# Test report 20-TA16758

**Article:** Anagram

**Test requested by:** Jan Jismyr

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

This European standard specifies requirements for the safety, strength and durability of all types of non-domestic seating intended to be used by adults with a weight of not more than 110 kg including office visitor chairs

**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.

**Decision rule:** The measured result is directly compared to the requirement level. When reporting results, no account is taken to the measurement uncertainty

**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 2020-11-22

Approved by Daniel Landberg
Manager Kinnarps Test- & verification Center

Tested by Niklas Johansson
Test technician



**Kinnarps Test and Verification Center**
**Kinnarps AB** SE-521 88 Kinnarp Sweden
**Phone** +46 515 38 000

# Item description

**Date of**

| | |
|---|---|
| **- manufacture:** | 01/09/2020 |
| **- arrival:** | 21/10/2020 |
| **- test:** | 15/10/2020-28/10/2020 |

**Materials, construction**

| | |
|---|---|
| **Seat:** | Shaped plywood |
| **Backrest:** | Shaped plywood |
| **Armrest:** | - |
| **Under frame:** | Steel tube |

**Dimensions (mm)**

| | | | |
|---|---|---|---|
| **Total with:** | 487 | **Sitting height:** | 770 |
| **Total depth:** | 513 | **Seat width:** | 395 |
| **Total height:** | 1073 | **Seat depth:** | 457 |
| **Seat height:** | 783 | **Height of armrest:** | - |
| **Weight (kg):** | 6,1 | **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).<br>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 doe to improper use.<br>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.

| Test and method | Requirements | Test results | Pass/Fail or N/A |
|---|---|---|---|
| **SAFETY**<br>**General** | **EN 16139:2013**<br>**4.1** | | |
| Accessible parts in sitting position | shall be rounded or chamfered and free from burrs | No Remarks | **Pass** |
| End of hollow components | closed or capped | No Remarks | **Pass** |
| Movable and adjustable parts designed so | injures and inadvertent operations shall be avoided | - | **N/A** |
| Adjustable/connection parts | no chance to come loose | - | **N/A** |
| Lubricated parts | not accessible | - | **N/A** |
| **Shear and squeeze points**<br>**movable parts** | **4.2** | | |
| - when setting up and folding | Acceptable | - | **N/A** |
| - created by powered mechanism | Not acceptable | - | **N/A** |
| - during normal use | Not acceptable | No Remarks | **Pass** |
| **STABILITY** **EN 1022:2018** | **4.3** | | |
| Forward 7.3.1<br>Vertical force 600 N | horizontal min. 20 N<br>no overturning | 50N | **Pass** |
| Forwards overturning for seating with footrest – Non swivelling seat 7.3.2<br>Vertical force on the footrest 600 N | horizontal min. 20 N<br>no overturning | 55N | **Pass** |
| Forwards overturning for seating with footrest – Swivelling seat 7.3.2<br>Vertical force on the footrest 1100 N | horizontal min. 20 N<br>no overturning | - | **N/A** |
| Corner stability 300 N 7.3.3 | no overturning | No Remarks | **Pass** |
| Sideways without arm rests 7.3.4<br>Vertical force 600 N | horizontal min. 20 N<br>no overturning | 83N | **Pass** |
| Sideways all other seating 7.3.5<br>Vertical force on seat 250 N<br>Vertical force on armrest 350 N | horizontal min. 20 N<br>no overturning | - | **N/A** |
| Rearward, seating with backrest 7.3.6<br>Vertical force 600 N | horizontal min. 66 N<br>no overturning | 155N | **Pass** |
| Rearward, tilting seating 7.4.2<br>Non swivelling seat<br>Load 11 discs x 10 kg | no overturning | - | **N/A** |
| Rearward, tilting seating 7.4.2<br>Swivelling seat<br>Load 13 discs x 10 kg | no overturning | - | **N/A** |

| Test and method | Requirements | Test results | Pass/Fail or N/A |
|---|---|---|---|
| **Rolling resistance of the unloaded chair** | **4.4** | | |
| Rolling resistance | ≥ 12 N | - | **N/A** |
| 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.

| Test and method EN 1728:2012 | | Requirements EN 16139:2013 | | Test results | Pass/Fail or N/A |
|---|---|---|---|---|---|
| | | **Level 1** | ~~Level 2~~ | | |
| **STRENGTH AND DURABILITY** | | | | | |
| Seat and back static load | vertical force<br>horizontal force<br>10c | **1 600 N**<br>**560 N**<br>**(min. force 410)** | ~~2 000 N~~<br>~~700 N~~<br>~~(min. force 410)~~ | No remarks | **Pass** |
| Seat front edge static load | vertical force<br>10c | **1 300 N** | ~~1 600 N~~ | No remarks | **Pass** |
| Vertical static load on back. | vertical force<br>seat load<br>10c | **600 N**<br>**1300 N** | ~~900 N~~<br>~~1800 N~~ | No remarks | **Pass** |
| Foot rail / foot rest and leg rest static load | Force<br>10c | **1 300 N** | ~~1 600 N~~ | No remarks | **Pass** |
| Arm sideways static load between armrests | horizontal force<br>10c | **400 N** | ~~900 N~~ | - | **N/A** |
| Arm downwards static load | vertical force<br>10c | **750 N** | ~~900 N~~ | - | **N/A** |
| Vertical upwards static load on armrests | 10 c | **Seat load 250 N or lift stack** | ~~Seat load 1 200 N~~ | - | **N/A** |
| Seat and back fatigue | Cycles<br>vertical force<br>horizontal force | **100 000 c**<br>**1 000 N**<br>**300 N** | ~~200 000c~~<br>~~1 000 N~~<br>~~300 N~~ | No remarks | **Pass** |
| Seat front edge fatigue | Cycles<br>vertical force | **50 000 c**<br>**800 N** | ~~100 000c~~<br>~~800 N~~ | No remarks | **Pass** |
| Arm fatigue | Cycles<br>force | **30 000 c**<br>**400 N** | ~~60 000c~~<br>~~400 N~~ | - | **N/A** |

| Test and method EN 1728:2012 | | Requirements EN 16139:2013 | | Test results | Pass/Fail or N/A |
|---|---|---|---|---|---|
| | | Level 1 | Level 2 | | |
| Foot rest/foot rail fatigue | Cycles<br>force | 50 000 c<br>1000 N | 1 00 000c<br>1000 N | 999N | **Pass** |
| Leg forward static load<br>If the item tends to overturn, reduce the force to a magnitude that just prevents overturning | force<br>seat load<br>10c | 500 N<br>1 000 N | 620 N<br>1 800 N | 270N | **Pass** |
| Leg sideways static load<br>If the item tends to overturn, reduce the force to a magnitude that just prevents overturning | force<br>seat load<br>10c | 400 N<br>1 000 N | 760 N<br>1 800 N | 265N | **Pass** |
| Seat impact test | Drop height<br>10c | 240 mm | 300 mm | No Remarks | **Pass** |
| Backrest / stool seat edge impact test<br>Test for chairs that tip rearward with force ≥30N | Height of fall<br>10 c | 210mm/38° | 330 mm/48° | No Remarks | **Pass** |
| Arm impact test | Height of fall<br>10 c | 210mm/38° | 330 mm/48° | - | **N/A** |
| Drop test<br>(multiple seating) | Drop height<br>2x5 c | - | 450mm | - | **N/A** |
| Auxiliary writing surface<br>Static load test | Force<br>10 c | 300 N | 300 N | - | **N/A** |
| Auxiliary writing surface fatigue | Cycles<br>Force | 10 000c<br>150 N | 20 000c<br>150 N | - | **N/A** |
| **Additional test for specific applications** | | EN 16139:2013 Annex A.1 (informative) | | | |
| Drop test for stacking seating | Drop height<br>10 c | 150 mm | 200 mm | - | **N/A** |
| Backward fall test<br>Test for chairs that tip rearward with force <30N | Times | 5 | 5 | - | **N/A** |
| Drop test from the height of a table10 times<br>(5 times on one front leg and 5 times on one rear leg) | Drop height | 600 mm | 600 mm | - | **N/A** |

| Test and method | | | Requirements | Test results | Pass/Fail or N/A |
|---|---|---|---|---|---|
| **Dimension requirements for office visitor chairs**<br>In accordance with EN 1335-1:2000 | | | **EN 16139:2013**<br>**Annex C** (Informative) | | |
| Seat height [a] | fixed height<br>Adjustable height | C.2.1 | Between 400mm and 500mm<br>Minimum range 420-480 mm | Not tested | **-** |
| Seat depth [b] | | C.2.2 | Between 380mm and 470mm | Not tested | **-** |
| Seat Width [d] | | C.2.3 | Min 400 mm | Not tested | **-** |
| Distance between arm rests [r] | | C.2.4 | Min 460 mm | Not tested | **-** |
| **EN 16139:2013 7. Information for use**<br><br>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:<br>a) information regarding the intended use (see Annex B);<br>b) if the chair is fitted with adjusting mechanisms: instruction for operating the adjusting mechanism;<br>c) assembly instructions, where applicable;<br>d) instruction for the care and maintenance of the chair;<br>e) if the seating is fitted with castors: information on the choice of castors in relation to the floor surface; | | | | No remarks | **Pass** |
| **Remarks, comments;** | | | | | |

*End of report*