Test Report

EN ISO 20957

Stationary training equipment---

Part 1: General safety requirements and test methods

Testing laboratory ……..... :	Beide (Shenzhen) Product Service Limited
Address …….. :	6F, Bldg E, Hourui 3rd Ind Zone, Xixiang, Bao'an Dist, Shenzhen, China
Report body.....…….... :	Beide (Shenzhen) Product Service Limited
Address ……..... :	6F, Bldg E, Hourui 3rd Ind Zone, Xixiang, Bao'an Dist, Shenzhen, China
Applicant ……..... :	Nantong Lixing Machinery Manufacturing Co., Ltd.
Address …….. :	Group 7, Jinzhuang Community, Shigang Town, Tongzhou District, Nantong City, Jiangsu Province, China
Client No......:	CC5732
Report query ……..... :	CERTIFICATE QUERY
Standard ……..... :	EN ISO 20957-1:2013
Test Result……..... :	Compliance with EN ISO 20957-1:2013
Procedure deviation ……..... :	N.A.
Non-standard test method …… :	N.A.
Type of test object ……... :	Barbell
Trademark …….. :	N.A.
Model/type reference ……..... :	/
Manufacturer ……..... :	Nantong Lixing Machinery Manufacturing Co., Ltd.
Address ……..... :	Group 7, Jinzhuang Community, Shigang Town, Tongzhou District, Nantong City, Jiangsu Province, China
Date of test……..... :	2024-05-30 to 2024-06-12

Possible test case verdicts :	
test case does not apply to the test object …….. :	N(.A.)
test object does meet the requirement …….. :	P(ass)
test object does not meet the requirement ……. :	F(ail)

Name and address of the testing laboratory: **Beide (Shenzhen) Product Service Limited**
6F, Bldg E, Hourui 3rd Ind Zone, Xixiang,
Bao'an Dist, Shenzhen, China

Reported by : Signature / Anna Deng / Engineer — Date: 2024-06-12

Checked by : Signature / Austin Zhong / Engineer — Date: 2024-06-12

Approved by : Signature / Martin Wang / Manager — Date: 2024-06-12

BEIDE (SHENZHEN) PRODUCT SERVICE LIMITED
Beide Compliance Laboratory
CERTIFICATION

General remarks:	
"(see remark #)" refers to a remark appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a comma is used as the decimal separator. The test results presented in this report relate only to the object tested. This report shall not be reproduced except in full without the written approval of the testing laboratory.	Attached with: 1. photo documentation 2. marking label

EN ISO 20957-1			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
4	Classification		P
4.1	General		--
4.2	Accuracy classes		N
4.3	Usage classes	Class H	P
5	Safety requirements		P
5.1	General		--
5.2	Stability of equipment		P
	The stationary training equipments shall be stable in any direction, in training, folding and storage positions. The test shall be accordance with 6.2		P
5.3	External construction		P
5.3.1	Edges and corners		P
	All edges and corners of surfaces supporting bodies shall have a radius r > 2,5 mm.		P
	All other edges of components which are accessible to the user or to third parties shall be free of burrs, rounded or protected		P
5.3.2	Tube ends		P
	When tested in accordance with 6.3.2, accessible tube ends shall be closed off either by parts of the equipment or by plugs.		P
	The plugs shall remain in position at the end of the endurance load test, as prescribed in the relevant parts of the applicable specific standard.		P
5.3.3	Squeeze and shear, points within the accessible area and foot area		N
	Squeeze and shear points between moving parts, between moving parts and fixed parts, or between a moving part and the floor shall be guarded or shall have a minimum clearance of at least 60 mm, except as follows:		--
	a) if the fingers only are at risk the dimension shall be at least 25 mm;		N
	b) if third party access is prevented by the user's body position, and where the user is able to immediately stop the movement, the distance shall be at least 25mm		N

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Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	c)if the angle between two adjacent moving parts or between arigid part and an adjacent moving part is always 50 degrees or greater ,it is not considered a shear point		N
	d) open and obvious stops are exduded, however if the stop is the part which is moving, then is shall pass no closer than 25mm from any fixed frame member throughout its range of movement		N
	All products shall fulfil the above requirements during use.		N
	For foldable products during folding or unfolding, the above requirements are waived if the following, three requirements are simultaneously met		N
	-inadvertent movement is not possible during folding, unfolding, transportation and/or storage;		N
	-access to squeeze and shear points remain at all times in the user's field of vision		N
	-the user can stop the motion at any time		N
5.3.4	Squeeze and shear points as well as rotating and reciprocating points in the accessible hand and foot area		N
	The distance between movable parts or between a movable and a fixed part shall be at least 60 mm, except as follows:		N
	a) if only fingers are at risk, the dimension shall not be less than 25 mm;		N
	b) if the distance between the moving part and fixed part, or between two moving parts, does not changes during use or setup, the distance shall be greater than 25 mm or less than 9,5 mm;		N
	c) Open and obvious stops are excluded, however, if the stop is the part which is moving, then it shall pass no closer than 25 mm to any fixed frame member throughout its range of movement.		N
5.3.5	Weights		N
	The range of motion of all weights attached to the training equipment shall be limited to that required to perform the exercise. Test in accordance with 6.3.4	Visual examination and performance test	N
5.4	Entrapment of the uses		N

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Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	The possibility of users not being able to exit the equipment when using it according to the user's shall be avoided (e.g. providing assisted means of escape).		N
5.5	Adjustment components and locking mechanisms		N
	Adjustment components and locking mechanisms on the stationary training equipment shall function securely, be conspicuous, self-evident and safely accessible to the user. The possibility of unintended change shall be eliminated.	Visual examination and performance test	N
	Adjustment components such as knobs and levers shall not interfere with the user's range of movement.		N
	Weight selection pins shall be fitted with a retention device to prevent inadvertent alteration or movement during the exercise.		N
5.6	Ropes, belts, chains and attachment components		N
5.6.1	General		--
5.6.2	Ropes and belts		N
	Rope and belt ends shall be, as a minimum, flush with the end of the termination means and shall be visible for inspection		N
	Pressed connections shall not be subjected to bending.		N
	Rope and belt ends and grips shall have no sharp edges or frayed ends.		N
5.6.3	Rope and belt guides		N
	A means shall be provided to prevent a rope or a belt becoming unintentionally disengaged during use or set-up. Test in accordance with 6.7.		N
5.7	Pull in points		N
	Pull in points of rope or belt drives up to 1 800 mm height shall be protected so that the user's hand, when extended, cannot be caught up.	Test finger	N
	Rope and belt drives of a surface pressure ≤ 90 N/cm^2 are excluded from this requirement.		N
	This may be achieved by ensuring that the angle between the rope and the guard is not less than 50° inall positions. The guard shall not rotate together with the pulley.		N

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Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	Pull-in points for chains, gears and sprockets shall be protected in accordance with ISO 12100.		N
5.8	Hand grips		N
5.8.1	Integral handgrips		N
	Gripping positions shall be easily identifiable and designed to reduce slipping (e.g. textured, coated, knurled). Test in accordance with 6.9		N
5.8.2	Applied handgrips		N
	When tested in accordance with 6.10, applied handgrips shall not be removed. Applied handgrips shallbe equipped with a surface that reduces hand slip.		N
5.8.3	Rotating handgrips		N
	Rotating handgrips shall be secured during use and shall be designed to reduce slipping (e.g. textured).Test in accordance with 6.11.		N
5.9	Endurance test		P
	The stationary training equipment shall function as specified in the manufacturer's instructions after the test has been carried out. Test in accordance with 6.12.		P
5.10	Isometric test requirements		N
	If the stationary training equipment is designed to perform an isometric test, then the load or force onthe user's body shall be displayed with an accuracy of ± 10 % in the range of measurement given in user's manual and the read outs shall be SI units. Test in accordance with 6.13.		N
5.11	Heart rate measurement system		N
	The function of the heart rate measurement system shall be indicated on the display when the equipment is receiving a usable signal from the user, e.g. a blinking heart.		N
5.12	Heart rate control mode		N
	The function of the heart rate measurement system shall be permanently indicated on the display when the equipment is receiving a usable signal from the user, e.g. a blinking heart.		N
	The loss of heart rate signal shall result in effort intensity remaining at the same intensity for maximum 60s and then decrease until the		N

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Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	minimum intensity is reached. The rate of decrease shall be at least1 % in each 20 s time period.		
5.13	Electrical safety		N
	Concerning electrical and electronic aspects of stationary training equipment EN 60335-1 shall be applied. For medical devices EN 60601-1 shall be applied		N
5.14	Loading		P
5.14.1	Intrinsic loading		P
	Each piece of equipment loaded with the user's body mass shall withstand a force For 2,5 times the body mass. After the test the equipment shall not be broken and shall still function as intended by the manufacturer. Test in accordance with 6.16.		P
5.14.2	Extrinsic loading		P
	When tested according to 6.3.4 and loaded with the user's body mass and/or reaction forces or moments of the user as well as other forces or moments caused by any other source (e.g. additional weights supported by a stand), each piece of equipment shall withstand a load *F* according to Formula: $F = [Gk + 1{,}5\ G] \cdot 2{,}5 \cdot 9{,}81 m/s^2$(1)	*G*=2000lb(max load weight)	P
5.15	Care and maintenance		P
	Care and, if applicable, maintenance advice shall be provided with each piece of equipment. The advice shall include at least:		P
	a) a warning notice to the effect that the safety level of the equipment can be maintained only if it is examined regularly for damage and wear, e.g. ropes, pulleys, connection points		P
	b) an advice to replace defective components immediately and/or keep the equipment out of use until repair;		P
	c) special attention to components most susceptible to wear		P
5.16	Assembly instructions		P
	If the stationary training equipment requires assembly, then a manual shall be supplied (in the national language), giving clear and accurate assembly instructions relating to the stationary		P

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Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	training equipment and with an emphasis on safe assembly.		
	If the stationary training equipment requires assembly, then a list of tools needed shall be provided.		P
	If the stationary training equipment requires assembly, then a comprehensive parts list shall be supplied, including identifying part numbers.		P
	The manufacturer shall indicate the total mass and the total surface area (e.g. foot print) of equipment. When stationary training equipment is attached/anchored, e.g. to a wall or the floor, assembly instructions including the attaching/anchoring operations shall be provided		P
	The manufacturer shall provide the minimum value (force) each attachment shall support		P
5.17	General instructions for use		P
	Each item of stationary training equipment shall be accompanied by a user's manual, in the national language including at least the following information		P
	a)customer service address		P
	b)full address of manufacturer or importer		P
	c)indication of field of application		P
	d)indication that the free area shall be not less than 0.6m greater than the training area in the directions from which the equipment is accessed		N
	e) information on the correct use of the equipment and its feature switch the emphasis on safe operation, and the importance of keeping unsupervised children away from the equipment		P
	f) exercise instructions with advice with regard to correct biome chanical positioning of the user on the stationary training equipment.		N
	g) texts concerning difficult or complicated manoeuvres shall be accompanied by illustration		N
	h)instruction on how to safely use access and escape assist means		N
	i)design illustration		N
	j)warning that if any of the adjustment devices are left projecting,		N

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Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	k)warning that free standing equipment shall be installed on a stable and leveled basr		P
	l)setting of the load and equipment firther adjustments		N
	m)indication of the maximum user body mass		P
	n)indication of the maximum training mass		N
	o)explanation of the displayed data		N
	p)if the heart rate is displayed, a warning with the follow content shall be given: WARNING! Heart rate monitoring systems may be in accurate. over exercising may result in serious injury or death, if you feel faint stop exercising immediately		N
5.18	Marking		P
	a)name or trademark and full address of the manufacturer,		P
	b)maximum body mass of user and the maximum training mass for the individual exercise stations		P
	c) usage classes S, H or I and accuracy classes A, B, C, which can be combined (e.g. SA) if both classes are specified in that part of this International Standard;		P
	d) individual code number (which contains information about type and year of manufacture);		P
	e) graphical symbol or written information in the national language(s) instructing the user to read the information supplied by the manufacturer		P
	f) for class S and I equipment, a conspicuous graphical symbol or written information in the national language(s) shall be applied if the equipment needs attachment/anchoring for safe operation		N
6	Test methods		P
6.1	Test conditions		P
	a) temperature 23 °C ± 5 °C b) relative humidity of 55 % to 75 %	25°C, 62%	P
6.2	Stability test		P
6.3	External construction		P
6.3.1	Test of edges and corners		P

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Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	Test by measuring the radius and visual and tactile examination.		P
6.3.2	Tube ends		P
	This test is a visual inspection of the unit to verify that all tube ends in the accessible hand and foot area are closed off		P
	The pull-out test shall be performed in a quasi static manner with an appropriate device		P
6.3.3	Testing of squeeze and shear points and rotating and reciprocating points		N
	Measure the minimum distance between two moving parts or a moving part and a fixed part.		N
6.3.4	Weights and resistant means		N
	A performance test using the maximum and minimum resistance or weights including added resistance or weights (e.g. incremental weights) shall be carried out over the maximum range of movement.		N
6.3.5	Testing of pull-in points		N
	Apparatus: test finger in accordance with Figure 1. Surface hardness ≥ HRC 40 (measured in accordance with ISO 6508-1).		N
6.4	Testing of entrapment		N
6.5	Adjustment components and locking mechanisms		N
6.6	Tensile test for ropes, belts, chains and attachment components		N
6.7	Testing of rope and belt guides		N
6.8	Testing of flywheels		N
	Insert the test finger (see Figure 1) from all sides into any possible entrapment point between the drive and transmission elements, while the equipment is in normal operation.		N
	Do not introduce the test finger beyond the edge of the protective covering.		N
	Determine whether the test finger becomes trapped.		N
6.9	Testing of integral handgrips		N
6.10	Determination of the removing force of applied		N

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Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	handgrips		
	Apply a force of 70 N carefully to the handgrip by means of an appropriate pulling device.		N
6.11	Testing of rotating handgrips		N
6.12	Testing of endurance load		P
	Carry out the test as close as possible to normal exercise frequency and free of shocks for		--
	a)class H, 12000cycles over 80%of the possible range of movement		P
	b) class S, 100000cycles over 80%of the possible range of movement		N
6.13	Testing of isometric equipment		N
	Measure the static output force or torque of the body in the position(s) as described in the user's manual and compare this value to the displayed value.		N
6.14	Testing of the heart rate measurement system		N
6.15	Testing of the heart rate control mode		N
	Set the equipment to the heart rate control mode with a target of 120 bpm. Operate the product according to the manufacturer's specifications, then use a heart rate simulator or a person to activate the control mode. Cut off the signal and then check if the resistance or the load reduces according to the requirements shown in 5.12. If there are more than one heart rate control system, each system shall be tested		N
6.16	Testing of intrinsic loading		P
	Carry out the test quasi-statically. Apply the load *F*in the most onerous position when used according to the instructions in the user's manual on a surface area of 300 mm × 300 mm for 5 min on the stationary training equipment	No broken and shall still function as intended	P
	Only equipment that requires anchoring for normal use shall be fixed during the test		P
6.17	Testing of extrinsic loading		P
	Carry out the test quasi-statically. Apply the load *F*in the most onerous position when used according to the instructions in the user's manual for 5 min on the stationary training equipment. Place the determined load on the equipment as in normal practice and in a position which imposes	No broken and shall still function as intended	P

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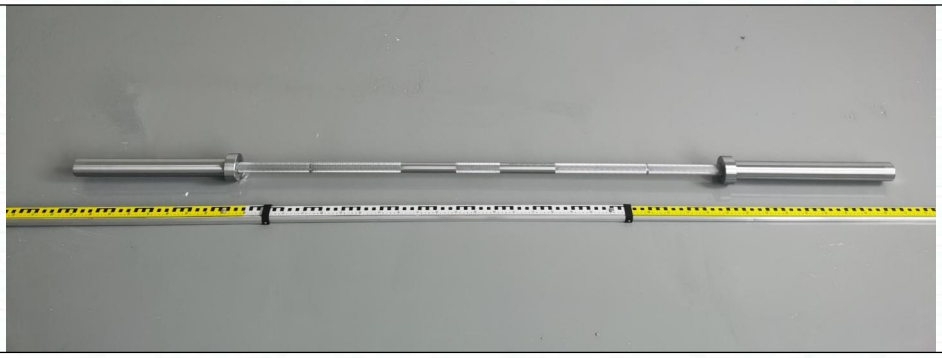
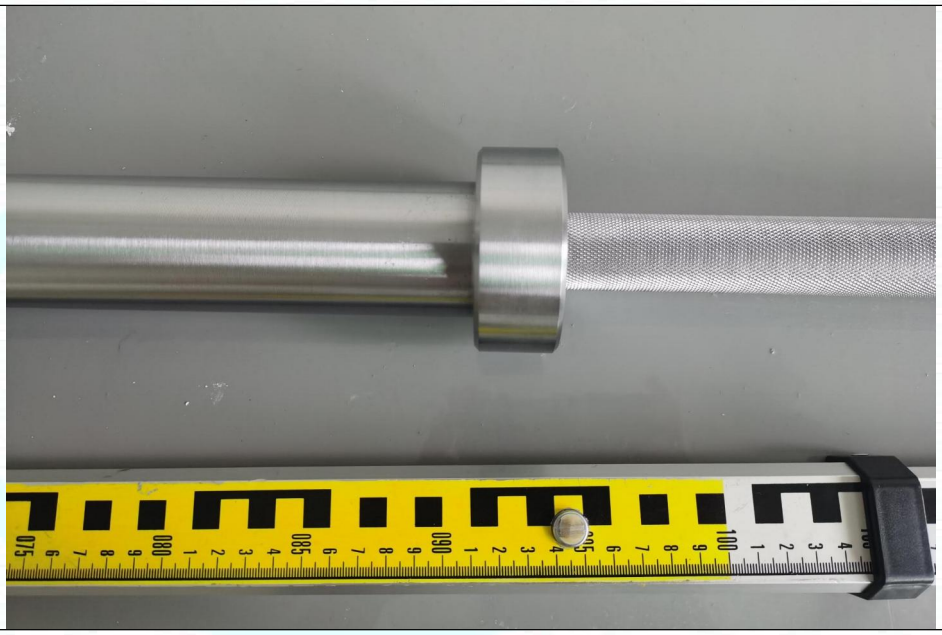
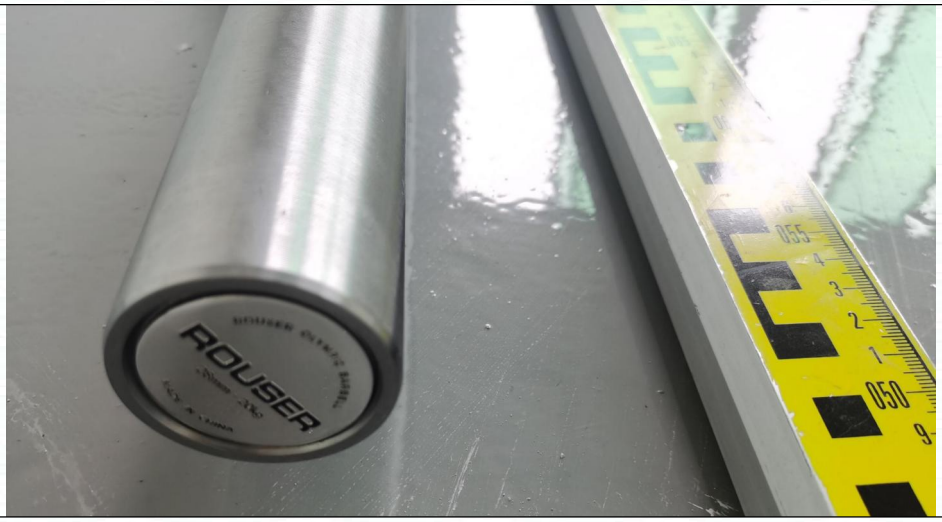
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	greatest strain on the equipment.		
	When the load bearing surface is divided, apply the test load to each part in proportion to the total surface area at the same time.		P
	The load should be applied through a load applicator in a way that simulates the situation that occurs when the equipment is used according to the instructions in the user's manual.		P
6.18	Testing of care and maintenance, assembly instructions, general instructions for use and marking		P
6.19	Testing report		P

Appendix 1

Photos of EUT

Photo 1 View:	
Photo 2 View:	
Photo 3 View:	

Appendix 2

Marking Label

Barbell

Nantong Lixing Machinery Manufacturing Co., Ltd.
Group 7, Jinzhuang Community, Shigang Town, Tongzhou District, Nantong City, Jiangsu Province, China