SLOVENSKI STANDARD
SIST EN 60675:1998/A11:2019

01-november-2019

Gospodinjski sobni neposredni grelniki - Metode za merjenje funkcionalnosti - Dopolnilo A11

Household electric direct-acting room heaters - Methods for measuring performance

Elektrische Haushalt-Direktheizgeräte - Prüfverfahren zur Bestimmung der Gebrauchseigenschaft

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Appareils électrodomestiques de chauffage des locaux à action directe - Méthodes de mesure de l'aptitude à la fonction

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Ta slovenski standard je istoveten z: EN 60675:1995/A11:2019

ICS:

97.100.10	Električni grelniki	Electric heaters

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EUROPEAN STANDARD

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Household electric direct-acting room heaters - Methods for measuring performance

Appareils électrodomestiques de chauffage des locaux à action directe - Méthodes de mesure de l'aptitude à la fonction

Elektrische Haushalt-Direktheizgeräte - Prüfverfahren zur Bestimmung der Gebrauchseigenschaft

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European foreword

This document (EN 60675:1995/A11:2019) has been prepared by CLC/TC 59X/WG 12 “Electric room heating appliances”.

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2020-03-17
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2022-06-17

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

The purpose of this amendment is to specify essential performance characteristics of direct acting room heaters and to describe methods for measuring of these characteristics related to EU Commission regulation (EU) No 2015/1188 and standardization request from the EU Commission M/550.

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1 Modification to Clause 1, "Scope"

Replace the whole clause with:

This standard applies to electric **direct-acting room heaters**. They may be portable, stationary, fixed, or built-in.

It does not apply to:

- thermal-storage room heaters (EN 60531);
- heating appliances incorporated in the building structure;
- central heating systems;
- heaters connected to an air duct;
- wall-paper, carpets or drapes incorporating flexible heating elements;
- sauna stoves.

This standard defines the main performance characteristics of **direct-acting room heaters** and specifies methods for measuring these characteristics, for the information of users.

This standard does not specify values for performance characteristics.

NOTE This standard does not deal with:

—safety requirements (EN 60335-2-30);

—acoustical noise of **fan heaters** (EN 60704-2-2).

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2 Modification to Clause 2, "Normative references"

Replace the whole clause with:

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The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 60584-1:2013, *Thermocouples - Part 1: EMF specifications and tolerances (IEC 60584-1:2013)*

3 Modification to Clause 3, "Terms and Definitions"

Replace the whole clause with:

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
local space heater (as defined in EU regulation (EU) No 2015/1188)
space heating device that emits heat by direct heat transfer or by direct heat transfer in combination with heat transfer to a fluid, in order to reach and maintain a certain level of human thermal comfort within an enclosed space in which the product is situated, possibly combined with a heat output to other spaces and is equipped with one or more heat generators that convert

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electricity or gaseous or liquid fuels directly into heat, through use of the Joule effect or combustion of fuels respectively

3.2
direct-acting room heater
appliance which converts electrical energy into heat after a demand for heat has arisen in a room and transfers this heat to the room directly

Note 1 to entry: In this standard, a **direct-acting room heater** is referred to as a **heater**.

3.3
panel heater
heater in which the temperature rise of all surfaces in contact with the circulating air does not exceed 75 K in normal use

Note 1 to entry: **Panel heaters** may be oil filled.

Note 2 to entry: **Panel heaters** may be in column form.

Note 3 to entry: **Panel heaters** may include fluids and moving parts.

3.4
convector heater
heater in which the temperature rise of at least one non-visible part in contact with the circulating air exceeds 75 K in normal use; the air is discharged through one or more outlets by natural convection

Note 1 to entry: "Non-visible part" means that the part cannot be seen from a point situated 2 m in front of the **heater** and 1,2 m above the floor when the **heater** is installed.

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3.5
fan heater
heater in which the movement of air through it is accelerated by a fan

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3.6
radiant heater
category 1
radiant heater
heater in which the temperature rise of at least one visible surface exceeds 75 K in normal use

Note 1 to entry: The visible surface may be seen through solid material which is transparent to heat radiation. Materials such as quartz glass are considered to be transparent to heat radiation, while ordinary glass is not.

category 2
electric radiant local space heater (as defined in (EU) No 2015/1188)
electric local space heater in which the heat emitting element is to be directed towards the place of use so that its thermal radiation directly warms the subjects to be heated and which has a temperature rise of the grill covering the heat emitting element of at least 130 K in normal use and/or a temperature rise of 100 K for other surfaces

category 3
visibly glowing radiant heater
radiant heater in which the heating element is visible from the outside of the heater and has a temperature of at least 650 °C in normal use

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3.7
fixed local space heater
electric local space heater not intended to accumulate thermal energy and designed to be used while fastened or secured in a specific location or wall mounted and not incorporated in the building structure or building finishing

Note 1 to entry: Heaters with a heat retention of less than 20 % according to EN 60531 are still within the scope of this standard.

Note 2 to entry: Heaters having an installed weight exceeding 18 kg which are not fixed but belong to the category of stationary applainces are considered as fixed lacal space heaters.

3.8
portable local space heater
electric **local space heater** not intended to accumulate thermal energy and designed in such a way that it can be placed in different locations without the use of tools

3.9
slave heater
electric **local space heater** which is not capable of autonomous operation and needs to receive signals sent from an external master controller, not being part of the product but connected to it by pilot wire, wireless, power line communication or an equivalent technique, in order to regulate the emission of heat into the room in which the product is installed

3.10
room temperature control
mechanical or electronic device, sensitive to the room temperature and adjustable by the user

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3.11
set-back function
function which allows the room temperature to be maintained at a lower value than the pre-set (comfort) temperature without changing the setting of the **room temperature control**

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3.12
frost protection means
means which allows the room temperature to be maintained at a value of 7 °C ± 3 °C

Note 1 to entry: The means may be a particular setting of the **room temperature control.**

3.13
rated power input
power input assigned to the **heater** by the manufacturer

3.14
energy ratio
ratio between the energy consumption during a representative period of operation and the product of the **rated power input** and this period

3.15
average room temperature
arithmetic average of the maximum and minimum room temperatures for a setting of the **room temperature control**

3.16
amplitude
difference between the maximum and the minimum room temperatures for a setting of the **room temperature control**

3.17
drift
difference between the **average room temperatures** obtained at different **energy ratios** for a setting of the **room temperature control**

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3.18
nominal heat output
P_{nom}
heat output of a **local space heater** comprising both direct heat output and indirect heat output (where applicable), when operating at the setting for the maximum heat output that can be maintained over an extended period , as declared by the manufacturer, expressed in x,x kW

3.19
minimum heat output (indicative)
P_{min}
heat output of a **local space heater** comprising both direct heat output and indirect heat output (where applicable), when operating at setting of the lowest heat output, as declared by the manufacturer, expressed in [x,x/N.A.] kW

3.20
maximum continuous heat output
$P_{max,c}$
declared heat output of an electric **local space heater** when operating at the setting for the maximum heat output that can be maintained continuously over an extended period, as declared by the manufacturer, expressed in x,x kW

3.21
electric power requirement in standby mode
el_{sb}
electric power consumption of the product while in **standby mode**, expressed in x,xxx kW

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Note 1 to entry: This is only applicable if the product has a “standby mode”. For electric local space heaters without a standby mode the value is zero.

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3.22
standby mode

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state of the product where the heating function has been deactivated without disconnection from mains or switching power off. Independent from external conditions (room temperature, time, or control signals) the unit will not start heating; to resume the heating function a (manual) reactivation by the user is required; where in standby mode only the following functions are provided, which may persist for an indefinite time:

— reactivation function, or reactivation function and only an indication of enabled reactivation function, and/or

— information or status display.

3.23
auxiliary electricity consumption – at nominal heat output
el_{max}
value is zero for electric **local space heaters**; all electric power consumption is included in the **nominal heat output (P_{nom})**

3.24
auxiliary electricity consumption – at minimum heat output
el_{min}
value is zero for electric **local space heaters**; all electric power consumption is included in the **minimal heat output (P_{min})**

3.25
single stage heat output, no room temperature control
means the product is not capable of varying its heat output automatically and that no feedback of room temperature is present to adapt the heat output automatically

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3.26
two or more manual stages, no room temperature control
means the product is capable of varying its heat output manually by two or more levels of heat output and is not equipped with a device that automatically regulates the heat output in relation to a desired indoor temperature

3.27
mechanical room temperature control
means the product is equipped with a non-electronic device that allows the product to automatically vary its heat output over a certain time period, in relation to a certain required level of indoor heating comfort

Note 1 to entry: Varying the heat output can be achieved by variable intermittent switching of the power.

3.28
electronic room temperature control
means the product is equipped with an electronic device, either integrated or external, that allows the product to automatically vary its heat output over a certain time period, in relation to a certain required level of indoor heating comfort

Note 1 to entry: Varying the heat output can be achieved by variable intermittent switching of the power.

3.29
electronic room temperature control plus day timer
means the product is equipped with an electronic device, either integrated or external, that allows the product to automatically vary its heat output over a certain time period, in relation to a certain required level of indoor heating comfort, and allows the setting of timing and temperature level for a 24-h timer interval

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3.30
electronic room temperature control plus week timer
means the product is equipped with an electronic device, either integrated or external, that allows the product to automatically vary its heat output over a certain time period, in relation to a certain required level of indoor heating comfort, and allows the setting of timing and temperature levels for a full week; during the 7-day period the settings shall allow a variation on a day-to-day basis

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3.31
room temperature control, with presence detection
means the product is equipped with an electronic device, either integrated or external, that automatically reduces the set-point for the room temperature when no person is detected in the room

3.32
room temperature control, with open window detection
means the product is equipped with an electronic device, either integrated or external, that reduces the heat output when a window or door has been opened; whenever a sensor is used to detect the opening of a window or door, it can be installed with the product, externally to the product, built into the building structure or as a combination of those options

3.33
distance control option
function that allows remote interaction from outside the building in which the product is installed with the control of the product

3.34
adaptive start control
function which predicts and initiates the optimal start of heating up in order to reach the set-point temperature at the desired time

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3.35
working time limitation
means the product has a function that automatically deactivates the product after a pre-set period of time

Note 1 to entry: The heater needs an active manual action or from external transmitted signal to be able to start with heating again.

3.36
black bulb sensor
means the product is equipped with an electronic device, either integrated or external, that measures air and radiant temperature

3.37
intended for outdoor use
means the product is suitable for safe operation outside enclosed spaces, including possible use in outdoor conditions

3.38
seasonal space heating energy efficiency
η_s
ratio between the space heating demand, supplied by a local space heater and the annual energy consumption required to meet this demand, expressed in %

Note 1 to entry: The seasonal space heating energy efficiency is calculated using the methods described in Annex III of regulation (EU) No 2015/1188, taking into account the definitions and product categories in the standard.

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3.39
period and duty cycle
duty cycle is the fraction of one period in which the system is supplying power to the heating element, expressed as % of a period.

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Note 1 to entry: A period is the time it takes for a system to complete a full cycle.

Note 2 to entry: A period (or full cycle) duration is expressed in the term of min. For electric heaters a period is an active mode to perform the intended function of a stream of heat accommodated to the varying demand. Period duration could be initiated by an internal clock function integrated in the control device or given by the influence of ambient temperature and heat demand.

3.40
transitional period
lapse of time between the initiation of a defined temperature level and the actual achievement of the temperature level; typical transition periods of indefinite duration occur when the heat demand changes from comfort to set-back and set-back to comfort levels

Note 1 to entry: Additional heat load to the room, not initiated by the heater, could also trigger a transitional period of indefinite duration.

4 Modification to Clause 4, "Classification"

4.1 According to type

Replace by:

The following type of heater apply:

- **local space heater;**
- **direct acting room heater;**
- **panel heater;**
- **convector heater;**