
**Building materials and products —
Procedures for determining declared and
design thermal values**

*Matériaux et produits du bâtiment — Procédures pour la détermination des
valeurs thermiques déclarées et utiles*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10456 was prepared by Technical Committee ISO/TC 163, *Thermal insulation*, Subcommittee SC 2, *Calculation methods*.

This second edition cancels and replaces the first edition (ISO 10456:1997), of which it constitutes a minor revision.

Building materials and products — Procedures for determining declared and design thermal values

1 Scope

This International Standard specifies methods for the determination of declared and design thermal values for thermally homogeneous building materials and products.

It also gives procedures to convert values obtained under one set of conditions to those valid for another set of conditions. These procedures are valid for design ambient temperatures between $-30\text{ }^{\circ}\text{C}$ and $+60\text{ }^{\circ}\text{C}$.

Conversion coefficients for temperature, valid for mean temperatures between $0\text{ }^{\circ}\text{C}$ and $30\text{ }^{\circ}\text{C}$, and moisture are given in annex A.

This International Standard does not give any conversion coefficients for the effect of ageing or other effects like convection or settlement.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 8301:1991, *Thermal insulation — Determination of steady-state specific thermal resistance and related properties — Heat flow meter apparatus.*

ISO 8302:1991, *Thermal insulation — Determination of steady-state thermal resistance and related properties — Guarded hot plate apparatus.*

ISO 8990:1994, *Thermal insulation — Determination of steady-state thermal transmission properties — Calibrated and guarded hot box.*

3 Terms, definitions and symbols

3.1 Definitions

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

3.1.1

declared thermal value

expected value of a thermal property of a building material or product

- assessed from measured data at reference conditions of temperature and humidity;
- given for a stated fraction and confidence level;
- corresponding to a reasonable expected service lifetime under normal conditions