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Dates Tested:	11/29/2019 to 12/12/2019
Date Issued:	12/12/2019
Sample(s) Submission Date:	11/29/2019
Technician(s):	Leo Yang, Reese Zhu, Dash Li
UL Order / Project Number:	13131409 / 4789257726

**Scope:** To evaluate Move Chair , by subjecting it to the following tests:

**Requested Tests:**

<u>Test Name</u>	<u>Requirement</u>
Backrest strength test – Static Type I & II	ANSI/BIFMA X5.1-2017, Section 5
Drop Test – Dynamic	ANSI/BIFMA X5.1-2017, Section 7
Tilt Mechanism Test – Cyclic	ANSI/BIFMA X5.1-2017, Section 9
Seating Durability Tests – Cyclic	ANSI/BIFMA X5.1-2017, Section 10
Stability Tests	ANSI/BIFMA X5.1-2017, Section 11
Backrest Durability Test – Cyclic – Type I	ANSI/BIFMA X5.1-2017, Section 14
Leg Strength Test – Front and Side Application	ANSI/BIFMA X5.1-2017, Section 17
Structural Durability Test – Cyclic	ANSI/BIFMA X5.1-2017, Section 24

**Product Description:**

<u>Specimen</u>	<u>Description</u>	<u>Condition</u>	<u>Supplier</u>
2698583	Complete Product	New	-
2698584	Complete Product	New	-
2698585	Complete Product	New	-

**Summary:**

<u>Test Name</u>	<u>Specimen</u>	<u>Results</u>
Backrest strength test – Static Type I & II	2698584	Met Requirement
Drop Test – Dynamic	2698585	Met Requirement
Tilt Mechanism Test – Cyclic	2698585	Met Requirement
Seating Durability Tests – Cyclic	2698584	Met Requirement
Stability Tests	2698583	Met Requirement
Backrest Durability Test – Cyclic – Type I	2698583	Met Requirement
Leg Strength Test – Front and Side Application	2698583	Met Requirement
Structural Durability	2698583	Met Requirement

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**Test Results:**

**1. Backrest Strength Test-Static-Type I & II:**

Testing was performed per ANSI/BIFMA X5.1-2017, Section 5.

**Notes:**

- Temperature / Humidity: 23°C & 42% R.H.
- Tilt lock: Disengaged as a Type I Chair (free-tilting).
- Chair height: Fixed
- Functional load: 150 lbf. applied at 70° to the plane of the back at its back stop position for 1 minute.
- Proof load: 225 lbf. applied at 70° to the plane of the back at its back stop position for 1 minute.
- See Photo 1 for setup.



<u>Specimen</u>	<u>Load (lbf.)</u>	<u>Time (sec.)</u>	<u>Observations</u>
2698584	150	60	No loss of serviceability.
	225	60	No sudden and major changes.

***Requirement:***

***Functional Load:*** *There shall be no loss of serviceability to the chair.*

***Proof Load:*** *There shall be no sudden and major change in the structural integrity of the chair. Loss of serviceability is acceptable.*

Equipment:	Test machine (147910), Tape measure (148245), Scale (148244), CMD (148230), Digital Angle Gauge (148282)
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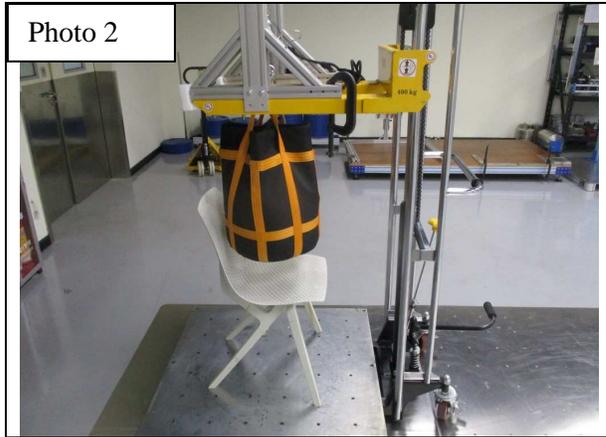


## 2. Drop Test – Dynamic:

Testing was performed per ANSI/BIFMA X5.1-2017, Section 7.

### Notes:

- Temperature / Humidity: 22°C & 43% R.H..
- Functional load: 225 lbs.
- Proof load: 300 lbs.
- Load dropped from a height of 6 inches through a 16 inches diameter bag.
- See Photo 2 for setup.



<u>Specimen</u>	<u>Chair Height</u>	<u>Load (lbs.)</u>	<u>Observations</u>
2698585	Fixed	225	No loss of serviceability.
	Fixed	300	No sudden and major change in structural integrity.

### ***Requirement:***

***Functional Load:*** *There shall be no loss of serviceability.*

***Proof Load:*** *There shall be no sudden and major change in the structural integrity of the chair. Loss of serviceability is acceptable.*

<b>Equipment:</b>	Tape measure (148245), Scale (148244)
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### 3. Tilt Mechanism Test – Cyclic:

Testing was performed per ANSI/BIFMA X5.1-2017, Section 9.

#### Notes:

- Temperature / Humidity: 22°C~24°C & 40%~48% R.H.
- Tilt tension: Nil.
- Chair height: Fixed.
- Seat load: 240 lbs. located at seat center
- Test set to run 300,000 cycles per the requester.
- Cycle rate: 20 CPM
- See Photo 3 for setup.



<u>Specimen</u>	<u>Cycles</u>	<u>Observations</u>
2698585	0	Test begun.
	300,000	No loss of serviceability.

**Requirement:** *There shall be no loss of serviceability to the tilt mechanism.*

Equipment:	Test machine (147910), Tape measure (148245), Scale (148244), Digital Angle Gauge (148282)
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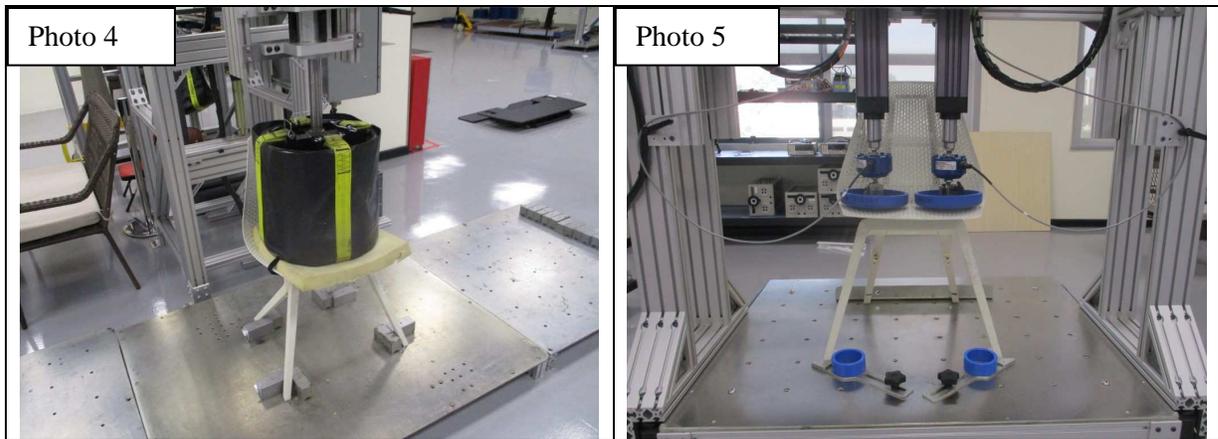


#### 4. Seating Durability Tests – Cyclic:

Testing was performed per ANSI/BIFMA X5.1-2017, Section 10.

##### Notes:

- Temperature / Humidity: 21 °C~24 °C & 42%~48% R.H.
- A 125 lbs. load was dropped from 1.4 inches above uncompressed seat surface through a 16 inches diameter bag.
- The bag was centered from side to side and 0.5 inch forward of the front of the backrest.
- Following the impact segment an alternating 200 lb. load was applied through 8 inch load pads 20,000 times to each front corner of the seat.
- Impact test rate: 20 CPM
- Load Ease test rate: 20 CPM
- See Photos 4 (Drop Impact) and 5 (Load Ease) for setups.



<u>Specimen</u>	<u>Segment</u>	<u>Cycles</u>	<u>Observations</u>
2698584	Impact	0	Test begun.
		100,000	No loss of serviceability.
	Load Ease	0	Test begun.
		20,000	No loss of serviceability.

**Requirement:** *There shall be no loss of serviceability to the chair after the completion of both the impact and load-ease tests.*

Equipment:	Test machine (147911, 147904), Tape measure (148245), Scale (148244)
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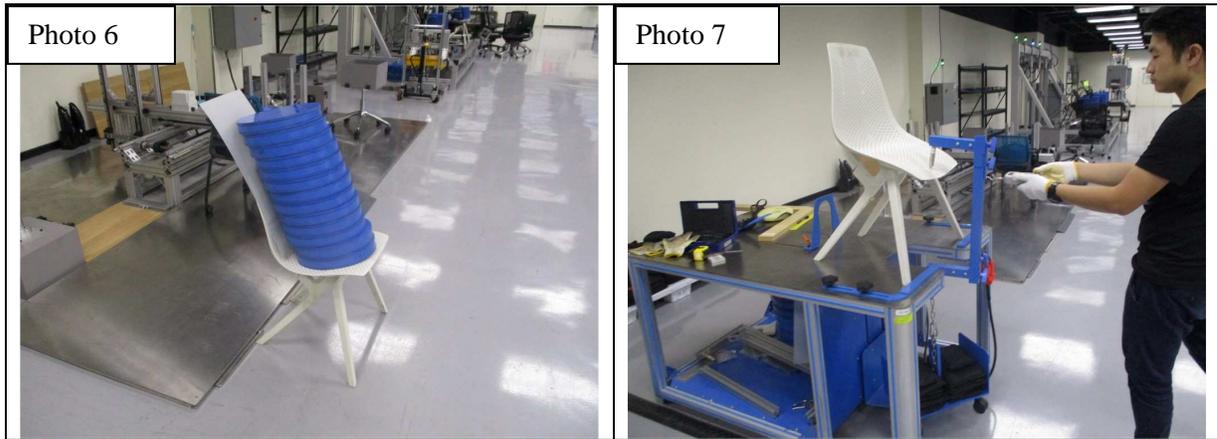


### 5. Stability Tests:

Testing was performed per ANSI/BIFMA X5.1-2017, Section 11.

#### Notes:

- Temperature / Humidity: 22°C & 43% R.H.
- Type I rear stability performed with 13 discs in seat.
- See Photos 6 (Rear Stability-full recline), and 7 (Front Stability) for setups.



<u>Specimen</u>	<u>Test</u>	<u>Observation</u>
2698583	Rear Stability	Type I: The unit did not tip over.
	Front Stability	Product met the 4.5 lbf. Minimum, unit tipped at 11.9 lbf.

#### ***Requirement:***

***Rear Stability:*** *The chair shall not tip over.*

***Front Stability:*** *The chair shall not tip over as a result of the (4.5 lbf) force application.*

Equipment:	Force gage (148264), Tape measure (148245), Scale (148244), Stability Test Disks(151175, 151176, 151177, 151178, 151179, 151180, 151181, 151182, 151183, 151184, 151185, 151186, 151190)
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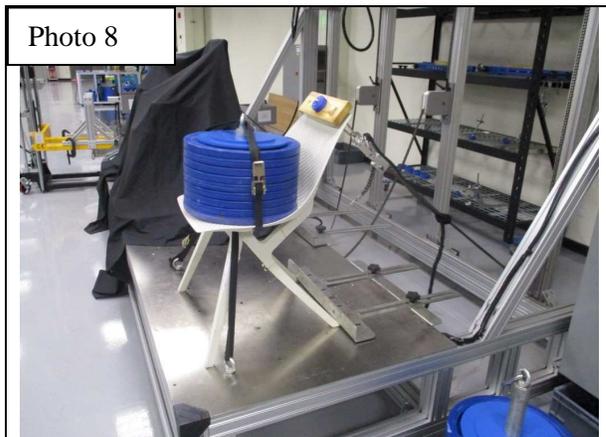


### 6. Backrest Durability Test - Cyclic - Type I:

Testing was performed per ANSI/BIFMA X5.1-2017, Section 14.

#### Notes:

- Temperature / Humidity: 21 °C ~24 °C & 42% ~48% R.H.
- Chair height: Fixed.
- Tilt tension: Nil.
- 100 lbf. force applied at 90° to the plane of the back at its back stop position once per cycle.
- 240 lbs. load centered in the seat.
- 120,000 cycles at the center of the back.
- Test rate: 20 CPM
- See Photo 8 for setup.



<u>Specimen</u>	<u>Segment</u>	<u>Cycles</u>	<u>Observations</u>
2698583	Center	0	Test begun
		120,000	No loss of serviceability

**Requirement:** *There shall be no loss of serviceability.*

Equipment:	Test machine (147922), Tape measure (148245), Scale (148244), CMD (148230), Digital Angle Gauge (148282)
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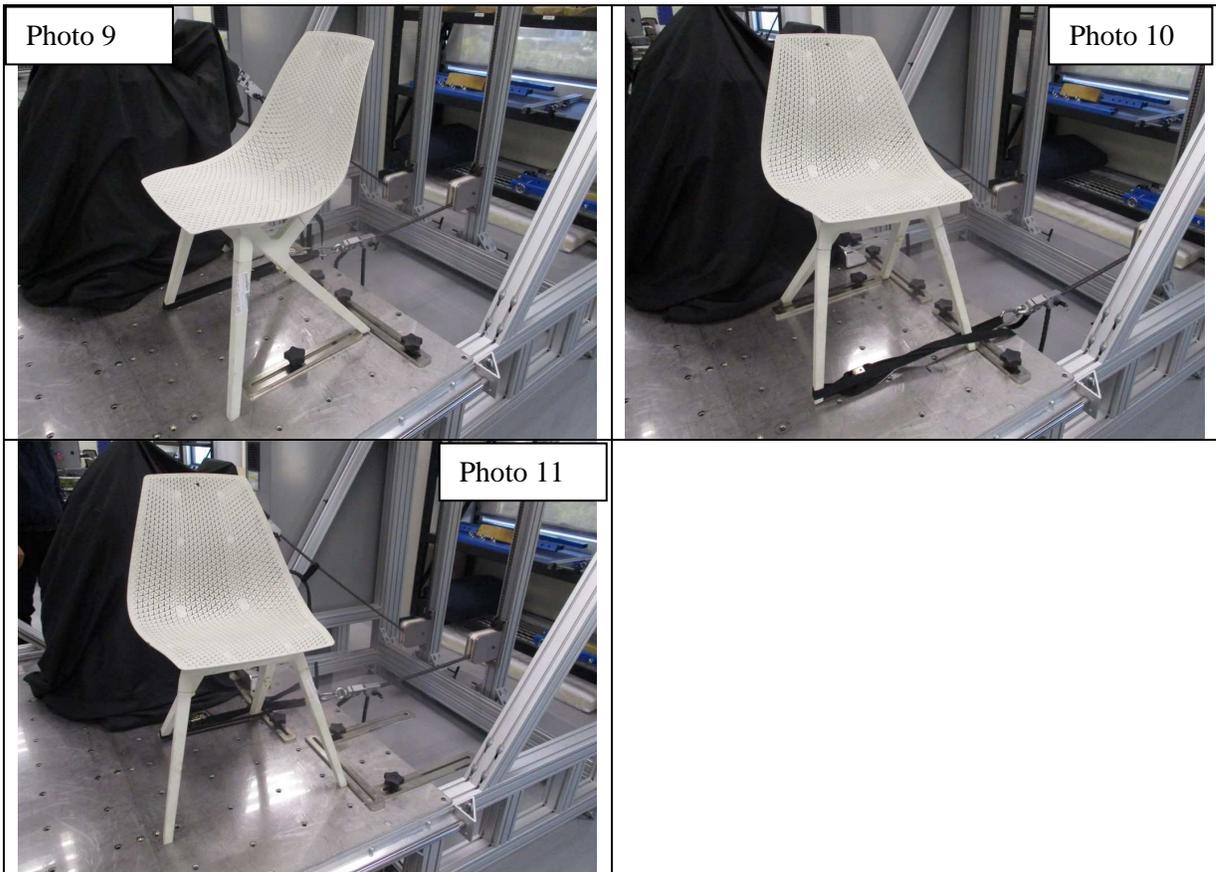


## 7. Leg Strength Test – Front and Side Application:

Testing was performed per ANSI/BIFMA X5.1-2017, Section 17.

### Notes:

- Temperature / Humidity: 22°C & 43% R.H.
- Functional loads: Front and side application = 75 lbf.
- Proof loads: Front and side application = 113 lbf.
- See Photos 9 (front) and 10~11 (side) for setups.





**7. Leg Strength Test – Front and Side Application (continued):**

<u>Specimen</u>	<u>Load (lb.)</u>	<u>Time (sec.)</u>	<u>Application</u>	<u>Observations</u>
2698583 / RF	75	60	Front	No loss of serviceability.
2698583 / LF	75	60	Front	No loss of serviceability.
2698583 / LF	75	60	Side	No loss of serviceability.
2698583 / LR	75	60	Side	No loss of serviceability.
2698583 / LR	113	60	Side	No sudden and major change in structural integrity.
2698583 / LF	113	60	Side	No sudden and major change in structural integrity.
2698583 / LF	113	60	Front	No sudden and major change in structural integrity.
2698583 / RF	113	60	Front	No sudden and major change in structural integrity.

***Requirement:***

***Functional Load:*** Functional load(s) applied once in each direction shall cause no loss of serviceability.

***Proof Load:*** Proof load(s) applied once in each direction shall cause no sudden and major change in the structural integrity of the chair. Loss of serviceability is acceptable.

Equipment:	Test machine (147909), Tape measure (148245), Scale (148244), Digital Angle Gauge (148282)
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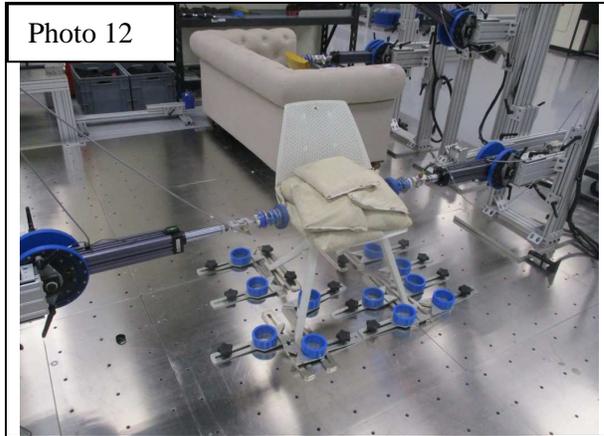


### 8. Structural Durability Test – Cyclic:

Testing was performed per ANSI/BIFMA X5.1-2017, Section 24.

**Notes:**

- Temperature / Humidity: 21 °C ~24 °C & 40% ~49% R.H.
- Seat load: 240 lbs. located at seat center
- A 75 lbf. load was applied at unit frame midway between front and rear on alternatingly on both sides.
- Test rate: 20 CPM
- See Photo 12 for setup.



<u>Specimen</u>	<u>Cycles</u>	<u>Observations</u>
2698583	0	Test begun.
	25,000	No loss of serviceability.

**Requirement:** *There shall be no loss of serviceability to the unit.*

Equipment:	Test machine (147921), Tape measure (148245), Scale (148244), Digital Angle Gauge (148282)
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