

Test Report

No.: SDHL1703004940FT

Date: Apr.11, 2017

Page 1 of 8

MERRYFAIR CHAIR SYSTEM SDN BHD
NO. 2, JALAN KORPORAT 1/KU9, TAMAN PERINDUSTRIAN MERU,
KAPAR, 42200 SELANGOR, MALAYSIA.

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

Sample Description : OAHU PUBLIC SEATING
Buyer Item No. : 1105NA A00 NA
Sample Receiving Date : Mar.24, 2017
Test Performing Date : Mar.24, 2017 to Apr.11, 2017

Test Result Summary

Test(s) Requested	Result(s)
ANSI/BIFMA X5.4 - 2012	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.



Bill Wang
Approved signatory



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

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

1/F, 1st Building European Industrial Park, No.1 Shunde South Road, Wusha Section, Daliang Town, Shunde, Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgsgroup.com.cn
中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号厂房首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 e sgs.china@sgs.com

TESTS AND RESULTS

Test Conducted:

ANSI/BIFMA X5.4-2012 Lounge and Public Seating – Tests, American National Standard for Office Furnishings.

General Test Condition:

The following test program was conducted in a laboratory environment maintained at 15°C to 25°C and 50%±5 RH. The sample was individually tested after conditioning in the test environment for at least 24 hours prior to conducting the test.

The complete detailed procedures may be found in the referenced specification and are only summarized herein.

No. of Sample:

2 pieces (Sample 1 & 2). For more sample information and pictures, please refer to the following page.

Types of Lounge Seating: Single Seating (Type C). For the classification of types, please refer to Annex A.

Test	Test Description and Requirements	Test Results
Safety, Durability, and Structural Adequacy		
5	Back Strength Test - Horizontal Static - Functional Load No loss of serviceability when 667N (150lbs.) is applied simultaneously for 1 min. Applied 90° to the back at 16in. above the seat.	PASS
	Back Strength Test - Horizontal Static - Proof Load No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 1112N (250lbs.) is applied simultaneously for 1 min. Applied 90° to the back at 16in. above the seat.	PASS
6	Back Strength Test - Vertical Static - Functional Load No loss of serviceability when 890N (200lbs.) is applied simultaneously for 1 min. Applied 90° to the back at 16in. above the seat.	N/A
	Back Strength Test - Vertical Static - Proof Load No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 1334N (300lbs.) is applied simultaneously for 1 min. Applied 90° to the back at 16in. above the seat.	N/A
7	Back Durability Test - Horizontal – Cyclic No loss of serviceability in 120,000 cycles with a 102kg (225lbs.) in the center of each seat and a force of 334N (75lbf.) 90° to the center of the chair back.	PASS
8	Back Durability Test - Vertical – Cyclic No loss of serviceability after applying a vertical downward force of 890 N (200 lbf) at the top of the backrest for 10000 cycles.	N/A



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

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

1F, 1 Building, European Industrial Park, No.1 Shunde South Road, Wusha Section, Daliang Town, Shunde, Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgsgroup.com.cn
中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号厂房首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 e sgs.china@sgs.com

Test	Test Description and Requirements	Test Results
9	<p>Arm Strength Test Horizontal – Static - Functional Load No loss of serviceability when apply horizontally inward and outward to the armrest at the most forward point of the armrest with the following force, for 1 min.</p> <ul style="list-style-type: none"> - For units with a distance between the arms less than 889 mm (35 in.), a force of 445 N (100 lbf.) - For units with distance between the arms greater than or equal to 889 mm (35 in.), a force of 592 N (133 lbf.) 	N/A
9	<p>Arm Strength Test Horizontal – Static - Proof Load No sudden and major change in the structural integrity (loss of serviceability is acceptable) when apply horizontally inward and outward to the armrest at the most forward point of the armrest with the following force, for 1 min.</p> <ul style="list-style-type: none"> - For units with a distance between the arms less than 889 mm (35 in.), a force of 667 N (150 lbf.) - For units with distance between the arms greater than or equal to 889 mm (35 in.), a force of 890 N (200 lbf.) 	N/A
10	<p>Arm Strength Test Vertical – Static - Functional Load No loss of serviceability when apply the vertical load uniformly applied along a 127mm (5in.) length at the apparent weakest point with the following force, for 1 min.</p> <ul style="list-style-type: none"> - For units with armrest width of greater than 75 mm (3 in.) a force of 890 N (200 lbf.) - For units with an armrest width of less than or equal to 75 mm (3 in.) a force of 750 N (169 lbf.) 	N/A
	<p>Arm Strength Test Vertical – Static - Proof Load No sudden and major change in the structural integrity (loss of serviceability is acceptable) when apply the vertical load uniformly applied along a 127mm (5in.) length at the apparent weakest point with the following force, for 1 min.</p> <ul style="list-style-type: none"> - For units with armrest width of greater than 75 mm (3 in.) a force of 1335 N (300 lbf.) - For units with an armrest width of less than or equal to 75 mm (3 in.) a force of 1125 N (253 lbf.) 	N/A
11	<p>Arm Durability Test for Multiple Seat Units - Horizontal – Cyclic There shall be no loss of serviceability when apply a 445 N (100 lbf.) force at an appropriate rate between 10 and 30 cycles per minute for 50,000 cycles.</p>	N/A
12	<p>Arm Durability Test for Multiple Seating Units - Vertical – Cyclic There shall be no loss of serviceability when apply a 667 N (150 lbf.) force at an appropriate rate between 10 and 30 cycles per minute for 10,000 cycles.</p>	N/A
13	<p>Arm Durability Test for Single Seat Units - Angular – Cyclic Simultaneously apply a force of 400 N (90 lbf.) to each arm initially at a 10° ± 1° degree angle for 60,000 cycles at a rate between 10 and 30 cycles per minute. There shall be no loss of serviceability to the unit.</p>	N/A



Test	Test Description and Requirements	Test Results												
14	Seating Durability Tests – Cyclic No loss of serviceability after 100,000cycles impact. A weight of 57kg (125lbs.) free falls onto the seat from 3.6 in. height for each seating.	PASS												
15	Drop Test – Dynamic - Functional Load No loss of serviceability when 102kg (225lbs.) weight free falls from 6in. height to the center of the seat for each seating.	PASS												
	Drop Test – Dynamic - Proof Load No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 136kg (300lbs.) weight free falls from 6in. height to the center of the seat for each seating.	PASS												
16.3	Leg Strength Test -Front Load - Functional Load No loss of serviceability when A force of 334 N (75 lbf.) is applied once to each front leg individually for one (1) minute.	N/A												
	Leg Strength Test -Front Load - Proof Load No sudden and major change in the structural integrity (loss of serviceability is acceptable) when A force of 503 N (113 lbf.) or a force equal to the weight of the entire unit, whichever is greater, is applied once to each front leg individually for one (1) minute.	N/A												
16.4	Leg Strength Test - Side Load - Functional Load No loss of serviceability when a force of 334N (75lbf.) is applied once to each front and rear leg individually for 1 minute.	N/A												
	Leg Strength Test - Side Load - Proof Load No sudden and major change in the structural integrity (loss of serviceability is acceptable) when A force of 503 N (113 lbf.) or a force equal to the weight of the entire unit, whichever is greater, is applied once to a front and rear leg individually for one (1) minute.	N/A												
17	Unit Drop Test – Dynamic No loss of serviceability after lifting one end of the unit specified as below and allowing it to drop freely. Repeat a) on the opposite end of the unit. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Drop Height for Lounge Seating Unit</th> </tr> <tr> <th>Unit Weight</th> <th>Drop Height</th> </tr> </thead> <tbody> <tr> <td><45 kg (100 lbs.)</td> <td>180 mm (7.1 in.)</td> </tr> <tr> <td>45 - 90 kg (100-200 lbs.)</td> <td>120 mm (4.7 in.)</td> </tr> <tr> <td>>90 - 136 kg (200 - 300 lbs.)</td> <td>60 mm (2.4 in.)</td> </tr> <tr> <td>> 136 kg (300 lbs.)</td> <td>n/a</td> </tr> </tbody> </table>	Drop Height for Lounge Seating Unit		Unit Weight	Drop Height	<45 kg (100 lbs.)	180 mm (7.1 in.)	45 - 90 kg (100-200 lbs.)	120 mm (4.7 in.)	>90 - 136 kg (200 - 300 lbs.)	60 mm (2.4 in.)	> 136 kg (300 lbs.)	n/a	N/A
Drop Height for Lounge Seating Unit														
Unit Weight	Drop Height													
<45 kg (100 lbs.)	180 mm (7.1 in.)													
45 - 90 kg (100-200 lbs.)	120 mm (4.7 in.)													
>90 - 136 kg (200 - 300 lbs.)	60 mm (2.4 in.)													
> 136 kg (300 lbs.)	n/a													
18.1	Caster/Unit Base Durability Test for Pedestal Base Units There shall be no loss of serviceability. The caster shall not separate from the base as a result of the application of the 22 N (5 lbf.) force after 500 cycles over a hard surface with obstacles and 25, 000 cycles over a smooth hard surface without obstacles under a 113kg (250lbs.) load on the seat. Test stroke is 762mm (30in.) minimum.	N/A												



Test	Test Description and Requirements	Test Results
18.2	<p>Caster/Unit Frame Durability Test for Units with Legs There shall be no loss of serviceability. The caster shall not separate from the base as a result of the application of the 22 N (5 lbf.) force after the following tests under a 113kg (250lbs.) load on the seat. Test stroke is 762mm (30in.) minimum.</p> <ul style="list-style-type: none"> - For single seating units, the unit, or unit's frame with casters, shall be cycled for 500 cycles over the obstacles and then 25,000 cycles on a smooth hard surface without obstacles. - Multiple seating units shall be cycled 250 cycles over the obstacles. 	N/A
19	<p>Swivel Test – Cyclic No loss of serviceability after 120,000 cycles of rotation (360°) under a 113kg (250lbs.) load on the seat.</p>	N/A
20	<p>Tilt Mechanism Test – Cyclic No loss of serviceability after 200,000 cycles under a 102kg (225lbs.) load to the center of the seat</p>	N/A
21.3	<p>Stability Test - Rear Stability for Non-tilting Units Load the seat (or, for multiple seat units, load the seat of one of the seating positions) 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.</p> <ul style="list-style-type: none"> - For units with seat height (as measured at the front of the bottom of the lowest disk when all disks are in the unit) 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. - For units 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. <p>The application of the force shall not cause the unit to tip over.</p>	PASS
21.4	<p>Stability Test - Rear Stability Test for Tilting Units Load one seat position with 13 disks. If the unit does not tip over and the tilt mechanism does not tilt to its most rearward position (i.e., at its tilt stop) when the disks are placed in the seat, the unit shall also be tested according to 21.3.1 with the unit in the unlocked position. The application of the force shall not cause the unit to tip over.</p>	N/A
21.5	<p>Stability Test - Front Stability A downward force shall be applied initially at 45° to the test platform by attaching a strap centered over the front portion of the seat. The force shall be applied until the total unit weight is transferred to the front support members. The force shall not be less than 40% of the unit weight.</p>	PASS
22	<p>Tablet Arm Load Ease Test – Cyclic No loss of serviceability to the unit after a 343 N (77 lbf.) force applied through a 203 mm ± 13 mm (8.0 in. ± 0.51 in.) diameter area centered on the writing area of the tablet for a total 100,000 cycles.</p>	N/A



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

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

1F, 1 Building European Industrial Park, No.1 Shunde South Road, Wusha Section, Daliang Town, Shunde, Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgs.com.cn
 中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号厂房首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 e sgs.china@sgs.com

Test	Test Description and Requirements	Test Results
23	<p>Tablet Arm Static Load Test Apply a load of 68 kg (150 lb) at the apparent weakest position for 1 minute and remove the load. The load applied once shall cause no sudden and major change in the structural integrity of the unit. After performing the test, the tablet arm must allow egress from the unit; other losses of serviceability are acceptable.</p>	N/A

Annex A: Classification of Types of Lounge Seating

Single Seating	Multiple Seating
Style A - with arm(s) and with backrest	Style A - with arm(s) and with backrest(s)
Style B - with arm(s) and without backrest	Style B - with arm(s) and without backrests
Style C - without arms and with backrest	Style C - without arms and with backrest(s)
Style D - without arms and without backrest	Style D - without arms and without backrests

Remark:

1. In this report, all the tests were conducted under the condition of sample fixed to the test platform.
2. N/A – Not applicable; N/R – Not Requested; N/P – Not provided.
3. For the sample information and pictures, please refer to the following page.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SAMPLE INFORMATION AND PICTURES

Weight: 2.15 kg

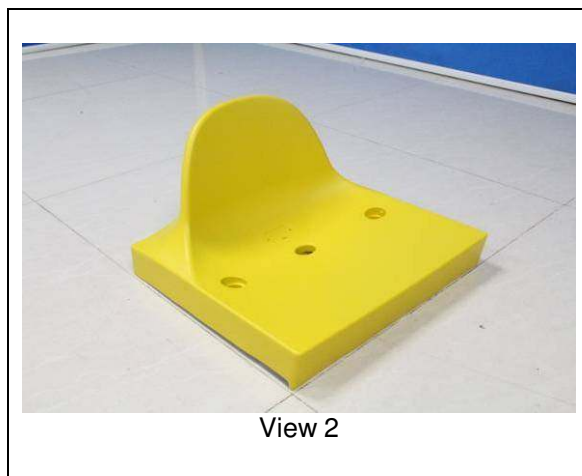
Overall Dimensions: 450 mm L x 404 mm W x 260 mm H

Other Dimensions: /

Sample as Received



View 1



View 2



View 3



View 4



SGS-CSTC Standards Technical Services Co., Ltd.
Shunde Branch Harbin

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

1/F, 1 Building European Industrial Park, No.1 Shunde South Road, Wusha Section, Daliang Town, Shunde, Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgsgroup.com.cn
中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号楼首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 e sgs.china@sgs.com



End of Report

