



**SLOVENSKI STANDARD**  
**SIST EN 442-1:1997/A1:2004**  
**01-januar-2004**

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Radiators and convectors - Part 1: Technical specifications and requirements

Radiatoren und Konvektoren - Teil 1: Technische Spezifikationen und Anforderungen

Radiateurs et convecteurs - Partie 1: Spécifications et exigences techniques

**iTeh STANDARD PREVIEW**

**Ta slovenski standard je istoveten z: EN 442-1:1995/A1:2003**

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English version

## Radiators and convectors - Part 1: Technical specifications and requirements

Radiateurs et convecteurs - Partie 1: Spécifications et exigences techniques

Radiatoren und Konvektoren - Teil 1: Technische Spezifikationen und Anforderungen

This amendment A1 modifies the European Standard EN 442-1:1995; it was approved by CEN on 7 June 2003.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant 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 amendment 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.

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

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

## Foreword

This document (EN 442-1:1995/A1:2003) 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 Amendment to the European Standard EN 442-1:1995 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2004, and conflicting national standards shall be withdrawn at the latest by March 2004.

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.

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.

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*Modify as follows:*

## Foreword

*Insert the following immediately after the existing second paragraph:*

"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 Directives, see informative Annex ZA, which is an integral part of this document."

### **In the whole text of the standard**

*Replace all occurrences of "weight" by "mass".*

#### **Page 3, clause 2**

*In the list of standards, add the following:*

EN 442-3:2003, *Radiators and convectors – Part 3: Evaluation of conformity.*

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

#### **Page 4, clause 4, 1<sup>st</sup> indent**

*Change "according to a relevant standard EN 442-1:1997" to "... according to a technical specification valid in the country of destination".*

<https://standards.iteh.ai/catalog/standards/sist/e864ea5d-01b2-44be-b7b5-957caeb72b68/sist-en-442-1-1997-a1-2004>

*As a consequence, delete footnote 1) at page 4.*

#### **Page 4, clause 4, last sentence**

*Replace the last sentence "The paint shall emit no odour ... conditions." with the following sentence:*

"The paint shall not contain any chemical substances the use of which is not allowed in building products<sup>1)</sup> .

The compliance with the relevant Directive shall be stated by the manufacturer of the radiator/convector."

#### **Page 4, clause 5**

*Modify the title as follows: "Dimensional tolerances and pressure tightness" and modify the content list at page 2 accordingly.*

#### **Page 5, subclauses 5.1.2, 5.1.3 and 5.1.4, third paragraph**

*Replace "The manufacturer shall ensure the minimum wall thickness by periodic ..." with "The minimum wall thickness shall be ensured by periodic ..."*

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<sup>1)</sup> Also in relation to Directive 76/769/EEC, as amended.

Page 6, subclause 5.1.7

Add a new subclause 5.1.7:

"5.1.7 Reaction to fire

The materials from which radiators and convectors are made (steel, cast iron and aluminium) are considered to be reaction to fire Class A1 without the need for testing<sup>2)</sup>, provided that any organic part of the paint or coating is less than 1 % by mass or volume.

If any organic part of the paint or coating exceeds 1 % by mass or volume (whichever is the more onerous), the material shall be tested and classified according to EN 13501-1 and the resulting class stated.

The percentage of organic part of the paint or coating is referred to the actual operating conditions of the radiator and convector (i.e. to the mass of the metal and the mass of the water and to the volume obtained by the product of the overall width, height and length of the radiator).

Only one model is to be tested to assess the reaction to fire of a type."

Renumber the existing subclause "5.1.7" to "5.1.8" and add, in the second indent: "... in terms of reaction to fire, strength and ...".

Page 6, subclause 6.1

Modify the second line as follows:

"... by EN 442-2:1996 in a laboratory, also taking into account the ..."

Page 8, subclause 7.3, 1<sup>st</sup> paragraph

Change "desumed" into "derived".

Page 8, subclause 7.3, 3<sup>d</sup> paragraph

Change "... of EN 442-2" into "... of EN 442-2:1996"

**New annex**

**At the end of the standard add the following new Annex ZA and the following Bibliography**

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<sup>2)</sup> Also according to Commission Decision 96/603/EC, as amended.

## Annex ZA (informative)

### Clauses of this European Standard addressing the provisions of the EU Construction Products Directive

#### ZA.1 Scope and relevant characteristics

This European Standard has been prepared under Mandate M/129 "Space heating appliances" given to CEN by the European Commission and the European Free Trade Association.

The clauses of this European Standard shown in this annex meet the requirements of the Mandate given under the EU Construction Products Directive (89/106/CEE).

Compliance with these clauses confers a presumption of fitness of the construction products covered by this annex for their intended uses indicated herein.

**WARNING:** Other requirements and other EU Directives, not affecting the fitness for intended use may be applicable to the construction products falling within the scope of this standard.

Note:

In addition to any specific clauses relating to dangerous substances contained in this European Standard, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the EU Construction Products Directive, these requirements need also to be complied with, when and where they apply. *An informative database of European and national provisions on dangerous substances is available at the Construction web site on EUROPA (CREATE, accessed through <http://europa.eu.int>)*

This annex has the same scope as Clause 1 of this standard. It establishes the conditions for the CE marking of radiators and convectors intended for the use indicated below and the relevant clauses applicable (see Table ZA.1).

Construction products: Radiators and convectors

Intended use: heat emitters for central heating systems to be supplied with hot water and steam below 120°C from a remote heat source (boiler or similar).

The requirement on a certain characteristic is not applicable in those Member States where there are no regulatory requirements on that characteristic for the intended end use of the product. In this case, manufacturers placing their products on the market of these Member States are not obliged to determine nor declare the performance of their products with regard to this characteristic and the option "No performance determined" (NPD) in the information accompanying the CE marking (see clause ZA.3) may be used. The NPD option may not be used, however, where the characteristic is subject to a threshold level.

Table ZA.1 – Relevant clauses

Essential characteristics	Requirement Clause in this EN	Levels and/or classes	Notes
Reaction to fire	EN 442-1, 5.1.7		Manufacturer's statement or initial type testing when required (laboratory test)
Release of dangerous substances	EN 442-1, clause 4 and ZA.1		Manufacturer's statement that the painting complies with EEC directives concerning painting materials to be used in building products <sup>3)</sup>
Pressure tightness }	EN 442-1, 5.2 EN 442-1, 5.3		Leak testing on all products before leaving the manufacturer's work  Strength pressure testing on samples for initial evaluation (Laboratory test)
Surface temperature	No test foreseen		The surface temperature is regarded as the inlet water temperature
Rated thermal output	EN 442-1, clause 6		To be determined as specified in the EN 442-1 quoted clause and in the EN 442-2 supporting Standard and relevant annexes
Thermal output in different operating conditions (characteristic curve)	EN 442-1, clause 6		
Durability	EN 442-1, clause 4		The Standard requires the compliance to the resistance to corrosion requirements of the pre-treatment and paint

## ZA.2 Procedures for attestation of conformity of radiators and convectors

### ZA.2.1 System of attestation of conformity

The system of attestation of conformity for radiators and convectors indicated in Table ZA.1, in accordance with the Decision of the Commission as given in Annex III of the mandate for "Space heating appliances", is shown in Table ZA.2 for the indicated intended use:

Table ZA.2 – System of attestation of conformity

Products	Intended use	Level(s) or class(es)	Attestation of conformity system
Radiator/convectors	In buildings	—	3
System 3: See Directive 89/106/EEC (CPD) Annex III.2.(ii), second possibility			

<sup>3)</sup> At the time of preparation of this European Standard Directive 76/769/EEC applies.



The attestation of conformity of the radiators/convectors in Table ZA.1 shall be based on the evaluation of conformity procedures indicated in Table ZA.3 resulting from application of the clauses of this or other European standard indicated therein.

**Table ZA.3 – Assignment of evaluation of conformity tasks for radiators/convectors under system 3**

Tasks		Content of the task	Evaluation of conformity clauses to apply
Tasks of the Manufacturer	Factory production control (F.P.C)	Parameters related to all relevant characteristics of Table ZA.1	EN 442-3:2003, clause 5
Tasks for the notified body <sup>a</sup>	Initial type testing	All relevant characteristics of Table ZA.1	EN 442-1:1995, clause 4 and ZA.1 for release of dangerous substances, EN 442-3:2003, clause 4 for pressure tightness and thermal output; EN 442-1:1995, clause 4 for durability
<sup>a</sup> For the system of attestation required notified body corresponds to approved laboratory.			

## ZA.2.2 Declaration of conformity

The manufacturer or his agent in the EEA shall prepare and retain a declaration of conformity which authorises the affixing of the CE marking. The declaration shall include:

- name and address of the manufacturer or his authorised representative established in the EEA and the place of production;
- description of the product (type, identification, use, ...) and a copy of the information accompanying the CE marking;
- provisions to which the product conforms (e.g. Annex ZA of this EN);
- name and address of the laboratory;
- name of, and position held by, the person empowered to sign the declaration on behalf of the manufacturer or his authorised representative.

## ZA.3 CE marking

The manufacturer or his authorised representative established in the EEA is responsible for the affixing of the CE marking. The CE marking symbol shall be in accordance with Directive 93/68/EEC. The CE marking shall be affixed either on the product or its packaging and shall be accompanied by:

- the name of the manufacturer or his authorised representative or their identifying marks;
- the model number of the heating appliance.

In addition, the CE marking shall appear on the accompanying commercial documentation (catalogue or other literature relevant to the heating appliance) and shall be accompanied, in addition to the information above, with

- reference to this standard EN 442-1;
- the last two digits of the year in which the CE marking was affixed;
- the model number of the heating appliance;
- the following information related to the characteristics of Table ZA.1: