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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 22476-2008

**Calculation and determination of steady-state U values (thermal
transmittance) of multiple glazing**

中空玻璃稳态U值(传热系数)的计算及测定
(English Translation)

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Foreword

This revised standard adopts ISO 10291 "Glass in building --- U values \u200b\u200bIG steady state (heat transfer coefficient) measurement --- Protection Hot plate ", ISO 10292" Glass in building --- U values \u200b\u200bIG steady state (heat transfer coefficient) calculation ", ISO 10293" Building Glass U values \u200b\u200b--- glass insulating glass steady state (heat transfer coefficient) measurement --- heat flow meter method. " this standard is based on ISO 10291, ISO 10292, ISO 10293 redrafted.

The standard lists the reg number and ISO 10291 Appendix C, ISO 10292, ISO 10293 reg control list numbered.

Taking into account China's national conditions, in the use of ISO 10291, ISO 10292, ISO 10293, the standard this made some changes. For technical difference Iso been incorporated into the body and they are involved in terms of the margin of a single vertical line identification. These techniques are given in Appendix D List of differences and the reasons for the reference.

For ease of use, this standard made the following editorial changes.

--- "This International Standard" be replaced by "this standard";

"," --- With a decimal point instead of a comma as the decimal point, "";

--- Delete international standards foreword.

This standard Annex A, Annex B is normative appendix, Appendix C, Appendix D is an informative annex.

The standard proposed by China Building Materials Federation.

This standard by the National Standardization Technical Committee centralized building glass.

Introduction

Insulating glass U-value (heat transfer coefficient) is used to transfer heat insulating glass characterization, determining the value of U can be obtained by the thermal resistance test, it can also be calculated by emissivity glass after the test.

This standard contains three methods about three ISO standard U-value measurements and calculations. Testing may use any of the standard method Insulating glass U value were measured. But U values using different methods derived there may be some differences, this is because the test system There is an error caused, so the test results, the method used should be marked.

IG steady state value U Calculation (heat transfer coefficient) and Determination

1 Scope

This standard specifies three methods of insulating glass U-value under steady state (heat transfer coefficient) calculation and measurement.

This standard applies to the flat glass (including embossed, cast glass), double-coated flat glass or other materials or multilayered hollow Glass, does not apply to the outer sheet is a hollow glass through far-infrared material. Test methods specified in this standard measure only the central hollow glass U-value (heat transfer coefficient) region, regardless of the edge effect and the influence of solar radiation. U value of the insulating glass surface of the same structure can be used flat IG calculation and determination.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 8170 numerical rounding rules GB/T 10294 insulation steady thermal resistance and related properties - Guarded hot plate method GB/T 10295 insulation steady thermal resistance and related properties - Heat flow meter method

3 Terms and Definitions

The following terms and definitions apply to this standard.

Insulating glass U-value (heat transfer coefficient) is defined under steady state conditions, the central region of hollow glass, edge effect is not considered, the two outer surfaces of the glass Per unit time, unit temperature difference by heat per unit area, in units of $W/(m^2 \cdot K)$.

K).

4 Symbol

Symbols Table 1 of this standard referenced in Table 2.

Table 1

Symbol Name Unit

constant

Gas heat capacity

Glass thickness (or a substitute material for glass) Grashof registration number Surface
heat transfer coefficient Thermal conductivity Spacer layers Nusselt dimensionless number
Prang authorized number Glass (glass or alternative materials) thermal resistivity Standard
reflectance Gas spacer layer thickness $J/(kg \cdot K)$ Dimensionless $W/(m^2 \cdot K)$ $W/(m^2 \cdot K)$
Dimensionless Dimensionless $m \cdot K/W$