

TEST REPORT

Mechanical & Hardgoods Laboratory

Report No. : HL60149/2016

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Date : JUL. 11, 2016

EAJY DESIGN GmbH

Martin-Opitz-Str.5 13357 Berlin Germany

The following merchandise was submitted and identified by the applicant as:

Product Description: Beams Chair
Style/Item No.: BC-01, BC-02, BC-03
Manufacturer/Vendor: EAJY DESIGN GmbH
Country of Origin: Taiwan

We have tested the submitted sample(s) as requested and the following results were obtained:

Type of chair: Type III, fixed seat angle, fixed backrest

Test Requested: For compliance with ANSI/BIFMA X5.1-2011 General-Purpose Office Chairs-Tests

Test Methods: According to test procedures of ANSI/BIFMA X5.1-2011

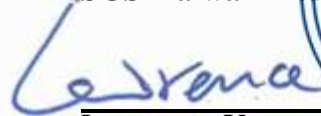
Test Results: ---See following sheet(s)---

Date of Receipt: Jun. 08, 2016

Testing Period: Jun. 08, 2016 ~ Jul. 11, 2016

Conclusion: The submitted sample(s) **comply with** ANSI/BIFMA X5.1-2011 General -Purpose Office Chairs-Tests.

Signed for and on behalf of
SGS Taiwan Ltd.



Lawrence Yang
Asst. Supervisor



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Evaluation	Citation/Method	Criteria	Results	Rating
PERFORMANCE				
Back strength test-Static (Functional Load) (Type I Chair)	ANSI/BIFMA X5.1-2011 Clause 5.4.1	No structural breakage or loss of serviceability when 890 N (200 lbf.) is applied for 1 min. Applied to 90° from back at 16 in. above the seat. If the back is less than 17.8 in., the load is applied at the top of the back.	N/A	/
Back strength test-Static (Proof Load) (Type I Chair)	ANSI/BIFMA X5.1-2011 Clause 5.4.2	No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 1334 N (300 lbf.) is applied for 1 min. applied to 90° from back at 16 in above the seat. If the back is less than 17.8 in., the load is applied at the top of the back.	N/A	/
Back strength test-Static (Functional Load) (Type II Chairs - Nontilt Or Adjustable Seat - Tilt Back)	ANSI/BIFMA X5.1-2011 Clause 6.4.1	[Nontilt or adjustable seat - tilt back] No structural breakage or loss of serviceability when 667 N (150 lbf.) is applied for 1 min. applied to 90° from back at 16 in. above the seat. If the back is less than 17.8 in., the load is applied at the top of the back.	N/A	/
Back strength test-Static (Proof Load) (Type II Chairs - Nontilt Or Adjustable Seat - Tilt Back)	ANSI/BIFMA X5.1-2011 Clause 6.4.2	[Nontilt or adjustable seat - tilt back] No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 1112 N (250 lbf.) is applied for 1 min. applied to 90° from back at 16 in. above the seat. If the back is less than 17.8 in., the load is applied at the top of the back.	N/A	/
Back strength test-Static (Functional Load) (Type III Chairs -Nontilt Or Adjustable Seat - Fixed, Flex, Or Manually Adjustable Back)	ANSI/BIFMA X5.1-2011 Clause 6.4.1	[Nontilt or adjustable seat - fixed, flex, or manually adjustable back] No structural breakage or loss of serviceability when 667 N (150 lbf.) is applied for 1 min. applied to 90° from back at 16 in. above the seat. If the back is less than 17.8 in., the load is applied at the top of the back.	M	Pass
Back strength test-Static (Proof Load) (Type III Chairs - Nontilt Or Adjustable Seat - Fixed, Flex, Or Manually Adjustable Back)	ANSI/BIFMA X5.1-2011 Clause 6.4.2	[Nontilt or adjustable seat - fixed, flex, or manually adjustable back] No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 1112 N (250 lbf.) is applied for 1 min. applied to 90° from back at 16 in. above the seat. If the back is less than 17.8 in., the load is applied at the top of the back.	M	Pass
Base Test Static (Pedestal Base)	ANSI/BIFMA X5.1-2011 Clause 7	No sudden and major change in the structural integrity after 11,120 N (2500 lbf.) compression for 1 min with stem. The weight is then removed and reapplied for 1 min. The center column may not touch the test platform during load applications.	N/A	/
Drop Test Dynamic (Functional Load)	ANSI/BIFMA X5.1-2011 Clause 8.4.1	No structural breakage or loss of serviceability when 102 kg (225 lb.) free falls from 6 in. height to the center of the seat.	M	Pass
Drop Test Dynamic (Proof Load)	ANSI/BIFMA X5.1-2011 Clause 8.4.2	No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 136 kg (300 lb.) free falls from 6 in. height to the center of the seat.	M	Pass
Swivel test - Cyclic	ANSI/BIFMA X5.1-2011 Clause 9	No structural breakage or loss of serviceability after 60,000 cycles of rotation (360 degrees) under a 113 kg (250 lb.) load on the seat at max. Height, seat shall then withstand another 60,000 cycles of rotation at its lowest seating position. Note: all chairs must withstand 120,000 cycles	N/A	/

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PERFORMANCE				
Tilt Mechanism Test - Cyclic (Type I & Type II Chair)	ANSI/BIFMA X5.1-2011 Clause 10	No structural breakage or loss of serviceability in 300,000 cycles under a 102 kg (225 lb.) load to the center of the seat	N/A	/
Seating Durability Test - Cyclic	ANSI/BIFMA X5.1-2011 Clause 11	This is a two-part test. The impact test and front corner load-ease tests must be run sequentially for this evaluation. No structural breakage or breakage or loss of serviceability after completion of both the impact and load-ease tests.	M	Pass
Impact test - cyclic	ANSI/BIFMA X5.1-2011 Clause 11.3	100,000 cycles of 57 kg (125 lb.) weight drop from 1.2 in. (30 mm) above the uncompressed surface of the seat.	M	Pass
Front Corner Load Ease Test - Cyclic - Off Center	ANSI/BIFMA X5.1-2011 Clause 11.4	20,000 cycles to both front seat corners from a 734 N (165 lbf.) load positioned flush to both outer edges applied without impact for a total of 40,000 cycles	M	Pass
Stability test - rear	ANSI/BIFMA X5.1-2011 Clause 12.3	For type III chair: Load the chair with 6 disks (See Appendix B). As each disk is added to the stack assure that it is placed against the support as shown in Figure 12a, Apply a horizontal force to the highest disk. The location of the force application is 6 mm (0.25 in.) from the top of the disk Seat height < 710mm: F = 0.1964 (1195 - H) N. (H in mm) Seat height > 710mm: F= 93 N (20.9 lbf.) For type I & II chair: Load the chair with 13 disks (See Appendix B). As each disk is added to the stack, assure that it is placed against the support as shown in Figure 12b.	M (Type III, F=145.3 N)	Pass
Stability test - dynamic - front	ANSI/BIFMA X5.1-2011 Clause 12.4	The chair is obstructed with a 1/2 in. obstruction to the chair casters or feet. A downward load of 600 N (135 lbf.) is centered 2.4 in. from the seat front center edge. The seat shall withstand a 20 N (4.5 lbf.) horizontally from the front seat edge without tipping	M	Pass
Arm strength test - vertical - static - functional load	ANSI/BIFMA X5.1-2011 Clause 13.4.1	No structural breakage or loss of serviceability when 750 N (169 lbf.) for 1 min. Is applied. The vertical load is uniformly applied through a 5 in. area at the apparent weakest point.	M	Pass
Arm strength test - vertical - static - proof load	ANSI/BIFMA X5.1-2011 Clause 13.4.2	No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 1125 N (253 lbf.) for 1 min. is applied. The vertical load is uniformly applied through a 5 in. area at the apparent weakest point.	M	Pass
Arm strength test - horizontal - static - functional load	ANSI/BIFMA X5.1-2011 Clause 14.4.1	No structural breakage or loss of serviceability when 445 N (100 lbf.) for 1 min. Is applied horizontally outward to the armrest at the most forward point of the armrest.	M	Pass
Arm strength test - horizontal - static - proof load	ANSI/BIFMA X5.1-2011 Clause 14.4.2	No sudden and major change in the structural integrity (loss of serviceability is acceptable) when 667 N (150 lbf.) for 1 min. is applied horizontally outward to the armrest at the most forward point of the armrest.	M	Pass

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PERFORMANCE				
Backrest durability test – cyclic - type I	ANSI/BIFMA X5.1-2011 Clause 15	No structural breakage or loss of serviceability in 120,000 cycles with 102 kg (225 lb.) in the center of the seat and 445 N (100 lbf.) applied to the chair back at 90° to the plane of the back. For chairs with a back width greater than 16 in. at the height of loading perform 80,000 cycles. Reposition the load 4 in. to the right of the vertical centerline. If using a cable pulley system, 30 in. minimum from the attachment point to the pulley. Apply the load for 20,000 cycles. Then, reposition the load 4 in. to the left of the vertical centerline. If using a cable pulley system, 30 in. minimum from the attachment point to the pulley. Apply the load for 20,000 cycles. (For chairs with tilt mechanisms that lock see Sect. 4 for classification change.)	N/A	/
Back Durability Test - Cyclic (Type II & III)	ANSI/BIFMA X5.1-2011 Clause 16	No structural breakage or loss of serviceability in 120,000 cycles with a 102 kg (225 lb.) in the center of the seat and 334 N (75 lbf.) applied to the chair back at 90° to the plane of the back. For chairs with a back width greater than 16 in at the height of loading perform 80,000 cycles. Reposition the load 4 in. to the right of the vertical centerline. If using a cable pulley system, 30 in. minimum from the attachment point to the pulley. Apply the load for 20,000 cycles. Then, reposition the load 4 in. to the left of the vertical centerline. If using a cable pulley system, 30 in. minimum from the attachment point to the pulley. Apply the load for 20,000 cycles.	M	Pass
Caster / Chair Base Durability - Cyclic (Pedestal Base Chairs)	ANSI/BIFMA X5.1-2011 Clause 17.1.4	No structural failure or loss of service after 2,000 cycles over a hard surface with 3 obstacles and 98,000 cycles over a smooth hard surface without obstacles (30 in. forward / backward stroke min.) Under a 113 kg (250 lb.) load in the seat. After completion of the cycling, apply a 5 lb. force to each caster, in line with the caster stem. The caster shall not separate.	N/A	/
Caster / Chair Base Durability - Cyclic (Chairs With Legs)	ANSI/BIFMA X5.1-2011 Clause 17.2.4	No structural failure or loss of service after 2,000 cycles over a hard surface with 2 obstacles and 98,000 cycles over a smooth hard surface without obstacles (30 inches forward / backward stroke min.) Under a 113 kg (250 lb.) load in the seat. After completion of the cycling, apply a 5 lb. force to each caster, in line with the caster stem. The caster shall not separate.	N/A	/
Leg Strength Test - Front Load (Functional Load) (Chairs Without Pedestal Bases)	ANSI/BIFMA X5.1-2011 Clause 18.3.2.1	No loss of serviceability when a force of 334 N (75 lbf.) is applied to each front leg individually for a period of 1 minute.	M	Pass
Leg Strength Test - Front Load (Proof Load) (Chairs Without Pedestal Bases)	ANSI/BIFMA X5.1-2011 Clause 18.3.2.2	No sudden and major change in the structural integrity of the chair shall occur (loss of serviceability is acceptable) when a force of 503 N (113 lbf.) Is applied to each front leg individually for a period of 1 minute.	M	Pass

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Leg Strength Test - Side Load (Functional Load) (Chairs Without Pedestal Bases)	ANSI/BIFMA X5.1-2011 Clause 18.4.2.1	No loss of serviceability when a force of 334 N (75 lbf.) is applied once to the front and rear leg individually for a period of 1 minute.	M	Pass
Leg Strength Test - Side Load (Proof Load) (Chairs Without Pedestal Bases)	ANSI/BIFMA X5.1-2011 Clause 18.4.2.2	No sudden and major change in the structural integrity of the chair shall occur (loss of serviceability is acceptable) when a force of 503 N (113 lbf.) Is applied once to the front and rear leg individually for a period of 1 minute.	M	Pass
Footrest Static Load Test - Vertical	ANSI/BIFMA X5.1-2011 Clause 19	Functional load: Apply a force F1 of 445 N (100 lbf.) uniformly along a 102 mm (4 in.) distance along the footrest but not greater than 51 mm (2 in.) from the outside edge at the apparent weakest point of the structure for 1 minute in the vertical downward direction. Proof load: Apply a force of 1334 N (300 lbf.) uniformly along a 102 mm (4 in.) distance along the footrest but not greater than 51 mm (2 in.) from the outside edge at the apparent weakest point of the structure for 1 minute in the vertical downward direction.	N/A	/
Footrest Durability Test - Vertical - cyclic	ANSI/BIFMA X5.1-2011 Clause 20	A 890 N (200 lbf.) force shall be applied uniformly along a 102 mm (4 in.) distance along the footrest but not greater than 51 mm (2 in.) from the outside edge at the apparent weakest point of the structure. The force shall be applied and removed for 50,000 cycles. Adjustable footrests that move more than 25 mm (1 in.) in the first 500 cycles shall be considered to have lost their serviceability.	N/A	/
Arm Durability Test -Cyclic	ANSI/BIFMA X5.1-2011 Clause 21	No structural breakage or loss of serviceability when a force of 400 N (90 lbf.) is applied to each arm at a 10 degree angle \pm 1 degree for 60,000 cycles	M	Pass
Out Stop Tests for Chair with Manually Adjustable Seat Depth	ANSI/BIFMA X5.1-2011 Clause 22	Place a 74 kg (163 lb.) rigid mass in the center of the seat. The opposite end of the cable shall extend in line forward from the seat and in line with the plane of the seat movement to a pulley and then downward to an attached weight of 25 kg (55 lb.). then released, permitting it to move forward rapidly and impact the out stops for 25 cycles.	N/A	/
Table Arm Static Load Test	ANSI/BIFMA X5.1-2011 Clause 23	Apply a load of 68 kg. (150 lb.) through a 203 mm \pm 13 mm (8.0 in. \pm 0.51 in.) diameter area at 25 mm (1 in.) from the edge of the surface at its apparent weakest point for one 1minute	N/A	/
Table Arm Load Ease Test - Cyclic	ANSI/BIFMA X5.1-2011 Clause 24	A 343 N (77 lbf.) force applied through a 203 mm \pm 13 mm (8.0 in. \pm 0.51 in.) diameter area centered on the writing area of the tablet for 100,000 cycles.	N/A	/

Results Key:

M	Meets	N/M	Does Not Meet
N/A	Not Applicable	N/T	Not Tested
C	Claimed	R	Recorded

Rating Key:

Pass
Fail

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– Pictures –



Photo A: Appearance of the sample



Photo B: Type(s) of the chair

---End of Report---

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