



Howe Europe A/S
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Appendices 1
Initials pkc/hnr/hbs

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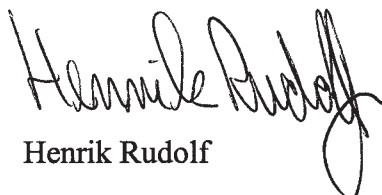
Test Report

- Material:** Stackable chair model Genus 4 - Leg Spring and Genus 4 - Leg PU arm.
Lab. no. 060302 C.
Genus 4 - Leg Spring.
Height 860 mm. Width 455 mm. Depth 503 mm. Weight 5,2 kg.
Frame Ø 19 mm steel tube. 6 mm steel spring between seat and back
Seat fixed by means of 2 metal hooks and 2 spring catches.
Seat/back 7 mm laminated veneer with melamin top.
The PU arms are tested in model Genus Sledge PU arm (lab. no. 060302 B)
and the results are inserted in this report.
- Sampling:** The test material was sampled by the client and received at the Danish Technological Institute week 8, 2003.
- Method:** EN 1728:2000 Domestic Furniture. Seating. Determination of strength and durability. The following clauses: 6.2 – 6.2.2 – 6.5 – 6.6 – 6.7 – 6.8 – 6.10 – 6.12 – 6.13 – 6.15 – 6.16 – 6.17 – 6.18. Test level 4.
- Period:** The testing was carried out from week 9 to week 18, 2003.
- Result:** Chair model Genus 4- leg Melamin arm, Genus 4 - leg Spring and Genus Genus 4 - leg PU arm meet the requirements of EN 1728:2000 with loading according to DS/INF 130:2001-02-09, test level 4.
Part results appear from Appendix 1.
- Storage:** The sample will be destroyed after 2 months, if nothing else has been agreed in writing.
- Terms:** The test has been performed according to the rear side conditions, which are according to the guidelines laid down by DANAK (The Danish Accreditation). The testing is only valid for the tested specimen.
The test report may only be extracted, if the laboratory has approved the extract.

2003-05-05, Danish Technological Institute, Timber, Taastrup.



Poul Køhl



Henrik Rudolf

**Testing of stackable chair Model GENUS 4 – Leg Spring
Lab. no. 060302 C**

EN 1728:2000

6.2 Static Load – Seat and Back

Adjustable backs are placed in upright position.

The seat is loaded 10 times each of 10 seconds with 1600 N. Load back: 760 N (min. 410 N).

Test Result

No damages.

6.2.2 Static Load of Seat Front Edge

Load 80 mm from the seat front edge, 10 times of 10 seconds with 1600 N.

Test Result

No damages.

6.5 Sideways Static Load – Armrests (inserted from lab. no. 060302 B)

The armrests are loaded 10 times each of 10 seconds with 600 N. The load is applied on the most critical point, however, not less than 100 mm from each end of the armrest.

Test Result

No damages.

6.6 Vertical Static Load – Armrests (inserted from lab. no. 060302 B)

The armrests are loaded vertically downward 10 times each of 10 seconds with 900 N on the most critical point, however, not less than 100 mm from each end.

Test Result

No damages.

6.7 Combined Durability Testing of Seat and Back

Seat and back are loaded cyclically with 1,000 N and 300 N respectively, totally 100,000 times.

Test Result

No damages.

Testing of stackable chair Model GENUS 4 – Leg Spring Lab. no. 060302 C

6.8 Durability, Seat Front Edge

The front edge of the seat is loaded with 1,000 N by turns in two points, 80 mm from the front edge of the seat and as close of the sides as possible, however, not less than 80 mm from the edges, totally 80,000 times.

Test Result

No damages.

6.10 Durability Testing of Armrests (inserted from lab. no. 060302 B)

The armrests are each loaded with 400 N simultaneously in an angle of 10° against two points 100 mm from the front edges of the armrests, totally 50,000 times.

Test Result

No damages.

6.12 Forward Static Load

The seat is loaded vertically with 1,250 N. The back edge of the seat is loaded horizontally forward, 10 times each of 10 seconds with 620 N.

Test Result

No damages.

6.13 Sideways Static Load

The seat is loaded with 1,250 N. The edge of the seat, between front and back edge, is loaded horizontally sideways, 10 times each of 10 seconds with 490 N.

Test Result

No damages.

6.15 Impact Testing, Seat

An impacter of 25 kgs falls freely to the seat 10 times from 240 mm height.

Test Result

No damages.

6.16 Impact Testing, Back

The upper edge of the back, middle and outside in was exposed 10 times to strokes from a pendulum hung up impact hammer of 6.5 kgs. from a drop angle of 330 mm/48 °.

Test Result

No damages.

**Testing of stackable chair Model GENUS 4 – Leg Spring
Lab. no. 060302 C**

6.17 Impact Testing, Armrests (inserted from lab. no. 060302 B)

The test is carried out as described above, but with impact load against an armrest. The impact load is applied to the most critical point from outside against the outer side of the armrest.

Test Result

No damages.

6.18 Drop Test (Stackable Chairs)

The chair is lifted to an angle 10° horizontally above one foreleg and diagonal hind leg. Drop height 600 mm. The drop height is determined from floor to the leg closest to the floor. The chair was dropped 10 times from the actual drop height onto the floor, which is rubber on concrete. The same is repeated on the diagonal leg closest to the floor.

Test Result

No damages.

The general conditions pertaining to assignments accepted by Danish Technological Institute shall apply in full to the technical testing and calibration at Danish Technological Institute and to the completion of test reports and calibration certificates within the relevant field.

Dansk Akkreditering (DANAK)

DANAK was established in 1991 in pursuance of the Industry and Trade Promotion Act No. 394 of 13 June 1990. The scheme is a continuation of the accreditation scheme established in 1973 under the auspices of the former Danish National Testing Board (STP).

The requirements to the accredited testing laboratories are laid down in the Danish Agency for Development of Trade and Industry Statutory Order No. 258 of 11 April 1994 on accreditation of laboratories to perform technical testing etc.

The standards DS/EN 45001 "General criteria for the operation of testing laboratories" are integrated parts of the statutory order.

In order to obtain accreditation to perform technical testing it is, among other things, required:

- that the testing laboratory and its personnel is free from any commercial, financial and other pressures which might influence their technical judgement.
- that the testing laboratory operates a quality system which is documented.
- that the testing laboratory is furnished with all items of equipment required for correct performance of the tests and

measurements which the laboratory is accredited to perform.

- that the testing laboratory has sufficient personnel, having the necessary education, training, technical knowledge and experience for their assigned functions.
- that the testing laboratory has procedures for traceable calibration of equipment used for accredited testing.
- that accredited testing is performed after fully documented methods.
- that the testing laboratory has records, which contain sufficient information to permit repetition of the test.
- that the testing laboratory is assessed and surveyed by DANAK on a regular basis.
- that the accredited laboratory shall take out an insurance which will cover liability in connection with accredited testing.

Test reports carrying the logo of DANAK are used to report accredited testing and the logo show that the testing has been performed in accordance with the rules of accreditation.