

**Test report**

**16-8992**

**Article:** Monolite easy chair, Swivelling

**Test requested by:** Jan Jismyr  
Materia AB  
Tranås Sweden



**Tests are carried out according to standard:** EN 16139:2013, test severity level 1

**Discrepancies:** None

**Result and observations:** The sample submitted for test fulfils the requirements in above mentioned standards.

**Measurement:** Detailed information about measurement uncertainty is provided on request by Kinnarps Test and Verification Center.

**Report:** This report relates to sample submitted for test and no other. The report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Kinnarp 8<sup>th</sup> of March 2016



Magnus Carlsson  
(Approved by)



Susanne Norling  
(Tested by)

<b>Item description</b>			
<b>Date of</b>			
- manufacture:	151203		
- arrival:	160114		
- test:	160125 - 160308		
<b>Materials, construction</b>			
<b>Seat and backrest:</b>	Upholstered wood and boards		
<b>Armrest:</b>	Upholstered steeltube		
<b>Under frame:</b>	Swivelling steel tube, solid steel plate		
<b>Dimensions (mm)</b>			
<b>Total width:</b>	680	<b>Sitting height:</b>	390
<b>Total depth:</b>	630	<b>Seat width:</b>	550
<b>Total height:</b>	790	<b>Seat depth:</b>	480
<b>Seat height:</b>	445	<b>Height of armrest:</b>	240
<b>Weight (kg):</b>	37kg	<b>Distance between armrests:</b>	550
<b>Test conditions</b>			
<b>Laboratory atmosphere:</b>	(20 ± 5)° C	Within limits during test	

<b>Test description</b>			EN 16139:2013 Annex B (informative)
The table below shows the type of use that might be expected from furniture in relation to two test severities.			
Test severity	Type of Use	Application	
L1	General use	<b>Areas in which seating is usually intended for mixed use (short-time and for a period of several hours, light to heavy load).</b> <b>Example of end-use: All kind of applications in office buildings, showrooms, public halls, function rooms, cafés, restaurants, canteens, banks, bars.</b>	
L2	Extreme use	Areas in which seating is occasionally or repeatedly subject to extremely high loads due to their specific types of use or due to improper use. Examples of end-use: Night -clubs, police stations, transport terminals, sport changing rooms, prisons, barracks (non-controlled areas).	

It should be noted that some end uses may be covered by more than one requirement depending on the severity of the expected use.

This applies particularly to furniture in nursing homes and public areas in hospitals. These types of furniture are subject to test severity L1. But for seating fulfilling the requirements "Seating which may be moved when occupied", the test "Vertical upwards static load on arm rests" in accordance with Table 1 (Test 7) should be carried out with test severity L2.

Our no	Test and method	Requirements	Test results	Pass/Fail or N/A
<b>1</b>	<b>SAFETY EN 16139:2013 4</b>			
	<b>General 4.1</b>			
1.1	Accessible corners a)	shall be rounded or chamfered	No remarks	<b>Pass</b>
1.2	Edges of seat, back and arm rests, which are in contact with the user when sitting in the seating b)	shall be rounded or chamfered	No remarks	<b>Pass</b>
1.3	Edges of handles c)	shall be rounded or chamfered in the direction of the force applied	No remarks	<b>Pass</b>
1.4	All other edges accessible during use d)	no rough surfaces, burrs or sharp edges	No remarks	<b>Pass</b>
1.5	End of hollow components e)	closed or capped	-	<b>N/A</b>
1.6	Movable and adjustable parts designed so	injures and inadvertent operations shall be avoided	No remarks	<b>Pass</b>
1.7	Adjustable/connection parts	no chance to come loose	-	<b>N/A</b>
1.8	Lubricated parts	not accessible	-	<b>N/A</b>
	<b>Shear and squeeze points 4.2</b>			
1.9	Shear and squeeze points when setting up and folding 4.2.1	acceptable only during setting up and folding	-	<b>N/A</b>
1.10	Shear and squeeze points created by parts of the seating operated by powered mechanisms 4.2.2	not acceptable	-	<b>N/A</b>
1.11	Shear and squeeze points during normal use 4.2.3	not acceptable	-	<b>N/A</b>
<b>2</b>	<b>STABILITY 4.3</b>			
<b>2.1</b>	<b>Swivelling chair 4.3.2</b>			
2.1.1	Front edge overbalancing, 27 kg	no overturning	No remarks	<b>Pass</b>
2.1.2	Forward Vertical force 600 N	horizontal min. 20 N no overturning	197N	<b>Pass</b>
2.1.3	Sideways without armrests Vertical force 600 N	horizontal min. 20 N no overturning	-	<b>N/A</b>
2.1.4	Sideways with armrests Vertical force on seat 250 N Vertical force on armrest 350 N	horizontal min. 20 N no overturning	>200N	<b>Pass</b>

Our no	Test and method	Requirements	Test results	Pass/Fail or N/A
	<b>Rearwards overbalancing</b>			
2.1.5	Chairs without backrest inclination Vertical force 600 N Horizontal force backrest 192 N	no overturning	>300N	Pass
2.1.6	Chair with backrest inclination Load 11 discs x 10 kg	no overturning	-	N/A
2.1.7	Forwards overturning for seating with footrest Vertical force on the footrest 600 N	horizontal min. 20 N no overturning	-	N/A
<b>2.2</b>	<b>Non swivelling chairs</b>	<b>4.3.3</b>		
2.2.1	Forward Vertical force 600 N	horizontal min. 20 N no overturning	-	N/A
2.2.2	Sideways without arm rests Vertical force 600 N	horizontal min. 20 N no overturning	-	N/A
2.2.3	Sideways with arm rests Vertical force on seat 250 N Vertical force on armrest 350 N	horizontal min. 20 N no overturning	-	N/A
2.2.4	Rearward Vertical force 600 N	horizontal min. x N no overturning	-	N/A
2.2.5	Forwards overturning for seating with footrest Vertical force on the footrest 600 N	horizontal min. 20 N no overturning	-	N/A
<b>3</b>	<b>Rolling resistance of the unloaded chair</b>	<b>4.4</b>		
3.1	Rolling resistance	≥ 12 N	-	N/A
3.2	Castors	of the same type	-	N/A

**EN 16139: 2013 5. Safety, strength and durability requirements**

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.

Our no	Test and method	Requirements		Test results	Pass/Fail or N/A
		Level 1	Level 2		
<b>4</b>	<b>STRENGTH AND DURABILITY</b>				
	<b>EN 16139:2013 5</b>				
4.1	Seat and back static load 10 times vertical force horizontal force	<b>1 600 N</b> <b>560 N</b> (min. force 410)	2 000 N 700 N (min. force 410)	No remarks	<b>Pass</b>
4.2	Seat front edge static load 10 times vertical force	<b>1 300 N</b>	1 600 N	No remarks	<b>Pass</b>
4.3	Vertical static load on back. 10 times vertical force seat load	<b>600 N</b> <b>1300 N</b>	900 N 1800 N	No remarks	<b>Pass</b>
4.4	Foot rail / foot rest and leg rest static load 10 times force	<b>1 300 N</b>	1 600 N	-	<b>N/A</b>
4.5	Arm sideways static load between armrests 10 times horizontal force	<b>400 N</b>	900 N	No remarks	<b>Pass</b>
4.6	Arm downwards static load 5 times vertical force	<b>750 N</b>	900 N	No remarks	<b>Pass</b>
4.7	Vertical upwards static load on armrests 10 times	<b>Seat load 250 N or lift stack</b>	Seat load 1 200 N	-	<b>N/A</b>
4.8	Seat and back fatigue Cycles vertical force horizontal force	<b>100 000 c</b> <b>1 000 N</b> <b>300 N</b>	200 000c 1 000 N 300 N	No remarks	<b>Pass</b>
4.9	Seat front edge fatigue Cycles vertical force	<b>50 000 c</b> <b>800 N</b>	100 000c 800 N	No remarks	<b>Pass</b>
4.10	Arm fatigue Cycles force	<b>30 000 c</b> <b>400 c</b>	60 000c 400 N	No remarks	<b>Pass</b>
4.11	Foot rest/foot rail fatigue Cycles force	<b>50 000 c</b> <b>1000 N</b>	1 00 000c 1000 N	-	<b>N/A</b>
4.12	Leg forward static load If the item tends to overturn, reduce the force to a magnitude that just prevents overturning 10 times force seat load	<b>500 N</b> <b>1 000 N</b>	620 N 1 800 N	-	<b>N/A</b>
4.13	Leg sideways static load If the item tends to overturn, reduce the force to a magnitude that just prevents overturning 10 times force seat load	<b>400 N</b> <b>1 000 N</b>	760 N 1 800 N	-	<b>N/A</b>
4.14	Seat impact test 10 times Drop height	<b>240 mm</b>	300 mm	No remarks	<b>Pass</b>

Our no	Test and method		Requirements		Test results	Pass/Fail or N/A
			Level 1	Level 2		
4.15	Back impact test (test for heavy chair)	10 times Height of fall	<b>210mm/38°</b>	330 mm/48°	No remarks	<b>Pass</b>
4.16	Arm impact test	10 times Height of fall	<b>210mm/38°</b>	330 mm/48°	No remarks	<b>Pass</b>
4.17	Drop test (multiple seating)	2x5 times Drop height	<b>Not applicable</b>	450mm	-	<b>N/A</b>
4.18	Auxiliary writing surface Static load test	10 times Force	<b>300 N</b>	300 N	-	<b>N/A</b>
4.19	Auxiliary writing surface fatigue	Cycles Force	<b>10 000c 150 N</b>	20 000c 150 N	-	<b>N/A</b>
<b>Additional test for specific applications EN 16139:2013 Annex A.1 (informative)</b>						
4.20	Drop test for stacking seating	10 times Drop height	<b>150 mm</b>	200 mm	-	<b>N/A</b>
4.21	Backward fall test ( test for light chair)	Times	<b>5</b>	5	-	<b>N/A</b>
4.22	Drop test from the height of a table10 times (5 times on one front leg and 5 times on one rear leg)	Drop height	<b>600 mm</b>	600 mm	-	<b>N/A</b>

**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 mechanism;
- c) Assembly instructions, where applicable;
- 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.

*End of report*