

**Ceiling mounted radiant panels
supplied with water at temperature
below 120 °C - Part 3: Rating method
and evaluation of radiant thermal output**

Ceiling mounted radiant panels supplied with water
at temperature below 120 °C - Part 3: Rating method
and evaluation of radiant thermal output

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14037-3:2003 sisaldab Euroopa standardi EN 14037-3:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 16.05.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14037-3:2003 consists of the English text of the European standard EN 14037-3:2003.</p> <p>This document is endorsed on 16.05.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p>Käsitlusala:</p> <p>This European Standard describes the procedure to determine the rated thermal output and the mean surface temperature (trp). Ceiling mounted radiant panels exchange heat mainly by radiation</p>	<p>Scope:</p> <p>This European Standard describes the procedure to determine the rated thermal output and the mean surface temperature (trp). Ceiling mounted radiant panels exchange heat mainly by radiation</p>
---	---

ICS 91.140.10

Võtmesõnad:

English version

**Ceiling mounted radiant panels supplied with water at
temperature below 120 °C - Part 3: Rating method and
evaluation of radiant thermal output**

Panneaux rayonnants de plafond alimentés en eau à une
température inférieure à 120 °C - Partie 3: Méthode de
conversion de la puissance thermique et évaluation de la
puissance radiative

Deckenstrahlplatten für Wasser mit einer Temperatur unter
120 °C - Teil 3: Wärmetechnische Umrechnungen,
Bewertungsmethoden und Festlegung der Strahlungs-
Wärmeleistung

This European Standard was approved by CEN on 20 February 2003.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 Management Centre or to any CEN member.

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

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword	3
Introduction	4
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Testing of the mean surface temperature and the emissivity of the panel	4
5 Thermal output conversion – Determination of the rated thermal output	6
6 Evaluation of the thermal radiant output of a tested panel	6
Annex A (normative) Determination of the surface temperature - Test report	7
Bibliography	8

Foreword

This document EN 14037-3:2003 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 October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.

Annex A is normative.

This document includes a Bibliography.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European standard results from the recognition that the ceiling mounted radiant panels falling into the field of application hereinafter stated, are traded on the basis of their thermal output. To evaluate and compare different ceiling mounted radiant panels it is therefore necessary to refer to a single stipulated value.

This European Standard of ceiling mounted radiant panels consists of the following parts:

- Part 1: Technical specifications and requirements
- Part 2: Test method for thermal output
- Part 3: Rating method and evaluation of radiant thermal output

1 Scope

This European Standard describes the procedure to determine the rated thermal output (Φ_b) and the mean surface temperature (t_{rp}).

Ceiling mounted radiant panels exchange heat mainly by radiation.

The test methods for determining the thermal output of ceiling mounted radiant panels, as described in the part 2 of this European Standard, give reliable results for comparing different products, but these results understate the output obtained under real operating conditions.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 14037-1:2003, *Ceiling mounted radiant panels supplied with water at temperature below 120 °C - Part 1: Technical specifications and requirements.*

EN 14037-2:2003, *Ceiling mounted radiant panels supplied with water at temperature below 120 °C - Part 2: Test method for thermal output.*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 14037-1:2003 apply.

4 Testing of the mean surface temperature and the emissivity of the panel

4.1 Testing the mean surface temperature

The mean surface temperature shall be determined by an Infra-Red (IR) system with the following features: automatic mean temperature of the measured surface including the emissivity, the distance and the ambient temperature.

The test is made in the same test booth and under the same test conditions described in clauses 5, 7 and 8 of EN 14037-2:2003. While testing the mean surface temperature, the connecting components shall be insulated.