REPORT
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Testing of Studio chair with 08-Base

(1 appendix)

1 Introduction

On behalf of Johanson Design AB, a Studio chair with 08-Base has been tested at SP in accordance with SS-EN 15373:2007 level 2, the test is consistent with the requirements of FMV[1] for Seating furniture for contract use, dated 2007.12.17.

2 Test specimen

Figure 1 Studio chair with 08-Base

Seat shell: Moulded plywood 12,5 mm
Legs: Steel tube Ø15 mm

The test specimen was selected by the customer and arrived at SP 2009.02.14.

[1] Swedish Defence Material Administration

3 Test methods and test procedure

The test was performed according to SS-EN 15373:2007 Furniture – Strength, durability and safety – Requirements for non-domestic seating, level 2 and SS-EN 1022 Domestic furniture – Seating – Determination of stability.

Before testing the test specimen was conditioned for one week in a climate of 23°C ± 2°C and 50 ± 5% relative humidity, in accordance with the standard. Testing was carried out in this climate.

The test methods are explained in Appendix 1, and comply with the requirements of FMV for seating furniture for contact use, dated 2007.12.17.

The test was carried out over the period 2009.02.25 – 03.11.

4 Results

The result is reported in Appendix 1.

At the end of the test, the tested piece did not exhibit any faults, fractures or other damage judged to affect its safety when used in accordance with SS-ENV 12520.

The requirements according strength has been met.

The test results apply solely to the specimen tested.

SP Technical Research Institute of Sweden
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Bertil Johansson
Technical Manager

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Appendix

Test record (3 pages)

This is a translation from the Swedish original document. In the event of any dispute as to the content of the document, the Swedish text shall take precedence.

Appendix 1

Seating

1.	General requirements	Performance	References: Requirements
1.1	Components or parts accessible during normal use shall have no burrs, sharp edges or sharp points.	√	SS-ENV 12520. Clause 4.1
1.2	There shall be no open-ended tubes.	√	SS-ENV 12520. Clause 4.1
1.3	Shear and squeeze points. The distance between moving parts accessible during normal use shall be kept to ≤ 8 mm or ≥ 25 mm in any position during movement.	-	SS-ENV 12520. Clause 4.2
1.3.1	Shear and squeeze points when setting up and folding. The requirements in 1.3 are not applicable when shear and squeeze points are created only when setting up and folding.	-	SS-ENV 12520. Clause 4.2.1
1.3.2	Shear and squeeze points under the influence of powered mechanisms. The requirements in 1.3 are applicable to all moving parts created by parts operated by powered mechanisms, including springs.	-	SS-ENV 12520. Clause 4.2.2
1.3.3	Shear and squeeze points under body weight Shear and squeeze points as defined in 1.3 are not acceptable if unintentional movement of the parts may occur so that a hazard is created by the weight of the user. Shear and squeeze points shall not be created by normal movements and actions, e.g. attempting to move the seating by lifting the seat or by adjusting the backrest.	-	SS-ENV 12520. Clause 4.2.3
1.4	All lubricated parts shall, when in normal use, be designed to protect from contact with the lubricant.	-	
1.5	Knock-down furniture / assembly instructions. Parts or components being parts of a knock-down furniture shall be so prepared that the assembly can be done without any difficulties and in a reliable way. When the assembly requires an instruction it shall be easy to understand and instructive. The instruction shall by a list, a diagram or in an other way make it possible to control that all parts or components are supplied.	-	

2. Stability		References: Test method
2. The seating shall not overturn. The stability requirements shall be fulfilled before and after the tests specified in clause 3 - Safety and Strength and Durability (performance).	√	SS-EN 1022

Appendix 1

Seating

3. Test	Reference	Load	Cycles	Level 2	
3.1 Seat and back static load test	SS-EN 1728.Clause.6.2.1	Seat Back	10	1600 N 560 N	√
3.2 Seat front edge static load test	SS-EN 1728.Clause.6.2.2		10	1600 N	√
3.3 Additional seat and back static load test[2] for tilting chairs, reclining chairs and loungers	SS-EN 1728.Clause.6.3	Seat Back	10	1600 N 560 N max	-
3.4 Vertical static load on back	SS-EN 15373 Annex A.2		10	600 N Seat load: 1300 N	√
3.5 Foot rail/foot rest and leg rest static load test	SS-EN 1728.Clause.6.4		10	1300 N	-
3.6 Arm sideways static load test	SS-EN 1728. Clause.6.5		10	600 N	-
3.7 Wing sideways static load test	SS-EN 1728. Clause.6.5		10	400 N	-
3.8 Arm downwards static load test7	SS-EN 1728. Clause.6.6		10	900 N	-
3.9 Vertical upwards static load on armrest	SS-EN 15373 Annex A.1		10	Seat load: 1000 N	
3.10 Seat and back fatigue test	SS-EN 1728.Clause.6.7	Seat Back	100 000	1000 N 300 N	√
3.11 Additional seat and back fatigue test for tilting chairs, reclining chairs and loungers[2]	SS-EN 1728.Clause.6.9	Seat Back	100 000	1000 N 300 N	-
3.12 Seat front edge fatigue test	SS-EN 1728.Clause.6.8		50 000	1000 N	√
3.13 Arm fatigue test	SS-EN 1728.Clause.6.10		50 000	400 N	-

[2] Stress levels shall be calculated according to formulas in SS-EN 1728

Appendix 1

Seating

3.14 Leg rest fatigue test	SS-EN 1728.Clause.6.11		50 000	1000 N	-
3.15 Foot rail fatigue test	SS-EN 15373 Annex A.1		50 000	1000 N	-
3.16 Leg forward static load test	SS-EN 1728.Clause.6.12	Under frame Seat	10	500 N 1300 N	√
3.17 Leg sideways static load test	SS-EN 1728.6.13	Under frame Seat	10	490 N 1300 N	√
3.18 Diagonal static base load test	SS-EN 1728.Clause.6.14		10	500 N	-
3.19 Seat impact test	SS-EN 1728.Clause.6.15	Drop height	10	240 mm	√
3.20 Back impact test	SS-EN 1728.Clause.6.16	Drop height	10	330 mm	√
3.21 Arm impact test	SS-EN 1728.Clause.6.17	Drop height	10	330 mm	-
3.22 Drop test (multiple seating)	SS-EN 1728.Clause.6.18	Drop height	2x5	300 mm	-
3.23 Auxiliary writing surface static load test	SS-EN 15373 Annex A.3		10	300 N	-
3.24 Auxiliary writing surface fatigue test	SS-EN 15373 Annex A.3		20 000	150 N	-

√ The test has been completed without any remarks
⊗ The requirement is not fulfilled
- Not applicable

ASSESSMENT

Date 2009.12.18 | Reference P906176N | Page 1 (1)

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Statement regarding Studio chair

1 Introduction

On behalf of Johanson Design AB, SP has carried out an assessment on Studio chair with 08-Base and 09-Base, in accordance with SS-EN 15373:2007 level 2. The assessment is consistent with the requirements of FMV[1] for Seating furniture for contract use, dated 2007.12.17.

2 Assessment

Based on SP report P906176C, P906176E and P906176 I dated 2009.12.18 Studio chair with 08-Base and 09-Base are assessed to meet the requirements for strength and stability.

This implies that design, material qualities, dimensions and other characteristics, which may affect the test results, are identical to the tested pieces.

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