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

|                          |   |
|--------------------------|---|
| <b>Customer:</b>         | Johanson Design AB  |
| <b>Test object/ID:</b>   | Bar stool/Mind BS 08-65   |
| <b>Test method:</b>      | EN 16139:2013 Furniture - Strength, durability and safety - Requirements for non-domestic seating. Test level 1 |
| <b>Scope:</b>            | Complete test   |
| <b>Date of test:</b>     | 2018-08-20 – 2018-09-11   |
| <b>Test result:</b>      | The tested object passed the test   |
| <b>Reservation:</b>      | The test results in this report apply solely to the specimen tested   |
| <b>Test environment:</b> | 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<br>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"> <li>a) accessible corners are rounded or chamfered;</li> <li>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;</li> <li>c) the edges of handles are rounded or chamfered in the direction of the force applied;</li> <li>d) all other edges are free from burrs and rounded or chamfered;</li> <li>e) the ends of hollow components are closed or capped.</li> </ul> <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

| <b>2.</b> | <b>Stability</b>                                 | <b>EN 1022</b> | <b>Result</b> |
|-----------|--|----------------|---------------|
| 2.1       | Forwards overbalancing                           | 6.2            | Pass          |
| 2.2       | Forwards overturning for seating with footrest   | 6.3            | Pass          |
| 2.3       | Sideways overbalancing, all seating without arms | 6.4            | Pass          |
| 2.4       | Sideways overbalancing, all seating with arms    | 6.5            | N/A           |
| 2.5       | Rearwards overbalancing, all seating with backs  | 6.6            | Pass          |

Table 3

| <b>3.</b>      | <b>Strength, durability</b>  | <b>Reference<br/>EN 1728</b> | <b>Cycles</b> | <b>EN 16139<br/>level 1</b> | <b>Result</b> |
|----------------|--|------------------------------|---------------|-----------------------------|---------------|
| 3.1            | Seat and back static load test   | 6.4                          | 10            | Seat: 1600 N<br>Back: 560 N | Pass          |
| 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<br>Seat: 1300 N       | N/A           |
| 3.4            | Foot rest and leg rest static load test  | 6.8 and 6.9                  | 10            | 1300 N                      | Pass          |
| 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<br>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<br>EN 1728 | Cycles  | EN 16139<br>level 1        | Result |
|------|--|----------------------|---------|----------------------------|--------|
| 3.8  | Seat and back durability test              | 6.17                 | 100 000 | Seat: 1000N<br>Back: 300 N | Pass   |
| 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                     | Pass   |
| 3.12 | Leg forward static load test               | 6.15                 | 10      | 500 N<br>Seat: 1000 N      | Pass   |
| 3.13 | Leg sideways static load test              | 6.16                 | 10      | 400 N<br>Seat: 1000 N      | Pass   |
| 3.14 | Seat impact test                           | 6.24                 | 10x2    | 240 mm                     | Pass   |
| 3.15 | Back 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    |

## Appendix 2

**Description of test object**

Test object/ID: Bar stool/Mind BS 08-65

**Dimensions**

Width: 38 cm  
Depth: 42.6 cm  
Height: 84 cm  
Seat height: 65 cm  
Mass: 6.2 kg

**Components**

Frame/legs: Steel tube Ø16 mm and Ø10 mm  
Seat: Plywood  
Seat pad: Foam  
Backrest: Plywood

Sampling: The test object was selected by the customer  
Date of arrival at  
RISE test laboratory: 2018-08-20  
Observed defects before testing: No defects

## Appendix 3

### Pictures



Figure 1



Figure 2



Figure 3



Figure 4