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**Električno ogrevanje prostorov, talno ogrevanje, značilne lastnosti - Definicije, metode preskušanja, dimenzioniranje in simboli formul - Dopolnilo A1**

Electric room heating, underfloor heating, characteristic of performance - Definitions, method of testing, sizing and formula symbols

Elektrische Raumheizung, Fußbodenheizung, Charakteristika der Gebrauchstauglichkeit - Definitionen, Testmethoden, Dimensionierung und Formelsymbole

Chauffage électrique de locaux - Chauffage par le sol - Caractéristiques de performance - Définitions, méthode d'essai, calibrage et symboles de formule

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**Ta slovenski standard je istoveten z: EN 50559:2013/A1:2020**

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91.140.10	Sistemi centralnega ogrevanja	Central heating systems
97.100.10	Električni grelniki	Electric heaters

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EUROPEAN STANDARD  
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EUROPÄISCHE NORM

**EN 50559:2013/A1**

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ICS 97.100.10

English Version

**Electric room heating, underfloor heating, characteristic of performance - Definitions, method of testing, sizing and formula symbols**

Chauffage électrique de locaux, chauffage par le sol, caractéristiques de performance - Définitions, méthode d'essai, calibrage et symboles de formule

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This amendment A1 modifies the European Standard EN 50559:2013; it was approved by CENELEC on 2020-03-18. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

SIST EN 50559:2013/A1:2020

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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## European foreword

This document (EN 50559:2013/A1:2020) has been prepared by CLC/TC 59X “Performance of household and similar electrical appliances”.

The following dates are fixed:

- latest date by which this document has (dop) 2021-03-18  
to be implemented at national level by  
publication of an identical national  
standard or by endorsement
- latest date by which the national (dow) 2023-03-18  
standards conflicting with this document  
have to be withdrawn

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

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 2015/1188.

For the relationship with EU Directive 2015/1188 see informative Annex ZZ, which is an integral part of this document.

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## 1 Modification to the Introduction

*Addition:*

"Annexes D, E and ZZ are added for the purpose of performance testing according to Commission Regulation (EU) 2015/1188."

## 2 Addition of Annexes D, E and ZZ

*Addition of the following annexes:*

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### Annex D (normative)

## Performance test according to Commission Regulation (EU) 2015/1188

### D.1 Test conditions

The control device should be installed according to the manufacturer specification.

The test room could be according to specification set out in EN 60675. The underfloor heating power according to the manufacturer specification. Recommended floor covering is parquet flooring.

An option is to test in any space that requires a heat demand sufficient to demonstrate the functions to be tested. To facilitate functional testing, underfloor heating could be replaced by another heat source e.g. convector heater with the power equal to the power of any underfloor heating that would have been installed in the actual space. Floor covering could be parquet flooring or any covering defined by the manufacturer. (Recommendation for test conditions could differ from the installation manual).

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### D.2 Definitions

For the purpose of Annex D the following definitions apply.

#### D.2.1

##### **room temperature control**

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

#### D.2.2

##### **programmer**

control for regulating the room temperature according to a programmed preset by the user and which is incorporated in the **heater**

#### D.2.3

##### **set-back function device**

device 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**

#### D.2.4

##### **frost protection means**

means which allows the room temperature to be maintained at a value of  $7\text{ °C} \pm 3\text{ °C}$

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

#### D.2.5

##### **rated power input**

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

**D.2.6****energy ratio**

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

**D.2.7****average room temperature**

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

**D.2.8****amplitude**

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

**D.2.9****drift**

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

**D.2.10****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"

**D.2.11****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

**D.2.12****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

**D.2.13****electric power requirement in standby mode**

$e_{sb}$

electric power consumption of the product while in **standby mode**, expressed in x,xxx kW

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.

**D.2.14****standby mode**

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. 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

**D.2.15****auxiliary electricity consumption – at nominal heat output** $e_{l_{max}}$ 

this value is zero for electric local space heaters. All electric power consumption is included in the **nominal heat output** ( $P_{nom}$ )

**D.2.16****auxiliary electricity consumption – at minimum heat output** $e_{l_{min}}$ 

this value is zero for electric local space heaters. All electric power consumption is included in the **minimal heat output** ( $P_{min}$ )

**D.2.17****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

**D.2.18****two or more manual stages, no room temperature control**

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

**D.2.19****mechanical thermostat room temperature control**

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.

**D.2.20****electronic room temperature control**

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.

**D.2.21****electronic room temperature control plus day timer**

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

**D.2.22****electronic room temperature control plus week timer**

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 must allow a variation on a day-to-day basis

**D.2.23****room temperature control, with presence detection**

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



**D.2.24****room temperature control, with open window detection**

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

**D.2.25****distance control option**

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

**D.2.26****adaptive start control**

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

**D.2.27****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.

**D.2.28****black bulb sensor**

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

**D.2.29****intended for outdoor use**

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

**D.2.30****seasonal space heating energy efficiency**

$\eta_s$

ratio between the space heating demand, supplied by a local space heater and the annual energy consumption required to meet this demand, expressed in %; the seasonal space heating energy efficiency is calculated using the methods described in Annex III of regulation (EU) 2015/1188, taking into account the definitions and product categories in the standard

**D.2.31****period and duty cycle**

duty cycle is the fraction of one period in which the system is supplying power to the heating element. Duty cycle is expressed as % of a period; a period is the time it takes for a system to complete a full cycle; 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

**D.2.32****transitional period**

transitional period is defined as the 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 change from comfort to setback and setback to comfort levels. Additional heat load to the room, not initiated by the heater, could also trigger a transitional period of indefinite duration