

**Test Report No. S09MEC02290/OCS**  
dated 29 Jun 2009



PSB Singapore

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**Subject:**

Testing of Office Chair submitted by Benel Singapore Pte Ltd on 10 Apr 2009.

**Tested For:**

Benel Singapore Pte Ltd  
59 Loyang Way  
Singapore 508750

**Date of Test:**

15 Apr 2009 to 29 Jun 2009

**Description of Sample:**

One complete set of Office Chair as shown in the photograph 1 was received. The following descriptions were given by the client:

Model : Freniq Mesh Chair  
Product Type : Office Chair  
Country of Origin : Singapore

**Method of Test:**

As requested by the client, the tests were conducted in accordance with the following standard:

ANSI/BIFMA X5.1 – 2002 "General-Purpose Office Chairs – Tests"



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**Results:**

Clause	Test	Parameters	Results	Requirement
5	Back Strength Test – Static – Type I	Functional load: 890N Proof load: 1334N Duration: 1 min	N/A	Functional load: No loss of serviceability Proof Load: No sudden & major change in structural integrity. Loss of serviceability is acceptable
6	Back Strength Test – Static – Type II	Functional load: 667N Proof load: 1112N Duration: 1 min	Passed	No sudden & major change in the structural integrity of the base.
7	Base Test – Static	Loading force: 11.1KN Duration: 1 min Cycles: 2	Passed	Functional load: No loss of serviceability Proof Load: No sudden & major change in structural integrity. Loss of serviceability is acceptable
8	Drop Test – Dynamic	Highest seat position: Functional load: 102kg Proof load: 136kg Drop ht: 152mm (6in)  Lowest seat position: Functional load: 102kg Proof load: 136kg Drop ht: 152mm (6in)	Passed	No loss of serviceability
9	Swivel Test – Cyclic	Seat load: 102kg Cycles: 60,000 highest position 60,000 lowest position Rate: 5-15 cycles/min	Passed	No loss of serviceability to the tilt mechanism
10	Tilt Mechanism Test – Cyclic	Seat load: 102kg Cycles: 300,000 Rate: 10-30 cycles/min	Passed	No loss of serviceability
11	Seating Durability test – Cyclic  - Impact Test  - Front Corner Load-Ease Test – Cyclic – Off Center	Seat load: 57kg Drop ht: 25mm (1in) Cycles: 100,000 Rate: 10-30 cycles/min  Seat load: 734N Cycle: 40,000 Rate: 10-30 cycles/min	Passed	No loss of serviceability



**Results:**

Clause	Test	Parameters	Results	Requirement
12	Stability Tests - Type II			
	a) Rear Stability 1. Locked 2. Unlocked	Seat weight: 79kg	Passed	Force required for front support to lift off shall be more than: - Type I & II : 89N - Type III : 156N
	b) Front Stability	Vertical Load: 600N Horizontal force: 20N		Chair shall not tip over
13	Arm Strength Test – Vertical – Static	Functional load: 890N Proof load: 1334N Duration: 1min	Passed	Functional load: No loss of serviceability Proof Load: No sudden & major change in structural integrity. Loss of serviceability is acceptable
14	Arm Strength Test – Horizontal – Static	Functional load: 445N Proof load: 667N Duration: 1min	Passed	
15	Back Durability Test – Cyclic – Type I	Seat weight: 102kg Loading force: 445N Cycles: 120,000 Rate: 10-30 cycles/min	N/A	No loss of serviceability
16	Back Durability Test – Cyclic – Type II	Seat weight: 102kg Loading force: 334N Cycles: 120,000 Rate: 10-30 cycles/min	Passed	
17	Caster / Chair Base Durability Test – Cyclic			
	- Pedestal Base Chairs	Seat weight: 102kg Cycles: 2 000 (Obstacles) 98 000 (No obstacles) Rate: 10±2 cycles/min	Passed	No loss of serviceability
	Caster Retention for Each Caster	Applied force: 22N		No part of castor shall separate from base

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**Results:**

Clause	Test	Parameters	Results	Requirement
18	Leg Strength Test – Front & Side Application			
	- Front Load Test	Functional load: 334N Proof load: 556N Duration: 1 min (each leg)	N/A	Functional load: No loss of serviceability  Proof Load: No sudden & major change in structural integrity. Loss of serviceability is acceptable
- Side Load Test	Functional load: 334N Proof load: 512N Duration: 1 min (front and rear leg)			
19	Footrest Durability Test – Vertical – Cyclic	Loading force: 890N Cycles: 50,000 Rate: 10-30 cycles/min	N/A	No loss of serviceability
20	Arm Durability Test – Cyclic	Applied force: 400N Cycles: 60,000 Rate: 10-30 cycles/min	Passed	Structural breakage or loss of serviceability shall constitute failure
21	Out Stop Tests for Chairs with Manually Adjustable Seat Depth	Seat weight: 70kg Loading weight: 25kg Cycles: 25	Passed	No loss of serviceability
22	Tablet Arm Static Load Test	Applied load: 68kg Duration: 5 min	N/A	No sudden and major change in the structural integrity of the chair. After test, tablet arm must allow egress from the unit; other losses of serviceability are acceptable
23	Tablet Arm Load Ease Test – Cyclic	Applied load: 35kg Cycles: 100,000 Rate: 14±6 cycles/min	N/A	No loss of serviceability

**Remarks:**

1) N/A: Not applicable due to features not available on chair.

  
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**Photograph 1 : Freniq Mesh Chair**



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March 2009