

Test Report

No.: SDHL1803004788FT

Date: Jul.12, 2018

Page 1 of 7

USI FURNITURE LIMITED
19/F, NO.3 LOCKHART ROAD, WANCHAI, HONG KONG.

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

Sample Description : 24H HEAVY DUTY CHAIR
Style / Item No. : UN1502
Sample Receiving Date : Apr.19, 2018
Test Performing Date : Apr.19, 2018 to Jul.12, 2018

Test Result Summary

Test(s) Requested	Result(s)
BS 5459-2:2000 +A2:2008 excluding A.8 Type approval tests	PASS

Summary:

1. For further details, please refer to the following page(s).

Signed for and on behalf of
Shunde Branch
SGS-CSTC Co., Ltd.



Hary Nie
Approved signatory



SGS-CSTC Inspection & Testing Services Co., Ltd.
Shunde Branch Harimies

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TESTS AND RESULTS

Test Conducted:

BS 5459-2:2000 +A2:2008 Specification for performance requirements and tests for office furniture — Part 2: Office pedestal seating for use by persons weighing up to 150 kg and for use up to 24 hours a day, excluding A.8 type-approval tests for individual components

No. of Sample:

1 piece (Sample 1). For more sample information and pictures, please refer to the following page.

Test Description and Requirements	Test Results
<p>A.5.1 Fore-and-aft safety If the chair is equipped with a locking device, this shall not be engaged during this test. a) applying a load V_1 to the seat loading point, using the seat loading pad; b) applying a load H_1 to the back loading point, using the back loading pad; c) removing the loads applied in a) and b); d) applying a load V_2 to the furthest forward position on the seat to which a load can be applied without the chair overturning, or to a position 100 mm back from the front edge of the seat, whichever is the furthest away from the front edge of the seat. The force V_1, V_2 and H_1 are decided by following rules: When $\varnothing > 75^\circ$, $V_1 = 1400N$, $H_1 = 400N$, $V_2 = 1400N$; When $\varnothing \leq 75^\circ$, $V_1 = 1500N \times \sin\varnothing$, $H_1 = 1500N \times \cos\varnothing$, $V_2 = 1400N$; \varnothing is the full back inclination of the chair to the horizontal. Conduct the test for 120 000 cycles.</p>	<p>PASS</p>
<p>A.5.2 Seat impact Place a piece of foam on the seat. Allow the impactor to fall freely on to the seat loading point from a height of 350 mm. repeat four more times. Using the same drop height, allow the impactor to fall on to a point as near the front edge of the seat as possible. Repeat four more times. Set the seat height to the minimum and repeat the above procedure.</p>	<p>PASS</p>
<p>A.5.3 Back impact Using stops, restrain the front castors or glides of the chair from moving forward. Allow the impact hammer to fall through a vertical height of 330 mm or an angle of 48° so that it strikes the top of the outside of the back of the chair in the centre with the pendulum arm vertical. Perform this operation a total of 10 times.</p>	<p>PASS</p>
<p>A.5.4 Drop Support the chair so that the base lies on a plane inclined at 10° to the horizontal. Position the base so that one leg is at the lowest point on the plane and is just in contact with the floor. Lift the chair up to the height specified as appropriate to the type of chair. Drop the chair on to the floor 10 times on a front leg and 10 times on a back leg.</p>	<p>PASS</p>
<p>A.5.1' Fore-and-aft safety Repeat the test A.5.1 for 380 000 cycles.</p>	<p>PASS</p>



Test Description and Requirements	Test Results
<p>A.5.5 Side-to-side safety Using the small seat loading pad, apply a load of 1200 N vertically downwards at a point 50 mm from the side edge of the seat on the transverse line which passes through the top of the pedestal. Remove the load and reapply it at the corresponding point on the opposite side of the seat. This constitutes on cycle of the test. Apply the loads alternately for a total of 250 000 cycles or until failure occurs. After completing 120 000 cycles, safe failure is permitted.</p>	<p>PASS</p>
<p>A.6.2.1 Forward overturning for all chairs, and sideways overturning for chairs without arms Position the chair as specified, if the chair is of the reclining or tilting type, or has an adjustable backrest, set or lock the back assembly so that it is inclined as far forward as possible. Using the small seat loading pad, apply a force of 600 N vertically downward so as to act at a point 50 mm from the front edge of the seat at any position considered likely to result in instability. While maintaining the downward force, apply a force of 20 N horizontally forward along a line through the point where the base of the loading pad meets the upper surface of the seat. For chairs without arms, repeat the above procedure, but applying the downward force so as to act at a point 50 mm from one side edge of the seat, and applying the horizontal force sideways outwards.</p>	<p>PASS</p>
<p>A.6.2.2 Sideways overturning for armchairs Apply a downward vertical force of 250 N to the seat at a point 100 mm from the fore-and-aft centreline of the seat on the same side as the stopped castors or glides, and between 175 mm and 250 mm forward of the rear edge of the seat. Maintain the force. Using the small seat loading pad, apply a vertical downward force of 350N to the arm of the chair on the same side as the stopped castors or glides, at a position 37.5 mm from its outer edge, at the most adverse position along its length. Maintain the force. Apply a horizontal force of 20 N outwards at the upper surface of the armrest to which the 350 N vertical force is applied and acting through the point of application of the vertical force.</p>	<p>PASS</p>
<p>A.6.3.1 Rearward overturning Position the chair with two adjacent supporting points on the back against the stops. If the angle of the backrest is adjustable, set the backrest at its maximum rearward angle from the vertical, or if this angle is greater than 20°, set the backrest so that it is inclined rearwards from the vertical by an angle of 15°±5°. If the chair has a free-swivelling backrest pad, adjust the backrest height so that the axis of rotation coincides with the back loading point. Using the small seat loading pad, apply and maintain a downward vertical force of 600 N to the seat at the seat loading point. Apply the overturning force F_H horizontally rearwards to the back of the chair at the back loading point, or at the top edge of the backrest, whichever is the lower. The force F_H is decided by following rules:</p> <ul style="list-style-type: none"> - For seating having a value of $H \geq 720\text{mm}$ uses a force $F_H = 80\text{ N}$. - For seating having a value of $H < 720\text{ mm}$ calculate the force F, in newton, required from the following formula: $F_H = 0, 2857 (1000-H)$. Where: H is in millimeters; F is in newton. <p>Determine the distance (H) in millimeters between the loaded seat and the floor.</p>	<p>PASS</p>



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Test Description and Requirements	Test Results
<p>A.6.3.2 Accidental rearward overturning Position the chair as specified. Tilt the chair rearwards on its rear feet so that the front edge of the seat moves through a horizontal distance of 100 mm. allow the chair to fall freely. The chair shall not overturn.</p>	PASS
<p>A.6.4 Rearwards overturning of tilting and reclining chairs This is an additional test for chairs that can be reclined or tilted. The test is valid for all angles of inclination of the chair back. This test is not required when the minimum angle of inclination is greater than 70°. Place 13 discs on the chair seat and firmly settle them against the contours of the back of the chair. If the discs, stacked on top of each other, exceed the height of the chair back, use a light stick, or other means of support, to prevent the upper discs from sliding off. The chair shall not overturn.</p>	PASS
<p>A.7.2 Arm sideways static load Using local loading pads, apply an outward horizontal force of 600 N simultaneously to each arm of the chair at the point along the arm most likely to cause failure. Apply the forces 10 times in total.</p>	PASS
<p>A.7.3 Arm downward static load Using the small seat loading pad, apply an downward vertical force of 1200 N to the point along one arm most likely to cause failure. If the chair tends to overturn, apply a balancing load of sufficient magnitude to prevent the chair from overturning. Apply the balancing load on the surface of the seat on the side opposite to the arm to which the vertical force is applied. Apply the forces 10 times in total.</p>	PASS
<p>A.7.4 Arm impact Place stops against the castors or gliders of the chair on the opposite side of the chair to the arm being tested. Allow the impact hammer to fall through a vertical height 330 mm, or fall through an angle of 48°, so that when the pendulum arm is vertical, the hammer strikes the outside face of the arm at the position most likely to cause failure. If the chair has a swivel base, ensure that the direction of impact passes through the vertical axis of the swivel. Strike the arm in this way a total of 10 times.</p>	PASS
<p>A.7.5 Chair swiveling Using the seat loading pad, apply a downward vertical force of 1200 N to the seat at the seat loading point. Rotate the seat of the chair through an angle of 45° relative to the base, and then back again. Repeat this operation for a total of 100 000 cycles, maintaining the vertical force throughout.</p>	PASS
<p>A.7.6 Seat height adjustment Set the seat of the chair to its maximum height. Using the seat loading pad, apply a downward vertical force of 1200 N to the seat at the seat loading point. Maintain the force for at least 3 s, and then remove it. Lower the seat until it rests just above the lowest position of its height adjustment. Reapply the downward force. Maintain the force for at least 3 s, and then remove it. Return the seat to its maximum height. Repeat the loading cycle of above operation for a total of 10 000 cycles. At the end of the test, maintain the seat loading force for 1 h with the seat at its maximum height.</p>	PASS



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Test Description and Requirements	Test Results
<p>A.7.7 Footrest fatigue Using the small seat loading pad or the local loading pad, apply a downward vertical force 1200 N to the periphery of the footrest at/or the centre of the footrest area at any point likely to cause failure. Apply the force for a total 200 000 cycles.</p>	N/A
<p>A.7.8 Durability of controls Apply a force of 100 N to all control levers and knobs at any point and in any direction likely to cause failure. Maintain the force for at least 3 s. Apply the force 10 times in total.</p>	PASS
<p>A.7.9 Locking device fatigue Engage the locking device at the middle of its adjustment range and restrain the seat or the pedestal so that it cannot move. Apply the load H₁ at the back loading point. Apply the load for a total of 500000 cycles.</p>	PASS
<p>A.8 Type approval of columns, bases, actions, back stems and locking devices A.8.2 Columns incorporating seat height adjustment components A.8.3 Bases A.8.4 Actions A.8.5 Back stems A.8.6 Locking actions</p>	N/T

Remark:

- In this report, except the fore-and-aft safety test (500,000 cycles), the other tests are extracted from test report No.: SDHL1707015485FT;
- N/A – Not Applicable; N/R – Not Requested; N/P – Not Provided; N/T – Not tested;
- For the sample information and pictures, please refer to the following page.



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SAMPLE INFORMATION AND PICTURES

Weight: 33.25 kg

Overall Dimensions: 795 mm W x 820 mm D x 1270~1460 mm H

Other Dimensions: Upper frame: 720 mm L x 705 mm W, base: 375 mm in radius.

Sample as Received



View 1



View 2



View 3



View 4





View 5



View 6

End of Report

