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Calculation of thermal transmittance of glazing

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Foreword

This Japanese Industrial Standard has been 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 Flat Glass Manufacturers Association of Japan (FGMAJ)/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 R 3107**:1998 is replaced with this Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

Calculation of thermal transmittance of glazing

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 10292**:1994, Edition 1, with some modifications of the technical contents.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JD. The comparison table between previous and current editions of this Standard on technically significant revisions is given in Annex JE.

1 Scope

This Standard specifies the calculation of thermal transmittance through the central part of glazing [1)] used for building apertures (U value). The combined edge effects due to the thermal bridge of insulating glass spacer and of vacuum glass edge seal, and of the window frame are not included [2)].

These calculations are intended to enable the heat loss through a window glass of building estimated from the thermal transmittance through the central part of glazing, together with heat losses through the opaque elements of the building, and used to determine the capacity of the heating or cooling plant.

In addition, U values for other purposes can be calculated using the same procedure, in particular for predicting:

a) heat gains in summer by conduction;

b) condensation on glass surfaces;

c) seasonal heat loss through window glasses in determining overall energy use in buildings;

d) contribution of the amount of absorbed solar radiation in determining total solar energy transmittance.

The calculations have been made as simple as possible consistent with accuracy.

NOTE The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 10292:1994 *Glass in building—Calculation of steady-state U values (thermal transmittance) of multiple glazing* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standards and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

Note 1) Glazing is as follows.

a) Glazing mainly manufactured from soda lime silicate glass by continuous moulding process. Glass having diffuse transmissivity, such as figured glazing, is included.