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JIS A 4710 : 2004

(JTCCM/JSA)

Windows and doorsets—Thermal resistance test

ICS 91.060.50; 91.120.10

Reference number : JIS A 4710 : 2004 (E)

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee, as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Testing Center for Construction Materials (JTCCM)/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. Consequently **JIS A 4710** : 1996 is replaced with this Standard.

This revision has been made based on **ISO 12567-1** : 2000 *Thermal performance of windows and doors—Determination of thermal transmittance by hot box method—Part 1 : Complete windows and doors* for the purposes of making it easier to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of an 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.

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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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Windows and doorsets—Thermal resistance test

Introduction This Japanese Industrial Standard has been prepared based on **ISO 12567-1** *Thermal performance of windows and doors—Determination of thermal transmittance by hot box method—Part 1 : Complete windows and doors* published in 2000 as the first edition. The method for the thermal resistance test of windows and doorsets had been established as Japanese Industrial Standard before this International Standard was established, and has been used for the evaluation for the thermal resistance of windows and doorsets in the Energy Conservation Policy in Japan (Criteria for clients on the rationalization of energy use for houses). This Standard is made with the content of both standards included although it is based on the **ISO** standard. Therefore, the matters required for measurement in this country in consideration of the difference, etc. of the window type are added without any modification in technical content.

In addition, portions given sidelines or dotted underlines are the matters in which the content of the original International Standard has been modified. A list of modification with the explanations is given in annex 8 (informative).

1 Scope This Standard specifies the method for the thermal resistance test of windows and doorsets.

Remarks 1 This Standard does not include the following matters.

a) Edge zone effects occurring outside the perimeter of the test specimen

b) Energy transfer due to solar radiation on the test specimen

c) Effects of air leakage through the test specimen

d) Roof windows and projecting products

2 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 12567-1 : 2000 *Thermal performance of windows and doors—Determination of thermal transmittance by hot box method—Part 1 : Complete windows and doors* (MOD)

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS A 0202 *Thermal insulation—Vocabulary*

Remarks : **ISO 7345** *Thermal insulation—Physical quantities and definitions*

ISO 9229 *Thermal insulation—Materials, products and systems—Vocabulary*

ISO 9251 *Thermal insulation—Heat transfer conditions and properties of materials—Vocabulary*

ISO 9288 *Thermal insulation—Heat transfer by radiation—Physical quantities and definitions*

ISO 9346 *Thermal insulation—Mass transfer—Physical quantities and definitions* are equivalent to the said standard. (**ISO 7345** and **ISO 9288** are referred to in **ISO 12567-1**.)

JIS A 1412-1 *Test method for thermal resistance and related properties of thermal insulations—Part 1 : Guarded hot plate apparatus*

Remarks : **ISO 8302** *Thermal insulation—Determination of steady-state thermal resistance and related properties—Guarded hot plate apparatus* is equivalent to the said standard.

JIS A 1412-2 *Test method for thermal resistance and related properties of thermal insulations—Part 2 : Heat flow meter apparatus*

Remarks : **ISO 8301** *Thermal insulation—Determination of steady-state thermal resistance and related properties—Heat flow meter apparatus* is equivalent to the said standard.

JIS A 1420 *Determination of steady-state thermal transmission properties—Hot box method*

Remarks : **ISO 8990** *Thermal insulation—Determination of steady-state thermal transmission properties—Calibrated and guarded hot box* is equivalent to the said standard.

JIS A 4706 *Windows*

JIS R 3106 *Testing method on transmittance, reflectance and emittance of flat glasses and evaluation of solar heat gain coefficient*

JIS Z 8704 *Temperature measurement—Electrical methods*

3 Definitions, symbols, and units

3.1 Definitions For the purpose of this Standard, the definitions given in **JIS A 0202** and the following definitions apply.

a) **heat transfer aperture dimension** the heat transfer dimension of a test specimen in width and height excluding protruding sections such as a fin for mounting fittings to the building frame, a rail receptacle

b) **heat transfer area** the product of width and height in heat transfer aperture dimension

Remarks : The method to measure the heat transfer aperture dimension shall be as given in annex 3 (normative).