires (IEC 60598-2-2);

p **3.102** *Insert* the following variation to the term definition:

NOTE 301 If a heater incorporating a fan complies with the requirements of this standard with the fan rendered inoperative it is not considered to be a **fan heater** for the purposes of this standard.

p **7.1** After the sixth paragraph *insert* the following variation:

Portable visibly glowing radiant heaters shall be marked with the substance of the following:

WARNING: FIRE RISK EXISTS IF THE HEATER IS COVERED BY OR POSITIONED CLOSE TO CURTAINS OR OTHER COMBUSTIBLE MATERIALS.

p **7.12.1** *Insert* the following variation after the ninth paragraph of the test specification.

The installation instructions for ceiling recessed radiant heaters shall give details for proper installation in the ceiling and shall state the substance of the following:

A2 DOW 30/11/19

– the minimum distance between the top of the heater and any building element above it;
– the minimum distance between the sides of the heater and any building element adjacent to it.

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

The distance between the sides of the heater and the sides and any adjacent ceiling recessed heater shall not be less than four times the minimum distance specified for the distance between the sides of the heater and any building element adjacent to it.

p **7.15** After the third paragraph *insert* the following variation:

The fire risk warning for **portable visibly glowing radiant heaters** shall be visible during normal use.

NOTE 301 This marking may be provided on a permanent durable label attached to the supply cord at a distance not exceeding 600 mm from the body of the heater.

p **8.2** *Add* the following new sentence to the addition:

Other **basic insulation** associated with the heat lamp circuits and luminaire circuits may be touched provided it complies with the requirements of this standard.

p **11.2** As a new third paragraph *insert* the following variation:

***Fixed heaters** having a **supply cord** fitted with a plug, are mounted in front of a socket-outlet, with the plug inserted unless*

- *the distance between the heater and the wall does not exceed 30mm; or*
- *the instructions state that the heater must not be located in front of a socket-outlet;*

The socket-outlet used to supply the heater during the test with the heater mounted in front of a flush mounted type socket-outlet shall be mounted in the wall of the test corner.

p As a new last paragraph *insert* the following variation:

For appliances provided with fans, means for ventilation or ducting are provided in accordance with the installation instructions.

p *Insert* the following variation after the last paragraph of the test specification.

Ceiling recessed radiant heaters are mounted in a test recess, consisting of the test corner walls and ceiling on top of which is a rectangular test box with vertical sides and horizontal top. Unless otherwise specified in the instruction, the ceiling recessed radiant heater is mounted as near as possible to the walls of the test corner.

The test corner ceiling shall extend at least 100 mm outside the projection of the test box on the ceiling. The box is made of dull black-painted plywood approximately 20 mm thick and the top of the box is tightly sealed to its sides. The ceiling of the test corner external to the box and the outside of the box is covered with insulating material having a coefficient of thermal insulation of approximately 3,2 m^2K/W.

A2
DOW
30/11/19

The position of the ceiling recessed radiant heater within the test box shall be such that the distance between the sides of the box and the sides of the ceiling recessed radiant heater is equal to the distance specified in the instructions between the sides of the ceiling recessed radiant heater and any building element adjacent to it. The height of the box shall be equal to the height of the ceiling recessed radiant heater plus the distance specified in the instructions between the top of the ceiling recessed radiant heater and any building element above it.

p **11.8** As a new paragraph to the addition *insert* the following variation*:*

*For **fixed heaters** mounted in front of a socket-outlet the temperature rise of the plug shall not exceed 45 K*

p **19.1** As a new sentence to the modification *insert* the following variation:

If relevant, 19.301 is also applicable

p **19.1** *Replace* the existing variation with the following variation

If relevant, 19.301 and 19.302 are also applicable

p **19.107** In the 1st paragraph *delete* "*having an enclosure substantially of non-metallic material"*

p **19.113** In the 1st paragraph *delete* "*having an enclosure substantially of non-metallic material"*

p As a new paragraph *insert* the following variation*:*

*If compliance with 19.13 relies on the operation of a **non-self-resetting protective device**, the time from energising the heating elements to the time that the **non-self-resetting protective device** operates is recorded for the purposes of 19.301.*

p **19.115** *Replace* the test specification with the following variation:

***Ceiling mounted heat lamp appliances** are operated as specified in Clause 11 with the highest rated wattage heat lamps fitted as allowed by the construction. The power input for the test being 1,15 times **rated power input** increased by the ratio of the highest rated wattage heat lamps that can be fitted as allowed by the construction to the rated wattage of the heat lamps marked on the appliance.*

p **19.301** After 19.115 *insert* the following variation:

19.301 *If during the test of 19.113, compliance with 19.13 relied on the operation of a* ***non-self-resetting protective device*** *the* ***fan heater*** *is further tested as follows.*

The test of 19.113 is repeated, with the ***non-self-resetting devices*** *that operated during that test short circuited.*

The time from energising of the heater elements to the time that ignition of any non-metallic part of the appliance occurs, is recorded.

The time recorded during this test shall exceed the time recorded during the test of 19.113 by not less than 10 s.

For this test, 19.13 is not applicable.

p **19.302** After 19.301 *insert* the following variation:

19.302 *Ceiling recessed radiant heaters shall be operated under the conditions of Clause 11, supplied at* ***rated voltage*** *and without the test box in position. Insulation material having a coefficient of thermal insulation of approximately 4 m^2K/W is placed in contact with all recessed surfaces of the heater. This insulation shall extend out to the existing insulation covering the test corner ceiling.*

During the test the temperature rise of

A2
DOW
30/11/19

– *wood shall not exceed 105 K;*

– *all surfaces of the thermal insulation shall not exceed 120 K;*

unless a ***thermal cut-out*** *operates before the temperature rise exceeds 150 K.*

p **21.1** *Replace* the first paragraph of the test specification with the following variation:

Compliance is also checked by the tests of 21.101, 21.102 and 21.301.

p **21.301** After 21.103 *insert* the following variation:

21.301 ***Portable fan heaters*** *are subjected to test free fall - procedure 1, of IEC 60068-2-31. The test is carried out on a new sample.*

The appliance is dropped vertically onto its base from a height of 500 mm.

After the test, the requirements of 8.1, 16.3 and 19.113 shall be met.

p **22.2** Before 22.7 *insert* the following variation:

22.2 *Addition:*

Fixed heaters that may be installed in front of a socket-outlet shall incorporate a switch complying with 24.3 or shall contain a statement in the instructions for installation that a disconnecting switch incorporated in the fixed wiring is to be provided.

p After Clause 22.110 *insert* the following variations:

22.301 Normally open switches that rely on contact with the floor to keep them in the closed position shall have a manually independent switching action.

Compliance is checked by inspection and test.

22.302 **Portable fan heaters** shall be fitted with a device that automatically disconnects heating elements from the supply when the heater is placed in any position other than in its position or positions of normal use.

Compliance is checked by inspection and manual test

p **24.301** After 24.101 *insert* the following variation:

24.301 Thermal cut-outs incorporated to comply with 19.302 shall be non-self-resetting.

Compliance is checked by inspection.

p **25.7** *Replace* the second paragraph of the requirement with the following variation:

Supply cords of heaters intended to be used on building sites shall not be lighter than heavy duty PVC-sheathed flexible cord complying with AS/NZS 3191.

p **30.1** *Delete* the addition.

p **30.2.1** After the text of the modification *insert* the following variation:

Addition:

*In **fan heaters** the non-metallic material*

A2
DOW
30/11/19

– *in the enclosure, in fan blades and in all structural elements within the enclosure;*
– *in components such as thermostats, thermal cut-outs, switches and the like that are mounted within a distance of 25 mm from a heating element;*

are subjected to the following tests.

Such parts shall withstand the glow-wire test of IEC 60695-2-11 without ignition, the test being carried out with a severity of 850 °C. However, the glow-wire test is not carried out on parts of material classified as having a glow-wire ignition temperature according to IEC 60695-2-13 of at least 875 °C.

If the glow-wire ignition temperature is not available for a sample with a thickness within ± 0,1 mm of the relevant part, then the test sample shall have a thickness equal to the nearest preferred value specified in IEC 60695-2-13 that is no thicker than the relevant part.

NOTE 301 The preferred values in IEC 60695-2-13 are 0,75 mm ± 0,1 mm, 1,5 mm ± 0,1 mm and 3,0 mm ± 0,2 mm.

p **30.101** *Replace* the requirement by the following*:*

Fan heater enclosures shall be resistant to fire.

p *Delete* the last paragraph of the test specification*.*

The following national variations to this Part 2 are additional to those listed in the national variations of AS/NZS 60335.1:2011

p **1** *Insert* the following variation after the existing sixth dashed item in Note 101:

– ceiling recessed radiant heaters;

Insert the following variation after the existing ninth dashed item in Note 103:

A2
DOA
30/11/19

– recessed luminaires (IEC 60598-2-2);

p **7.1** After the sixth paragraph *insert* the following variation:

Portable visibly glowing radiant heaters shall be marked with the substance of the following:

WARNING: FIRE RISK EXISTS IF THE HEATER IS COVERED BY OR POSITIONED CLOSE TO CURTAINS OR OTHER COMBUSTIBLE MATERIALS.

p **7.12.1** *Insert* the following variation after the ninth paragraph of the test specification.

The installation instructions for ceiling recessed radiant heaters shall give details for proper installation in the ceiling and shall state the substance of the following:

– the minimum distance between the top of the heater and any building element above it;

– the minimum distance between the sides of the heater and any building element adjacent to it.

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

The distance between the sides of the heater and the sides and any adjacent ceiling recessed heater shall not be less than four times the minimum distance specified for the distance between the sides of the heater and any building element adjacent to it.

p **7.15** After the third paragraph *insert* the following variation:

The fire risk warning for **portable visibly glowing radiant heaters** shall be visible during normal use.

NOTE 301 This marking may be provided on a permanent durable label attached to the supply cord at a distance not exceeding 600 mm from the body of the heater.

p **8.2** *Add* the following new sentence to the addition:

Other **basic insulation** associated with the heat lamp circuits and luminaire circuits may be touched provided it complies with the requirements of this standard.

p **11.2** *Insert* the following variation after the last paragraph of the test specification.

A2
DOA
30/11/19

Ceiling recessed radiant heaters are mounted in a test recess, consisting of the test corner walls and ceiling on top of which is a rectangular test box with vertical sides and horizontal top. Unless otherwise specified in the instruction, the ceiling recessed radiant heater is mounted as near as possible to the walls of the test corner.

The test corner ceiling shall extend at least 100 mm outside the projection of the test box on the ceiling. The box is made of dull black-painted plywood approximately 20 mm thick and the top of the box is tightly sealed to its sides. The ceiling of the test corner external to the box and the outside of the box is covered with insulating material having a coefficient of thermal insulation of approximately 3,2 m^2K/W.

The position of the ceiling recessed radiant heater within the test box shall be such that the distance between the sides of the box and the sides of the ceiling recessed radiant heater is equal to the distance specified in the instructions between the sides of the ceiling recessed radiant heater and any building element adjacent to it. The height of the box shall be equal to the height of the ceiling recessed radiant heater plus the distance specified in the instructions between the top of the ceiling recessed radiant heater and any building element above it.

p **19.1** As a new sentence to the modification *insert* the following variation:

If relevant, 19.301 is also applicable.

p **19.301** After 19.117 *insert* the following variation:

19.301 *Ceiling recessed radiant heaters shall be operated under the conditions of Clause 11, supplied at* ***rated voltage*** *and without the test box in position. Insulation material having a coefficient of thermal insulation of approximately 4 m^2K/W is placed in contact with all recessed surfaces of the heater. This insulation shall extend out to the existing insulation covering the test corner ceiling.*

During the test the temperature rise of

– *wood shall not exceed 105 K;*

– *all surfaces of the thermal insulation shall not exceed 120 K;*

*unless a **thermal cut-out** operates before the temperature rise exceeds 150 K.*

p After Clause 22.112 *insert* the following variation:

22.301 Portable fan heaters shall be fitted with a device that automatically disconnects heating elements from the supply when the heater is placed in any position other than in its position or positions of normal use.

Compliance is checked by inspection and manual test

p **24.301** After 24.102 *insert* the following variation:

24.301 Thermal cut-outs incorporated to comply with 19.301 shall be non-self-resetting.

Compliance is checked by inspection.

p **25.7** *Replace* the second paragraph of the requirement with the following variation:

Supply cords of heaters intended to be used on building sites shall not be lighter than heavy duty PVC-sheathed flexible cord complying with AS/NZS 3191.

A2 DOA 30/11/19

p **30.2.1** After the text of the modification *insert* the following variation:

Addition:

*In **fan heaters** the non-metallic material*

– *in the enclosure, in fan blades and in all structural elements within the enclosure;*
– *in components such as thermostats, thermal cut-outs, switches and the like that are mounted within a distance of 25 mm from a heating element;*

are subjected to the following tests.

Such parts shall withstand the glow-wire test of IEC 60695-2-11 without ignition, the test being carried out with a severity of 850 °C. However, the glow-wire test is not carried out on parts of material classified as having a glow-wire ignition temperature according to IEC 60695-2-13 of at least 875 °C.

If the glow-wire ignition temperature is not available for a sample with a thickness within ± 0,1 mm of the relevant part, then the test sample shall have a thickness equal to the nearest preferred value specified in IEC 60695-2-13 that is no thicker than the relevant part.

NOTE 301 The preferred values in IEC 60695-2-13 are 0,75 mm ± 0,1 mm, 1,5 mm ± 0,1 mm and 3,0 mm ± 0,2 mm.

NEW ZEALAND NATIONAL VARIATIONS

The following national variations to this Part 2 are additional to those listed in the national variations of AS/NZS 60335.1:2011.

p **1** *Insert* the following variation after the existing sixth dashed item in Note 101:

– ceiling recessed radiant heaters;

Insert the following variation after the existing ninth dashed item in Note 102:

– recessed luminaires (IEC 60598-2-2);

p **3.102** *Insert* the following variation to the term definition:

NOTE 301 If a heater incorporating a fan complies with the requirements of this standard with the fan rendered inoperative it is not considered to be a **fan heater** for the purposes of this standard.

p **7.1** After the sixth paragraph *insert* the following variation:

Portable visibly glowing radiant heaters shall be marked with the substance of the following:

WARNING: FIRE RISK EXISTS IF THE HEATER IS COVERED BY OR POSITIONED CLOSE TO CURTAINS OR OTHER COMBUSTIBLE MATERIALS.

p **7.12.1** *Insert* the following variation after the ninth paragraph of the test specification.

The installation instructions for ceiling recessed radiant heaters shall give details for proper installation in the ceiling and shall state the substance of the following:

A2
DOW
30/11/19

– the minimum distance between the top of the heater and any building element above it;
– the minimum distance between the sides of the heater and any building element adjacent to it.

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

The distance between the sides of the heater and the sides and any adjacent ceiling recessed heater shall not be less than four times the minimum distance specified for the distance between the sides of the heater and any building element adjacent to it.

p **7.15** After the third paragraph *insert* the following variation:

The fire risk warning for **portable visibly glowing radiant heaters** shall be visible during normal use.

NOTE 301 This marking may be provided on a permanent durable label attached to the supply cord at a distance not exceeding 600 mm from the body of the heater.

p **8.2** *Add* the following new sentence to the addition:

Other **basic insulation** associated with the heat lamp circuits and luminaire circuits may be touched provided it complies with the requirements of this standard.

p **11.2** As a new third paragraph *insert* the following variation:

***Fixed heaters** having a **supply cord** fitted with a plug, are mounted in front of a socket-outlet, with the plug inserted unless*

- *the distance between the heater and the wall does not exceed 30mm; or*
- *the instructions state that the heater must not be located in front of a socket-outlet;*

The socket-outlet used to supply the heater during the test with the heater mounted in front of a flush mounted type socket-outlet shall be mounted in the wall of the test corner.

p As a new last paragraph *insert* the following variation:

For appliances provided with fans, means for ventilation or ducting are provided in accordance with the installation instructions.

p *Insert* the following variation after the last paragraph of the test specification.

Ceiling recessed radiant heaters are mounted in a test recess, consisting of the test corner walls and ceiling on top of which is a rectangular test box with vertical sides and horizontal top. Unless otherwise specified in the instruction, the ceiling recessed radiant heater is mounted as near as possible to the walls of the test corner.

The test corner ceiling shall extend at least 100 mm outside the projection of the test box on the ceiling. The box is made of dull black-painted plywood approximately 20 mm thick and the top of the box is tightly sealed to its sides. The ceiling of the test corner external to the box and the outside of the box is covered with insulating material having a coefficient of thermal insulation of approximately 3,2 m^2K/W.

The position of the ceiling recessed radiant heater within the test box shall be such that the distance between the sides of the box and the sides of the ceiling recessed radiant heater is equal to the distance specified in the instructions between the sides of the ceiling recessed radiant heater and any building element adjacent to it. The height of the box shall be equal to the height of the ceiling recessed radiant heater plus the distance specified in the instructions between the top of the ceiling recessed radiant heater and any building element above it.

A2
DOW
30/11/19

p **11.8** As a new paragraph to the addition *insert* the following variation*:*

*For **fixed heaters** mounted in front of a socket-outlet the temperature rise of the plug shall not exceed 45 K*

p **19.1** As a new sentence to the modification *insert* the following variation:

If relevant, 19.301 is also applicable

p **19.1** *Replace* the existing variation with the following variation

If relevant, 19.301 and 19.302 are also applicable

p **19.107** In the 1st paragraph *delete* "*having an enclosure substantially of non-metallic material"*

p **19.113** In the 1st paragraph *delete* "*having an enclosure substantially of non-metallic material"*

p As a new paragraph *insert* the following variation*:*

*If compliance with 19.13 relies on the operation of a **non-self-resetting protective device**, the time from energising the heating elements to the time that the **non-self-resetting protective device** operates is recorded for the purposes of 19.301.*

p **19.115** *Replace* the test specification with the following variation:

***Ceiling mounted heat lamp appliances** are operated as specified in Clause 11 with the highest rated wattage heat lamps fitted as allowed by the construction. The power input for the test being 1,15 times **rated power input** increased by the ratio of the highest rated wattage heat lamps that can be fitted as allowed by the construction to the rated wattage of the heat lamps marked on the appliance.*

p **19.301** After 19.115 *insert* the following variation:

19.301 *If during the test of 19.113, compliance with 19.13 relied on the operation of a **non-self-resetting protective device** the **fan heater** is further tested as follows.*

*The test of 19.113 is repeated, with the **non-self-resetting devices** that operated during that test short circuited.*

The time from energising of the heater elements to the time that ignition of any non-metallic part of the appliance occurs, is recorded.

The time recorded during this test shall exceed the time recorded during the test of 19.113 by not less than 10 s.

For this test, 19.13 is not applicable.

p **19.302** After 19.301 *insert* the following variation:

19.302 *Ceiling recessed radiant heaters shall be operated under the conditions of Clause 11, supplied at **rated voltage** and without the test box in position. Insulation material having a coefficient of thermal insulation of approximately 4 m^2K/W is placed in contact with all recessed surfaces of the heater. This insulation shall extend out to the existing insulation covering the test corner ceiling.*

During the test the temperature rise of

– *wood shall not exceed 105 K;*

– *all surfaces of the thermal insulation shall not exceed 120 K;*

*unless a **thermal cut-out** operates before the temperature rise exceeds 150 K.*

A2 DOW 30/11/19

p **21.1** *Replace* the first paragraph of the test specification with the following variation:

Compliance is also checked by the tests of 21.101, 21.102 and 21.301.

p **21.301** After 21.103 *insert* the following variation:

21.301 ***Portable fan heaters** are subjected to test free fall - procedure 1, of IEC 60068-2-31. The test is carried out on a new sample.*

The appliance is dropped vertically onto its base from a height of 500 mm.

After the test, the requirements of 8.1, 16.3 and 19.113 shall be met.

p **22.2** Before 22.7 *insert* the following variation:

22.2 *Addition:*

Fixed heaters that may be installed in front of a socket-outlet shall incorporate a switch complying with 24.3 or shall contain a statement in the instructions for installation that a disconnecting switch incorporated in the fixed wiring is to be provided.

p After Clause 22.110 *insert* the following variations:

22.301 Normally open switches that rely on contact with the floor to keep them in the closed position shall have a manually independent switching action.

Compliance is checked by inspection and test.

22.302 Portable fan heaters shall be fitted with a device that automatically disconnects heating elements from the supply when the heater is placed in any position other than in its position or positions of normal use.

Compliance is checked by inspection and manual test

p **24.301** After 24.101 *insert* the following variation:

24.301 Thermal cut-outs incorporated to comply with 19.302 shall be non-self-resetting.

Compliance is checked by inspection.

p **25.7** *Replace* the second paragraph of the requirement with the following variation:

Supply cords of heaters intended to be used on building sites shall not be lighter than heavy duty PVC-sheathed flexible cord complying with AS/NZS 3191.

p **30.1** *Delete* the addition.

p **30.2.1** After the text of the modification *insert* the following variation:

Addition:

*In **fan heaters** the non-metallic material*

A2 DOW 30/11/19

– *in the enclosure, in fan blades and in all structural elements within the enclosure;*
– *in components such as thermostats, thermal cut-outs, switches and the like that are mounted within a distance of 25 mm from a heating element;*

are subjected to the following tests.

Such parts shall withstand the glow-wire test of IEC 60695-2-11 without ignition, the test being carried out with a severity of 850 °C. However, the glow-wire test is not carried out on parts of material classified as having a glow-wire ignition temperature according to IEC 60695-2-13 of at least 875 °C.

If the glow-wire ignition temperature is not available for a sample with a thickness within ± 0,1 mm of the relevant part, then the test sample shall have a thickness equal to the nearest preferred value specified in IEC 60695-2-13 that is no thicker than the relevant part.

NOTE 301 The preferred values in IEC 60695-2-13 are 0,75 mm ± 0,1 mm, 1,5 mm ± 0,1 mm and 3,0 mm ± 0,2 mm.

p **30.101** *Replace* the requirement by the following*:*

Fan heater enclosures shall be resistant to fire.

p *Delete* the last paragraph of the test specification*.*

The following national variations to this Part 2 are additional to those listed in the national variations of AS/NZS 60335.1:2011.

p **1** *Insert* the following variation after the existing sixth dashed item in Note 101:

– ceiling recessed radiant heaters;

Insert the following variation after the existing ninth dashed item in Note 103:

– recessed luminaires (IEC 60598-2-2);

A2 DOA 30/11/19

p **7.1** After the sixth paragraph *insert* the following variation:

Portable visibly glowing radiant heaters shall be marked with the substance of the following:

WARNING: FIRE RISK EXISTS IF THE HEATER IS COVERED BY OR POSITIONED CLOSE TO CURTAINS OR OTHER COMBUSTIBLE MATERIALS.

p **7.12.1** *Insert* the following variation after the ninth paragraph of the test specification.

The installation instructions for ceiling recessed radiant heaters shall give details for proper installation in the ceiling and shall state the substance of the following:

– the minimum distance between the top of the heater and any building element above it;

– the minimum distance between the sides of the heater and any building element adjacent to it.

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

The distance between the sides of the heater and the sides and any adjacent ceiling recessed heater shall not be less than four times the minimum distance specified for the distance between the sides of the heater and any building element adjacent to it.

p **7.15** After the third paragraph *insert* the following variation:

The fire risk warning for **portable visibly glowing radiant heaters** shall be visible during normal use.

NOTE 301 This marking may be provided on a permanent durable label attached to the supply cord at a distance not exceeding 600 mm from the body of the heater.

p **8.2** *Add* the following new sentence to the addition:

Other **basic insulation** associated with the heat lamp circuits and luminaire circuits may be touched provided it complies with the requirements of this standard.

p **11.2** *Insert* the following variation after the last paragraph of the test specification.

Ceiling recessed radiant heaters are mounted in a test recess, consisting of the test corner walls and ceiling on top of which is a rectangular test box with vertical sides and horizontal top. Unless otherwise specified in the instruction, the ceiling recessed radiant heater is mounted as near as possible to the walls of the test corner.

A2
DOA
30/11/19

The test corner ceiling shall extend at least 100 mm outside the projection of the test box on the ceiling. The box is made of dull black-painted plywood approximately 20 mm thick and the top of the box is tightly sealed to its sides. The ceiling of the test corner external to the box and the outside of the box is covered with insulating material having a coefficient of thermal insulation of approximately 3,2 m^2K/W.

The position of the ceiling recessed radiant heater within the test box shall be such that the distance between the sides of the box and the sides of the ceiling recessed radiant heater is equal to the distance specified in the instructions between the sides of the ceiling recessed radiant heater and any building element adjacent to it. The height of the box shall be equal to the height of the ceiling recessed radiant heater plus the distance specified in the instructions between the top of the ceiling recessed radiant heater and any building element above it.

p **19.1** As a new sentence to the modification *insert* the following variation:

If relevant, 19.301 is also applicable.

p **19.301** After 19.117 *insert* the following variation:

19.301 *Ceiling recessed radiant heaters shall be operated under the conditions of Clause 11, supplied at **rated voltage** and without the test box in position. Insulation material having a coefficient of thermal insulation of approximately 4 m^2K/W is placed in contact with all recessed surfaces of the heater. This insulation shall extend out to the existing insulation covering the test corner ceiling.*

During the test the temperature rise of

– *wood shall not exceed 105 K;*

– *all surfaces of the thermal insulation shall not exceed 120 K;*

*unless a **thermal cut-out** operates before the temperature rise exceeds 150 K.*

p After Clause 22.112 *insert* the following variation:

22.301 Portable fan heaters shall be fitted with a device that automatically disconnects heating elements from the supply when the heater is placed in any position other than in its position or positions of normal use.

Compliance is checked by inspection and manual test

p **24.301** After 24.102 *insert* the following variation:

24.301 Thermal cut-outs incorporated to comply with 19.301 shall be non-self-resetting.

Compliance is checked by inspection.

p **25.7** *Replace* the second paragraph of the requirement with the following variation:

Supply cords of heaters intended to be used on building sites shall not be lighter than heavy duty PVC-sheathed flexible cord complying with AS/NZS 3191.

p **30.2.1** After the text of the modification *insert* the following variation:

A2
DOA
30/11/19

Addition:

*In **fan heaters** the non-metallic material*

– *in the enclosure, in fan blades and in all structural elements within the enclosure;*
– *in components such as thermostats, thermal cut-outs, switches and the like that are mounted within a distance of 25 mm from a heating element;*

are subjected to the following tests.

Such parts shall withstand the glow-wire test of IEC 60695-2-11 without ignition, the test being carried out with a severity of 850 °C. However, the glow-wire test is not carried out on parts of material classified as having a glow-wire ignition temperature according to IEC 60695-2-13 of at least 875 °C.

If the glow-wire ignition temperature is not available for a sample with a thickness within ± 0,1 mm of the relevant part, then the test sample shall have a thickness equal to the nearest preferred value specified in IEC 60695-2-13 that is no thicker than the relevant part.

NOTE 301 The preferred values in IEC 60695-2-13 are 0,75 mm ± 0,1 mm, 1,5 mm ± 0,1 mm and 3,0 mm ± 0,2 mm.

Annex ANZ
(normative)
Normative references to international publications with their corresponding joint Australia/New Zealand publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by national variations the relevant joint Australia/New Zealand publications applies if the national variations are needed to ensure the safety of the appliance for Australia/New Zealand conditions. These international publications are indicated by (mod). If an international publication is not so indicated, then either it or the listed Australia/New Zealand publication may be used.

	Publication	Year	Title	AS/NZS	Year
A2 DOA 30/11/19	IEC 60068-2-6	2007	*Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*		
	IEC 60335-2-5, Amendment 1 Amendment 2	2002 2005 2008	*Household and similar electrical appliances – Safety – Part 2-5: Particular requirements for dishwashers*	60335.2.5	2002
	IEC 60335-2-43:		*Household and similar electrical appliances – Safety – Part 2-43: Particular requirements for clothes dryers and towel rails*	60335.2.43	
	IEC 60335-2-80:		*Household and similar electrical appliances – Safety – Part 2-80: Particular requirements for fans*	60335.2.80	
	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*		

(blank page)

CONTENTS

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.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

This Consolidated version of IEC 60335-2-30 bears the edition number 5.1. It consists of the fifth edition (2009-11) [documents 61/3910/FDIS and 61/3957/RVD] and its corrigendum 1 (2014-11), and its amendment 1 (2016-11) [documents 61/5281/FDIS and 61/5298/RVD]. The technical content is identical to the base edition and its amendment.

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

International Standard IEC 60335-2-30 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This fifth edition 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).

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;
– 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 amendment 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 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 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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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.

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;**
– **cab heaters**.

This standard also deals with the safety of electric heaters intended for the heating of driver and passenger compartments of motor vehicles when they are stationary, their **rated voltage** being not more than 250 V.

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

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 knowledge

  prevents 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 moving 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.