



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 14037-1:2003

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

Panneaux rayonnants de plafond
alimentés en eau à une température
inférieure à 120 °C - Partie 1:
Spécifications et exigences techniques

Deckenstrahlplatten für Wasser mit einer
Temperatur unter 120 °C - Teil 1:
Technische Spezifikationen und
Anforderungen

04/2003



National Foreword

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EUROPEAN STANDARD ^{ILNAS-EN 14037-1:2003} **EN 14037-1**
NORME EUROPÉENNE
EUROPÄISCHE NORM

April 2003

ICS 01.040.91; 91.140.10

English version

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temperature below 120 °C - Part 1: Technical specifications and
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120 °C - Teil 1: Technische Spezifikationen und
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This European Standard was approved by CEN on 20 February 2003.

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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.

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Foreword

This document (EN 14037-1:2003) 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of an identical text or by endorsement, at the latest by October 2003 and conflicting national standards shall be withdrawn at the latest by January 2005.

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

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

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.

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. For evaluating and comparing different ceiling mounted radiant panels it is therefore necessary to refer to a single stipulated value.

1 Scope

This European Standard defines the technical specifications and requirements of ceiling mounted hot water radiant panels fed with water at temperatures below 120 °C supplied by a remote heat source.

The European Standard does not apply to independent heating appliances.

The European Standard also defines the additional common data that the manufacturer shall provide to the trade in order to ensure the correct application of the products.

2 Normative references

This European Standard incorporates by dated or undated references, 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 14037-2:2003, *Ceiling mounted radiant panels supplied with water at temperature below 120 °C - Part 2: Test method for thermal output.*

EN 14037-3:2003, *Ceiling mounted radiant panels supplied with water at temperature below 120 °C - Part 3: Rating method and evaluation of radiant thermal output.*

EN 13501-1, *Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests.*

3 Terms and definitions

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

3.1

heating appliance

device having the purpose of transferring heat in order to provide specific temperature conditions inside buildings

3.2

independent heating appliance

self-contained heating appliance which does not need to be connected to a remote heat source (e. g. a boiler) as it contains its own heat source (e. g. gas fired appliances, electric appliances, heat pump appliances)

3.3

pre-fabricated ceiling mounted radiant panel

pre-fabricated heat-transmitting device in the form of a heating element fitted with connection components and designed to operate on water flow. The panel is freely suspended above the useful space and designed to be a permanent part of the building although not a part incorporated in the building structure

3.4**model**

ceiling mounted radiant panel of defined construction, width and height

3.5**type**

group of models with identical modular cross section

3.6**sample**

ceiling mounted radiant panel whose thermal output shall be determined or has been determined

3.7**inlet water temperature**

bulk temperature of the water entering the ceiling mounted radiant panel

3.8**outlet water temperature**

bulk temperature of the water leaving the ceiling mounted radiant panel

3.9**mean water temperature**

arithmetical mean of inlet and outlet water temperature

3.10**mean radiant temperature**

temperature in a defined point of the room resulting from the radiation of all surrounding surfaces and of the ceiling mounted radiant panel

3.11**reference temperature**

temperature measured with a globe thermometer according to EN 14037-2:2003, 5.5.1

3.12**excess temperature**

temperature difference between mean water temperature and reference temperature

3.13**standard excess temperature**

excess temperature of 55 K measured at a mean water temperature of 75 °C and a reference temperature of 20 °C

3.14**surface temperatures of the inside surfaces of the test room**

mean temperatures of the inside surfaces of the test room

3.15**mean surface temperature of the ceiling mounted radiant panel**

mean temperature on the heating surfaces of the ceiling mounted radiant panel facing the room below

3.16**surface temperature**

maximum inlet water temperature (definition is given for safety requirements only)

3.17**air temperature**

indoor air temperature measured by using radiation shields

3.18**active length of the ceiling mounted radiant panel**

length of the usable heating panel with identical cross section and without connection components and covers, which is bonded together with the water flow components