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EN ISO/IEC 17025
T-316

Test Report
No. 9402-2/2024

Forest and Wood Products Research and Development Institute
Testing Laboratory

Customer: Helland Baltic OÜ
Registration number: 12570665
Customer address: Hapvali, Nõmme küla Haapsalu linn Lääne maakond 90439, Estonia

Manufacturer: Helland Baltic OÜ
Registration number: 12570665
Manufacturer address: Hapvali, Nõmme küla Haapsalu linn Lääne maakond 90439, Estonia

Owner of the test report: Helland Baltic OÜ
Registration number: 12570665
Owner address: Hapvali, Nõmme küla Haapsalu linn Lääne maakond 90439, Estonia

Date of the order: 16.11.2023.

Testing was done in conformity with contract No.: 124-10/23 MV

Test performed at: SIA Meža un koksnes produktu pētniecības un attīstības institūts, Dobeles street 41, LV-3001, Jelgava, Latvia.

1 Order content:

Testing in accordance with Standard:
- EN 1728:2012 /AC:2013 "Furniture - Seating - Test methods for the determination of strength and durability".
- EN 1022:2023 "Furniture - Seating - Determination of stability"

Following the requirements of Standards:
- EN 16139:2013 /AC:2013 "Furniture - Strength, durability and safety - Requirements for non-domestic seating", Test parameters L1.

2 Information provided by customer about delivered test specimen:

- Test sample:	Pan high back chair with step-less adjustment, upholstered armrests.
- Name of the sample:	-
- Type of the material:	The HBC chair construction is made from plywood and birch solid wood. The backrest (inside is a steel frame) and seat (molded foam) are upholstered and covered with the textile. The frame structure of the padded armrests consists of solid wood, plywood, and hardboard. All upholstered parts are covered with textiles.
- Sample dimensions:	General length 760.00 general width 690.50, general height 1160.00 Weight 18.80 kg.
- Sample production date:	26.03.2024.
- Sample production place:	Hapvali, Nõmme küla Haapsalu, Läänemaa 90439 Eesti
- Sample manufacturer:	Helland Baltic OÜ
- Date of sampling:	18.04.2024.
- Sampling place:	Hapvali, Nõmme küla Haapsalu, Läänemaa 90439 Eesti
- Sampling done by:	Helland Baltic OÜ
- Procedure of sampling:	The sample is taken from the warehouse of ready production
- Other information:	Testing according to EN 16139, Test Severity 1

3 Laboratory description of the specimen and test method:

- Test sample: Chair.
- Laboratory number for sample: 9402-2.
- Test standard: EN 1728:2012 /AC:2013 and EN 1022:2023.
- Test sample delivered: 24.04.2024.
- Test sample delivered by: Courier.
- Test sample test date: 25.04.2024. – 10.05.2024.

Figure 1: Pan high back chair w/stepless adjustment, upholstered armrest

Figure 2: Front view.

4 Description of the delivery condition of the unit:

- Test specimen delivered assembled. Good condition, no defects.
- The test specimen has been stored in indoor ambient conditions for at least 24 h immediately prior to testing.
- The tests are carried out in indoor ambient conditions at a temperature between 15 °C and 25 °C.

5 Test results:

Table 1

Requirements of EN 16139:2013	Test parameters according to EN 1728:2012 /AC:2013; EN 1022:2023	Requirement fulfilled (+) Requirement not fulfilled (-)
1	2	3
4 Safety, EN 16139:2013		
EN 16139:2013, (4.1) General - The seating shall be so designed as to minimize the risk of injury to the user. All accessible parts shall be so designed that physical injury and damage are avoided. This requirement is met when: a) accessible corners are rounded or chamfered; b) the edges of the seat, back rest and arm rests which are in contact with the user when sitting in the chair are rounded or chamfered; c) the edges of handles are rounded or chamfered in the direction of the force applied; d) all other edges are free from burrs and rounded or chamfered; e) the ends of hollow components are closed or capped. Movable and adjustable parts shall be designed so that injuries and inadvertent operation are avoided. It shall not be possible for any load bearing part of the seating to come loose unintentionally. All parts which are lubricated to assist sliding shall be designed to protect users from lubricant stains when in normal use.		+
EN 16139:2013, (4.2.1) Shear and squeeze points when setting up and folding - Shear and squeeze points that are created only during setting up and folding, including tipping seat actions, are acceptable, because the user can be assumed to be in control of his/her movements and to be able to cease applying the force immediately upon experiencing pain. The edges of parts moving relative to each other and creating shear and squeeze points shall be as specified in 4.1.		Not applicable
EN 16139:2013, (4.2.2) Shear and squeeze points under influence of powered mechanism - With the exception of tipping seats there shall be no shear and squeeze points created by parts of the seating operated by powered mechanisms, e.g. springs and gas lifts.		Not applicable

Requirements of EN 16139:2013	Test parameters according to EN 1728:2012 /AC:2013; EN 1022:2023	Requirement fulfilled (+) Requirement not fulfilled (-)
1	2	3
EN 16139:2013, (4.2.3) Shear and squeeze points during use - There shall be no shear and squeeze points created by forces applied during normal use as well as during normal movements and actions, see Table 1.		+
4.3 Stability, EN 16139:2013		
EN 16139:2013, (4.3.1) General - The seating shall not overturn under the following conditions: a) by pressing down on the front edge of the seat surface in the median plane; b) by applying a load on the seat surface via the front corner; c) by leaning sideways on a with or without arm rest; d) by leaning against the back rest; e) by sitting on the front edge of the seat; f) by loading the foot rest.	EN 1022:2023, (7.3.1 and 7.3.2) Forward overturning: - seat force, 600 N; - horizontal force, 20 N.	+
	EN 1022:2023, (7.3.2) Forward overturning for seating with foot rest: - force, 600 N; - horizontal force, 20 N.	Not applicable
	EN 1022:2023, (7.3.3) Corner stability: - seat force, 300 N.	+
	EN 1022:2023, (7.3.4) Sideways overturning, all seatings without arm rests: - seat force, 600 N; - horizontal force, 20 N.	Not applicable
	EN 1022:2023, (7.3.5) Sideways overturning, all other seating: - arm force, 250 N; - seat force, 350 N; - horizontal force, 20 N.	+
	EN 1022:2023, (7.3.6) Rearwards overturning, all seating with back rests: - seat force, 600 N; - back force, 80 N.	+
EN 16139:2013, (4.3.2) Swivelling chairs - Requirements a) to e) are considered to be met if the seating complies with 4.3 of EN 1335-2:2009. Requirements a) to f) are considered to be met if the seating complies with EN 1022.		Not applicable
EN 16139:2013, (4.4) Rolling resistance of the unloaded chair - This subclause is only applicable to single seating units fitted with castors or wheels. The unloaded seating shall not roll unintentionally. This requirement is met when: the rolling resistance is ≥ 12 N when tested in accordance with EN 1335-3:2009, 7.4; and all castors are of the same type.		Not applicable
EN 16139:2013, (4.5) Safety of the construction - The following tests described in Clause 6, Table 1 are considered to be relevant to safety: Test No.: 1, 2, 4, 6, 7, 8, 9, 10, 12, 13, 14. Seating is considered to satisfy the safety requirements if, on completion of the relevant tests, the chair satisfies all requirements of Clause 5.		
5 Safety, strength and durability requirements, EN 16139:2013		
EN 16139:2013, (1.) table 1, Seat and back static load test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.4) Seat static load and back static load test: - seat force 1600 N; - back force 560 N; - cycles 10.	+

Requirements of EN 16139:2013	Test parameters according to EN 1728:2012 /AC:2013; EN 1022:2023	Requirement fulfilled (+) Requirement not fulfilled (-)
1	2	3
EN 16139:2013, (2.) table 1, Seat front edge static load test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.5) Seat front edge static load: - seat force 1300 N; - cycles 10.	+
EN 16139:2013, (3.) table 1, Vertical static load on back - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.6) Vertical load on backrest: - force 600 N; - seat load 1300 N; - cycles 10.	+
EN 16139:2013, (4.) table 1, Foot rest and leg rest static load test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.8) Foot rest static load test: - force 1300 N; - cycles 10.	Not applicable
	EN 1728:2012 /AC:2013, (6.9) Leg rest static load test: - force 1300 N; - cycles 10.	Not applicable
EN 16139:2013, (5.) table 1, Arm sideways static load test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.10) Arm rest sideways static load test: - force 400 N; - cycles 10.	+
EN 16139:2013, (6.) table 1, Arm downward static load test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be	EN 1728:2012 /AC:2013, (6.11) Arm rest downward static load test: - force 750 N; - cycles 5.	+

Requirements of EN 16139:2013	Test parameters according to EN 1728:2012 /AC:2013; EN 1022:2023	Requirement fulfilled (+) Requirement not fulfilled (-)
1	2	3
rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.		
EN 16139:2013, (7.) table 1, Vertical upwards static load on arm rest - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.13.1) Seating which may be moved when occupied: - seat load 250 N; - cycles 10 during ≥10 s.	Not applicable
	EN 1728:2012 /AC:2013, (6.13.2) Stacking seating: - seat load 250 N; - lift stack with max 8 chairs of max 25 kg.	Not applicable
EN 16139:2013, (8.) table 1, Seat and back durability test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.17) Combined seat and back durability test: - seat load 1000 N; - back load 300 N; - cycles 100 000.	+
EN 16139:2013, (9.) table 1, Seat front edge durability test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.18) Seat front edge durability test: - force 800 N; - cycles 50 000.	+
EN 16139:2013, (10.) table 1, Arm durability test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.20) Arm rest durability test: - force 400 N; - cycles 30 000.	+
EN 16139:2013, (11.) table 1, Foot rest durability test - These safety, strength and durability	EN 1728:2012 /AC:2013, (6.21) Foot rest durability test: - force 1000 N;	Not applicable

Requirements of EN 16139:2013	Test parameters according to EN 1728:2012 /AC:2013; EN 1022:2023	Requirement fulfilled (+) Requirement not fulfilled (-)
1	2	3
requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	- cycles 50 000.	
EN 16139:2013, (12.) table 1, Leg forward static load test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.15) Leg forward static load test: - force 500 N; - seat load 1000 N; - cycles 10.	+
EN 16139:2013, (13.) table 1, Leg sideways static load test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.16) Leg sideways static load test: - force 400 N; - seat load 1000 N; - cycles 10.	+
EN 16139:2013, (14.) table 1, Seat impact test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.24) Seat impact test: - drop height 240 mm; - cycles 10.	+
EN 16139:2013, (15.) table 1, Back impact test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of	EN 1728:2012 /AC:2013, (6.25) Back impact test: - drop height 210/38 mm; - cycles 10. or: EN 1728:2012 /AC:2013, (6.28) Backward fall test - < 30N; - drop on rubber; - cycles 10.	+ (EN 1728:2012 /AC:2013, (6.28) Backward fall test)

Requirements of EN 16139:2013	Test parameters according to EN 1728:2012 /AC:2013; EN 1022:2023	Requirement fulfilled (+) Requirement not fulfilled (-)
1	2	3
the test loads.		
EN 16139:2013, (16.) table 1, Arm impact test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.26) Arm impact test: - drop height 210/38 mm; - cycles 10.	+
EN 16139:2013, (17.) table 1, Drop test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.27.1) Drop test: -.	Not applicable
EN 16139:2013, (18.) table 1, Auxiliary writing surface static load test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.14) Vertical static load test on Auxiliary writing surface: - force 300 N; - cycles 10.	Not applicable
EN 16139:2013, (19.) table 1, Auxiliary writing surface durability test - These safety, strength and durability requirements are fulfilled when during and after testing: a) there are no fractures of any member, joint or component; b) there are no loosening of joints intended to be rigid; c) no major structural element is significantly deformed; d) the chair fulfils its functions after removal of the test loads.	EN 1728:2012 /AC:2013, (6.22) Durablity test on Auxiliary writing surface: - force 150 N; - cycles 10 000.	Not applicable
EN 16139:2013, (7) Information for use - Information for use shall be available in the language of the country in which it will be delivered to the end user. It shall contain at least the following details: a) information regarding the intended use (see Annex B); b) if the chair is fitted with adjusting mechanisms: instruction for operating the adjusting mechanisms; c) assembly instructions, where applicable;		+ (evaluated in English)

Requirements of EN 16139:2013	Test parameters according to EN 1728:2012 /AC:2013; EN 1022:2023	Requirement fulfilled (+) Requirement not fulfilled (-)
1	2	3
d) instruction for the care and maintenance of the chair; e) if the seating is fitted with castors: information on the choice of castors in relation to the floor surface; f) if the seating is fitted with adjustment mechanisms comprising an energy accumulator, an additional note is required pointing out that only instructed personnel may replace and maintain adjustment mechanisms containing energy accumulators.		

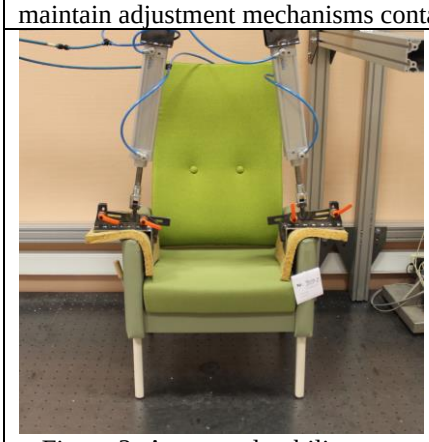

Figure 3: Arm rest durability test:
- force 400 N;
- cycles 30 000.

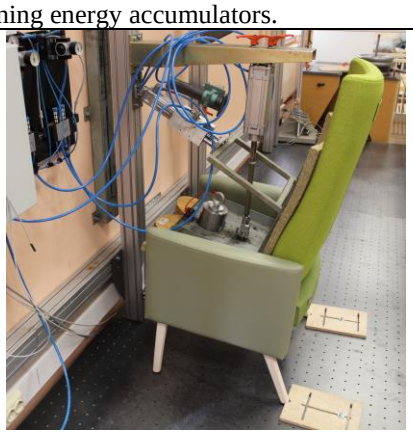

Figure 4: Combined seat and back durability test:
- seat load 1000 N;
- back load 300 N;
- cycles 100 000.

Figure 5: Seat front edge durability test:
- force 800 N;
- cycles 50 000.

6. Testing laboratory comments summary

Pan high back chair w/stepless adjustment, upholstered armrest fulfills safety, stability, strength and durability requirements according to EN 16139:2013/AC:2013 "Furniture - Strength, durability and safety - Requirements for non-domestic seating". Type of use – general, test parameters – L1.

Date of issue: 10.05.2024.

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