

Test Report

No.: SHHL1702007394FT

Date: APR. 19, 2017

Page: 1 of 5

HAWORTH FURNITURE (SHANGHAI) CO., LTD.

360 XI YA ROAD, WAI GAO QIAO FREE TRADE ZONE, SHANGHAI 200131 CHINA

The following sample(s) was/were submitted and identified by the client as:

Sample Description : FERN TASK STOOL CHAIR 3PIC
Sample Receiving Date : FEB. 24, 2017
Testing Period : FEB. 24, 2017 TO APR. 19, 2017
Test Performed : SELECTED TEST(S) AS REQUESTED BY APPLICANT
Test Requested : ANSI/BIFMA X5.1-2017: GENERAL-PURPOSE OFFICE
CHAIR– AMERICAN NATIONAL STANDARD FOR
OFFICE FURNITURE (CLAUSE 5, 6, 7, 8, 9, 10, 11, 14,
15, 18, 19&21)
Test Result(s) : FOR FURTHER DETAILS, PLEASE REFER TO THE
FOLLOWING PAGE(S)
Conclusion : THE SUBMITTED SAMPLE MET THE TEST
REQUIREMENT.

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.



Melody Zhang
Authorized Signatory



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Page: 2 of 5

Test Conducted:

ANSI/BIFMA X5.1-2017: General-Purpose Office Chair– American National Standard For Office Furniture

Testing Condition : All the physical test is carry out in indoor ambient.

Nos. of Specimen : 5pcs.

Type of Chair : I&III

Test Result : Pass

Test Property	Test Method	Test Principle / Requirements	Results
Back Strength Test - Static - Type I (Functional Load)	ANSI/BIFMA X5.1 -2017 Clause 5	No loss of serviceability when 667 N (150 lbs.) is applied for 1 min. Applied 70° to the back at 16 in. above the seat.	No. 4: Pass
Back Strength Test – Static – Type I (Proof Load)	ANSI/BIFMA X5.1 -2017 Clause 5	No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 1001 N (225 lbs.) is applied for 1 min. Applied 70° to the back at 16 in. above the seat.	No. 4: Pass
Back Strength Test – Static – Type II & III (Functional Load)	ANSI/BIFMA X5.1 -2017 Clause 6	No loss of serviceability when 667 N (150 lbs.) is applied for 1 min. Applied 70° to the back at 16 in. above the seat.	No. 4: Pass
Back Strength Test – Static – Type II & III (Proof Load)	ANSI/BIFMA X5.1 -2017 Clause 6	No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 1001 N (250 lbs.) is applied for 1 min. Applied 70° to the back at 16 in. above the seat.	No. 4: Pass
Drop Test – Dynamic (Functional Load)	ANSI/BIFMA X5.1 -2017 Clause 7	No loss of serviceability when 102kg (225 lbs.) weight free falls from 6 in height to the center of the seat.	No. 2: Pass
Drop Test – Dynamic (Proof Load)	ANSI/BIFMA X5.1 -2017 Clause 7	No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 136kg (300 lbs.) weight free falls from 6 in height to the center of the seat.	No. 2: Pass
Swivel Test – Cyclic	ANSI/BIFMA X5.1 -2017 Clause 8	No loss of serviceability after 60,000 cycles of rotation (360°) under a 122kg (270 lbs.) load on the seat at its max. height. Seat shall then withstand another 60,000 cycles of rotation at its lowest seating position. Total 120,000 cycles.	No. 1: Pass
Tilt Mechanism Test – Cyclic – Type I & II	ANSI/BIFMA X5.1 -2017 Clause 9	No loss of serviceability after 300,000 cycles under a 109kg (240 lbs.) load to the center of the seat	No. 2: Pass



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Page: 3 of 5

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Impact test	ANSI/BIFMA X5.1 -2017 Clause 10.3	No loss of serviceability in 100,000 cycles impact. A weight of 57kg (125 lbs.) free falls onto the seat from 1.4 in. height.	No. 3: Pass
Front Corner Load Ease Test – Cyclic – Off Center	ANSI/BIFMA X5.1 -2017 Clause 10.4	No loss of serviceability after load each seat front corner with 890N (200 lbs.) for 20,000 cycles, total 40,000 cycles. Note: this test is done after “Impact test” on the same sample.	No. 3: Pass
Stability Test - Rear Stability for Type III Chairs	ANSI/BIFMA X5.1 -2017 Clause 11.3.1	Load the chair with 6 disks, apply a horizontal force to the highest disk, The location of the force application is 6 mm (0.25 in.) from the top of the disk. For chairs with seat height less than 710 mm (28.0 in.), calculate the force as follows: <ul style="list-style-type: none"> • $F = 0.1964 (1195 - H)$ 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. The chair shall not tip over.	No. 3: Pass
Stability Test - Rear Stability for Type I and II Chairs	ANSI/BIFMA X5.1 -2017 Clause 11.3.2	Load the chair with 13 disks, place the first disk on the seat so it touches the support fixture. The chair shall not tip over.	No. 3: Pass
Stability Test – Front Stability	ANSI/BIFMA X5.1 -2017 Clause 11.4	The chair is obstructed with a 13mm (1/2 in.) obstruction to the chair casters/legs. A downward load of 61kg (135 lbs.) is centered 60mm (2.4 in.) from the seat front center edge. The seat shall withstand a 20N (4.5 lbf.) horizontally from the front seat edge without tipping.	No. 3: Pass
Back Durability Test – Cyclic – Type I	ANSI/BIFMA X5.1 - 2017 Clause 14	No loss of serviceability in 120,000 cycles with a 109kg (240 lbs.) in the center of the seat and a 445N (100 lbf.) 90° to the center of the chair back. For chairs with a back width greater than 406mm (16 in.), test at the center of chair back for 80,000 cycles and then 102mm (4 in.) off-center 40,000 cycles, half to each side.	No. 4: Pass



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Test Property	Test Method	Test Principle / Requirements	Results
Back Durability Test – Cyclic – Type II & III	ANSI/BIFMA X5.1 – 2017 Clause 15	No loss of serviceability in 120,000 cycles with a 109kg (240 lbs.) in the center of the seat and a 334N (75 lbf.) 90° to the center of the chair back. For chairs with a back width greater than 406mm (16 in.), test at the center of chair back for 80,000 cycles and then 102mm (4 in.) off-center 40,000 cycles, half to each side.	No. 5: Pass
Footrest Static Load Test – Vertical-Functional load (If applicable)	ANSI/BIFMA X5.1 - 2017 Clause 18.4.1	Apply a force F1 of 445 N (100 lbf.) uniformly along a 102 mm (4 in.) distance along the footrest but not greater than 51 mm (2 in.) from the outside edge at the apparent weakest point of the structure for one (1) minute in the vertical downward direction, maintain force F1 and apply an additional force F2 of 445 N (100 lbf.) to the footrest at the opposing position for an additional one (1) minute. There shall be no loss of serviceability or sudden loss of footrest height.	No. 1: Pass
Footrest Static Load Test – Vertical-Proof load (If applicable)	ANSI/BIFMA X5.1 - 2017 Clause 18.4.3	Apply a force of 1334 N (300 lbf.) uniformly along a 102 mm (4 in.) distance along the footrest but not greater than 51 mm (2 in.) from the outside edge at the apparent weakest point of the structure for one (1) minute in the vertical downward direction. The load applied once shall cause no sudden and major change in the structural integrity of the unit. Loss of serviceability is acceptable.	No. 1: Pass
Footrest Durability Test – Vertical – Cyclic (If applicable)	ANSI/BIFMA X5.1 - 2017 Clause 19	No loss of serviceability after 50,000 cycles of a 890N (200 lbf) load vertical along 102mm (4 in.) length of the footrest at the apparent weakest point of the structure.	No. 1: Pass
Out Stop Tests For Chairs With Manually Adjustable Seat Depth (If applicable)	ANSI/BIFMA X5.1 - 2017 Clause 21	Place 74 kg (163 lb.) rigid mass in the center of the seat, 25 kg (55lbf.) hanging weight shall be held at its most rearward position, then released, permitting it to move forward rapidly and impact the out stops. Repeat for a total of 25 cycles. There shall be no loss of serviceability to the unit.	No. 1: Pass



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Page: 5 of 5

Sample Photo:

Received sample (NO. 1, 2&3)
(front view)



Received sample (NO. 1, 2&3)
(side view)



Received sample (NO. 4&5)
(front view)



Received sample (NO. 4&5)
(side view)



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End of Report



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