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

GB/T 10357.6-2013

Replacing GB/T 10357.6-1992

**Test of mechanical properties of furniture - Part 6: Strength and
durability of beds**

家具力学性能试验 第6部分：单层床强度和耐久性

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Foreword

"Test of Mechanical Properties of Furniture" (GB/T 10357) is divided into 8 parts. - Part

1 Scope

GB/T 10357.6-2013 is the Chinese national standard on test of mechanical properties of furniture - part 6: strength and durability of beds, 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 10 October 2013 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 May 2014. 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 part of GB/T 10357 specifies test methods for the strength and durability of beds. This part is applicable to various hard-surface beds used in households and hotels. Beds of other types may also be implemented by reference to this part according to their use functions.

2 General Test Conditions

2.1 Specimen Specimen shall be completely assembled deliverable finished product. Assembling shall be carried out according to the instructions provided along with the

product by the manufacturer. Where there are several assembly methods, it shall be assembled and tested with the method which is most unfavorable to the mechanical property inspection and recorded in the inspection report. Where assembling structure is not provided, the assembly method shall be recorded in the inspection report. The connecting piece shall be fastened before the test. Unless specially requested in the manufacturer's instructions, the connecting piece shall not be refastened during the test.

2.2 Test environment Unless otherwise specified, the temperature of test environment is 15~25°C while the relative humidity is 40%~70%.

2.3 Loading requirements During static load test, the force application speed shall be as slow as possible to ensure that the additional dynamic load is small enough to be neglected. Unless otherwise stated in the contract, each applied load shall be maintained for 10~30s. During impact test, the impact body shall be able to fall freely.

2.4 Precision Unless otherwise specified, the following measuring precisions shall be adopted.

3 Test Facilities

3.1 General requirements for test device Unless otherwise specified, any appropriate test device may be adopted for the test; the reason is that the test result only depends on whether the applied force is correct rather than the device itself.

3.2 Loading pad 3.2.1 50mm loading pad A rigid cylinder with diameter of 50mm, its bottom surface is flat and smooth, and its edge chamfer radius is 12mm (see Figure 1). 3.2.2 200mm loading pad A flat and square rigid object with side length of 200mmx200mm, its bottom surface is flat and smooth, and its chamfer radius of edge and lateral edge of bottom surface is 12mm (see Figure 2).

3.2.5 Impactor The impactor is composed of cylinder, helical compression spring and impact head. A compression spring is arranged between cylinder and impact head; where they are connected, the cylinder and impact head shall be able to move relatively along the axis. The mass of cylinder and relevant accessories (except spring) fixed on the cylinder is (17 ± 0.1) kg; the mass of the whole impactor is (25 ± 0.1) kg. The overall elastic coefficient of impactor is (6.9 ± 1) N/mm, and the total static friction of the relatively movable part is 0.25~0.45N. The pre-compression of all helical compression springs is (1040 ± 5) N, and its recompression capacity shall be greater than 60mm.

3.3 Chock block A device used to prevent specimen from sliding but not restricting its tipping. Its height shall not be greater than 12mm; where relatively high chock block is required by the product design, the minimum height of chock block is restricted to avoid the specimen movement.

3.4 Ground The ground of test position shall be level, smooth and rigid.

4 Test Items and Procedures

4.1 Uniformly distributed static load test for bed base Measure the ground clearance of the bed base center H10 and the bed breadth B before test.

4.3 Horizontal static load test for bed end structure

4.4 Static load test for long side of bed Measure the ground clearance of the long side midpoint of bed H30 before test. Where the long side midpoint of bed is supported, measure the ground clearance of the quartering point of the long side of bed. Trisect this long side; simultaneously vertically and downward apply 1500N force to each trisection point which is 20mm away from the edge for 10 times with 50mm loading pad, maintain each loading for 10s at least; the time interval between two loadings is not greater than 30s (see Figure 10). In mm

4.5 Structure durability test for bed Block the bed ward off with chock block to avoid bed movement during test. Arrange 1000N balancing load on the bed base center with 350mm loading pad. Take two points, A and B, which are 50mm away from the same long side, from two short sides of the bed base, and another two points, C and D, which are 50mm away from the same short side, from two long sides of the bed base (4 loading points in total). The height of loading point is the same with that of the bed base; where the bed base is movable, the loading height is the same as that of the side rail.

4.6 Impact load test for bed base The bed base shall be free from mattress and any covering. Respectively impact in the center and weakest point of the bed base for 10 times with impact height of 140mm above the bed base (referring to the vertical distance from the bottom surface of impactor to the tested bed base); the time interval between two impacts is not greater than 30s. Balancing load

7 Stability of Tables; - Part

8.Stability of Chairs with Tilting or Reclining Mechanisms when Fully Reclined, and Rocking Chairs. This is Part 6 of GB/T 10357. This part is drafted in accordance with the rules given in GB/T 1.1-2009. This part supersedes "Test of Mechanical Properties of Furniture - Strength and Durability of Beds" (GB/T 10357.6-1992). Compared with GB/T 10357.6-1992, the main technical changes in this part are as follows: - Pretreatment is added; - Loading requirements are added; - Precision is added; - Test equipment requirements are added; - Test procedures are added; - Size of loading pad of horizontal static load for bed end structure is modified. Attention shall be drawn to the possibility that some of the elements of this document may involve patent rights. The issuance organization of this document shall not undertake the responsibility of identifying these patents. This part is proposed by China National Light Industry Council. This part is under the jurisdiction of National Technical Committee on Furniture of Standardization Administration of China (SAC/TC 480). Drafting

organizations of this part. Guangdong Landbond Furniture Group Co., Ltd., Shanghai Institute of Quality Inspection and Technical Research (China National Furniture Quality Supervision Testing Center), Hunan Stardom Home Furnishing Development Co., Ltd. and Zhejiang Furniture and Hardware Research Institute. Chief drafting staff of this part. Wang Jin, Zhou Shanlin, Zhang Yinghong, Chen Huaxiang, Gu Ming, Zhang Rong, Tu Zhong, Fan Hongwei, Xu Jianmin and Xiao Qixin. The previous edition of the standard superseded by this part is as follows: - GB/T 10357.6-1992. Test of Mechanical Properties of Furniture - Part