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

GB/T 10357.5-2023

Replacing GB/T 10357.5-2011

**Test of mechanical properties of furniture - Part 5: Strength and
durability of storage units**

家具力学性能试验 第5部分：柜类强度和耐久性

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1 Scope

GB/T 10357.5-2023 is the Chinese national standard on test of mechanical properties of furniture - part 5: strength and durability of storage units, in the field of domestic and commercial equipment, entertainment, sport. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 7 September 2023 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 April 2024. Classification: ICS 97.140, CCS Y80. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document describes the test methods for the strength and durability of storage units. This document is applicable to storage functional furniture that has been intactly assembled and ready for use, including its movable and immovable components.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

ISO 48-5.2018 Rubber, Vulcanized or Thermoplastic - Determination of Hardness - Part 5. Indentation Hardness by IRHD Pocket Meter Method

3 Terms and Definitions

The following terms and definitions are applicable to this document.

3.1 adjustable friction stay A component (3.6) that maintains an opening door or flap (3.12) in multiple open positions without any assistance.

3.2 built-in stops A device that limits the movement of extension elements (3.11) or opening doors.

3.3 catch device A device that can be opened without additional action to keep a certain component (3.6) in a certain position. EXAMPLE. magnetic door catches or buffer door closers.

3.4 clear height The unobstructed height above the upper surface of the product bottom. EXAMPLE. the distance from the upper surface of the bottom of the lower extension element to the lower edge of the upper extension element; the distance from the upper surface of the bottom of the upper extension element to the lower edge of the structural unit (see Figure 1).

3.5 coat hook A component (3.6) for hanging coats and hats, etc.

3.6 component A certain part of unit, including hardware. EXAMPLE. extension elements, doors and flaps.

4 General Test Conditions

4.1 Pre-treatment Products to be tested shall be intactly assembled and deliverable finished products. The product and its components shall be assembled and / or configured in accordance with the instructions provided. Unless otherwise stated, the tests shall be carried out in the configuration (3.7) that is least conducive to the mechanical properties. If

assembly or configuration instructions are not provided, then, the assembly or fitting-together method shall be recorded in the test report.

4.2 Loading Force In the static load test, the force loading speed shall be slow, so as to ensure that the additional dynamic load is small enough to be ignored. Unless otherwise specified, the specified force shall be maintained for 10 seconds ~ 15 seconds.

4.3 Tolerances Unless otherwise specified, the following tolerances are applicable to this document.

4.4 Control of Unit Movement during Tests Unless otherwise specified, when carrying out the tests in accordance with the stipulations of Chapter 6 and Chapter 7, the free standing units (see 3.13) that have a tendency to lose balance shall be loaded, until they are balanced.

4.5 Loading Unless otherwise specified, during the strength and durability tests, non-test storage components shall be evenly loaded in accordance with the stipulations of Table 1.

5 Test Equipment and Facilities

5.1 Unless otherwise specified, any applicable test equipment can be used for tests, because the test results only depend on whether the applied force is correct and not on the test equipment itself.

5.2 Ground. a hard, level and flat surface.

5.3 Wall surface. it shall be hard, vertical and flat.

5.4 Stops. used to prevent the units from sliding but cannot restrict the units from overturn, and the height is < 12 mm. If higher stops are required for special products, the maximum height shall be just enough to prevent the units from moving.

5.5 Loading pad. a rigid disc with a diameter of 100 mm and an edge rounding radius of 12 mm. The loading surface is a flat surface. If the space is limited, a loading pad with a diameter of 50 mm can be used.

5.6 Extension element slamming / bursting-open equipment, which complies with the stipulations of Appendix D.

5.7 Weights. the applied weights shall not strengthen the unit structure, nor change the stress distribution of the units.

5.8 Spherical objects. for example, glass beads with a diameter of 10 mm ~ 15 mm, which shall be loosely packed into a large flexible bag, so as to allow them to move in the bag during the tests.

5.9 Load of suspended filing pockets (see 3.21), which shall use paper or similar substitutes, as shown in Figure 20.

5.10 Impact steel plates. steel plates with a length of 200 mm, one side of which is covered with rubber with a thickness of 3 mm and a hardness of (85 10) IRHD (determined in accordance with ISO 48-5:2018). The other properties of the impact steel plates are shown in Table 2.

5.11 Obstacles for the caster durability test. two steel bars with a width of 50 mm and a height of 2 mm; the radius of the edge of the steel bars is 2 mm, and the spacing is 500 mm. They are laid flat on the ground, perpendicular to the test direction.

6.1 Shelf Test

6.1.1 Overview For units with an uncertain number of shelves, unless otherwise specified, the number of shelves is determined through this method. divide the internal height (unit. mm) of the unit by 200 and subtract 1 from the nearest integer.

6.1.3 Shelf positioning test - vertical downward force This test is only applicable to non-fixed shelves.

6.1.5 Strength test of shelf supports Except for the position 220 mm close to one end of the support, other positions of the shelf shall be evenly loaded in accordance with half the load specified in the shelf bending test (6.1.4). Let the impact steel plate (see 5.10) overturn 10 times against the support (see Figure 3). The impact surface of the impact steel plate shall be covered with rubber. All supports of the shelf shall be tested.

6.2 Test of Top Panels and Bottom Panels

6.2.1 Continuous loading test of top panels and bottom panels This test is applicable to all top panels, as well as bottom panels that are not fully supported by the ground during use.

6.3 Test of Clothes Hanging Rod and Supports

6.3.1 Strength test of clothes hanging rod supports Clothes hanging rods that are structurally connected to each other shall each be loaded. The span of a clothes hanging rod is the distance between consecutive supports. Install the clothes hanging rod on the support of the unit. Use the load specified in Table 1 to load all components used for storage. Each support shall be continuously loaded. The end supports are loaded in accordance with the load specified in Table B.1, and the loading point shall be close to the supports. The intermediate support is loaded at twice the load specified in Table B.1, and the loading point shall be close to the supports (see Figure 5).

6.4 Structural Strength Test

6.4.1 Strength test of structures, chassis and / or legs This test does not apply to units attached to walls, ceilings, floors or other furniture products. Use stops to enclose the legs or base of the unit (see Figure 7). Use the load specified in Table 1 to load all components