Test Report

Report Number:
323047-1-ANSI/BIFMA X5.4

DANISH
TECHNOLOGICAL
INSTITUTE

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Assignor:	HAY, 4 Star Point, Stamford, CT 06902, USA
Item:	**02 Lounge Chair**
Sampling:	The assignor confirms having selected the product. The product was forwarded by the assignor and received at Danish Technological Institute on 13 May 2025.
Period:	The test took place from 3 June 2025 to 1 July 2025.
Method:	ANSI/BIFMA X5.4-2020, Public and Lounge Seating Additional information is given on page 2.
Test results:	The submitted sample is **IN COMPLIANCE** with the requirements of ANSI/BIFMA X5.4-2020 The results are shown in detail from page 3 onwards.
Terms:	This test was conducted accredited in accordance with international requirements (ISO/IEC 17025:2017) and in accordance with the General Terms and Conditions of Danish Technological Institute. The test results solely apply to the tested item. This test report may be quoted in extract only if Danish Technological Institute has granted its written consent.
Place:	Danish Technological Institute, Taastrup, Building and Construction
Signature:	This document is only valid with a digital signature from Danish Technological Institute. The date of issue appears from the digital signature. Jan Hansen Technical consultant

DIGITALLY SIGNED DOCUMENT
4 July 2025
DANISH TECHNOLOGICAL INSTITUTE

ilac-MRA DANAK
TEST Reg.no. 2

TEST PROCEDURE

Test method:	ANSI/BIFMA X5.4-2020 Public and Lounge Seating
Acceptance criteria:	Per ANSI/BIFMA X5.4-2020 and BIFMA Loss of Serviceability Guideline & Proof Evaluation Guideline of Jan. 2019
Test conditions:	Temperature: 21.7°C - 27.4°C - Humidity: 25% RH - 50% RH
Measurement uncertainty:	Decision rule according to EN ISO IEC 17025:2018 clause 3.7: No account is taken of measurement uncertainty when reporting numerical results.
Storage:	The test material will be destroyed 1 month after the test is completed, unless otherwise agreed in writing.

DESCRIPTION OF SAMPLES

Model:	02 Lounge Chair
Date received:	2025-05-13
Dates tested:	2025-06-03 to 2025-07-01
Number of samples used in test:	1
Dimensions (width/depth/height):	855/860/975 mm (33.7/33.9/38.4 in.)
Weight:	12.26 kg (27 lb)

Made of steel tube, foam, upholstery

The sample as received



RESULTS

SUMMARY

Test		Sample no.	Result*)
5	Backrest Strength Test - Horizontal - Static	1	Passed
7	Backrest Durability Test - Horizontal - Cyclic	1	Passed
9	Arm Strength Test - Horizontal - Static	1	Passed
10	Arm Strength Test - Vertical - Static	1	Passed
13	Arm Durability Test for Single Seat Units - Angular - Cyclic	1	Passed
14	Seating Durability Tests - Cyclic	1	Passed
15	Drop test - Dynamic	1	Passed
16	Leg Strength Test - Front and Side	1,1	Passed
17	Unit Drop Test - Dynamic	1	Passed
21	Stability Tests	1	Passed
24	Structural Durability Test - Side-to-Side - Cyclic	1	Passed

*) Passed: Met the acceptance criteria.
Failed: Did not meet the acceptance criteria.

The submitted sample is IN COMPLIANCE with the requirements of ANSI/BIFMA X5.4-2020

5. Backrest Strength Test - Horizontal - Static

Sample:	02 Lounge Chair
Test method:	ANSI/BIFMA X5.4-2020 Test no. 5
Tested sample:	1
Tested positions:	1
Acceptance criteria, functional load:	No loss of serviceability allowed
Acceptance criteria, proof load:	No major change in the structural integrity allowed

Results

Test	Load	Result
Functional Load	667 N (150 lbf.)	Passed
Proof Load	1112 N (250 lbf.)	Passed

The sample in the test rig



Backrest Strength Test - Horizontal - Static

7. Backrest Durability Test - Horizontal - Cyclic

Sample:	**02 Lounge Chair**
Test method:	ANSI/BIFMA X5.4-2020 Test no. 7
Tested sample:	1
Tested positions:	1
Seat load (each)	109 kg (240 lb)
Cycles per minute	10 to 30
Acceptance criteria:	No loss of serviceability allowed

Results

Load	Cycles	Result
334 N (75 lbf.)	120000	Passed

The sample in the test rig



Backrest Durability Test - Horizontal - Cyclic

9. Arm Strength Test - Horizontal - Static

Sample:	02 Lounge Chair
Test method:	ANSI/BIFMA X5.4-2020 Test no. 9
Tested sample:	1
Tested positions:	2
Acceptance criteria, functional load:	No loss of serviceability allowed
Acceptance criteria, proof load:	No major change in the structural integrity allowed

Results

Test	Direction	Load	Result
Functional Load	Inward	445 N (100 lbf.)	Passed
Functional Load	Outward	445 N (100 lbf.)	Passed
Proof Load	Inward	667 N (150 lbf.)	Passed
Proof Load	Outward	667 N (150 lbf.)	Passed

The sample in the test rig



Arm Strength Test - Horizontal - Static

10. Arm Strength Test - Vertical - Static

Sample:	**02 Lounge Chair**
Test method:	ANSI/BIFMA X5.4-2020 Test no. 10
Tested sample:	1
Tested positions:	2
Acceptance criteria, functional load:	No loss of serviceability allowed
Acceptance criteria, proof load:	No major change in the structural integrity allowed

Results

Test	Load	Result
Functional Load	750 N (169 lbf.)	Passed
Proof Load	1125 N (253 lbf.)	Passed

The sample in the test rig



Arm Strength Test - Vertical - Static

13. Arm Durability Test for Single Seat Units - Angular - Cyclic

Sample:	**02 Lounge Chair**
Test method:	ANSI/BIFMA X5.4-2020 Test no. 13
Tested sample:	1
Cycles per minute:	10 to 30
Acceptance criteria:	No loss of serviceability allowed

Results

Load on each arm	Cycles	Result
400 N (90 lbf.)	60000	Passed

The sample in the test rig



Arm Durability Test for Single Seat Units - Angular - Cyclic

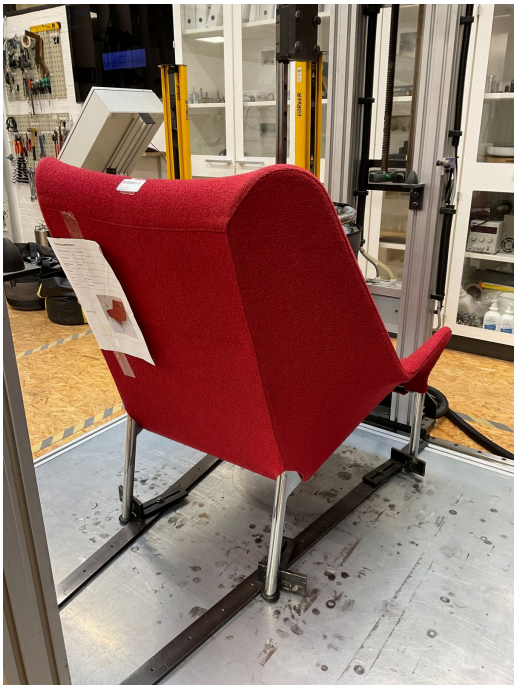
14. Seating Durability Tests - Cyclic

Sample:	**02 Lounge Chair**
Test method:	ANSI/BIFMA X5.4-2020 Test no. 14
Tested sample:	1
Tested positions:	1
Load on seats not under test (each)	109 kg (240 lb)
Cycles per minute	10 to 30
Acceptance criteria:	No loss of serviceability allowed

Results

Load	Cycles	Result
57 kg (126 lb)	100000	Passed

The sample in the test rig



Seating Durability Tests - Cyclic

15. Drop test - Dynamic

Sample:	**02 Lounge Chair**
Test method:	ANSI/BIFMA X5.4-2020 Test no. 15
Tested sample:	1
Tested positions:	1
Load on seats not under test (each)	109 kg (240 lb)
Acceptance criteria, functional load:	No loss of serviceability allowed
Acceptance criteria, proof load:	No major change in the structural integrity allowed

Results

Test	Load	Result
Functional Load	102 kg (225 lb)	Passed
Proof Load	136 kg (300 lb)	Passed

The sample in the test rig



Drop test - Dynamic

16. Leg Strength Test - Front and Side

Sample: **02 Lounge Chair**

16.3 Front Load Test

Test method:	ANSI/BIFMA X5.4-2020 Test no. 16.3
Tested sample:	1
Tested positions:	1
Acceptance criteria, functional load:	No loss of serviceability allowed
Acceptance criteria, proof load:	No major change in the structural integrity allowed

16.4 Side Load Test

Test method:	ANSI/BIFMA X5.4-2020 Test no. 16.4
Tested sample:	1
Tested positions:	1
Acceptance criteria, functional load:	No loss of serviceability allowed
Acceptance criteria, proof load:	No major change in the structural integrity allowed

Results

Test		Load	Result
Front	Functional Load	334 N (75 lbf.)	Passed
Front	Proof Load	503 N (113 lbf.)	Passed
Side	Functional Load	334 N (75 lbf.)	Passed
Side	Proof Load	503 N (113 lbf.)	Passed

The sample in the test rig



Front Load Test



Side Load Test

17. Unit Drop Test - Dynamic

Sample:	02 Lounge Chair
Test method:	ANSI/BIFMA X5.4-2020 Test no. 17
Tested sample:	1
Tested positions:	1
Acceptance criteria:	No loss of serviceability allowed

Results

Test	Drop Height	Result
Functional Load	180 mm (7.1 in.)	Passed

The sample in the test rig



Unit Drop Test - Dynamic

21. Stability Tests

Sample:	02 Lounge Chair

21.3 Rear Stability for Non-tilting Units

Test method:	ANSI/BIFMA X5.4-2020 Test no. 21.3
Tested sample:	1
Load in seat	6 disks = 60 kg (132 lb)
Horizontal force:	152 N (34 lbf.)
Acceptance criteria:	The unit shall not tip over

21.4 Rear Stability for Tilting Units

Test method:	ANSI/BIFMA X5.4-2020 Test no. 21.4
Tested sample:	1
Load in seat:	13 disks = 130 kg (287 lb)
Acceptance criteria:	The unit shall not tip over

21.5 Front Stability for Units Less than 36.3 kg (80 lbs.)

Test method:	ANSI/BIFMA X5.4-2020 Test no. 21.5
Tested sample:	1
Vertical force:	600 N (135 lbf.)
Horizontal force:	20 N (4 lbf.)
Acceptance criteria:	The unit shall not tip over

21.6 Front Stability for Units Greater Than or Equal to 36.3 kg (80 lbs.)

Test method:	ANSI/BIFMA X5.4-2020 Test no. 21.6
Tested sample:	1
Downward force at 45°:	142 N (32 lbf.)
Acceptance criteria:	The unit shall not tip over

Results

Test		Result
21.3	Rear Stability for Non-tilting Units	Passed
21.4	Rear Stability for Tilting Units	N/A
21.5	Front Stability for Units Less than 36.3 kg (80 lbs.)	Passed
21.6	Front Stability for Units Greater Than or Equal to 36.3 kg (80 lbs.)	N/A

The sample in the test rigs



Rear Stability for Non-tilting Units



Front Stability for Units Less than 36.3 kg (80 lbs.)

24. Structural Durability Test - Side-to-Side - Cyclic

Sample:	02 Lounge Chair
Test method:	ANSI/BIFMA X5.4-2020 Test no. 24
Tested sample:	1
Load in seating positions (each):	109 kg (240 lb)
Cycles per minute:	10 to 20
Acceptance criteria:	No loss of serviceability allowed

Results

Horizontal Force	Cycles	Result
334 N (75 lbf.)	25000	Passed

The sample in the test rig



Structural Durability Test - Side-to-Side - Cyclic