NOUHAUS INC.

Technical Report: **(6620)230-1510** AUG.17, 2020
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NOUHAUS INC.
2530 CORPORATE P1.SUITE A112 MONTEREY PARK,CA 91754

Sample Description:	ERGO 3D		
Manufacturer:	REDACTED	PO No.:	/
Buyer:	/	Style No	NHO-0001BL; NHO-0001BU; NHO-0001BG; NHO-0001GR;
Country of Origin:	REDACTED	Country of Destination:	/
Color:	/	SKU No.:	
Protocol No.:	/	Previous Report No.:	/

EXECUTIVE SUMMARY:

TEST REQUESTED	CONCLUSION	Remark
1) ANSI/BIFMA X5.1As per client requirement	PASS	/

REMARK:
The client specifies the test methods and requirements.

BVCPS REDACTED GENERAL CONTACT INFORMATION FOR THIS REPORT

TELEPHONE NO
E-MAIL: REDACTED

BUREAU VERITAS
CONSUMER PRODUCTS SERVICE DIVISION REDACTED
Laboratory Test location:
REDACTED

Hyde Bao
PRODUCT LINE MANAGER(HARDLINE DIVISON)

1. ANSI/BIFMA X5.1As per client requirement

Evaluation	Citation / Method	Criteria	Results	Rating
Backrest strength test - static - type I and II - functional load	ANSI/BIFMA X5.1-17 Sec. 5	There shall be no loss of serviceability to the chair when a force of 667 N (150lbf.) is applied to the backrest at the backstop position for one (1) minute.	M (Type I)	PASS
Backrest strength test - static - type I and II - proof load	ANSI/BIFMA X5.1-17 Sec. 5	There shall be no sudden and major change in the structural integrity of the chair (Loss of serviceability is acceptable) when a force of 1001 N (225 lbf.) is applied to the backrest at the backstop position for one (1) minute.	M (Type I)	PASS
Backrest strength test - static - type III - functional load	ANSI/BIFMA X5.1-17 Sec. 6	A functional load applied once shall cause no loss of serviceability to the chair when a force of 667 N (150 lbf.) is applied to the backrest at the backstop position for one (1) minute.	M	PASS
Backrest strength test - static - type III - proof load	ANSI/BIFMA X5.1-17 Sec. 6	A proof load applied once shall cause no sudden and major change in the structural integrity of the chair (Loss of serviceability is acceptable) when a force of 1001 N (225 lbf.) is applied to the backrest at the backstop position for one (1) minute.	M	PASS
Drop test - dynamic - functional load	ANSI/BIFMA X5.1-17 Sec. 7	There shall be no loss of serviceability when a test bag weighing 102 kg (225 lb.) is raised 152 mm (6 in.) above the uncompressed seat and released one time.	M	PASS
Drop test - dynamic - proof load	ANSI/BIFMA X5.1-17 Sec. 7	There shall be no sudden and major change in the structural integrity of the chair (Loss of serviceability is acceptable) when a proof load of 136 kg (300 lb.) is raised 152 mm (6 in.) above the uncompressed seat and released one time.	M	PASS
Swivel test - cyclic	ANSI/BIFMA X5.1-17 Sec. 8	There shall be no loss of serviceability when the seat or platform is rotate for total of 120,000 at a rate between 5 and 15 rotations per minute with a 122 kg (270 lb.) load placed on the seat.	M	PASS
Tilt mechanism test - cyclic	ANSI/BIFMA X5.1-17 Sec. 9	[Type I & II chairs] No structural breakage or loss of serviceability in 300,000 cycles at a rate between 10 and 30 cycles per minute under a 109 kg (240 lb) load to the center of the seat.	M	PASS
Seating durability test - cyclic	ANSI/BIFMA X5.1-17 Sec. 10	There shall be no loss of serviceability to the chair after completion of both the impact 57 kg (125 lb.) free fall to seat 36mm (1.4in.) for 100,000 cycles) and load-ease 890N (200 lbf) lowering to front corners of seat for 40,000 cycles tests.	M	PASS

Evaluation	Citation / Method	Criteria	Results	Rating
Stability tests - rear stability for type III chairs	ANSI/BIFMA X5.1-17 Sec. 11	The chair shall not tip over when loaded with 6 disks (disk weighing 10kg (22 lb) each having diameter of 350mm (13.8 in.)) and horizontal force is applied. For seat height < 710 mm (28.0 in.); • F = 0.1964 (1195 – H) Newton. H is the seat height in mm. • F = 1.1 (47 – H) pounds force. H is the seat height in inches. For chairs with seat height equal to or greater than 710 mm (28.0 in.), a fixed force of 93 N (20.9 lbf.) shall be applied.	M	PASS
Stability tests - rear stability for type I and II chairs	ANSI/BIFMA X5.1-17 Sec. 11	The chair shall not tip over when loaded with 13 disks (disk weighing 10kg (22 lb) each having diameter of 350mm (13.8 in.))	M (Type I)	PASS
Stability tests - front stability	ANSI/BIFMA X5.1-17 Sec. 11	The chair shall not tip over when a vertical load of 610 N (135 lbf.) is applied by means of the front stability loading fixture with horizontal force of 20 N (4.5 lbf.) applied at the same level of the plane of the top of the seat.	M	PASS
Arm strength test - vertical - static - functional load	ANSI/BIFMA X5.1-17 Sec. 12	There shall be no loss of serviceability when a force of 750 N (169 lbf.) is applied for one (1) minute.	M	PASS
Arm strength test - vertical - static - proof load	ANSI/BIFMA X5.1-17 Sec. 12	There shall be no sudden and major change in the structural integrity of the chair when a force of 1125 N (253 lbf.) is applied for 15 seconds	M	PASS
Arm strength test - horizontal - static - functional load	ANSI/BIFMA X5.1-17 Sec. 13	It shall cause no loss of serviceability when a force of 445 N (100 lbf.) is applied for one (1) minute in the outward direction.	M	PASS
Arm strength test - horizontal - static - proof load	ANSI/BIFMA X5.1-17 Sec. 13	It shall cause no sudden and major change in the structural integrity of the unit (Loss of serviceability is acceptable) when a force of 667 N (150 lbf.) is applied for 15 seconds in the outward direction.	M	PASS
Backrest durability test - cyclic - type I	ANSI/BIFMA X5.1-17 Sec. 14	There shall be no loss of serviceability when a weight of 109 kg (240 lb.) is secured in the center of the seat and applying a 445 N (100 lbf.) total force to the backrest at a rate between 10 and 30 cycles per minute for 120,000 cycles for backrest widths less than or equal to 406 mm (16 in.) at the height of the loading point. For chairs with backrest widths greater than 406 mm (16 in.) at the height of the loading point, apply the load to the backrest for 80,000 cycles, additional 20,000 cycles to right side of backrest and last 20,000 cycles to the left side of backrest.	M	PASS

Evaluation	Citation / Method	Criteria	Results	Rating
Backrest durability test - cyclic - type II and type III	ANSI/BIFMA X5.1-17 Sec. 15	There shall be no loss of serviceability when a weight of 109 kg (240 lb.) is secured in the center of the seat and applying a 334 N (75 lbf.) total force to the backrest at a rate between 10 and 30 cycles per minute for 120,000 cycles for backrest widths less than or equal to 406 mm (16 in.) at the height of the loading point. For chairs with backrest widths greater than 406 mm (16 in.) at the height of the loading point, apply the load to the backrest for 80,000 cycles, additional 20,000 cycles to right side of backrest and last 20,000 cycles to the left side of backrest.	M (Type III)	PASS
Caster or chair base durability test - cyclic - pedestal base chairs	ANSI/BIFMA X5.1-17 Sec. 16.1	[Durability cycling] There shall be no loss of serviceability when a 122 kg (270 lb.) load is on the seat of the chair and cycled 2,000 cycles over the obstacles then 98,000 cycles on a smooth, hard surface without obstacles.	M	PASS
Caster or chair base durability test - cyclic - pedestal base chairs	ANSI/BIFMA X5.1-17 Sec. 16.1	[Caster retention] No part of the caster shall separate from the chair as a result of the application of the 22 N (5 lbf.) force after the durability cycling test.	M	PASS
Caster or chair base durability test - cyclic - chairs with legs	ANSI/BIFMA X5.1-17 Sec. 16.2	[Durability cycling] There shall be no loss of serviceability when a122 kg (270 lb.) load is on the seat of the chair and cycled 2,000 cycles over the obstacles then 98,000 cycles on a smooth, hard surface without obstacles.	NA	/
Caster or chair base durability test - cyclic - chairs with legs	ANSI/BIFMA X5.1-17 Sec. 16.2	[Caster retention] No part of the caster shall separate from the chair as a result of the application of the 22 N (5 lbf.) force after the durability cycling test.	NA	/
Leg strength test - front application - functional load	ANSI/BIFMA X5.1-17 Sec. 17.3	It shall cause no loss of serviceability when a force of 334 N (75 lbf.) is applied once to each front leg individually for one (1) minute.	NA	/
Leg strength test - front application- proof load	ANSI/BIFMA X5.1-17 Sec. 17.3	It shall cause no sudden and major change in the structural integrity of the chair (loss of serviceability is acceptable) when a force of 503 N (113 lbf.) is applied once to each front leg individually for one (1) minute.	NA	/
Leg strength Test - side application - functional load	ANSI/BIFMA X5.1-17 Sec. 17.4	It shall cause no loss of serviceability when a force of 334 N (75 lbf.) is applied to a front and rear leg individually for one (1) minute.	NA	/
Leg strength Test - side application - proof load	ANSI/BIFMA X5.1-17 Sec. 17.4	It shall cause no sudden and major change in the structural integrity of the chair (loss of serviceability is acceptable) when a force of 503 N (113 lbf.) is applied once to a front and rear leg individually for one (1) minute.	NA	/

Evaluation	Citation / Method	Criteria	Results	Rating
Footrest static load test - vertical - functional load	ANSI/BIFMA X5.1-17 Sec. 18	There shall be no loss of serviceability or sudden loss of footrest height when a force F1 of 445 N (100 lbf.) is applied to the footrest and additional a force F2 of 445 N (100 lbf.) is applied to opposite side. Then F2 is removed and F1 is increased to 200 lbf.	NA	/
Footrest static load test - vertical - proof load	ANSI/BIFMA X5.1-17 Sec. 18	The load applied once shall cause no sudden and major change in the structural integrity of the unit (Loss of serviceability is acceptable) when a force of 1334 N (300 lbf.) is applied uniformly along a 102 mm (4 in.) distance along the footrest.	NA	/
Footrest durability test - vertical - cyclic	ANSI/BIFMA X5.1-17 Sec. 19	There shall be no loss of serviceability when a 890 N (200 lbf.) force is applied uniformly along the footrest for 50,000 cycles at a rate between 10 and 30 cycles per minute.	NA	/
Arm durability test - cyclic	ANSI/BIFMA X5.1-17 Sec. 20	There shall be no loss of serviceability to the chair when simultaneously applying a force of 400 N (90 lbf.) to each arm initially at a 10 ° ± 1 angle for 60,000 cycles at a rate between 10 and 30 cycles per minute.	M	PASS
Out stop test for chairs with manually adjustable seat depth	ANSI/BIFMA X5.1-17 Sec. 21	There shall be no loss of serviceability to the unit when a 74 kg (163 lb.) is loaded on the seat and a hanging weight (25 kg (55 lb.) is held at its most rearward position, then released,permitting it to move forward rapidly and impact the out stops for a total of 25 cycles.	NA	/
Tablet arm chair static load test	ANSI/BIFMA X5.1-17 Sec. 22	The load applied once shall cause no sudden and major change in the structural integrity of the chair after applying a load of 68 kg. (150 lb.) for one (1) minute.	NA	/
Tablet arm chair load ease test - cyclic	ANSI/BIFMA X5.1-17 Sec. 23	There shall be no loss of serviceability to the chair and/or tablet arm when a 25 kg (55 lbf.) force applied through a 203 mm ± 13 mm (8.0 in. ± 0.51 in.) diameter area 25 mm (1 in) from edge of the surface at its apparent weakest point at a rate of 14 ± 6 cycles per minute for a total of 100,000 cycles.	NA	/
Structural durability test	ANSI/BIFMA X5.1-17 Sec. 24	[Not applicable to pedestal-base chairs or chairs with casters] No loss of serviceability when a push-pull action force of 444 N (100 Lbs.) is applied to the unit side frame midway between front and rear of the seat at the height of the seat while placing a weight of 159 kg (350 lb.) in the center of the seat. One cycle shall consist of one outward and one inward force application. This force application shall be repeated for a total of 50,000 cycles at a rate between 10 and 30 cycles per minute.	NA	/
Base test - static	Appendix C	A force of 11120N (2500lbf) shall be applied for one minute, remove the force repeat it again.	M	PASS

ANNEX I: SUBMISSION DESCRIPTION

Sample Description: ERGO 3D

The overall dimension was recorded as:
78.7 cm (D) x 76.4 cm (W) x (117.8-134.0) cm (H)

Sample weight: 19.47 kg

ANNEX II: ADDITIONAL COMMENTS

I. NA = Not applicable

II. NC = Not conducted as per client request

EXHIBIT

END