

Free hanging heating and cooling surfaces for water with a temperature below 120°C - Part 5: Open or closed heated ceiling surfaces - Test method for thermal output

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 14037-5:2016 sisaldab Euroopa standardi EN 14037-5:2016 ingliskeelset teksti.	This Estonian standard EVS-EN 14037-5:2016 consists of the English text of the European standard EN 14037-5:2016.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 21.09.2016.	Date of Availability of the European standard is 21.09.2016.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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ICS 91.140.10

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English Version

Free hanging heating and cooling surfaces for water with a
temperature below 120°C - Part 5: Open or closed heated
ceiling surfaces - Test method for thermal output

Panneaux rayonnants de chauffage et de
rafraîchissement alimentés avec une eau à une
température inférieure à 120 °C - Partie 5 : Méthode
d'essai pour la détermination de la puissance
thermique des surfaces de plafond de chauffage
ouverts ou fermés

An der Decke frei abgehängte Heiz- und Kühlflächen
für Wasser mit einer Temperatur unter 120 °C - Teil 5:
Prüfverfahren für die Wärmeleistung von offenen oder
geschlossenen Deckenheizflächen

This European Standard was approved by CEN on 18 March 2016.

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European foreword

This document (EN 14037-5:2016) has been prepared by Technical Committee CEN/TC 130 “Space heating appliances without integral heat sources”, the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2017, and conflicting national standards shall be withdrawn at the latest by March 2017.

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

The European Standard EN 14037, *Free hanging heating and cooling surfaces for water with a temperature below 120°C*, consists of the following parts:

- *Part 1: Pre-fabricated ceiling mounted radiant panels for space heating - Technical specifications and requirements*
- *Part 2: Pre-fabricated ceiling mounted radiant panels for space heating - Test method for thermal output*
- *Part 3: Pre-fabricated ceiling mounted radiant panels for space heating - Rating method and evaluation of radiant thermal output*
- *Part 4: Pre-fabricated ceiling mounted radiant panels for space heating - Test method for cooling capacity*
- *Part 5: Open or closed heated ceiling surfaces - Test method for thermal output*

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Introduction

This European Standard results from the recognition, that heated and chilled ceiling radiant panels falling into the field of application hereinafter stated are traded on the basis of their thermal output. For evaluating and comparing different heated and chilled ceiling surfaces it is therefore necessary to refer to a heating stipulated value.

As installations with ceiling mounted radiant panels can also be used in practice for space cooling, it is necessary to have a test method for evaluating the cooling capacity. Installations with different free hanging heating and cooling surfaces need, for the use of space heating a test method for evaluating the heating output. The test method differs from the method for ceiling mounted radiant panels.

1 Scope

This European Standard describes the test method and the test installation for determining the thermal output of ceiling mounted heating surfaces according to the specifications 3.1, 3.2. and 3.3.

This part applies to determine thermal output when chilled ceilings according to EN 14240 are also used for heating.

NOTE Test results according to this part cannot be compared with results according EN 14037-2 because great discrepancies are given at open ceilings, convective components and heating surfaces without upper insulation.

2 Normative references

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

EN 14037-1:2016, *Pre-fabricated ceiling mounted radiant panels for space heating - Technical specifications and requirements*

EN 14037-2:2016, *Pre-fabricated ceiling mounted radiant panels for space heating - Test method for thermal output*

EN ISO/IEC 17025:2005, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2005)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14037-1:2016 and the following apply.

3.1

open or closed ceiling surface

open or closed active and non-active elements of chilled ceilings, which are additionally used for heating, which are part of suspended ceilings and generally constructed modular from industrially prefabricated elements

3.2

free hanging sail

surface composed of one or more elements of a cooling installation which is additionally used for heating

Note 1 to entry: Depending on the use of the sails they can be covered with thermal insulation or noise absorption material.

3.3

suspended ceiling with integrated heating elements

single closed elements which are used for heating and are thermally insulated on the upper side, integrated in closed hanging ceilings and combined with non-active elements

3.4

mean radiant temperature

temperature in a defined point of the room resulting from the radiation of all surrounding surfaces and of the heated ceiling surface