

Test Report

Report Number:
351360-14-NDS



**DANISH
TECHNOLOGICAL
INSTITUTE**

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Init.: JHA/JNAS
Order no.: 351360
Encl.: 2

Assignor: FREDERICIA FURNITURE A/S, Treldevej 183, DK-7000 Fredericia

Item: **3454 Plan Studio Chair** - The test also covers the following article nos.: 3452, 3453. See enclosure B for detailed sample description.

Sampling: The assignor confirms having selected the product. The product was forwarded by the assignor and received at Danish Technological Institute on 21 May 2026.

Period: The test took place from 1 June 2026 to 17 June 2026.

Method: EN 16139:2025, Furniture - Strength, durability and safety - Requirements for non domestic seating

EN 16139 Test severity L1: General use: E.g. in office buildings, showrooms, public halls, function rooms, cafés, restaurants, canteens, banks, bars.

Additional information is given in enclosure B.

Test results: **Passed.**

The detailed results are shown in enclosure A.

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. Storage: The test material will be destroyed after 1 month, unless otherwise agreed.

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

29 June 2026

DANISH TECHNOLOGICAL INSTITUTE



DANAK

TEST Reg.no. 2



Test of Model: 3454 Plan Studio Chair

Loading according to test severity L1.

4 Safety

Test no.	Test	Test Method	Result
4.1	General requirements	EN 16139, 4.1	Passed
4.2	Holes and tubular/rigid components	EN 16139, 4.2	N/A
4.3.2	Shear and compression points when setting up and folding	EN 16139, 4.3.2	N/A
4.3.3	Shear and compression points under influence of non-electrically powered mechanisms	EN 16139, 4.3.3	N/A
4.3.4	Shear and compression points during use	EN 16139, 4.3.4	Passed

4.4 Stability (other) - EN 1022:2023

Test No.	Test	Loading		Result
EN 1022, 7.3.1	Forwards overturning	Vertical force, N Horizontal force, N	600 20	Passed
EN 1022, 7.3.2	Forwards overturning for seating with footrest	Vertical force, N Horizontal force, N	600 20	N/A
EN 1022, 7.3.3	Corner stability test	Vertical force, N	300	Passed
EN 1022, 7.3.4	Sideways overturning, all seating without armrests	Vertical force, N Horizontal force, N	600 20	Passed
EN 1022, 7.3.5.2	Sideways overturning, all other seating - Seating with arm rests	Vertical force seat, N Vertical force armrest, N Horizontal force, N	250 350 20	N/A
EN 1022, 7.3.5.3	Sideways overturning, all other seating - Seating with raised edges	Vertical force seat, N Vertical force armrest, N Horizontal force, N	250 350 20	N/A
EN 1022, 7.3.6	Rearwards overturning, all seating with back rests	Vertical force, N Horizontal force, N	600 159	Passed
Additional test procedures for seating with reclining back rests				
EN 1022, 7.4.2	Tilting seating	Back angle, ° Load, discs	11	N/A
EN 1022, 7.4.3	Reclining seating with leg rest	Back angle, ° Z distance, mm		N/A
EN 1022, 7.4.4	Reclining seating without leg rest	Back angle, ° Z distance, mm		N/A
EN 1022, 7.4.5	Rearwards stability test for rocking chairs	Back angle, ° Load, discs	8	N/A



4.5 Strength and durability

Test no.	Test	Test Method	Cycles	Load	Result
4.5.1.1	Seat static load and back static load test	EN 1728, 6.4	10	Seat: 1600 N Back: 560 N	Passed
4.5.1.2	Seat front edge static load test	EN 1728, 6.5	10	Seat: 1300 N	Passed
4.5.1.3	Vertical static load on back	EN 1728, 6.6	10	Seat: 1300 N Back: 600 N	Passed
4.5.1.4.1	Foot rest static load test	EN 1728, 6.8	10		N/A
4.5.1.4.2	Leg rest static load test	EN 1728, 6.9	10		N/A
4.5.1.5	Arm rest sideways static load test	EN 1728, 6.10	10		N/A
4.5.1.6	Arm rest downwards static load test	EN 1728, 6.11	5		N/A
4.5.1.7.1	Vertical upwards static load on arm rests	EN 1728, 6.13.1	10		N/A
4.5.1.7.2	Vertical upwards static load on arm rests (Stacking seating)	EN 1728, 6.13.2			N/A
4.5.1.8	Combined seat and back durability test	EN 1728, 6.17	100000	Seat: 1000 N Back: 300 N	Passed
4.5.1.9	Seat front edge durability test	EN 1728, 6.18	40000	800 N	Passed
4.5.1.10	Seat side.to.side durability test	EN 16139, Annex B	10000	1100 N	Passed
4.5.1.11	Arm rest durability test	EN 1728, 6.20	30000		N/A
4.5.1.12	Footrest durability test	EN 1728, 6.21	30000		N/A
4.5.1.13	Leg rest durability test	EN 16139, Annex C	10000		N/A
4.5.1.14	Leg forward static load test	EN 1728, 6.15	10	Edge: (Seat:)	N/A
4.5.1.15	Legs sideways static load test	EN 1728, 6.16	10	Edge: (Seat:)	N/A
4.5.1.16	Seat impact test	EN 1728, 6.24	10	240 mm	Passed
4.5.1.17	Backward fall test	EN 1728, 6.28	5		Passed
4.5.1.18	Back impact test	EN 1728, 6.25	10		N/A
4.5.1.19	Arm rest impact test	EN 1728, 6.26	10		N/A
4.5.1.20	Drop test (multiple seating)	EN 1728, 6.27.1	2 x 5		N/A
4.5.1.21	Auxiliary writing surface static load test	EN 1728, 6.14	10		N/A
4.5.1.22	Auxiliary writing surface durability test	EN 1728, 6.22	10000		N/A

5 Documentation

Test no.	Test	Test Method	Result
5	Information for use	EN 16139, 5 clause a to g.	Passed



Methods

The following standard method is used in this test report:

EN 16139:2025	Furniture - Strength, durability and safety - Requirements for non domestic seating
EN 1728:2012/AC:2013	Furniture - Seating - Test methods for the determination of strength and durability
EN 1022:2023	Furniture - Seating - Determination of stability

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.
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Sample

Description of the item tested:

Model:	3454 Plan Studio Chair
Type:	Other seating (not lounge)
Armrests:	No
Legrest:	No
Width:	705 mm
Length:	705 mm
Height:	765 mm
Weight:	10.2 kg
Materials:	Metal, foam, upholstery



Photo of the sample as received:

