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

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**Insulating glass unit
(English Translation)**

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1 Scope

This Standard specifies the terms, definitions, classification, requirements, test methods, inspection rules. Packaging, marks, transportation and storage of Insulating glass unit.

This Standard applies to the insulating glass unit used for cold storage, decoration and transportation in the field of building and other fields, and can be taken as reference by the insulating glass unit used for other purposes.

2 Normative references

The articles contained in the following documents have become part of this Standard when they are quoted herein. For the dated documents so quoted, all the modifications (Including all corrections) or revisions made thereafter shall be applicable to this Standard.

GB/T 1216 External micrometer

GB/T 8170 Rules of rounding off for numerical values & expression and judgment of limiting values

GB/T 22476 Calculation and determination of steady-state U values (thermal transmittance)

of multiple glazing

3 Terms and definitions

The following terms and definitions are applicable to this document.

3.1

Insulating glass unit

2 or more sheets of glass are separated with effective support and are bond-sealed at edges, thus it becomes the glass product with dry gas space in between the glass layers.

4.1 Classified according to the shape

Flat insulating glass;

Curved surface insulating glass.

5.1 Glass

The sheet glass, coated glass, laminated glass, toughened glass, fire-resistant glass, semi-toughened glass, figured glass and other glasses can be adopted. The glass used shall be in compliance with the corresponding standard requirements.

5.3 Spacing materials

Spacing materials can be aluminum spacing strip, stainless steel spacing strip, composite spacing strip, composite gaskets, etc., and shall conform to the requirements of relevant standards and technical documents.

5.4 Desiccant

Desiccant shall be in compliance with the requirements of relevant standards.

6 Requirements

The performance and test methods of insulating glass unit shall comply with the provisions of the corresponding terms in Table 1.

6.1 Dimensional deviation

6.1.1

The allowable deviation for length and width of insulating glass unit are shown in Table 2.

Table 2 Length (width) allowable deviation Unit. mm

6.1.3 Diagonal difference of insulating glass unit

Diagonal difference of rectangular flat insulating glass unit shall not be more than 0.2% of the average length of the diagonal. Diagonal difference of curved and irregular shaped insulating glass unit shall be negotiated between the supplier and demander.

6.1.4 Dislocation

The maximum dislocation of flat insulating glass unit shall comply with the provisions in Table 4.

Table 4 Allowable dislocation Unit. mm

6.1.5 Bond-line thickness of insulating glass unit

Width of secondary line of sealant for insulating glass unit shall be $\geq 5\text{mm}$; glue line width of composite sealing strip shall be $8\text{mm} \pm 2\text{mm}$; width of primary line of butyl sealant layer shall be

$\geq 3\text{mm}$; Special specifications or specially required product shall be negotiated between the supplier and demander.

6.3 Dew point

Dew point of insulating glass unit shall be $< -40^\circ\text{C}$.

6.4 Ultraviolet irradiation resistant performance

After test, the inner surface of sample shall be free of traces of fogging, water vapor condensation or contamination, or obvious deformation of sealant.

6.5 Durability of water vapor seal

Moisture permeability index $I \leq 0.25$, average value $I_{av} \leq 0.20$.

6.6 The initial gas content

The initial gas content of inflatable insulating glass unit shall be $\geq 85\%$ (V/V).

6.7 Durability of gas seal

After gas seal durability test, the gas content of inflatable insulating glass unit shall be $\geq 80\%$ (V/V).

6.8 U value

The supplier and the demander shall negotiate about whether this test is necessary.

7.1 Dimensional deviation

7.1.1

Insulating glass unit length, width deviation and diagonal difference shall be measured with the steel tap or straight steel ruler with accuracy of 1.0mm; sealant layer width and dislocation shall be measured with the steel tap or straight steel ruler with accuracy of 0.5mm.

7.1.2

The thickness of the insulating glass unit shall be measured at the midpoint of four sides 15mm from the glass edge by using the outside micrometer with accuracy of 0.01mm required by

GB/T1216 or the vernier caliper with accuracy of 0.02mm. The arithmetic mean of the measurement results will be the thickness value.

7.2 Appearance

It shall use product or sample to test, observe with the naked eye at a distance of 600mm from the insulating glass unit under good natural light or scattered light background illumination conditions.

Scratch width shall be measured with the 10-fold reading microscope with accuracy of 0.1mm;

and the length shall be measured with the straight steel ruler with accuracy of 0.5mm.

7.3.1 Sample

Sample shall be the product or shall be made of the same material into the size of 510mm x

360mm under the same process condition as the product; the number of sample shall be 15 sheets.

7.4.1 Sample

Sample shall be made of the same material into the size of 510mm x 360 mm under the same process condition as the product; number of sample shall be 2 sheets.

The samples of dual-cavity insulating glass unit shall be four sheets.