

Nordic Comfort Products AS
Box 3
NO-8640 HEMNESBERGET
NORWAY

Testing of seating furniture according to EN 16139:2013 (3 appendices)

| | |
|--------------------------|---|
| Customer: | Nordic Comfort Products AS |
| Test object/ID: | Stool/Beat |
| Test method: | EN 16139:2013 Furniture - Strength, durability and safety - Requirements for non-domestic seating. Test level 1 |
| Scope: | Complete test |
| Date of test: | 2019-02-22 – 2019-03-11 |
| Test result: | The tested object passed the test |
| Reservation: | The test results in this report apply solely to the specimen tested |
| Test environment: | 23 ± 2°C and 50 ± 5% relative humidity |

RISE Research Institutes of Sweden AB Building Technology - Wood Technological Assessment

Performed by

Examined by

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Appendices

1. Test result (3 pages)
2. Description of test object (1 page)
3. Pictures (1 page)

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Appendix 1

Test result

Abbreviations: N/A = Not applicable
N/T = Not tested

Table 1

| 1. | Safety | EN 16139 | Result |
|-----|---|-------------|--------|
| 1.1 | <p><u>General requirements</u></p> <p>The seating shall be so designed as to minimise the risk of injury to the user.</p> <p>All accessible parts shall be so designed that physical injury and damage are avoided.</p> <p>This requirement is met when:</p> <ul style="list-style-type: none"> a) accessible corners are rounded or chamfered; b) the edges of the seat, back rest and arm rests which are in contact with the user when sitting in the chair are rounded or chamfered; c) the edges of handles are rounded or chamfered in the direction of the force applied; d) all other edges are free from burrs and rounded or chamfered; e) the ends of hollow components are closed or capped. <p>Movable and adjustable parts shall be designed so that injuries and inadvertent operation are avoided.</p> <p>It shall not be possible for any load bearing part of the seating to come loose unintentionally.</p> <p>All parts which are lubricated to assist sliding shall be designed to protect users from lubricant stains when in normal use</p> | 4.1 | Pass |
| 1.2 | <p><u>Shear and squeeze points</u></p> <p>With the exception of tipping seats there shall be no shear and squeeze points created by parts of the seating operated by powered mechanisms, e.g. springs and gas lifts.</p> <p>There shall be no shear and squeeze points created by forces applied during normal use as well as during normal movements and actions</p> <p>Note!</p> <p>Shear and squeeze points that are created only during manually setting up and folding are acceptable, because the user can be assumed to be in control of his/her movements and to be able to cease applying the force immediately upon experiencing pain.</p> | 4.2 | Pass |

Appendix 1

Table 2

| 2. | Stability | EN 1022:2018 | Result |
|-----|--|--------------|--------|
| 2.1 | Forwards overbalancing | 7.3.1 | Pass |
| 2.2 | Forwards overturning for seating with footrest | 7.3.2 | N/A |
| 2.3 | Corner stability test | 7.3.3 | N/A |
| 2.4 | Sideways overbalancing, all seating without arms | 7.3.4 | N/A |
| 2.5 | Sideways overbalancing, all seating with arms | 7.3.5.2 | N/A |
| 2.6 | Sideways overbalancing, seating with raised side edges | 7.3.5.3 | N/A |
| 2.7 | Rearwards overbalancing, all seating with backs | 7.3.6 | N/A |

Table 3

| 3. | Strength, durability | Reference EN 1728 | Cycles | EN 16139 level 1 | Result |
|----------------|--|----------------------|--------|-----------------------------|-------------|
| 3.1 | Seat and back static load test | 6.4 | 10 | Seat: 1600 N Back: 560 N | Pass N/A |
| 3.2 | Seat front edge static load test | 6.5 | 10 | 1300 N | Pass |
| 3.3 | Vertical static load on back rests | 6.6 | 10 | 600 N Seat: 1300 N | N/A |
| 3.4 | Foot rest and leg rest static load test | 6.8 and 6.9 | 10 | 1300 N | N/A |
| 3.5 | Arm sideways static load test | 6.10 | 10 | 400 N | N/A |
| 3.6 | Arm downwards static load test | 6.11 | 5 | 750 N | N/A |
| 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 | 6.13.1 | 10 | 1200 N | N/A |

Appendix 1

| 3. | Strength, durability | Reference EN 1728 | Cycles | EN 16139 level 1 | Result |
|------|--|----------------------|---------|----------------------------|-------------------|
| 3.8 | Seat and back durability test | 6.17 | 100 000 | Seat: 1000N Back: 300 N | Pass N/A |
| 3.9 | Seat front edge durability test | 6.18 | 50 000 | 800 N | Pass |
| 3.10 | Arm durability test | 6.20 | 30 000 | 400 N | N/A |
| 3.11 | Foot rest durability test | 6.21 | 50 000 | 1000 N | N/A |
| 3.12 | Leg forward static load test | 6.15 | 10 | 500 N Seat: 1000 N | Pass ¹ |
| 3.13 | Leg sideways static load test | 6.16 | 10 | 400 N Seat: 1000 N | Pass ¹ |
| 3.14 | Vertical seat impact test | 6.24 | 10x2 | 240 mm | Pass |
| 3.15 | Horizontal seat impact test | 6.25 | 10 | 210 mm/38° | Pass |
| 3.16 | Arm impact test | 6.26 | 10 | 210 mm/38° | N/A |
| 3.17 | Auxiliary writing surface static load test | 6.14 | 10 | 300 N | N/A |
| 3.18 | Auxiliary writing surface durability test | 6.22 | 10 000 | 150 N | N/A |

¹ Load reduced to 375 N in accordance with the standard to prevent the stool from overturning

Appendix 2

Description of test object

Test object/ID: Stool/Beat

Dimensions

Width: Ø34.5 cm

Height: 45.5 cm

Mass: 2.55 kg

Components

Frame/legs: Metal tube Ø16 mm

Seat: Plastic

Sampling: The test object was selected by the customer

Date of arrival at
RISE test laboratory: 2019-02-12

Observed defects before testing: No defects

Appendix 3

Pictures



Figure 1



Figure 2



Figure 3