

# JIS

JAPANESE  
INDUSTRIAL  
STANDARD

Translated and Published by  
Japanese Standards Association

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**JIS A 2101** : 2003

(AIJ/JSA)

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

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ICS 27.220; 91.120.10

Reference number : JIS A 2101 : 2003 (E)

## Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Land, Infrastructure and Transport through deliberations at the Japanese Industrial Standards Committee, as the result of proposal for revision of Japanese Industrial Standard submitted by the Architectural Institute of Japan (AIJ)/the Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. This Standard has been made based on **ISO 6946 : 1996** *Building components and building elements—Thermal resistance and thermal transmittance—Calculation method* for the purposes of making it easy to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of International Standard which is based on Japanese Industrial Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

Date of Establishment: 2003-03-19

Date of Public Notice in Official Gazette: 2003-03-19

Investigated by: Japanese Industrial Standards Committee  
Standards Board

Technical Committee on Architecture

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JIS A 2101:2003, First English edition published in 2003-10

Translated and published by: Japanese Standards Association  
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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In the event of any doubts arising as to the contents,  
the original JIS is to be the final authority.

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Printed in Japan

## Contents

	Page
Introduction .....	1
1 Scope .....	1
2 Normative references .....	1
3 Definitions and symbols .....	2
3.1 Definitions .....	2
3.2 Symbols and units .....	3
4 Principles .....	3
5 Thermal resistances .....	4
5.1 Thermal resistance of homogeneous layers .....	4
5.2 Surface resistances .....	4
5.3 Thermal resistance of air layers .....	5
5.4 Thermal resistance of unheated spaces .....	7
6 Total thermal resistance .....	8
6.1 Total thermal resistance of a building component consisting of homogeneous layers .....	8
6.2 Total thermal resistance of a building component consisting of homogeneous and heterogeneous layers .....	8
7 Thermal transmittance .....	11
Annex A (normative) Surface resistance .....	12
Annex B (normative) Thermal resistance of unventilated airspaces .....	14
Annex C (normative) Calculation of the thermal transmittance of components with tapered layers .....	16
Annex D (informative) Corrections to thermal transmittance .....	19
Annex E (informative) Examples of corrections for air gaps .....	22
Annex 1 (informative) Comparison table between JIS and corresponding International Standard .....	25

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

**Introduction** The thermal transmittance calculated according to this Standard is suitable for determining heat flow through building components that are within the scope of this Standard.

This Japanese Industrial Standard has been prepared based on the first edition of **ISO 6946** *Building components and building elements—Thermal resistance and thermal transmittance—Calculation method* published in 1996 and Draft Amendment 1 (1999) modifying the technical contents. For the amendment, it is combined by editing.

In addition, the portions with dotted underlines in this Standard are matters which are specified by altering the original International Standard. A list of modifications with their explanation is shown in Annex 1.

**1 Scope** This Standard specifies the method of calculation of the thermal resistance and thermal transmittance of building components and building elements, excluding doors, windows and other glazed units, components which involve heat transfer to the ground, and components through which air is designed to permeate.

The calculation method is based on the appropriate design thermal conductivities or design thermal resistances of the materials and products involved.

The method applies to components and elements consisting of thermally homogeneous layers (which can include air layers). This Standard also gives an approximate method that can be used for heterogeneous layers, except cases where an insulating layer is bridged by metal.

Remarks : The International Standard corresponding to this Standard is as follows.

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21**.

ISO 6946 : 1996 *Building components and building elements—Thermal resistance and thermal transmittance—Calculation method* (MOD)

**2 Normative references** The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. If the indication of the year of publication is given to these referred standards, only the edition of indicated year constitutes the provision of this Standard but the revision and amendment made thereafter are not applied. The normative references without the indication of the year of coming into effect apply limiting only to the most recent edition (including amendments).