

**Termilised sillad ehituskonstruktsioonides.
Lineaarne soojusläbivus. Lihtsustatud
meetodid ja veaväärtused**

Thermal bridges in building construction - Linear
thermal transmittance - Simplified methods and
default values

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Thermal bridges in building construction - Linear thermal transmittance - Simplified methods and default values (ISO 14683:2007)

Ponts thermiques dans les bâtiments - Coefficient linéique de transmission thermique - Méthodes simplifiées et valeurs par défaut (ISO 14683:2007)

Wärmebrücken im Hochbau - Längenbezogener Wärmedurchgangskoeffizient - Vereinfachte Verfahren und Anhaltswerte (ISO 14683:2007)

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Foreword

This document (EN ISO 14683:2007) has been prepared by Technical Committee ISO/TC 163 "Thermal performance and energy use in the built environment" in collaboration with Technical Committee CEN/TC 89 "Thermal performance of buildings and building components", the secretariat of which is held by SIS.

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of an identical text or by endorsement, at the latest by June 2008, and conflicting national standards shall be withdrawn at the latest by June 2008.

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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.

Thermal bridges in building constructions give rise to changes in heat flow rates and surface temperatures compared with those of the unbridged structure. These heat flow rates and temperatures can be precisely determined by numerical calculation in accordance with ISO 10211. However, for linear thermal bridges, it is often convenient to use simplified methods or tabulated values to obtain an estimate of their linear thermal transmittance.

The effect of repeating thermal bridges which are part of an otherwise uniform building element, such as wall ties penetrating a thermal insulation layer or mortar joints in lightweight blockwork, needs to be included in the calculation of the thermal transmittance of the building element concerned, in accordance with ISO 6946.

Although not covered by this International Standard, it is worth noting that thermal bridges can also give rise to low internal surface temperatures, with an associated risk of surface condensation or mould growth.

Thermal bridges in building construction — Linear thermal transmittance — Simplified methods and default values

1 Scope

This International Standard deals with simplified methods for determining heat flows through linear thermal bridges which occur at junctions of building elements.

This International Standard specifies requirements relating to thermal bridge catalogues and manual calculation methods.

Default values of linear thermal transmittance are given in Annex A for information.

2 Normative references

The following referenced documents are indispensable for the application 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 7345, *Thermal insulation — Physical quantities and definitions*

ISO 10211, *Thermal bridges in building construction — Heat flows and surface temperatures — Detailed calculations*

3 Terms, definitions, symbols and units

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7345 and the following apply.

3.1.1

linear thermal bridge

thermal bridge with a uniform cross section along one of the three orthogonal axes

3.1.2

point thermal bridge

localized thermal bridge whose influence can be represented by a point thermal transmittance

3.1.3

linear thermal transmittance

heat flow rate in the steady state divided by length and by the temperature difference between the environments on either side of a thermal bridge

NOTE The linear thermal transmittance is a quantity describing the influence of a linear thermal bridge on the total heat flow.