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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>   | Seating furniture/Bail 3-seater sofa  |
| <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>     | 2019-04-05 – 2019-04-29   |
| <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

| 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        | Pass   |
| 2.4 | Sideways overbalancing, all seating without arms       | 7.3.4        | Pass   |
| 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        | Pass   |

Table 3

| 3.             | Strength, durability   | Reference<br>EN 1728 | Cycles | EN 16139<br>level 1         | Result |
|----------------|--|----------------------|--------|-----------------------------|--------|
| 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       | Pass   |
| 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<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                     | N/A    |
| 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<br>load test | 6.14                 | 10      | 300 N                      | N/A    |
| 3.18 | Auxiliary writing surface<br>durability test  | 6.22                 | 10 000  | 150 N                      | N/A    |

## Appendix 2

**Description of test object**

Test object/ID: Seating furniture/Bail 3-seater sofa

**Dimensions**

Width: 182 cm  
Depth: 68.5 cm  
Height: 77 cm  
Seat height: 43 cm  
Mass: 48 kg

**Components**

Frame: Metal tube and flexible foam  
Seat: Plywood and flexible foam  
Sledge base: Metal 40x6 mm  
Backrest:

Sampling: The test object was selected by the customer  
Date of arrival at RISE test laboratory: 2019-03-26  
Observed defects before testing: No defects

**Appendix 3****Pictures****Figure 1****Figure 2**



## Appendix 3



Figure 3



Figure 4