
**Radiators and convectors — Methods
and rating for determining the heat
output**



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 205, *Building environment design*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document results from the recognition that the heating appliances falling into the field of application hereinafter stated are traded on the basis of their thermal output.

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

In addition, for low temperature systems, a standard low temperature thermal output is given.

The standard thermal outputs (standard rated thermal output and standard low temperature thermal output) are a defined value taken from the characteristic equation.

The pre-requisites of the standard thermal outputs, as defined by this document, are the following:

- to be representative of the actual output of the appliance in different operating conditions;
- to be reproducible within the tolerances defined by this document, taking into account the state of measuring techniques;
- to be representative of the thermal outputs, obtainable under the same test conditions, of any identical sample taken out of the current production (within the tolerances defined by this document, taking into account the state of measuring techniques and methods of manufacture).

Radiators and convectors — Methods and rating for determining the heat output

1 Scope

This document defines procedures for determining the standard thermal outputs and other characteristics of radiators and convectors installed in a permanent manner in construction works, fed with water or steam at temperatures below 120 °C, supplied by a remote energy source.

This document specifies the laboratory arrangements and testing methods to be adopted, the admissible tolerances, the criteria for selecting the samples to be tested and for verifying the conformity of the current production with the samples tested at the initial test.

This document also defines the additional common data that the manufacturer shall provide with the product in order to ensure the correct application of the products.

This document does not apply to fan-assisted radiators, fan-assisted convectors and trench convectors or to independent heating appliances.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

3 Terms, definitions, symbols and units

3.1 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1.1

heating appliance

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

3.1.2

independent heating appliance

self-contained *heating appliance* (3.1.1) which does not need to be connected to a remote energy source (e.g. a boiler) as it contains its own energy source (e.g. gas fired appliances, electric appliances, air to air heat pump appliances)