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General Technical Requirements for Glass Furniture

玻璃家具通用技术条件

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General Technical Requirements for Glass Furniture

1 Scope

This Standard specifies the terms, definitions, requirements, test methods, inspection rules, marking, packaging, transportation and storage of glass furniture.

This Standard is applicable to various glass furniture that is made of glass as the primary material and wood or metal as the auxiliary materials.

2 Normative References

The following documents are indispensable to the application of this Standard. In terms of references with a specified date, only versions with a specified date are applicable to this Standard. The latest version (including all the modifications) of references without a specified date is also applicable to this Standard.

GB/T 2828.1-2012 Sampling Procedures for Inspection by Attributes - Part 1: Sampling Schemes Indexed by Acceptance Quality Limit (AQL) for Lot-by-lot Inspection

GB/T 3324-2008 Wooden Furniture - General Technical Requirements

GB/T 3325-2008 Metal Furniture - General Technical Requirements

GB 5296.6 Instructions for Use of Products of Consumer Interest - Part 6: Furniture

GB/T 10357.1 Test of Mechanical Properties of Furniture - Part 1: Strength and Durability of Tables

GB/T 10357.2 Test of Mechanical Properties of Furniture - Part 2: Stability of Chairs and Stools

GB/T 10357.3 Test of Mechanical Properties of Furniture - Part 3: Strength and Durability of Chairs and Stools

GB/T 10357.4 Test of Mechanical Properties of Furniture - Part 4: Stability of Storage Units

GB/T 10357.5 Test of Mechanical Properties of Furniture - Part 5: Strength and Durability of Storage Units

GB/T 10357.7 Test of Mechanical Properties of Furniture - Part 7: Stability of Tables

d) Glass sliding doors.

5 Requirements

5.1 Main Dimensional Deviation (general items)

The limit deviation of the external width, depth and height of glass furniture product is ± 5 mm; the limit deviation of matching products or combined products shall be positive or negative at the same time.

5.2 Tolerance of Shape and Position

Tolerance of shape and position shall comply with the stipulation in Table 1 below.

Table 1 -- Tolerance of Shape and Position

No.	Test Item	Requirement			Classification		
					Basic	General	
1	Warpage	Panel, envisaged panel part, diagonal length	≥1400	≤ 3.0		√	
			(700, 1400)	≤ 2.0		√	
			≤ 700	≤ 1.0		√	
2	Flatness	Panel, envisaged panel part ≤ 0.2				√	
3	Adjacent perpendicularity	Panel, framework	Diagonal length	≥ 1000	Length difference ≤ 3		√
				< 1000	Length difference ≤ 2		√
			Length of opposite side	≥ 1000	Opposite length difference ≤ 3		√
				< 1000	Opposite length difference ≤ 2		√
4	Dislocation	Distance deviation (not the distance requested in design) between door and framework, door and adjacent door surface, drawer and framework, drawer and door, drawer and 2 adjacent surfaces ≤ 2.0				√	
5	Splitting	All the splitting (not requested in design) ≤ 2.0				√	
6	Footing smoothness	≤ 2.0				√	
7	Drawer droop	≤ 20				√	
8	Drawer swinging	≤ 15				√	

5.3 Appearance Requirement

Appearance requirement shall comply with the stipulation in Table 2 below.

		compact; seam of mold splitting shall not affect the appearance		
50	Other appearance requirements	There shall be no burr, cutting edge or corner angle on parts that are exposed to human body or collectibles	√	
51		The connection of fixed parts shall be firm; there shall be no missing part, missing nail or penetrating nail (apart from reserved hole and optional hole)	√	
52		There shall be no de-coloration or color fading on all the coating surfaces	√	
53	Woodworking requirements	Non-contacting interface of artificial panel shall be sealed or processed with coating	√	
54		Panel or part that contacts human beings or storage area shall manifest no burr, cutting edge or corner angle	√	
55		The appearance of panel or part shall be smooth; chamfered edge, circular bead or thread shall be consistent		√
56		There shall be no degumming, bubble or crack on the sealed and covered edge	√	
57		The veneer shall be tight and flat; there shall be no obvious glue penetration		√
58		The juncture of tenon, block and part shall manifest no breakage	√	
59		The juncture of part shall be tight and firm		√
60		There shall be no missing part, missing nail or penetrating nail in the installation of various parts and adapting pieces (other than reserved hole and optional hole)	√	
61		The installation of various parts shall be rigorous, flat and firm; the junctures shall manifest no crack or loosening		√
62		After installation, switching-on/off part shall be flexible		√
63		Engraved pattern shall be uniform, distinct and well-bedded; symmetric part shall be symmetric; there shall be no unfilled corner on convex and concave, gap bridge, corner angle and arc; shoved bottom shall be flat; there shall be no hammering stamp or burr on each part. The number of defects shall be < 4		√
64		The linear of wood piece shall be consistent;		√

Table 4 -- Safety Requirements

No.	Test Item		Requirement	Classification	
				Basic	General
1	Characteristic dimension		Characteristic dimension shall comply with the stipulation in 5.1 in GB 28008-2011	√	
2	Processing		Processing shall comply with the stipulation in 5.2 in GB 28008-2011	√	
3	Appearance		Appearance shall comply with the stipulation in 5.3 in GB 28008-2011	√	
4	Structural strength		Structural strength shall comply with the stipulation in 5.4 in GB 28008-2011	√	
5	Physical and chemical properties	Thermal shock resistance of tempered glass and its laminated glass	It shall comply with the stipulation in 5.5.1 in GB 28008-2011	√	
		Thermal shock resistance of semi-tempered glass and its laminated glass	It shall comply with the stipulation in 5.5.2 in GB 28008-2011	√	
		Dry heat resistance on the surface of glass parts	It shall comply with the stipulation in 5.5.3 in GB 28008-2011	√	
6	Limit of hazardous substance		Limit of hazardous substance shall comply with the stipulation in GB 18584	√	
7	Wood and metal parts		Wood and metal parts shall comply with the stipulation in 5.7 in GB 28008-2011	√	

5.6 Mechanical Properties

Mechanical properties of glass furniture shall comply with the stipulation in Table 5 below.

Table 5 -- Mechanical Properties

No.	Test Item	Requirement		Classification	
				Basic	General
1	Stability of tables	Comply with the stipulation in GB/T 10357.7	There shall be no tipping-over after test	√	
2	Strength and durability of tables	Comply with the stipulation in GB/T 10357.1	1) There shall be no fracture or crack on components; 2) There shall be no abrasion or deformation that might severely affect the function;	√	

	screens		stipulation in GB 22792.2-2008		
8	Bearable glass revolving plate	Revolving torque	After load is evenly distributed on the revolving plate, initiate torque $\leq 7.0 \text{ N}\cdot\text{m}$	√	
9		Unilateral static bearing	After unilateral load-bearing test, the revolving plate shall have no contact with the junctures of framework, desktop and revolving stage; there shall be no damage after test; the revolving plate shall be flexibly movable	√	
10		Vertical impact strength	After impact test, the revolving plate shall manifest no damage and shall be flexible movable	√	
NOTE: GB/T 10357.1 ~GB/T 10357.7 series test shall comply with the grade negotiated and determined by the demand side and the supply side					

6 Test Methods

6.1 Main Dimensional Deviation

Place test sample on a flat or smooth ground; adopt straight steel ruler or steel tape (minimum scale: 1 mm) to measure it. Dimensional deviation is the difference between the indicated value and the actually measured value.

6.2 Tolerance of Shape and Position

Tolerance test of shape and position shall comply with the stipulation in 6.2 in GB/T 3324-2008.

6.3 Appearance

6.3.1 Glassware

In the test of movable parts of glassware, simulate the normal operating track of the parts and examine links where problems might easily emerge.

In the test of surface engraving of glass parts, take the product as the sample, conduct visual inspection and touch check at a distance of 600 mm from the sample under favorable natural light and scattered illumination.

Requirements of glass parts processing shall comply with the stipulation in 6.2 in GB 28008-2011.

6.3.2 Wall thickness of metal parts

Adopt a measuring instrument (minimum scale $< 0.1 \text{ mm}$) to measure it. Measure 3 values of the same part and take the average value as the measured value (accurate to 0.1 mm).

6.6.3 Stability of storage units

Stability test of storage units shall comply with the stipulation in GB/T 10357.4.

6.6.4 Strength and durability of storage units

Strength and durability test of storage units shall comply with the stipulation in GB/T 10357.5.

6.6.5 Stability of chairs and stools

Stability test of chairs and stools shall comply with the stipulation in GB/T 10357.2.

6.6.6 Strength and durability of chairs and stools

Strength and durability test of chairs and stools shall comply with the stipulation in GB/T 10357.3.

6.6.7 Mechanical properties of screens

Mechanical properties test of screens shall comply with the stipulation in GB/T 22792.3-2008.

6.6.8 Bearable glass revolving plate

6.6.8.1 Revolving plate torque

Load and evenly distribute loading at 1.0 kg/dm² on the revolving plate. Impose horizontal pull of tangential direction on any point of the edge of the revolving plate, till it is about to be initiated. Record the revolving force F. Multiply the revolving force F by the semidiameter of the revolving plate, the result is torque.

6.6.8.2 Static load test of unilateral revolving plate

Impose 45 N of load on any central line under a distance of 100 mm from the edge, maintain for 10 s. After imposing for 10 times, examine the revolving plate.

6.6.8.3 Vertical impact strength test of revolving plate

Let a desktop impactor that complies with the stipulation in GB/T 10357.1 fall freely from a vertical height of 140 mm (from the bottom of the impactor to the revolving plate). Impact the central part of the revolving plate for 1 time. After the test, check the revolving plate.

6.7 Adhesive Strength Test of Glass and Metal Connecting Plate

Use a preset torque wrench, then, load 40 N•m of torque along the tangential direction of the diameter of the revolving plate; maintain for 10 s. Observe whether the agglutinate parts are separated.

Within an inspection cycle, randomly draw 2 samples from recently produced products. one of them shall be submitted for inspection, and the other one shall be sealed up for safekeeping.

7.3.3 Inspection procedure

Inspection procedure shall comply with the principle of minimizing the influence on the accuracy of the remaining inspection items.

7.4 Determination of Inspection Result

When a product is qualified in all the basic items and disqualified in < 4 general items, this product shall be determined as qualified. When a product cannot satisfy the requirements of qualified product, it shall be determined as disqualified.

7.5 Re-inspection Rules

When a product is determined as disqualified in model inspection, the sealed-up sample can be used for re-inspection. In re-inspection, disqualified items and items that are not inspected because of sample damage shall be inspected. Appraise it in accordance with the stipulation in 7.4. Indicate “re-inspection” in the inspection result.

8 Marking, Instruction for Use, Packaging, Transportation and Storage

8.1 Marking

Product marking shall at least include the following content:

- a) Product name, specification and model number;
- b) Name of main materials; serial number of standard;
- c) Certificate of inspection; date of production;
- d) Chinese name and address of manufacturer.

8.2 Instruction for Use

Instruction for use that complies with GB 5296.6 shall be provided; it shall at least include the following content:

- a) Product name, specification, model number and serial number of standard;
- b) Main materials (glass) of product;
- c) Limit of hazardous substances in wood pieces;

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