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Test Report

Material: Model: Palissade Lounge Sofa – also covers Palissade Lounge Chair High and Palissade Lounge Chair Low

Type:	Chair				
Length:	895 mm	Width:	1355 mm	Height:	705 mm
Weight:	27 kg				
Materials:	Metal tubes Ø 25 mm				

Sampling: The test material was sampled by the client and received at the Danish Technological Institute 18-02-2016.

Method: **EN 581-2:2009** Outdoor furniture – Seating and tables for camping, domestic and contract use – Part 2: mechanical safety requirements and test methods for seating. Clauses: 6.2.1, 6.2.2, 6.7, 6.6, 6.10, 6.12, 6.13, 6.15, 6.4.

EN 1022:2005 Domestic furniture - Seating - Determination of stability.
EN 16139:2013 Furniture - Strength, durability and safety - Requirements for non-domestic seating. Clauses 4.1, 4.2.3, 4.3.3, 5, 6.1.1, 6.1.2, 6.1.3, 6.1.5, 6.1.6, 6.1.8, 6.1.9, 6.1.10, 6.1.12, 6.1.13, 6.1.14, 6.1.15, 6.1.16, 6.1.17.

L2: Extreme use: E.g. in night-clubs, police stations, transport terminals, sport changing rooms, prisons, barracks (non-controlled areas).

Period: The testing was carried out from 23-02-2016 to 05-04-2016.

Result: Model Palissade Lounge Sofa fulfils the requirements in EN 581-2:2009, EN 1022:2005 and EN 16139:2013. Loading according to Test severity L2. Individual results appear from Appendices 1 and 2.

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

Terms: The test has been performed according to the attached conditions, which are according to the guidelines laid down by DANAK (The Danish Accreditation). The testing is only valid for the tested specimen. The test report may only be extracted, if the laboratory has approved the extract.

Software: This report was generated by software version 2.21 of 2013-06-06.

30-05-2016, Danish Technological Institute, Wood Technology, Taastrup
Replaces report dated 06-04-2016

Test responsible

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Co-reader

Test of model: Palissade Lounge Sofa

EN 581-2 Test sequences and test parameters

Test	Reference	Test parameters	Contract	Result
Seat and back static load test [a]	EN 1728:2000, 6.2.1	Seat force N 10×10 s (±2s) + 1×30 min (±10s) Back force, N 10×10 (±2s) + 1×30 min (±10s)	2.000 560 max	Passed
Seat front edge static load test	EN 1728:2000, 6.2.2	Force N 10×10 s (±2s) + 1×30 min (±10s)	1300	Passed
Seat and back fatigue test for seating [a]	EN 1728:2000, 6.7	Cycles Seat, force, N Back: bending moment, Nm	50.000 1.000 100 max	Passed
Fatigue test on back rest mechanism	See Annex A	Cycles Seat load, kg Force, N Back: bending moment Nm	20.000 100 250 100	N/A
Arm downwards static load test	EN 1728:2000, 6.6	Vertical force, N	900[b]	Passed
Arm fatigue test	EN 1728:2000, 6.10	Cycles Force, N	30.000 400	Passed
Leg forward static load test	EN 1728:2000, 6.12	Seat load, kg Horizontal force, N	100 400	Passed
Leg sideways static load test	EN 1728:2000, 6.13	Seat load, kg Horizontal force, N	100 300	Passed
Seat impact test [c]	EN 1728:2000, 6.15	Drop height, mm 10 times	180	Passed
Foot rail static test for high seating	EN 1728:2000, 6.4	Vertical force, N	1.200	N/A
Forward stability [d e]	EN 1022			Passed
Rearward stability [d]	EN 1022			Passed
Sideways stability [d e]	EN 1022			Passed

a	If seat and back are of one piece of flexible material (e.g. textile), only the tests on seat shall be carried out.
b	If arm rest is less than 15 mm wide, carry out test with 700 N for contract use
c	The application point shall be at least 100 mm from the front edge. This test shall not be carried out on seating with a seat height > 600 mm
d	In the case of seating, which might not fulfil the stability requirements before carrying out any tests, the applicable stability tests may be carried out before starting the sequence of tests specified in this table.
e	This test is not applicable for seating with a seat height <200 mm and a mass <5 kg. The height shall be determined by measuring from the floor to the upper seating area on the geometrical centre of the unloaded seat

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	Result
6.2 Requirements **6.2.1 General safety requirements** The general safety requirements specified in EN 581-1 shall be fulfilled.	Passed
6.2.2. Stability requirements The stability requirements specified in EN 1022 shall be fulfilled.	Passed
6.2.3 Mechanical safety requirements The requirements are fulfilled during and after testing in accordance with Table 1 when: a) There are no fractures of any point, member or component b) There is no loosening of joints intended to be rigid c) The seating fulfils its function after removal of the test loads	Passed
7. Instruction for use **7.1. General** Instruction for use shall be provided in the language(s) of the country where the tables are sold. These instructions shall be headed "IMPORTANT, RETAIN FOR FUTURE REFERENCE: READ CAREFULLY" in letters no less than 5 mm high. These instructions shall include at least the following: a) Name and address of the producer (manufacturer or supplier) b) Information regarding maintenance c) Conditions for use of the product (camping, domestic or contract)	N/A

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EN 16139 - Loading according to Test severity L2.

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			N/A
4.3.2 Swivelling chairs	EN 1022			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 1728:2012, 6.4	10 10	Seat: 2000 N Back: 700 N	Passed
6.1.2 Seat front edge static load	EN 1728:2012, 6.5	10	Seat: 1600 N	Passed
6.1.3 Vertical load on back rests	EN 1728:2012, 6.6	10	Back: 900 N Seat: 1800 N	Passed
6.1.4 Foot rest static load test	EN 1728:2012, 6.8			N/A
6.1.4 Leg rest static load test	EN 1728:2012, 6.9			N/A
6.1.5 Arm rest sideways static load test	EN 1728:2012, 6.10	10	900 N	Passed
6.1.6 Arm rest downwards static load test	EN 1728:2012, 6.11	5	900 N	Passed
6.1.7 Vertical upwards static load on arm rests	EN 1728:2012, 6.13			N/A
6.1.8 Combined seat and back durability test	EN 1728:2012, 6.17	200000 200000	Seat: 1000 N Back: 300 N	Passed
6.1.9 Seat front edge durability test	EN 1728:2012, 6.18	100000	800 N	Passed
6.1.10 Arm rest durability test	EN 1728:2012, 6.20	60000	400 N	Passed
6.1.11 Foot rest durability test	EN 1728:2012, 6.21			N/A
6.1.12 Leg forward static load test	EN 1728:2012, 6.15	10	Edge: 620 N) (Seat: 1800 N)	Passed
6.1.13 Legs sideways static load test	EN 1728:2012, 6.16	10	Edge: 760 N) (Seat: 1800 N)	Passed
6.1.14 Seat impact test	EN 1728:2012, 6.24	10	300 mm	Passed
6.1.15 Back impact test	EN 1728:2012, 6.25	10	330 mm / 48°	Passed
6.1.16 Arm Impact Test	EN 1728:2012, 6.26	10	330 mm / 48°	Passed
6.1.17 Drop test (multiple seating)	EN 1728:2012, 6.27.1	10		Passed
6.1.18 Auxiliary writing surface static load test	EN 1728:2012, 6.14			N/A
6.1.19 Auxiliary writing surface durability test	EN 1728:2012, 6.22			N/A
7 Information for use	EN 16139, 7			N/A

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Test of model: Palissade Lounge Sofa

Photo

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The general conditions pertaining to assignments accepted by Danish Technological Institute shall apply in full to the technical testing or calibration at Danish Technological Institute and to the completion of test reports or calibration certificates within the relevant field.

Danish Accreditation (DANAK):
DANAK is the national accreditation body in Denmark in compliance with EU regulation No. 765/2008.

DANAK participates in the multilateral agreements for testing and calibration under European co-operation for Accreditation (EA) and under International Laboratory Accreditation Cooperation (ILAC) based on peer evaluation. Accredited test reports and calibration certificates issued by laboratories accredited by DANAK are recognized cross border by members of EA and ILAC equal to test reports and calibration certificates issued by these members' accredited laboratories.

The use of the accreditation mark on test reports and calibration certificates or reference to accreditation, documents that the service is provided as an accredited service under the company's DANAK accreditation according to EN ISO IEC 17025.

Construction Product Directive:
The Danish Technological Institute guarantees that employees carrying out tests to be used together with harmonized standards under notification no. 1235 according to EU regulation 305/2011, article 43, satisfy all the requirements made for capability, integrity and impartiality. You find the CPR here:
http://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/construction-products/index_en.htm

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