# TEST REPORT

Mechanical & Hardgoods Laboratory

Report No. : HLD0369/2018
Page : 1 of 4
Date : JAN. 08, 2019

**HARVEST LINK INTERNATIONAL PTE. LTD.**
No. 42, 37th Road, Taichung Industrial Park, Taichung 40768, Taiwan

**The following merchandise was submitted and identified by the applicant as**:

Product Description: Four legs chair with armrest
Style/Item No.: 5W-1L-PP
Country of Origin: Taiwan

**We have tested the submitted sample(s) as requested and the following results were obtained:**

Type of chair: Type III, fixed seat angle, fixed backrest

Test Requested: For compliance with ANSI/BIFMA X5.1-2017 General-Purpose Office Chairs-Tests
Clause 06 Back Strength Test
Clause 07 Drop Test
Clause 11 Stability Test
Clause 12 Arm Strength Test Vertical
Clause 13 Arm Strength Test - Horizontal
Clause 15 Back Durability Test – Cyclic
Clause 17 Leg Strength Test
Clause 20 Arm Durability Test
Clause 24 Structural Durability Test

Test Methods: According to test procedures of ANSI/BIFMA X5.1-2017

Test Results: ---See following sheet(s)---

Date of Receipt： Dec. 20, 2018

Testing Period： Dec. 20, 2018 ~ Jan. 08, 2019

Conclusion: The submitted sample(s) **comply with** Clause 06, 07, 11, 12, 13, 15, 17, 20 and 24ANSI/BIFMA X5.1-2017 General-Purpose Office Chairs-Tests.

**Signed for and on behalf of SGS Taiwan Ltd.**

Lawrence Yang
Supervisor

| Evaluation | Citation/Method | Criteria | Results | Rating |
|---|---|---|---|---|
| **PERFORMANCE** | | | | |
| Back Strength Test - Static - Type III - Functional Load | ANSI/BIFMA X5.1-2017 Clause 6.4.1 | No loss of serviceability when 150 lb (667 N) is applied for 1 min. applied to 90° from back at 16 in above the seat. If the back is less than 17.8 in, the load is applied at the top of the back. | M | Pass |
| Back Strength Test - Static - Type III - Proof Load | ANSI/BIFMA X5.1-2017 Clause 6.4.2 | No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 225 lb (1001 N) is applied for 1 min. Applied 90° to the back at 16in. above the seat. If the back is less than 17.8 In, the load is applied at the top of the back. | M | Pass |
| Drop Test – Dynamic – Functional Load | ANSI/BIFMA X5.1-2017 Clause 7.4.1 | No loss of serviceability when 102 kg (225 lbs.) weight free falls from 6 in. height to the center of the seat. | M | Pass |
| Drop Test Dynamic – Proof Load | ANSI/BIFMA X5.1-2017 Clause 7.4.2 | No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 136 kg (300 lbs.) weight free falls from 6 in. height to the center of the seat. | M | Pass |
| Stability Test – Rear Stability for type III | ANSI/BIFMA X5.1-2017 Clause 11.3.1 | Apply only to chairs with backrests greater than 200mm<br>Type III:<br>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.<br>The force shall be:<br>• F = 0.1964 (1195 – H) Newton. H is the seat height in mm.<br>• [F = 1.1 (47 – H) pounds force.]. H is the seat height in inches.<br>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.<br>The chair shall not tip over. | M<br>(Type III:<br>F= 148.7 N) | Pass |
| Stability Test – Front Stability | ANSI/BIFMA X5.1-2017 Clause 11.4 | The chair is obstructed with a 13mm (½ in.) obstruction to the chair casters/legs. A downward load of 61 kgs (135 lbs.) is centered<br>60 mm (2.4 in.) from the seat front center edge. The seat shall withstand a 20 N (4.5lbf.) horizontally from the front seat edge without tipping. | M | Pass |
| Arm Strength Test Vertical – Static – Functional Load | ANSI/BIFMA X5.1-2017 Clause 12.4 | No loss of serviceability when 750 N (169 lbs.) is applied for 1 min. The vertical load is uniformly applied along a 127 mm (5 in.) length at the apparent weakest point. | M | Pass |
| Arm Strength Test Vertical - Static - Proof Load | ANSI/BIFMA X5.1-2017 Clause 12.4 | No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 1125 N (253 lbs.) is applied for 15 sec. The vertical load is uniformly applied along a 127 mm<br>(5 in.) length at the apparent weakest point. | M | Pass |
| Arm Strength Test - Horizontal – Static – Functional Load | ANSI/BIFMA X5.1-2017 Clause 13.4 | No loss of serviceability when 445 N (100 lbs.) for 1 min. is applied horizontally outward to the armrest at the most forward point of the armrest. | M | Pass |
| Arm Strength Test - Horizontal – Static - Proof Load | ANSI/BIFMA X5.1-2017 Clause 13.4 | No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 667 N (150 lbs.) for 15 sec. is applied horizontally outward to the armrest at the most forward point of the armrest. | M | Pass |
| Back Durability Test – Cyclic – Type II & III | ANSI/BIFMA X5.1-2017 Clause 15 | No loss of serviceability in 120,000 cycles with a 109 kg (240 lbs.) in the center of the seat and a 334 N (75 lbf.) 90° to the center of the chair back. For chairs with a back width greater than 406 mm (16 in.), test at the center of chair back for 80,000 cycles and then 102 mm (4 in.) off-center 40,000 cycles, half to each side. | M | Pass |

| Evaluation | Citation/Method | Criteria | Results | Rating |
|---|---|---|---|---|
| **PERFORMANCE** | | | | |
| Leg Strength Test -Front Load - Functional Load | ANSI/BIFMA X5.1-2017 Clause 17.3 | No loss of serviceability when a force of 334 N (75 lbf.) is applied to each front leg individually for 1 minute. | M | Pass |
| Leg Strength Test- Front Load - Proof Load | ANSI/BIFMA X5.1-2017 Clause 17.3 | No sudden and major change in the structural integrity (loss of serviceability is acceptable) when a force of 503 N (113 lbf.) is applied to each front leg individually for 1 minute. | M | Pass |
| Leg Strength Test -Side Load - Functional Load | ANSI/BIFMA X5.1-2017 Clause 17.4 | No loss of serviceability when a force of 334 N (75 lbf.) is applied once to each front and rear leg individually for 1 minute. | M | Pass |
| Leg Strength Test -Side Load - Proof Load | ANSI/BIFMA X5.1-2017 Clause 17.4 | No sudden and major change in the structural integrity (loss of serviceability is acceptable) when a force of 503 N (113 lbf.) is applied once to the front and rear leg individually for 1 minute. | M | Pass |
| Arm Durability Test- Cyclic | ANSI/BIFMA X5.1-2017 Clause 20 | No structural breakage or loss of serviceability when a force of 400 N (90 lbf.) is applied to each arm at a 10º angle ±1º for 60,000 cycles | M | Pass |
| Structural Durability Test - Cyclic | ANSI/BIFMA X5.1-2017 Clause 24 | Place a weight of 109 kg (240 lb.) in the center of the seat. A cycling device shall be attached to the unit frame midway between front and rear of the seat at the height of the midpoint of the seat frame structure. The cycling device shall be adjusted to apply a “push-pull” action, or alternately may be applied by alternating pull (or push) force application on alternating sides of the unit. Apply a force of 334 N (75 lbf.) at an appropriate rate between 10 and 30 cycles per minute. The device shall be cycled for 25,000 cycles.<br>There shall be no loss of serviceability. | M | Pass |

Results Key:

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|---|---|---|---|
| M | Meets | N/M | Does Not Meet |
| N/A | Not Applicable | N/T | Not Tested |
| C | Claimed | R | Recorded |

Rating Key:

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|---|
| Pass |
| Fail |

## – Pictures –

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|---|---|
|  |  |
| Photo A: Appearance of the sample - front | Photo B: Appearance of the sample - side |
|  |  |
| Photo C: Appearance of the sample - back | Photo D: Type(s) of the chair |

---End of Report---