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	:	ROOKEE - EDUCATIONAL CHAIR
Supplier Item No.	:	1186P NA NA VW
Sample Receiving Date	:	Oct.25, 2019
Test Performing Date	:	Oct.28, 2019 to Nov.12, 2019

Test Result Summary

Test(s) Requested	Result(s)
ANSI/BIFMA X6.1-2018	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.

SDHL1910019468FT

Bill Wang
Approved signatory

TESTS AND RESULTS

Test Conducted:
ANSI/BIFMA X6.1-2018 Educational seating.

No. of Sample:
5 pieces. For more sample information and pictures, please refer to the following page.

Chair Size: Size C.

Seating Unit Type: Non-tilting Fixed.

Test and Requirements	Test Results
5 Stability tests	
5.3 Rear Stability	
5.3.1 Rear Stability Test for Size C Chairs Place a support fixture made of a 1.5 mm ± 0.15 mm (0.060 in. ± 0.006 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. Load the chair with 6 disks (10 kg each). Place the first disk on the seat using the Template from Appendix G. As each disk is added to the stack slide it along the lower disk until it contacts the support fixture. Apply a rearward force parallel to the top surface of the highest disk. The location of the force application is 6 mm (0.24 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. The chair shall not tip over.	PASS
5.3.2 Rear Stability Test for Size B Chairs Use the 95 degree “B” template, mark the back load point 300 mm (11.8 in.) above the seat (on the centerline) or for chairs with backs lower than the template back load point, mark as near to the top of the back as possible. Mark the seat load point 175 mm (6.9 in.) forward of the backrest (as measured by the template) on the centerline Center a 203 mm ± 13mm (8 in. ± 0.51 in.) disk on the seat load point and apply 600 N (135 lbf.). Apply a horizontal force of 180 N (40 lbf.) to back at the 300 mm (11.8 in.) at the back load point. The chair shall not tip over as a result of the force application.	PASS
5.3.3 Rear Stability Test for Size A Chairs Use the 95 degree “A” template, mark the back load point 250 mm (9.8 in.) above the seat (on the centerline) or for chairs with backs lower than the template back load point, mark as near to the top of the back as possible. Mark the seat load point 145 mm (5.7 in.) forward of the backrest (as measured by the template) on the centerline. Center a 203 mm ± 13mm (8 in. ± 0.51 in.) disk on the seat load point and apply 350 N (79 lbf.). Apply a horizontal force of 100 N (22.5 lbf.) to back at back load point. The chair shall not tip over as a result of the force application.	N/A

Test and Requirements	Test Results
5.4 Front Stability Test Procedure – Alternate A This alternative may only be used on chairs that do not have a resilient seat surface. Apply a vertical load of 600 N (135 lbf.) for Size C, or 500 N (112 lbf.) for Size B, or 350 N (79 lbf.) for Size A, 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. Apply a horizontal force of 20N (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. Test Procedure - Alternate Apply a vertical load of 600 N (135 lbf.) for Size C, or 500 N (112 lbf.) for Size B, or 350 N (79 lbf.) for Size A, by means of the front stability loading fixture at a point 60 mm (2.4 in.) from the front center edge of the load-bearing surface of the chair. Apply a horizontal force of 20N (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. The chair shall not tip over as the result of the force application.	PASS
5.5 Front Stability for Convertible Bench Tables A downward force shall be applied initially at 45° ± 5° to the test platform by attaching a strap, not to exceed 76 mm (3 in.) in width, 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. (This typically occurs when the rear support members lift off the test platform). The force determined shall not be less than 40% of the total unit weight.	N/A
5.6 Side Stability test for Convertible Bench Tables Place a concentrated load of 122 kg (270 lbs.) at the end of the bench top through a 305 mm (12 in.) diameter disk that is flush with the edge and centered on the top. Also place a concentrated load of 122 kg (270 lbs.) at the end of the bench seat through a 305 mm (12 in.) diameter disk that is flush with the edge and centered on the seat. The convertible bench shall not tip over.	N/A
5.7 Front and Side Stability for Chair Desks Place a concentrated load of 57 kg (125 lbs.) through a 305 mm (12 in.) diameter disk that is flush with one or more edges of the top at the least stable position. Multiple load applications may be necessary to determine the least stable position. Repeat the test with an 11 kg (25 lb.) load suspended from any backpack hooks. The chair shall not tip over as the result of the force applications.	N/A
6 Backrest Strength Test - Static	
6.4.1 Functional Load There shall be no loss of serviceability to the chair when 667 N (150 lbf.) is applied to the backrest at the specified position for one (1) minute. With the backrest at its back stop position, apply a force that is initially 90 degrees ± 10 degrees to the plane of the backrest. The force is not intended to be maintained at 90 degrees ± 10 degrees throughout the loading of the backrest.	PASS
6.4.2 Proof Load There shall be no sudden and major change in the structural integrity of the chair, loss of serviceability is acceptable, when 1001 N (225lbf.) is applied to the backrest at the specified position for one (1) minute. With the backrest at its back stop position, apply a force that is initially 90 degrees ± 10 degrees to the plane of the backrest. The force is not intended to be maintained at 90 degrees ± 10 degrees throughout the loading of the backrest.	PASS

Test and Requirements	Test Results
7 Backrest Durability Test - Cyclic A weight of 109 kg (240 lb.) shall be secured in the center of the seat. Apply a total force of 334 N (75 lbf.) to the backrest at the specified position at a rate between 10 and 30 cycles per minute. For chairs with backrest widths less than or equal to 406 mm (16 in.) at the height of the loading point, apply the load to the backrest for 120,000 cycles. For chairs with backrest widths greater than 406 mm (16 in.) at the height of the loading point, apply the load to the backrest for 80,000 cycles + 20,000 cycles at the position 102 mm (4 in.) to the right of the vertical centerline + 20,000 cycles at the position 102 mm (4 in.) to the left of the vertical centerline. There shall be no loss of serviceability. *Note: With the backrest at its back stop position, apply a force that is initially 90 degrees ± 10 degrees to the plane of the backrest. The force is not intended to be maintained at 90 degrees ± 10 degrees throughout the loading of the backrest.*	PASS
8 Drop Test - Dynamic	
8.4.1 Functional Load Test There shall be no loss of serviceability when a test bag weighing 102 kg (225 lb.) is free fell from height of 152 mm (6 in.) above the uncompressed seat to the specified position on seat. Remove the bag, and set height to its lowest position and repeat the test for chairs with seat height adjustment features.	PASS
8.4.2 Proof Load Test There shall be no sudden and major change in the structural integrity of the chair. Loss of serviceability is acceptable when a test bag weighing 136 kg (300 lb.) is free fell from height of 152 mm (6 in.) above the uncompressed seat to the specified position on seat. Remove the bag, and set height to its lowest position and repeat the test for chairs with seat height adjustment features.	PASS
9 Seat static loading test for chair desks and Fixed-Tablet Arm Chair	
9.5.1 Functional load There shall be no loss of serviceability when applied a functional load of 181kg (400lb.) through a 203mm±13mm (8in.±0.51in.) diameter loading device at the apparent worst-cast position for 1 minute. Repeat the test for chairs with seat height adjustment features.	N/A
9.5.2 Proof load Apply a proof load of 272kg (600lb.) using a loading device with a diameter of 203mm±13mm(8in.±0.51in.) at the apparent worst- cast position for 10 seconds. Repeat the test for chairs with seat height adjustment features, there shall be no sudden and major change in the structural integrity of the chair, loss of serviceability is acceptable.	N/A
10 Seating Durability Tests – Cyclic The impact test (Section 10.3.1) and front corner load tests (Section 10.3.2) must be run sequentially (on the same test unit) for this evaluation in this section.	

Test and Requirements	Test Results
10.3.1 Impact test for Chairs and Convertible Bench-Tables There shall be no loss of serviceability to the chair after a test bag weighing 57 kg (125 ls.) is free fell from 36 mm (1.4 in.) above the uncompressed seat to the specified position on seat for 100,000 cycles. The drop height and/or seat height shall be adjusted during the test if the drop height changes by more than 13 mm (0.5 in.). The cycling device shall be set at a rate between 10 and 30 cycles per minute. *Note: Chairs with less than 44 mm (1.75 in.) of cushioning materials in the seat shall have foam added to bring total cushioning thickness to 50 mm ± 6 mm (2 in. ± 0.25 in.). Any additional foam added to the top of the seat shall have a 25% Indentation Force Deflection (IFD) of 200 N ± 22 N (45 lbf. ± 5 lbf.). Flexible seat surfaces (i.e., mesh, flexible plastic, etc.) are not considered cushioning materials.*	PASS
10.3.2Front Corner Load-Ease Test – Cyclic – Off-center This test applies to C-sized seating unit only. After completing the impact test, alternately apply a load of 91 kg (200 lb) through a 203 mm ± 13 mm (8 in. ± 0.51 in.) diameter loading device at one front corner flush to each structural edge at a rate of 10 to 30 cycles per minute for 20,000 cycles. Reposition the load to the other front corner, and perform the test for an additional 20,000 cycles. There shall be no loss of serviceability to the chair after completion of both the impactand load-ease tests. If applicable, the chair base (center structure) shall not touch thetest platform as a result of the impact loads. *Note: Applying the loads in an alternating sequence to attain a total of 40,000 cycles is an acceptable method of performing this test.*	PASS
10.4 Load- Ease (Simulated Impact2) Test for chair- desks and fixed-tablet arm chairs Apply a load of 136 kg (300 lb.) to the seat without impact so the seat takes the entire load, then remove the load. The cycling shall be set at a rate between 10 and 30 cycles per minute. There shall be no loss of serviceability to the chair after completion of the test.	N/A
11Arm Strength Test - Vertical – Static	
11.4.1 Functional Load Apply an initially vertical pull forceof 750 N (169lbf.) to the load adapter which is 127 mm (5 in.) long and at least as wide as the width of the arm shall be attached to the top of the arm rest structure such that the load will be applied at the apparent weakest point that is forward of the chair backrest, for one (1) minute. There shall be no loss of serviceability.	PASS
11.4.2 Proof Load Apply an initially vertical pull force of 1125 N (253lbf.) to the load adapter which is 127 mm (5 in.) long and at least as wide as the width of the arm shall be attached to the top of the arm rest structure such that the load will be applied at the apparent weakest point that is forward of the chair backrest, for 10 seconds. There shall be no sudden and major change in the structural integrity of the unit. Loss of serviceability is acceptable.	PASS
12 Arm Strength Test - Horizontal – Static	

Test and Requirements	Test Results
12.4.1 Functional Load Apply an initially horizontal pull force of 445 N (100lbf.) to the load adapter which is a loading device or strap, not greater than 25 mm (1 in.) in horizontal width, shall be attached to the arm so that the load is initially applied horizontally to the armrest structure at the apparent weakest point (for armrests that pivot in the horizontal plane, apply the load at the pivot point), for one (1) minute in the outward direction. A functional load applied once shall cause no loss of serviceability.	PASS
12.4.2 Proof Load Apply an initially horizontal pull force of 667 N (150lbf.)to the load adapter which is a loading device or strap, not greater than 25 mm (1 in.) in horizontal width, shall be attached to the arm so that the load is initially applied horizontally to the armrest structure at the apparent weakest point (for armrests that pivot in the horizontal plane, apply the load at the pivot point), for 10 seconds in the outward direction. A proof load applied once shall cause no sudden and major change in the structural integrity of the unit. Loss of serviceability is acceptable.	PASS
13 Arm Durability Test -Angular – Cyclic This test applies to C-size chairs only. This does not apply to tablet arms. Simultaneously apply a force of 400 N (90 lbf.) to each arm initially at a 10° ± 1° angle. The arm loading device must follow the arm as it deflects or pivots. The force shall be applied and removed for 60,000 cycles at a rate between 10 and 30 cycles per minute. The arm loading device should distribute the load over a length of 100 mm (4 in.) on the arm pad. Center of load shall not be applied more than 25 mm (1.0 in.) in from the inside edge of the arm pad. There shall be no loss of serviceability to the chair.	PASS
14Caster/Chair Base Durability Test – Cyclic	
14.1 Caster/Chair Base Durability Test for Pedestal Base Chairs No loss of service after 2,000cycles over a hard surface with 3 obstacles and then 23,000cycles over a smooth hard surface without obstacles under aload of 122 kg (270 lb.)at a rate of 10 ± 2 cycles per minute. Test stroke is 762±50mm (30±2in.) of travel. The caster shall not separate from the base as a result of the application of the 22 N (5 lbf.) force.	PASS
14.2 Caster / Chair Frame Durability Test for Non-pedestal Chairs with Casters No loss of service after 2,000cycles over a hard surface with 3 obstacles and then 23,000cycles over a smooth hard surface without obstacles under aload of 122 kg (270 lb.)at a rate of 10 ± 2 cycles per minute. Test stroke is 762±50mm (30±2in.) of travel. The caster shall not separate from the base as a result of the application of the 22 N (5 lbf.) force.	N/A
15 Durability Test for Convertible Bench Tables with Casters There shall no loss of serviceability after 5,000 cycles over a hard surface with obstacles. The obstacle spacing shall not allow all caster to impact the obstacles simultaneously(only two casters shall pass over an obstacle at one time), test stroke is 762±50mm (30±2in.). There shall be no lose of serviceability. The caster shall not separate from the base as a result of the application of the 22 N (5 lbf.) force.	N/A
16 Leg Strength Test - Front and Side Application	

Test and Requirements	Test Results
16.3.2.1 Front Load Test- Functional Test 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. Apply a functional force to each front leg (individually) of 334N (75lbf) for chairs or 222N (50lbf.) for Chairs/Desk for one (1) minute. Functional load(s) shall cause no loss of serviceability.	N/A
16.3.2.2 Front Load Test- Proof Test 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. Apply a proof force to each front leg (individually) of 501N (113lbf) for chairs or 334N (75lbf.) for Chairs/Desk for 10 seconds. Proof load(s) shall cause no sudden and major change in the structural integrity of the chair. Loss of serviceability is acceptable.	N/A
16.4.2.1 Side Load Test- Functional Test 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. For chairs apply a functional force to each side leg (individually) of 334 N (75lbf.) for 1 minute. For chair/desks apply a functional force to the side of front leg (individually) of 222N (50lbf.) and a functional force to the side of rear leg (individually) of 334N (75lbf.) for 1 minute. Functional load(s) shall cause no loss of serviceability.	N/A
16.4.2.2 Side Load Test- Proof Test 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. For chairs apply a proof force to each side leg(individually) of 501 N (113 lbf.) for a minimum of 10 seconds. For chair/desks apply a proof force to the side of front leg (individually) of 334 N (75 lbf.) and a proof force to the side of rear leg (individually) of 501 N (113 lbf.) for a minimum of 10 seconds. Proof load(s) shall cause no sudden and major change in the structural integrity of the chair. Loss of serviceability is acceptable.	N/A
17 Structural Member Strength Test	
17.4.1 Functional Load Test There shall no loss of serviceability when a vertical downward force of 890N (200lbf.) applied uniformly along a 102mm(4in.) length of the horizontal member at the apparent weakest point of the structure for 1 minute.	PASS
17.4.2 Proof Load Test No sudden and major change in the structural integrity (loss of serviceability is acceptable) when a vertical downward force of 1334N (300lbf.) applied uniformly along a 102mm(4in.) length of the horizontal member at the apparent weakest point of the structure for 10 seconds.	PASS
18 Swivel Test – Cyclic There shall be no loss of serviceability after 60,000cycles of rotationat a rate between 5 and 15 rotations per minute under a load of 122 kg (270 lb.) on the seat. If the seat height is adjustable set the height to its lowest position, for all chairs, continue the test for an additional 60,000 cycles to a total of 120,000 cycles.	N/A

Test and Requirements	Test Results
19 Tablet Arm Front Stability Align a 254 mm ± 3mm(10in ±0.125in.) diameter disk so that the edge of the disk is flush with the front edge of the surface at its apparent least stable position. When the least stable position is not obvious, several load application positions may be necessary to properly the product. If the disk overhangs the top, center the disk on the top. Apply a load of 6.8 kg (15 lb.) including the weight of the disk. The load shall not cause the unit tip over.	N/A
20 Tablet Arm Chair Static Load Test This test applicable to all C-size seating units equipped with tablet arms to beused as an auxiliary writing surface. Apply a load of 68 kg. (150 lb.) through a 203 mm ± 13 mm (8.0 in. ± 0.51 in.) diameter area 25 mm (1 in.) from the edge of the surface at its apparent weakest pointfor one (1) minute and then remove. The load applied once shall cause no sudden and major change in the structural integrity of the chair. After performing the test, the tablet arm must allow egress from the unit; other losses of serviceability are acceptable.	N/A
21Tablet Arm Chair Load Ease Test – Cyclic This test applicable to all C-size seating units equipped with tablet arms to beused as an auxiliary writing surface. Apply a load of 25kg (55 lb.) through a 203 mm ± 13 mm (8.0 in. ± 0.51 in.) diameter area 25 mm (1 in.) from the edge of the surface at its apparent weakest point, for a total of 100,000 cycles. The cycling device shall be set to operate at a rate of 14 ± 6 cycles per minute. There shall be no loss of serviceability to the unit.	N/A
22 Chair Desk and Table Top Horizontal Surface Vertical Load Test	
22.3 Concentrate Functional Load Test There shall be no loss of serviceability when applied a concentrate load per table 13 through a 305 mm(12in.) diameter area 25mm (1in.) from the unit's edge at its apparent weakest point for 60 minutes. A weight of 109 kg (240 lb.) shall be secured in the center of each seating position.	N/A
22.4 Distribute Functional Load Test There shall be no loss of serviceability when applied the distributed load per table 13 for 60 minutes. The load is evenly distributed and centered over a line 203mm±13mm(8in.±0.5in.) in from the edge along the entire perimeter, a weight of 109 kg (240 lb.) shall be secured in the center of each seating position.	N/A
22.5 Concentrate proof Load Test There shall be no sudden and major change in the structural integrity (loss of serviceability is acceptable) when applied a concentrate proof load per table 13 through a 305 mm (12in.) diameter area 25mm (1in.) from the unit's edge at its apparent weakest point for 15 minutes. A weight of 109kg (240lb.) shall be secured in the center of each seating position.	N/A
22.6 Distribute Proof Load Test There shall be no sudden and major change in the structural integrity (loss of serviceability is acceptable) when applied the distributed proof load per table 13 for 15 minutes. The load is evenly distributed and centered over a line 203mm±13mm (8in.±0.5in.) in from the edge along the entire perimeter, a weight of 109 kg (240 lb.) shall be secured in the center of each seating position.	N/A

Test and Requirements	Test Results
23 Chair Desk and Convertible Bench Table Top Load-Ease Test – Cycle There shall be no loss of serviceability when applied a load of 91kg (200lb.) through a 406mm± 51mm (16in.± 2in.) diameter bag shall be positioned on the surface at the apparent weakest point. The load shall be raised until entire weight is off the surface and then eased on to the surface, then remove the load. Repeat for total of 20,000 Cycles. A weight of 109 kg shall be placed in the center of the seat.	N/A
24 Static Loading of Storage (Backpack) Hooks and Unit Stability	
24.4.1 Functional Load There shall be no loss of serviceability and the unit shall not tip over when hung a functional load of 9.1kg (20lb.) on the storage hook for 1 minute.	N/A
24.4.2Proof Load There shall be no sudden and major change in the structural integrity (loss of serviceability is acceptable) when hung a proof load of 13.6kg (30lb.) on the storage hook for 10 seconds.	N/A

Remark:

1. N/A – Not applicable; N/R – Not Requested; N/P – Not provided.
2. For the sample information and pictures, please refer to the following page.

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SAMPLE INFORMATION AND PICTURES

Weight: 10.70 kg

Overall Dimensions: 715 mm W x 685 mm D x (775~855) mm H

Other Dimensions: /

Sample as Received

View 1

View 2

View 3

View 4

End of Report