Test Report

Revision 2

Report Number:
930821-1 rev. 2

DANISH
TECHNOLOGICAL
INSTITUTE

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Assignor:	Unknown Furniture ApS, Bomholtvej 10, DK-8680 Ry
Item :	**Bios**
Sampling:	The assignor confirms having selected the product. The product was forwarded by the assignor and received at Danish Technological Institute on 26 August 2020.
Period:	The test took place from 28 August 2020 to 9 September 2020.
Method:	EN 16139:2013, 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 results are shown in enclosure A.
Remarks:	This report replaces report dated 11-09-2020. Rev 1 is due to change of product name from Bios Nest to Bios Stand. Rev 2 is due change of product name from Bios Stand to Bios.
Terms:	This test was conducted accredited in accordance with international requirements (ISO/IEC 17025:2005) 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. Date of issue 28 September 2020. Jesper Junge Pedersen Consultant

DIGITALLY SIGNED DOCUMENT
28 September 2020
DANISH TECHNOLOGICAL INSTITUTE

ilac-MRA DANAK
TEST Reg.no. 2

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Test of Model: Bios

Loading according to test severity L1.

Test no.	Test	Test Method	Cycles	Load	Result
4.1	General	EN 16139, 4.1			Passed
4.2.2	Shear and squeeze points under influence of powered mechanisms	EN 16139, 4.2.2			N/A
4.2.3	Shear and squeeze points during use	EN 16139, 4.2.3			Passed
4.3.2	Swivelling chairs	EN 1335			N/A
4.3.3	Non swivelling chairs	EN 1022			Passed
4.4	Rolling resistance of the unloaded chair	EN 16139, 4.4			N/A
5	Strength and durability requirements	EN 16139, 5			Passed
6.1.1	Seat static load and back static load test	EN 1728, 6.4	10 10	Seat: 1600 N Back: 560 N	Passed
6.1.2	Seat front edge static load	EN 1728, 6.5	10	Seat: 1300 N	Passed
6.1.3	Vertical load on back rests	EN 1728, 6.6	10	Seat: Back:	N/A
6.1.4	Foot rest static load test	EN 1728, 6.8	10		N/A
6.1.4	Leg rest static load test	EN 1728, 6.9	10		N/A
6.1.5	Arm rest sideways static load test	EN 1728, 6.10	10		N/A
6.1.6	Arm rest downwards static load test	EN 1728, 6.11	5		N/A
6.1.7	Vertical upwards static load on arm rests	EN 1728, 6.13	10		N/A
6.1.8	Combined seat and back durability test	EN 1728, 6.17	100000 100000	Seat: 1000 N Back: 300 N	Passed
6.1.9	Seat front edge durability test	EN 1728, 6.18	50000	800 N	Passed
6.1.10	Arm rest durability test	EN 1728, 6.20	30000		N/A
6.1.11	Foot rest durability test	EN 1728, 6.21	50000		N/A
6.1.12	Leg forward static load test	EN 1728, 6.15	10	Edge: 500 N (Seat: 1000 N)	Passed
6.1.13	Legs sideways static load test	EN 1728, 6.16	10	Edge: 400 N (Seat: 1000 N)	Passed
6.1.14	Seat impact test	EN 1728, 6.24	10	240 mm	Passed
6.1.15	Back impact test	EN 1728, 6.25	10	210 mm / 38 °	Passed
6.1.16	Arm Impact Test	EN 1728, 6.26	10	210 mm / 38 °	Passed
6.1.17	Drop test (multiple seating)	EN 1728, 6.27.1	2 x 5		N/A
6.1.18	Auxiliary writing surface static load test	EN 1728, 6.14			N/A
6.1.19	Auxiliary writing surface durability test	EN 1728, 6.22	10000		N/A
7	Information for use	EN 16139, 7			N/A

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Information required by EN 16139:2013

European Standards used:

EN 16139:2013 - Furniture - Strength, durability and safety - Requirements for non-domestic seating

EN 1728/AC:2012 - Domestic furniture - Seating - Test methods - Determination of strength and durability

EN 1022:2005 - Domestic furniture - Seating - Determination of stability

EN 1335:2009 - Office furniture - Office work chair - Part 3: Test methods

Details of tested seating:

Model:	Bios			**Type:**	Stand/hanger		
Length:	1910 mm	**Depth:**	1680 mm	**Height:**	2400 mm	**Weight:**	100 kg
Materials:	Volcanic basalt and polyurethane + steel frame						

Details of defects observed before testing:

None.

Details of any deviations from this standard:

None.

Any variation from the specified temperature range:

None.

Test result:

See appendix A.

Name and address of the test facility:

Danish Technological Institute, Gregersensvej, Taastrup 2630, Denmark

Date of test:

2020-08-28 to 2020-09-09

Photo of the received sample:

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13-04-2021
Jjoh/hbs

Bios Mini

Referring to report 930821-1 rev. 2 dated 28th September 2020, we have additionally tested the size of the holes in the mesh of Bios Mini according to EN 16121:2013+A1:2017, "Annex A - Modified requirements for schools, kindergartens and similar applications".

The results apply to all Unknown Nordic lava products with similar mesh/structure as Bios Mini.

The results appear from Appendix 1.

Yours sincerely
Danish Technological Institute

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Risk Analysis – Mesh Size – Bios Mini

EN 16121:2013+A1:2017, Annex A - Modified requirements for schools, kindergartens and similar applications

The results apply to all Unknown Nordic lava products with similar mesh/structure as Bios Mini.

		Result
A.2	Modified requirements for schools, kindergartens and similar applications	
A.2.1	**General** Storage furniture specifically designed for use in schools and kindergartens shall fully comply with this European Standard with the exception of the following modifications:	
A.2.2	**Definition – shear and squeeze points** A shear and squeeze point exists if the distance between two accessible parts moving relative to each other can be less than 25 mm or more than 7 mm in any position during movement	Passed
A.2.3	**Principles of safety requirements** The requirements of 5.1.1 shall be modified such that the tests contained in Table 4 are only considered to affect safety when the height of the centre of gravity of the unit, or any part is >350 mm above the floor and the total mass is >5 kg.	Passed
A.2.4	**General safety requirements** In addition to the requirements contained within 5.2, all accessible parts where the probability of contact by the user is high shall be rounded with a minimum 2 mm radius or chamfer	Passed
A.2.5	**Shear and squeeze points under the influence of powered mechanisms** In addition to the requirements contained within 5.3.2, it is recommended that there should be no gap greater than 7 mm between the hinged edge of a door or flap and the main body of the product, or any hinge component, when assembled/adjusted for normal use.	N/A
A.2.6	**Shear and squeeze points during use** In addition to the requirements contained within 5.3.3, it is recommended that there should be no gap greater than 7 mm between the hinged edge of a door or flap and the main body of the product, or any hinge component, when assembled/adjusted for normal use.	N/A
A.2.7	**Glass** Glass shall fulfil the fragmentation test requirements of EN 12150-1:2000, Clause 8, or has a mode of breakage (β) according to EN 12600:200, Type B or Type C	N/A
A.2.8	**Stability** The requirements for stability contained in 5.6 shall apply to units where the height to the top of the unit is 450 mm or more above the floor level.	N/A
A.2.9	**Strength and durability – drop test for trays** The test shall be carried out in accordance with the drop test for trays (test 6.17, table 5), with the exception that the drop height for test severity 1 shall be 600 mm and drop height for test severity 2 shall be 900 mm	Passed
A3	**Finger entrapment** There shall be no accessible holes greater than 7 mm or less than 12 mm with a depth greater than 10 mm when assessed in accordance with 5.3.1 of EN 716-2:2008+A1:2013	Passed

Risk Analysis – Mesh Size – Bios Mini

Photos