

### 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.: 6W-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

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. 07, 2019

Conclusion: The submitted sample(s) **comply with** ANSI/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 |
|---|------------------------------------|--|--------------------------------|--------|
| <b>PERFORMANCE</b>  |                                    |  |                                |        |
| Back Strength Test - Static - Type I & II - Functional Load | ANSI/BIFMA X5.1-2017 Clause 5.4.1  | No structural breakage or loss of serviceability when 150 lb (667 N) is applied for 1 min. applied to 70° 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.   | N/A                            | /      |
| Back Strength Test - Static - Type I & II - Proof Load      | ANSI/BIFMA X5.1-2017 Clause 5.4.2  | 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 to 70° 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.   | N/A                            | /      |
| 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   |
| Swivel Test – Cyclic  | ANSI/BIFMA X5.1-2017 Clause 8      | No loss of serviceability after 60,000 cycles of rotation (360°) under a 122 kg (270 lbs.) load on the seat at its max. Height. Seat shall then withstand another 60,000 cycles of rotation at its lowest seating position. Total 120,000 cycles.  | N/A                            | /      |
| Tilt Mechanism Test – Cyclic – Type I & II                  | ANSI/BIFMA X5.1-2017 Clause 9      | No loss of serviceability after 300,000 cycles under a 109 kg (240 lbs.) load to the center of the seat  | N/A                            | /      |
| Impact Test – Cyclic  | ANSI/BIFMA X5.1-2017 Clause 10.3   | No loss of serviceability in 100,000 cycles impact. A weight of 57 kg (125 lbs.) free falls onto the seat from 1.4 in. height.   | M                              | Pass   |
| Front Corner Load Ease Test – Cyclic – off Center           | ANSI/BIFMA X5.1-2017 Clause 10.4   | No loss of serviceability after 20,000 cycles to both front seat corners from a 890 N (200 lbs.) load positioned flush to both outer edges applied without impact for a total of 40,000 cycles<br>Note: this test is done after “Impact test” on the same sample.  | 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 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= 146.1 N) | Pass   |
| Stability Test – Rear Stability for type I and II           | ANSI/BIFMA X5.1-2017 Clause 11.3.2 | Apply only to chairs with backrests greater than 200mm<br>Load the chair with 13 disks, the chair shall not tip over.  | N/A                            | /      |

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| Evaluation  | Citation/Method                  | Criteria  | Results | Rating |
|---|----------------------------------|---|---------|--------|
| <b>PERFORMANCE</b>  |                                  |   |         |        |
| 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 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 (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 I                        | ANSI/BIFMA X5.1-2017 Clause 14   | No loss of serviceability in 120,000 cycles with a 109 kg (240 lbs.) in the center of the seat and a 445 N (100 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.       | N/A     | /      |
| 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   |
| Caster / Chair Base Durability Test - For Pedestal Base Chair | ANSI/BIFMA X5.1-2017 Clause 16.1 | No loss of service after 2,000 cycles over a hard surface with 3 obstacles and 98,000 cycles over a smooth hard surface without obstacles under a 122 kg (270 lbs.) load on the seat. Test stroke is 762 mm (30 in.) minimum. The caster should not separate under 22 N (5 lbs.) pulling force in line with the caster stem after the cycling test. | N/A     | /      |
| Caster / Chair Base Durability Test for Chairs with Legs      | ANSI/BIFMA X5.1-2017 Clause 16.2 | No loss of service after 2,000 cycles over a hard surface with 2 obstacles and 98,000 cycles over a smooth hard surface without obstacles under a 122 kg (270 lbs.) load on the seat. Test stroke is 762 mm (30 in.) minimum. The caster should not separate under 22 N (5 lbs.) pulling force in line with the caster stem after the cycling test. | N/A     | /      |
| 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   |

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| Evaluation  | Citation/Method                  | Criteria   | Results | Rating |
|---|----------------------------------|--|---------|--------|
| <b>PERFORMANCE</b>  |                                  |  |         |        |
| Footrest Static Load Test – Vertical - Functional Load        | ANSI/BIFMA X5.1-2017 Clause 18.3 | Apply a force F1 of 445 N (100 lbf.) uniformly along a 102 mm (4 in.) distance along the footrest but not greater than 51 mm (2 in.) from the outside edge at the apparent weakest point of the structure for one (1) minute in the vertical downward direction. There shall be no loss of serviceability or sudden loss of footrest height.   | N/A     | /      |
| Footrest Static Load Test – Vertical - Proof Load             | ANSI/BIFMA X5.1-2017 Clause 18.4 | Apply a force of 1334 N (300 lbf.) uniformly along a 102 mm (4 in.) distance along the footrest but not greater than 51 mm (2 in.) from the outside edge at the apparent weakest point of the structure for one (1) minute in the vertical downward direction. The load applied once shall cause no sudden and major change in the structural integrity of the unit. Loss of serviceability is acceptable.   | N/A     | /      |
| Footrest Durability Test                                      | ANSI/BIFMA X5.1-2017 Clause 19   | No loss of serviceability after 50,000 cycles of a 890 N (200 lbf) load vertical along 102 mm (4 in.) length of the footrest at the apparent weakest point of the structure. Adjustable footrests that move more than 25 mm (1 in.) in the first 500 cycles shall be considered to have lost their serviceability.   | N/A     | /      |
| 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 10° angle ±1° for 60,000 cycles   | M       | Pass   |
| Out Stop Tests for Chairs with Manually Adjustable Seat Depth | ANSI/BIFMA X5.1-2017 Clause 21   | Place a 70 kg (154 lb) rigid mass in the center of the seat. Hold the seat at its most position. A cable is attached to the most rigid point of the vertical centerline of the seat. Hang a weight of 25 kg (55 lb) on the opposite end of the cable. Release the weight so it can drag the seat move forward rapidly and impact   | N/A     | /      |
| Tablet Arm Static Load Test                                   | ANSI/BIFMA X5.1-2017 Clause 22   | Apply a load of 68 kg (150 lb) at the apparent weakest position for 5 minutes and remove the load. No sudden and major change in the chair when the application of the load.   | N/A     | /      |
| Tablet Arm Load Ease Test – Cyclic                            | ANSI/BIFMA X5.1-2017 Clause 23   | No loss of serviceability to the unit after loading the tablet surface with a weight of 25 kg (55 lb) for a total 100,000 cycles.  | N/A     | /      |
| 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. There shall be no loss of serviceability. | M       | Pass   |
| Base Test - Static  | ANSI/BIFMA X5.1-2017 Appendix C  | No sudden and major change in the structural integrity under 11,120 N (2500 lbs.) compressions for 1 min. The weight is then removed and reapplied for 1 min. The center column may not touch the test platform during load applications.  | N/A     | /      |

**Results Key:**

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

**Rating Key:**

|      |
|------|
| Pass |
| Fail |



– Pictures –



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---