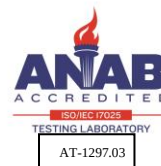




Test Report
4791348760
UL Solutions
3480 Windquest Dr.
Holland, MI 49424
<https://www.ul.com/industries/products-and-components/furniture>
847-664-6502



Page 1 of 12

Requester:	National Public Seating Corp. 149 Entin Road Clifton, NJ 07014
Contact Name:	Sherri Miller
Dates Tested:	06/06/24 – 06/12/24
Date Submitted:	06/13/24
Technician:	Jason Wisniewski
UL Order / Project Number:	15337646 / 4791348760

Scope: To evaluate the 8500 Series Plastic Stack Chair, supplied by National Public Seating Corp., by subjecting them to the following tests:

Requested Tests:

<u>Test Name</u>	<u>Requirement</u>
Backrest Strength - Static - Type III	ANSI/BIFMA X5.1-2017(R2022), Section 6
Drop Test - Dynamic	ANSI/BIFMA X5.1-2017(R2022), Section 7
Seating Durability Tests – Cyclic	ANSI/BIFMA X5.1-2017(R2022), Section 10
Stability Tests	ANSI/BIFMA X5.1-2017(R2022), Section 11
Backrest Durability Test - Cyclic - Type II and III	ANSI/BIFMA X5.1-2017(R2022), Section 15
Leg Strength Test – Front and Side Application	ANSI/BIFMA X5.1-2017(R2022), Section 17
Structural Durability Test	ANSI/BIFMA X5.1-2017(R2022), Section 24

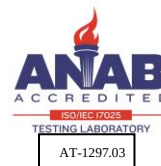
Product Description:

<u>Specimen</u>	<u>Description</u>	<u>Received</u>	<u>Condition</u>	<u>Supplier</u>
7285603	8500 Series Plastic Stack Chair	06/05/24	New	National Public Seating Corp.
7285737	8500 Series Plastic Stack Chair	06/05/24	New	National Public Seating Corp.
7285738	8500 Series Plastic Stack Chair	06/05/24	New	National Public Seating Corp.

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Page 2 of 12

Summary:

<u>Test Name</u>	<u>Specimen</u>	<u>Results</u>
Backrest Strength - Static - Type III	7285603	Met Requirement
Drop Test - Dynamic	7285603	Met Requirement
Seating Durability Tests – Cyclic	7285738	Met Requirement
Stability Tests	7285603	Met Requirement
Backrest Durability Test - Cyclic - Type II and III	7285737	Met Requirement
Leg Strength Test – Front and Side Application	7285737	Met Requirement
Structural Durability Test	7285603	Met Requirement

Test Results:

Backrest Strength Test - Static - Type II and III:

Testing was performed per ANSI/BIFMA X5.1-2017(R2022), Section 6.

Notes:

- Functional load: 150 lbs. for 1 minute.
- Proof load: 225 lbs. for 1 minute.
- See photo for setup.



<u>Specimen</u>	<u>Load (lbs.)</u>	<u>Time (sec.)</u>	<u>Observations</u>
7285603	150	60	No loss of serviceability.
	225	60	No sudden and major change in structural integrity.

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.



Drop Test – Dynamic:

Testing was performed per ANSI/BIFMA X5.1-2017(R2022), Section 7.

Notes:

- Functional load: 225 lbs.
- Proof load: 300 lbs.
- See photo for setup.



<u>Specimen</u>	<u>Chair Height</u>	<u>Load (lbs.)</u>	<u>Observations</u>
7285603	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.*

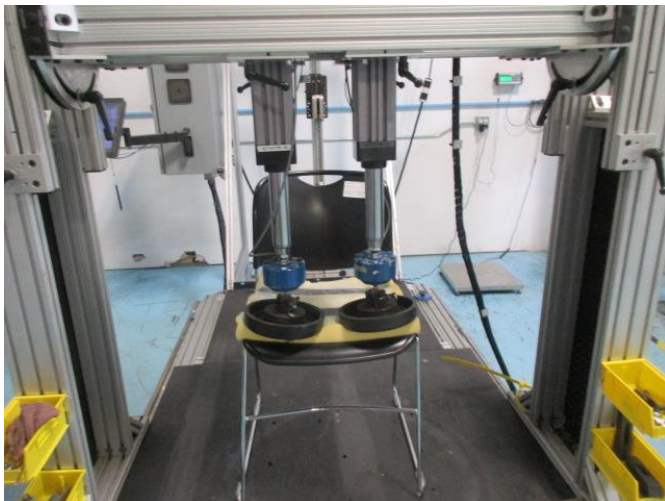
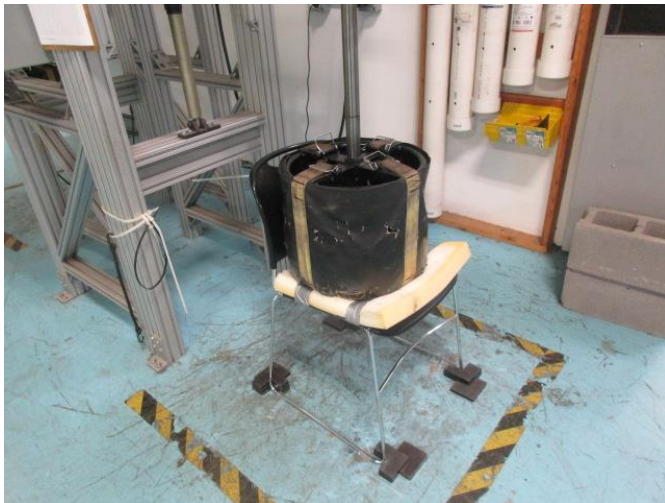
Proof Load: *There shall be no sudden and major change in the structural integrity of the chair.
Loss of serviceability is acceptable.*

Seating Durability Tests – Cyclic:

Testing was performed per ANSI/BIFMA X5.1-2017(R2022), Section 10.

Notes:

- Impact test rate: 20 CPM.
- Load Ease test rate: 18 CPM.
- See photos for Drop Impact setup and Load Ease setups.



Seating Durability Tests – Cyclic (continued):

<u>Specimen</u>	<u>Segment</u>	<u>Cycles</u>	<u>Observations</u>
7285738	Impact	0	Started test.
		100,000	No loss of serviceability.
	Load Ease	0	Started test.
		20,000	RH side seat attachment tabs fractured at weld location; front seat support beam fractured at RH leg weld location (see photos below). No loss of serviceability, see Note on page 7.



Seating Durability Tests – Cyclic (continued):

Note: Per the BIFMA Document **Loss of Serviceability Guideline** dated April 4, 2016, the Cracking (of plastics, metal, wood) is not considered a loss of serviceability if the unit supports its intended load and no new hazard is present. Determining the intended load per Section 4.1.2 of the document requires the chair to support a one time load of 253 lbs. The unit held the load with no issues observed.



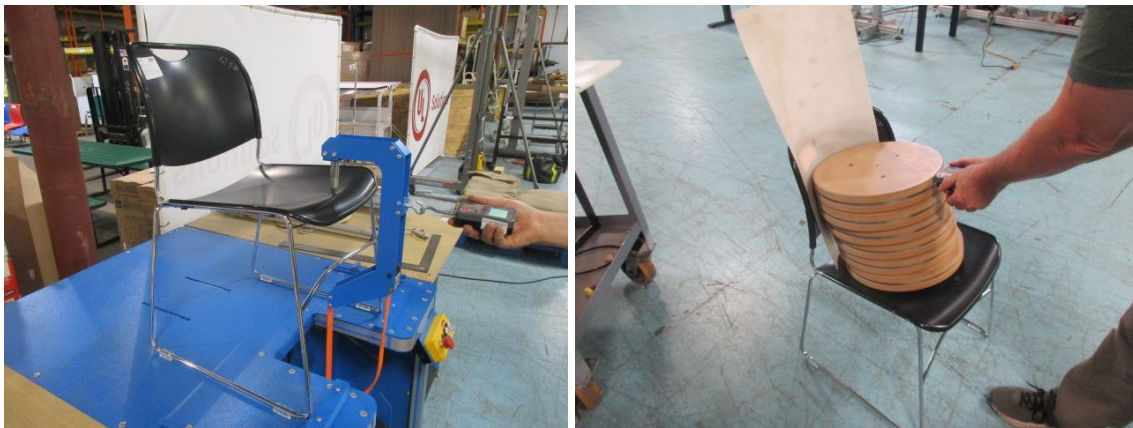
Requirement: *There shall be no loss of serviceability to the chair after completion of both the impact and load-ease tests. If applicable, the chair base (center structure) shall not touch the test platform as a result of the impact loads.*

Stability Tests:

Testing was performed per ANSI/BIFMA X5.1-2017(R2022), Section 11.

Notes:

- Seat height: 17"
- Rear calculation: $1.1(47-17.0) = 31.9$ lbs.
- See photos for setups.



Specimen	Test	Observations
7285603	Rear	Type II – Unit tipped at 34.5 lbs. Unit passed 31.9 lb. minimum.
	Front	Unit tipped at 17.6 lbs. Unit passed 4.5 lb. minimum.

Requirement:

Rear Stability: The chair shall not tip over.

Front Stability: The chair shall not tip over as the result of the force application.

Backrest Durability Test - Cyclic - Type II and III:

Testing was performed per ANSI/BIFMA X5.1-2017(R2022), Section 15.

Notes:

- Test rate: 23 CPM.
- See photo for setup.



<u>Specimen</u>	<u>Segment</u>	<u>Cycles</u>	<u>Observations</u>
7285737	Center	0	Started test.
		120,000	No loss of serviceability.

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

Leg Strength Test – Front and Side Application:

Testing was performed per ANSI/BIFMA X5.1-2017(R2022), Section 17.

- See photos for setup.





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

Specimen: 7285737

<u>Leg</u>	<u>Load (lbf)</u>	<u>Time (sec.)</u>	<u>Application</u>	<u>Observations</u>
LH Front	75	60	Front	No loss of serviceability.
RH Front	75	60	Front	No loss of serviceability.
RH Front	75	60	Side	No loss of serviceability.
RH Rear	75	60	Side	No loss of serviceability.
LH Front	113	60	Front	No sudden and major changes.
RH Front	113	60	Front	No sudden and major changes.
RH Front	113	60	Side	No sudden and major changes.
RH Rear	113	60	Side	No sudden and major changes.

Requirement:

Functional Load: *Functional load(s) shall cause no loss of serviceability.*

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

Structural Durability Test:

Testing was performed per ANSI/BIFMA X5.1-2017(R2022), Section 24.

Notes:

- Test rate: 18 CPM.
- See photo for setup.



<u>Specimen</u>	<u>Cycles</u>	<u>Observations</u>
6075313	0	Begin test.
	25,000	No loss of serviceability.

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