



4700 Broadmoor SE, Suite 200  
Kentwood, MI 49512

Telephone: 616-656-7401  
Facsimile: 616-656-2022  
www.intertek-etlsemko.com

ORANGEBOX USA  
Date: February 23, 2017  
P.O. No. P000230-5

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**Test Report For:**  
**ORANGEBOX USA**  
**ANSI/BIFMA X5.4-2012**  
**LOUNGE and PUBLIC SEATING TEST**  
**STANDARD**  
**Cubb-14**



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**Lynwood Pearson**  
**Project Manager**

**James Jantz**  
**Reviewer**

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Attention: Owain Ingram-Jones  
OrangeBox USA  
99 Monroe Avenue Northwest Suite 200  
Grand Rapids, MI 49503  
USA  
Phone: +1 (616) 617-8885  
E-mail: [Owain.Ingram-Jones@orangebox.com](mailto:Owain.Ingram-Jones@orangebox.com)

**DATE RECEIVED:** February 2, 2017  
**DATES TESTED:** February 7 – February 22, 2017

**DESCRIPTION OF SAMPLES:**

Condition of Test Sample: New  
Part Description: Cubb-14

**WORK REQUESTED/APPLICABLE DOCUMENTS:**

To test the submitted sample per ANSI/BIFMA X5.4-2012 Test Standard for the following test program:

Test No.	Test Description:
14	Seating Durability
15	Drop - Dynamic
16	Leg Strength
17	Unit Drop
21	Stability

**CONCLUSION:**

Test	Results	Notation
ANSI/BIFMA 5.4-2012 #14 Seating Durability	Compliant	No loss of serviceability.
ANSI/BIFMA 5.4-2012 #15 Drop - Dynamic	Compliant	No loss of serviceability.
ANSI/BIFMA 5.4-2012 #16 Leg Strength	Compliant	No loss of serviceability.
ANSI/BIFMA 5.4-2012 #17 Unit Drop - Dynamic	Compliant	No loss of serviceability.
ANSI/BIFMA 5.4-2012 #21 Stability	Compliant	No loss of serviceability.

**TEST EQUIPMENT:**

<b>Asset #</b>	<b>Description</b>	<b>Last Cal</b>	<b>Next Due</b>
138012	Scale/0-1,000#	10/18/2016	10/18/2017
138112	Graduated Rule 36"	10/11/2013	10/11/2018
138400	SCIENTIFIC STOPWATCH	4/26/2016	4/26/2017
138345	3 Station Seat Impact	VBU	VBU
138039.1	WEIGHT BAG	VBU	VBU
138039.2	WEIGHT BAG	VBU	VBU
138272	Load Cell 0-10000#	10/19/2016	10/19/2017
138279	FORCE GAUGE	3/4/2016	3/4/2017

**14. SEATING DURABILITY TEST – CYCLIC:**

Date Tested February 7 – February 10, 2017  
Condition of Test Sample: New

Test Procedure:

Test Method: ANSI/BIFMA X5.4-2012 Test No. 14

Section 14.3 – Impact Test

Impact Bag Weight: 125 lbs.  
Number of Cycles Required: 100,000 each seating position  
Cycles Per Minute: 20 ± 10  
Drop Height 3.6” above rest position (not to exceed 1.2” above seat)

Number of Samples Tested: One (1)

Acceptance Criteria:

There shall be no loss of serviceability to the unit.

Results:

Section 14.3 – Impact Test

Sample ID	Number of Cycles	Description of Results
1	100,000	Pass

The submitted sample met the acceptance criteria of the test described above. Refer to the following page for photograph.



**Seating Durability Test**

**15. DROP TEST:**

Date Tested February 14, 2017  
Condition of Test Sample: New

Test Procedure:

Test Method: ANSI/BIFMA X5.4-2012 Test No. 15

Functional Load: 225 lbf. on all seating positions  
Proof Load: 300 lbf. on all seating positions  
Drop Height: 6"

Number of Samples Tested: One (1)

Acceptance Criteria:

Functional Load: A functional load shall be applied once to each seat position shall cause no loss of serviceability to the unit.

Proof Load: A proof load shall be applied once to each seat position shall cause no sudden and major change in the structural integrity of the unit. Loss of serviceability is acceptable.

Results:

Sample No.	Load (lbf)	Description of Results
1	225 lbf.	Pass
	300 lbf.	Pass

The submitted sample met the acceptance criteria of the test described above. Refer to the following page for photograph.



**Drop Test**

**16. LEG STRENGTH TEST (Front and Side Load):**

Date Tested February 22, 2017  
Condition of Test Sample: New

Test Procedure:

Test Method: ANSI/BIFMA X5.4-2012 Test No. 16

Functional Load: 75 lbf. For 1 Minute  
Proof Load: 113 lbf. or the weight of the unit whatever is greater.  
For 1 Minute

Unit Weight: 19 lbs.

Number of Samples Tested: One (1)

Acceptance Criteria:

Functional Load: A functional load applied once in each direction shall cause no loss of serviceability.

Proof Load: A proof load shall be applied once in each direction shall cause no sudden and major change in the structural integrity of the unit. Loss of serviceability is acceptable.

Results:

Sample ID	Description of Results
1	Pass

The submitted sample met the acceptance criteria of the test described above. Refer to the following page for photograph.





**Leg Strength Test**

**17. UNIT DROP TEST:**

Date Tested February 14, 2017  
Condition of Test Sample: New

Test Procedure:

Test Method: ANSI/BIFMA X5.4-2012 Test No. 17

Unit Weight: 19 lbs.

Drop Height:

Unit Weight	Drop Height
<100 lbs	7.1"
100-200 lbs	4.7"
200-300 lbs	2.4"
>300 lbs	n/a

Number of Samples Tested: One (1)

Acceptance Criteria:

There shall be no loss of serviceability.

Results:

Sample ID	Drop Height	Description of Results
1	7.1"	Pass

The submitted sample met the acceptance criteria of the test described above. Refer to the following page for photograph.



**Unit Drop Test**

**21. STABILITY TEST:**

Date Tested February 13, 2017  
Condition of Test Sample: New

Test Procedure:

Test Method: ANSI/BIFMA X5.4-2012 Test No. 21

Chair Weight: 19 lbs.

On units with adjustable features, all adjustments shall be set to provide the most unstable conditions.

Rear Stability:

Seat Height 30.875"

Weight in Seat

(Rear Stability Only): 286 lbs (13 disks) Tilting Seat  
132 lbs (6 disks) Non - Tilting Seat

Number of Samples Tested: One (1)

Acceptance Criteria:

Front Stability: The force determined in the recorded findings in 21.5.2(b) shall be not less than 40 percent of the total weight of the unit.

Rear Stability: Tilting Seat: Chair must not tip over  
Non - Tilting Seat: [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.

Results:

Sample ID	Front Stability	Rear Stability	Description of Results
1	7.8 lbf. to tip	41.4 lbf. to tip	Pass

The submitted sample met the acceptance criteria of the test described above. Refer to the following pages for photographs.



**Stability Test - Front**



**Stability Test – Rear**

**Revisions Made To Test Report**

Date	Revision Description	Revised by	Revised by
23-Month-2017	Initial release.	Lynwood Pearson	<i>Lynwood Pearson</i>