Test Report Number: SZHH01039090

Applicant: M.A.D. FURNITURE DESIGN CO. LTD.
UNIT 1213,
12/F DELTA HOUSE,
3 ON YIU STREET,
SHA TIN, HONG KONG

Attn: CATTY

Date: Mar 28, 2016

Sample Description:
One (1) set of submitted sample said to be :
Item Name : **Sling Chair.**
Item No. : **G42.**
Country of Origin : China.

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Tests conducted:
As requested by the applicant, refer to attached page(s) for details.

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Conclusion:

Tested Sample	Test Item	Result
Submitted sample	ANSI/BIFMA X5.1-2011 General-Purpose Office Chairs – Tests - Section 12.3: Rear Stability - Section 12.4: Front Stability - Section 18: Leg Strength Test	Pass

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Authorized by:
For Intertek Testing Services
Shenzhen Ltd.

Ben N.L. Lin
General Manager

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Tests Conducted

1 Performance Test for Sling Chair

As per the client's requirements, with reference to ANSI/BIFMA X5.1-2011 General-Purpose Office Chairs - Tests, the submitted sample was subjected to the following tests.

Number of sample tested: One (1) piece.

Executive summary:

Standard & Section	Test Method/Requirement	Result
ANSI/BIFMA X5.1-2011 Section 12.3 Rear Stability	**Test Setup** **12.3.1.1.1** The chair shall be placed on a test platform. A block, obstruction or other restraining device 13 mm (0.5 in.) in height shall be affixed to the test platform. The device shall prevent sliding but not restrict the unit from tipping. For chairs that have rotating seats, the base and casters shall be positioned to offer the least resistance to rearward tipping of the chair. For chairs with adjustable features, all adjustments shall be set at the apparent least stable condition for rearward stability, such as: a) maximum height of seat or backrest, or both, b) rearmost seat or backrest position, or both, c) the least stable condition of casters or glides. **Note:** For chairs with tilt locks, locking the mechanism in the near upright position changes the chair type (See Section 4: Chair Type) and the chair shall be tested in the locked (near upright) condition and in the unlocked (reclined) condition as per Section 12.3.2. **12.3.1.1.3** Place a support fixture made of a 1.5 mm ± 0.4 mm (0.060 in. ± 0.015 in.) thick polypropylene, 356 mm (14 in.) wide and 711 mm (28 in.) tall against the chair back so that it approximates the contour of the back. **12.3.1.2 Test Procedure** **12.3.1.2.1** Load the chair with 6 disks (See Appendix B). Place the first disk on the seat so it touches the support fixture. As each disk is added to the stack slide it along the lower disk until it contacts the support fixture as shown in Figure 12a. As each disk is added, the backrest may move such that the lower disks do not remain against the support fixture; this is acceptable, do not reposition the disks. **12.3.1.2.2** Apply a horizontal force to the highest disk. The location of the force application is 6mm (0.25 in.) from the top of the disk. For chairs with seat height (as measured at the front of the bottom of the lowest disk when all disks are in the chair) less than 710 mm (28.0 in.), calculate the force as follows: • F = 0.1964 (1195 – H) Newton. H is the seat height in mm. • [F = 1.1 (47 – H) pounds force.]. H is the seat height in inches. For chairs with seat height equal to or greater than 710 mm (28.0 in.), a fixed force of 93 N (20.9 lbf.) shall be applied. **12.3.1.3 Acceptance level** The chair shall not tip over.	Pass

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Tests Conducted

Standard & Section	Test Method/Requirement	Result
ANSI/BIFMA X5.1-2011 Section 12.4 Front Stability	**Test Setup** a) The unit shall be placed on a test platform. b) On units with adjustable features, all adjustments shall be set at the apparent least stable condition for forward stability, such as, maximum height of seat or backrest, or both, most forward seat or backrest position or both, and at the least stable condition of casters, glides and tilt mechanism. c) For chairs with casters, a block or obstruction 13 mm (0.5 in.) in height shall be affixed to the test platform. The device shall prevent sliding but not restrict the unit from tipping. On units that rotate, the bases and casters, if any, shall be positioned to offer the least resistance to forward tipping of the unit. d) For chairs without casters, a block or obstruction 13 mm (0.5 in.) in height shall be affixed to the test platform. On units that rotate, the base shall be positioned to offer the least resistance to forward tipping of the unit. **12.4.2 Test Procedure - Alternative A** (See Figures 12c and 12d). a) This alternative may only be used on chairs that do not have a seat surface that will support the stability loading fixture (i.e., mesh, web or strap seat support surfaces). b) Apply a vertical load of 600 N (135 lbf.), through a 200 mm (7.87 in.) diameter disk, the center of which is 60 mm (2.4 in.) from the front center edge of the load-bearing surface of the seat. (See Figure 12e for details). c) Apply a horizontal force of 20 N (4.5 lbf.) at the same level of the plane of the top of the seat. The force shall be coincident with the side-to-side centerline of the seat. **12.4.3 Test Procedure - Alternative B** (See Figures 12f and 12g) a) Apply a vertical load of 600 N (135 lbf.), by means of the front stability loading fixture shown in Figure 12g at a point 60 mm (2.4 in.) from the front center edge of the loadbearing surface of the chair. b) Apply a horizontal force of 20 N (4.5 lbf.) at the same level of the plane of the top of the seat. The force shall be coincident with the side-to-side centerline of the seat. **12.4.4 Acceptance Level** The chair shall not tip over as the result of the force application.	Pass

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Tests Conducted

Standard & Section	Test Method/Requirement	Result
ANSI/BIFMA X5.1-2011 Section 18 Leg Strength Test – Front and Side Application	**Front Load Test** **Test Setup** a) The chair shall be placed on a test platform, with the back legs restrained by a block 11 to 38 mm (.44 to 1.50 in.) high. Figure 18a shows one acceptable method of restraining the chair. b) If adjustable features are available, all adjustments shall be set at normal use conditions. c) The loading device shall be attached to the chair so that an initially horizontal force is applied inward and parallel to the front-to-rear axis of the chair, between 13 mm (0.5 in.) and 38 mm (1.5 in.) from the bottom of a leg as shown in Figure 18a. For chairs with casters, apply the load to the chair leg, but not more than 13 mm (0.5 in.) from the point of caster attachment (bottom of the leg). The load shall be applied to the apparent weakest point of the leg. Where the apparent weakest point is the left or right edge of the leg, apply the load so that it is no greater than 25 mm (1.0 in.) from the edge. **Test Procedures** **Functional Load Test** a) A force of 334 N (75 lbf.) shall be applied once to each front leg individually for one (1) minute. b) Remove the force. **Proof Load Test** a) A force of 503 N (113 lbf.) shall be applied once to each front leg individually for one (1) minute. b) Remove the force. **Side Load Test** **Note:** A separate chair may be used for the side load portion of the test. **Test Setup** a) The chair shall be placed on a test platform with the side leg(s) restrained by a block 11 to 38 mm (.44 to 1.50 in.) high. Figure 18b shows one acceptable method of restraining the chair. b) If adjustable features are available, all adjustments shall be set at normal use conditions. c) The loading device shall be attached to the chair so that an initially horizontal force is applied inward and parallel to the side-to-side axis of the chair, between 13 mm (0.5 in.) and 38 mm (1.5 in.) from the bottom of a leg as shown in Figure 18b. For chairs with casters, apply the load to the chair leg, but not more than 13 mm (0.5 in.) from the point of caster attachment (bottom of the leg). The load shall be applied to the apparent weakest point (front-to-back) of the leg. Where the apparent weakest point is the front or rear edge of the leg, apply the load so that it is no greater than 25 mm (1.0 in.) from the edge. **Test Procedure** **Functional Load Test** a) A force of 334 N (75 lbf.) shall be applied once to a front and rear leg individually for one (1) minute. b) Remove the force. **Proof Load Test** a) A force of 503 N (113 lbf.) shall be applied once to a front and rear leg individually for one (1) minute. b) Remove the force.	Pass

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Standard & Section	Test Method/Requirement	Result
	Acceptance Level - Front and Side Load Tests **Functional Load** Functional load(s) applied once in each direction shall cause no loss of serviceability. **Proof Load** Proof load(s) applied once each direction shall cause no sudden and major change in the structural integrity of the chair. Loss of serviceability is acceptable.	

Date sample received: Mar 21, 2016
Testing period: Mar 21, 2016 to Mar 25, 2016

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End of report

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