

Test report

16-9039

Article: Monolite easy chair, 4-legs

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 10th of March 2016

Handwritten signature of Magnus Carlsson in black ink.

Magnus Carlsson
(Approved by)

Handwritten signature of Susanne Norling in black ink.

Susanne Norling
(Tested by)

Item description			
Date of			
- manufacture:	151203		
- arrival:	160114		
- test:	160125 - 160310		
Materials, construction			
Seat and backrest:	Upholstered wood and boards		
Armrest:	-		
Under frame:	Steel tube		
Dimensions (mm)			
Total width:	550	Sitting height:	390
Total depth:	630	Seat width:	550
Total height:	790	Seat depth:	480
Seat height:	445	Height of armrest:	-
Weight (kg):	13kg	Distance between armrests:	-
Test conditions			
Laboratory atmosphere:	(20 ± 5)° C	Within limits during test	

Test description			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	Areas in which seating is usually intended for mixed use (short-time and for a period of several hours, light to heavy load). Example of end-use: All kind of applications in office buildings, showrooms, public halls, function rooms, cafés, restaurants, canteens, banks, bars.	
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
1	SAFETY EN 16139:2013 4			
	General 4.1			
1.1	Accessible corners a)	shall be rounded or chamfered	No remarks	Pass
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	Pass
1.3	Edges of handles c)	shall be rounded or chamfered in the direction of the force applied	-	N/A
1.4	All other edges accessible during use d)	no rough surfaces, burrs or sharp edges	No remarks	Pass
1.5	End of hollow components e)	closed or capped	No remarks	Pass
1.6	Movable and adjustable parts designed so	injures and inadvertent operations shall be avoided	-	N/A
1.7	Adjustable/connection parts	no chance to come loose	-	N/A
1.8	Lubricated parts	not accessible	-	N/A
	Shear and squeeze points 4.2			
1.9	Shear and squeeze points when setting up and folding 4.2.1	acceptable only during setting up and folding	-	N/A
1.10	Shear and squeeze points created by parts of the seating operated by powered mechanisms 4.2.2	not acceptable	-	N/A
1.11	Shear and squeeze points during normal use 4.2.3	not acceptable	-	N/A
2	STABILITY 4.3			
2.1	Swivelling chair 4.3.2			
2.1.1	Front edge overbalancing, 27 kg	no overturning	-	N/A
2.1.2	Forward Vertical force 600 N	horizontal min. 20 N no overturning	-	N/A
2.1.3	Sideways without armrests Vertical force 600 N	horizontal min. 20 N no overturning	-	N/A
2.1.4	Sideways with armrests Vertical force on seat 250 N Vertical force on armrest 350 N	horizontal min. 20 N no overturning	-	N/A

Our no	Test and method	Requirements	Test results	Pass/Fail or N/A
	Rearwards overbalancing			
2.1.5	Chairs without backrest inclination Vertical force 600 N Horizontal force backrest 192 N	no overturning	-	N/A
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
2.2	Non swivelling chairs	4.3.3		
2.2.1	Forward Vertical force 600 N	horizontal min. 20 N no overturning	101N	Pass
2.2.2	Sideways without arm rests Vertical force 600 N	horizontal min. 20 N no overturning	83N	Pass
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. 174 N no overturning	242N	Pass
2.2.5	Forwards overturning for seating with footrest Vertical force on the footrest 600 N	horizontal min. 20 N no overturning	-	N/A
3	Rolling resistance of the unloaded chair	4.4		
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		
4	STRENGTH AND DURABILITY				
	EN 16139:2013 5				
4.1	Seat and back static load 10 times vertical force horizontal force	1 600 N 560 N (min. force 410)	2 000 N 700 N (min. force 410)	No remarks	Pass
4.2	Seat front edge static load 10 times vertical force	1 300 N	1 600 N	No remarks	Pass
4.3	Vertical static load on back. 10 times vertical force seat load	600 N 1300 N	900 N 1800 N	No remarks	Pass
4.4	Foot rail / foot rest and leg rest static load 10 times force	1 300 N	1 600 N	-	N/A
4.5	Arm sideways static load between armrests 10 times horizontal force	400 N	900 N	-	N/A
4.6	Arm downwards static load 5 times vertical force	750 N	900 N	-	N/A
4.7	Vertical upwards static load on armrests 10 times	Seat load 250 N or lift stack	Seat load 1 200 N	-	N/A
4.8	Seat and back fatigue Cycles vertical force horizontal force	100 000 c 1 000 N 300 N	200 000c 1 000 N 300 N	No remarks	Pass
4.9	Seat front edge fatigue Cycles vertical force	50 000 c 800 N	100 000c 800 N	No remarks	Pass
4.10	Arm fatigue Cycles force	30 000 c 400 c	60 000c 400 N	-	N/A
4.11	Foot rest/foot rail fatigue Cycles force	50 000 c 1000 N	1 00 000c 1000 N	-	N/A
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	500 N 1 000 N	620 N 1 800 N	No remarks	Pass
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	400 N 1 000 N	760 N 1 800 N	No remarks	Pass
4.14	Seat impact test 10 times Drop height	240 mm	300 mm	No remarks	Pass

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	210mm/38°	330 mm/48°	No remarks	Pass
4.16	Arm impact test	10 times Height of fall	210mm/38°	330 mm/48°	-	N/A
4.17	Drop test (multiple seating)	2x5 times Drop height	Not applicable	450mm	-	N/A
4.18	Auxiliary writing surface Static load test	10 times Force	300 N	300 N	-	N/A
4.19	Auxiliary writing surface fatigue	Cycles Force	10 000c 150 N	20 000c 150 N	-	N/A
Additional test for specific applications EN 16139:2013 Annex A.1 (informative)						
4.20	Drop test for stacking seating	10 times Drop height	150 mm	200 mm	-	N/A
4.21	Backward fall test (test for light chair)	Times	5	5	-	N/A
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	600 mm	600 mm	-	N/A

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