SGS

Test Report

No.: SHD2513522 Date: FEB.22,2006

The below samples were submitted by client and said to be:

Sample Description	: OFFICE CHAIR
Style/ Item No.	: CS-608M
Sample Receiving Date	: FEB.7,2006
Testing Period	: FEB.7,2006 TO FEB.22,2006
Test Performed	: SELECTED TEST(S) AS REQUESTED BY APPLICANT
Test Requested	: GENERAL-PURPOSE OFFICE CHAIRS-TESTS AMERICAN NATIONAL STANDARD FOR OFFICE FURNITURE(ANSI/BIFMA X5.1-2002)
Test Result(s)	: FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)
Conclusion	: THE SUBMITTED SAMPLE MET THE TEST REQUIREMENTS

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Signed for and on behalf of
SGS-CSTC Ltd.

Colin Li
Engineer

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Clause 13 Arm Strength Test – Vertical - Static

Number of Tested Sample: 1 piece identified as sample A

Test Equipment: Furniture Multiple Tester (AJHG 41)

Test Method:

1) Restrain the chair on the test platform.
2) Apply the specified vertical load uniformly along a 127mm length along the width and length of the arm at the weakest point that is forward of the chair backrest.
3) Apply the functional load of 890N for a minimum of 1 minute.
4) Check the chair for any damage.
5) Apply the proof load of 1334N for a minimum of 1 minute.
6) Check the chair for any damage.

Test Result: Pass

After applying functional load, no serviceability loss was found on the sample.

After applying proof load, no sudden and major change in the structural integrity was found on the sample.

Clause 14 Arm Strength Test – Horizontal - Static

Number of Tested Sample: 1 piece identified as sample A

Test Equipment: Furniture Multiple Tester (AJHG 41)

Test Method:

1) Restrain the chair on the test platform.
2) Apply the specified horizontal load to the arm at the weakest point.
3) Apply the functional load of 445N for a minimum of 1 minute.
4) Check the chair for any damage.
5) Apply the proof load of 667N for a minimum of 1 minute.
6) Check the chair for any damage.

Test Result: Pass

After applying functional load, no serviceability loss was found on the sample.

After applying proof load, no sudden and major change in the structural integrity was found on the sample.

Clause 20 Arm Durability Test – Cyclic

Number of Tested Sample: 1 piece identified as sample B

Test Equipment: Furniture Multiple Tester (AJHG 41)

Test Method:

1) Restrain the chair on the test platform.
2) Simultaneously apply a force of 400N to each arm initially at a 10° angle and then remove. The force should be applied over a length of 100mm on the arm pad.
3) Repeat step 2) for 60,000 cycles at the rate between 10 and 30 cycles per minute.
4) Check the chair for any damage.

Test Result: Pass

After the test, no serviceability loss was found on the sample.

Remark:-The photo appendix is attached.

End of Report

SHHG 147245

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Test Conducted:

General-Purpose Office Chairs- Tests American National Standard for Office Furniture (ANSI/ BIFMA X5.1-2002)

Clause 5 Backrest Strength Test - Static – Type I

Number of Tested Sample: 1 piece identified as sample A

Test Equipment: Furniture Multiple Tester (AJHG41)

Test Method:

1) Place the chair on the test platform.
2) Apply the specified load to the center of the chair back 406mm above the seat or to the backrest top.
3) The load should be applied 90±10° to the plane of the back at the backstop position.
4) Apply the functional load of 890N once for a minimum of 1 minute.
5) Check the chair for any damage.
6) Apply the proof load of 1334N once for a minimum of 1 minute.
7) Check the chair for any damage.

Test Result: Pass

After applying functional load, no serviceability loss was found on the sample.

After applying proof load, no sudden and major change in the structural integrity was found on the sample.

Clause 7 Base Test - Static

Number of Tested Sample: 1 piece identified as sample C

Test Equipment: Furniture Multiple Tester (AJHG 41)

Test Method:

1) Place the base on the test platform with blocks under the base arms.
2) Apply the load of 11120N for 1 minute and remove.
3) Check the base for any damage.
4) Apply the load of 11120N for 1 minute and remove.
5) Check the base for any damage.

Test Result: Pass

After the test, no sudden and major change in the structural integrity was found on the sample.

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Clause 8 Drop Test – Dynamic

Number of Tested Sample: 1 piece identified as sample B

Test Equipment: Furniture Multiple Tester (AJHG 41)

Test Method:

1) Place the chair on the test platform. Set the chair to its highest position.
2) A test bag of sand, 400mm in diameter, of specified weight should be set up to the height of 152mm and then freely fall onto the center of the seat.
3) Apply the function load by releasing the testing bag of 102kg.
4) Set the chair to its lowest position and repeat step 3).
5) Check the chair for any damage.
6) Apply the proof load by releasing the testing bag of 136kg.
7) Set the chair to its lowest position and repeat step 6).
8) Check the chair for any damage.

Test Result: Pass

After applying functional load, no serviceability loss was found on the sample.

After applying proof load, no sudden and major change in the structural integrity was found on the sample.

Clause 9 Swivel Test – Cyclic

Number of Tested Sample: 1 piece identified as sample B

Test Equipment: Furniture Multiple Tester (AJHG 41)

Test Method:

1) Place the chair on the test platform. Set the chair to its highest position
2) Place a 102kg load on the seat 51 to 64mm forward of the centerline of the spindle.
3) Rotate the seat for 60,000 cycles at a rate between 5 and 15 r/min.
4) Set the chair to its lowest position and repeat step 2)-3).
5) Check the chair for any damage.

Test Result: Pass

After the test, no serviceability loss was found on the sample.

Clause 10 Tilt mechanism Test – Cyclic

Number of Tested Sample: 1 piece identified as sample C

Test Equipment: Furniture Multiple Tester (AJHG 41)

Test Method:

1) Clamp the chair on the test platform.
2) Attach a cycling device to the chair back. Place a 102kg load at the center of the seat.
3) Set the cycling device to move the tilt mechanism between the front and back stops.
4) Cycle the chair for 300,000 cycles at a rate between 10 and 30 cycles per minute.
5) Check the chair for any damage.

Test Result: Pass

After the test, no serviceability loss was found on the sample.

Clause 11 Seating Durability Tests - Cyclic

Number of Tested Sample: 1 piece identified as sample A

Test Equipment: Furniture Multiple Tester (AJHG 41)

Impact Test

Test Method:

1) Restrain the chair on the test platform.
2) A test bag of sand of 57kg, 400mm in diameter, should be set up to the height of 25mm above the uncompressed surface on the seat. Let the test bag freely fall onto the center of the center of the seat.
3) Repeat step 2) for 100,000 cycles at a rate between 10 and 30 cycles per minute.
4) After completing the impact test.
5) Test chair was subjected to the following front corner load test.
6)

Front Corner Load-Ease Test – Cyclic – Off-center

Test Method:

1) After completing the impact test, apply a load of 734N through a 203mm diameter loading device at one front corner flush to each structural edge.
2) Raise the loading device from the seat and lower completely without impact the seat.
3) Repeat step 2) for 20,000 cycles at a rate between 10 and 30 cycles per minute.
4) Repeat 20,000 cycles for the other front corner of the seat.
5) Check the chair for any damage.

Test Result: Pass

After the test, no serviceability loss was found on the sample.

Clause 12 Stability Test

Number of Tested Sample: 1 piece identified as sample B

Test Equipment: Furniture Multiple Tester (AJHG 41)

a. Rear Stability

Test Method:

1) Place the chair on the test platform. Set the chair at the least stable condition.
2) Place a 79kg weight on the seat and strap it.
3) Place a block against the rear support member.
4) Apply a rearward force to the back 406mm above the seat until the total weight is transferred to the rear support member.
5) Record the force.

Test Result: Pass

The rearward force is N less than 89N/156N requirement.

b. Front Stability

Test Method:

1) Place the chair on the test platform. Set the chair at the least stable condition.
2) Place a block against the front support member.
3) Apply a vertical load of 600N through a 200mm-diameter disk. The center of the disk is 60mm from the front center edge of the seat.
4) Apply a horizontal force of 20N at the same level of the plane of the top of the seat.
5) Check if the chair tip over.

Test Result: Pass

The sample did not tip over during the test.

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Clause 15 Backrest Durability Test – Cyclic – Type I

Number of Tested Sample: 1 piece identified as sample B

Test Equipment: Furniture Multiple Tester (AJHG 41)

Test Method:

1) Restrain the chair on the test platform. Place a 102kg load at the center of the seat.
2) Attach a loading device to the center of the chair back 406mm above the seat or to the backrest top.
3) Set the cycling device to apply a 445N force 90±10° to the chair back.
4) Cycle the loading device for 120,000 cycles at a rate between 10 and 30 cycles per minute.
5) For chair with backrest width greater than 406mm at the height of the loading point, after cycle the loading device for 80,000 cycles, reposition the load device 102mm to the right of the vertical centerline. Cycle the loading device for 20,000 cycles. Repeat 20,000 cycles for left side of the chair backrest.
6) Check the chair for any damage.

Test Result: Pass

After the test, no serviceability loss was found on the sample.

Clause 17 Caster / Chair Base Durability Test – Cyclic

Number of Tested Sample: 1 piece identified as sample C

Test Equipment: Furniture Multiple Tester (AJHG 41)

Test Method:

1) Attach a cycling device to the chair base with caster.
2) Place a 102kg load to the chair seat.
3) Operate the cycling device at the rate of 10±1 cycles per minute. The stroke of the cycling device is 762mm.
4) Cycle the chair base 2,000 cycles on the smooth, hard surface with obstacles. Cycle the chair base 98,000 cycles on the smooth, hard surface without obstacles.
5) Check the chair for any damage.
6) Apply a 22N pull to each caster in line with the caster stem centerline.

Test Result: Pass

After the test, no serviceability loss was found on the sample and the caster cannot be pulled out under 22N pull force.

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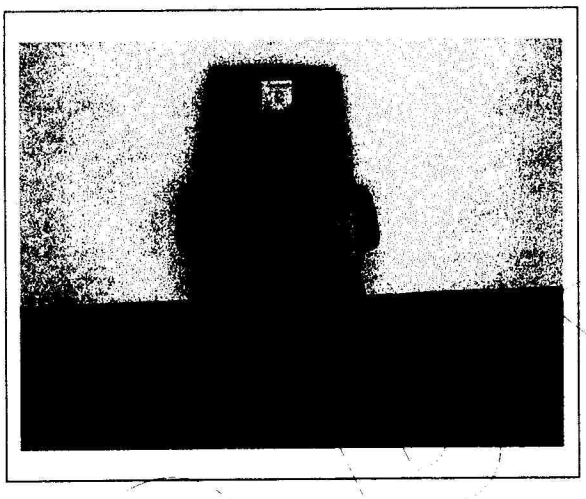
Photo Appendix

Product Name : Office chair

Item No. : CS-608 M



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