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SWEDEN

## Testing of Studio 09 armchair

(1 appendix)

### 1 Introduction

On behalf of Johanson Design AB, SP has carried out a limited test on Studio 09 armchair in accordance with EN 16139:2013 Furniture - Strength, durability and safety - Requirements for non-domestic seating, level 1.

### 2 Test specimen



**Figure 1 Studio 09 armchair**

Dimension:	W=51 cm, D=54 cm, H=77cm
Seat height:	47 cm
Frame:	Steel tube 12 mm
Armrests:	Steel tube 12 mm welded to frame (see figure 2 appendix 1)
Seat:	Moulded plywood 12,5 mm, upholstered
Other info:	-

The test specimen was selected by the customer and arrived at SP 2014-07-07.

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### 3 Test methods and test procedure

Testing of stability and mechanical strength on armrest has been performed according to EN 16139:2013 Furniture – Strength, durability and safety – Requirements for non-domestic seating, level 1 and EN 1022:2005 Domestic furniture – Seating – Determination of stability.

Scope and test methods are explained in table 1 – 3.

The test was carried out in a climate of 23±2°C and 50 ±5% relative humidity.  
The test was carried out 2014-08-26 – 2014-08-28.

### 4 Results

**Table 1**

1.	General requirements	EN 16139	Req. fulfilled
1.1	Accessible corners shall be rounded or chamfered.	4.1	Passed
1.2	Edges of the seat, back rest and arm rests which are in contact with the user when sitting in the chair shall be rounded or chamfered.	4.1	Passed
1.3	Edges of handles shall be rounded or chamfered in the direction of the force applied.	4.1	N/A
1.4	All other edges shall be free from burrs and rounded or chamfered.	4.1	Passed
1.5	Ends of hollow components shall be closed or capped.	4.1	Passed
1.6	Movable and adjustable parts shall be designed so that injuries and inadvertent operation are avoided.	4.1	N/A
1.7	It shall not be possible for any load bearing part of the seating to come loose unintentionally.	4.1	Passed
1.8	All parts which are lubricated to assist sliding shall be designed to protect users from lubricant stains when in normal use.	4.1	N/A
1.9	No shear and squeeze points when setting up and folding.	4.2.1	N/A
1.10	No shear and squeeze points under influence of powered mechanism.	4.2.2	N/A
1.11	No shear and squeeze points during use.	4.2.3	Passed

**Table 2**

2.	Stability	EN 1022	Req. fulfilled
2.1	Forwards overbalancing.	6.2	Passed
2.2	Forwards overturning for seating with footrest.	6.3	N/A
2.3	Sideways overbalancing, all seating without arms.	6.4	N/A
2.4	Sideways overbalancing, all seating with arms.	6.5	Passed
2.5	Rearwards overbalancing, all seating with backs.	6.6	Passed

**Table 3**

3.	Strength, durability (armrests)	Reference EN 1728	Cycles	EN 16139 level 1	Req. fulfilled
3.5	Arm sideways static load test.	6.10	10	400 N	Passed
3.6	Arm downwards static load test.	6.11	5	750 N	Passed
3.7	Vertical upwards static load on arm rests for stackable seating	6.13.2	10	250 N	N/A
3.7 Annex B	Vertical upwards static load on arm rests for seating which may be moved when occupied	6.13.2	10	1200 N	N/A
3.16	Arm impact test.	6.26	10	210/38 mm/ <sup>o</sup>	Passed

The test results apply solely to the specimen tested.

## SP Technical Research Institute of Sweden Wood Technology

Performed by

Examined by

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## Appendix

1. Pictures (1 page)

## Appendix 1

### Pictures



Figure 1 Studio 09 armchair



Figure 2 Studio 09 armchair