

# Radiators and convectors —

## Part 3: Evaluation of conformity

The European Standard EN 442-3:2003 has the status of a  
British Standard

ICS 91.140.10

# National foreword

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## Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 8, an inside back cover and a back cover.

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English version

## Radiators and convectors - Part 3: Evaluation of conformity

Radiateurs et convecteurs - Partie 3: Evaluation de la  
conformité

Radiatoren und Konvektoren - Teil 3:  
Konformitätsbewertung

This European Standard was approved by CEN on 7 August 2003.

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

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## Foreword

This document (EN 442-3:2003) 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of an identical text or by endorsement, at the latest by March 2004, and conflicting national standards shall be withdrawn at the latest by March 2004.

This document supersedes EN 442-3:1997.

This European Standard of radiators and convectors consists of the following parts:

EN 442-1, Radiators and convectors – Part 1: Technical specifications and requirements;

EN 442-2, Radiators and convectors – Part 2: Test methods and rating;

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

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).

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## **Introduction**

This European Standard results from the recognition that the heating appliances falling into the scope hereinafter stated are traded on the basis of their thermal output.

To evaluate and compare different appliances, it is therefore essential to refer to a single stipulated value, hereinafter called the standard thermal output.

Considering EN 442-1 should become a harmonized standard with reference to Mandate M/129 of the EU Directive 89/106 “CPD” and the need to further treat and examine the questions concerning the evaluation of conformity of radiators and convectors as treated in Annex ZA to EN 442-1, the present EN 442-3 has been revised to allow the preparation of a text consistent and co-ordinated with the above mentioned Annex ZA.

## 1 Scope

This European Standard specifies the procedures for evaluating the conformity of radiators/convectors to EN 442-1. It specifies the procedures and methods for the initial evaluation and the controls required to maintain conformity.

## 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 442-1:1995, *Radiators and convectors – Part 1: Technical specifications and requirements*.

EN 442-1:1995/A1:2003, *Radiators and convectors – Part 1: Technical specifications and requirements*.

EN 442-2:1996, *Radiators and convectors – Part 2: Test methods and rating*.

EN 442-2:1996/A1:2000, *Radiators and convectors – Part 2: Test methods and rating*.

EN 442-2:1996/A2:2003, *Radiators and convectors – Part 2: Test methods and rating*.

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

## 3 Evaluation of conformity

The conformity of the radiator/convector model or type to EN 442-1 shall concern:

- reaction to fire class;
- release of dangerous substances;
- pressure tightness;
- rated thermal output;
- thermal output in different operating conditions;
- durability (resistance to corrosion of the pre-treatment and paint);
- catalogue data;
- marking and labelling.

The conformity concerns:

- the initial evaluation to be performed on samples of the radiators/convectors;
- the maintenance of conformity to be performed on the radiators/convectors production.

## **4 Initial evaluation**

The radiators/convectors samples for the initial evaluation shall be selected according to 5.2 of EN 442-1:1995.

The manufacturer shall make available the product drawings and data according to EN 442-2:1996, 5.3, which shall be checked.

### **4.1 Reaction to fire class**

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>1)</sup>, provided that any organic part in 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.

### **4.2 Release of dangerous substances (pre-treatment and paint)**

The paint shall not contain any chemical substances the use of which is not allowed in building products<sup>2)</sup>.

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

### **4.3 Pressure tightness**

The radiator/convector samples shall be submitted to a strength pressure test according to 5.3 of EN 442-1:1995.

### **4.4 Rated thermal output and thermal output in different operating conditions**

The rated thermal output and the thermal output in different operating conditions shall be determined according to EN 442-2:1996, EN 442-2:1996/A1:2000 and EN 442-2:1996/A2:2003.

The initial evaluation of the thermal output maintains its validity until any change is made to the design of the model or type or any change is made to the manufacturing process having an influence on the thermal output according to 5.3.2 of EN 442-2:1996.

When the tested samples are prototype appliances (i.e. appliances for which the manufacturing process does not reflect the normal manufacturing process or tolerances) the initial evaluation shall be valid for a period of 12 months.

### **4.5 Durability (resistance to corrosion of the pre-treatment and paint)**

The pre-treatment and paint of the radiator/convector samples shall be submitted to a test according to clause 4 of EN 442-1:1995 and EN 442-1:1995/A1:2003.

### **4.6 Catalogue data**

All the catalogue and any literature relevant to the heating appliance shall comply with ZA.3 of EN 442-1:1995 and EN 442-1:1995/A1:2003.

### **4.7 Marking and labelling**

Marking and labelling shall comply with ZA.3 of EN 442-1:1995 and EN 442-1:1995/A1:2003.

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<sup>1)</sup> Also according to Commission Decision 96/603/EC, as amended.

<sup>2)</sup> Also in relation to Directive 76/769/EEC, as amended.



## 5 Maintenance of conformity

The maintenance of conformity requires the establishment of a quality assurance system to ensure that:

- the dimensional tolerances and other relevant characteristics shall be maintained according to clauses 4 and 5 of EN 442-1:1995 and EN 442-1:1995/A1:2003;
- the thermal output of a production radiator/convector is not less than the catalogue output with a tolerance *s* of 4 %.
- all radiators/convectors shall be tested for leaks according to EN 442-1:1995, 5.2.

## **Bibliography**

- [1] Directive 76/769/EEC, as amended.
- [2] Commission Decision 96/603/EC, as amended.



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