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Second edition  
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## **Building components and building elements — Thermal resistance and thermal transmittance — Calculation method**

*Composants et parois de bâtiments — Résistance thermique et coefficient de transmission thermique — Méthode de calcul*



Reference number  
ISO 6946:2007(E)

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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 2.

The main task of technical committees is to prepare International Standards. 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.

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.

ISO 6946 was prepared by Technical Committee ISO/TC 163, *Thermal performance and energy use in the built environment*, Subcommittee SC 2, *Calculation methods*.

This second edition cancels and replaces the first edition (ISO 6946:1996), which has been technically revised. It also incorporates the Amendment ISO 6946:1996/Amd.1:2003.

The following changes have been made to the first edition:

- information on the calculation of heat flow rates has been transferred from the Introduction to the note in Clause 4;
- 5.3.3 provides an amended basis for slightly ventilated air layers;
- 5.4.2 provides clarification of the applicability of Table 3;
- 5.4.3 has been completely revised;
- 6.2.1 provides a new text to allow calculation of a component that is part of a complete element; it also clarifies exceptions and the limit of applicability;
- Annex B provides additional data for other temperature differences across cavities; it also provides a correction to the formula for radiation transfer in divided airspaces;
- Annex C contains an additional shape;
- D.2 has been completely rewritten to clarify the intentions, the former Annex E having been deleted (national annexes can be attached to this International Standard giving examples in accordance with local building traditions);
- D.3 provides a revised procedure for mechanical fasteners, including recessed fasteners;
- D.4 does not apply in cooling situations.

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## Introduction

This International Standard provides the means (in part) to assess the contribution that building products and services make to energy conservation and to the overall energy performance of buildings.