EPOCH(Hong Kong) Inspection And Certification Limited
Unit 4 M/F Hua Qin International Bldg 340 Queen's RD Central HK

Anji Guyou Furniture Co.,Ltd
Baishuiwan Industry Zone, Tianhuangping Town,
Anji County, Zhejiang, China(Mainland)

Date: Mar. 01, 2016
Our ref: EPOCH
Customer No:16-1113

Ref: Test Report

Type of Equipment : OFFICE CHAIR

Model Designation : Y-2899

Report No. : 16032111301

SUMMARY:
The equipment comply with the requirements according to the following standard:

EN 1335-1:2000	Office furniture - Office work chair - Part 1: Dimensions
EN 1335-2:2009	Office furniture - Office work chair - Part 2: Safety requirements
EN 1335-3:2009	Office furniture - Office work chair - Part 3: Safety test methods

EPOCH (HONG KONG) INSPECTION AND CERTIFICATION LIMITED
EPOCH
TEST REPORT

Prepared by:

Wessly Wang.

Wessly Wang(Project engineer)

Approved by:

Gorden Cheng

Gorden Cheng(Reviewer)

Test Report No.:	16032111301
Client:	Anji Guyou Furniture Co.,Ltd Baishuiwan Industry Zone, Tianhuangping Town, Anji County, Zhejiang, China(Mainland)
Manufacturer:	Anji Guyou Furniture Co.,Ltd Baishuiwan Industry Zone, Tianhuangping Town, Anji County, Zhejiang, China(Mainland)
Test item:	OFFICE CHAIR
Model:	Y-2899
Testing location:	EPOCH(Hong Kong) Inspection And Certification Limited Unit 4 M/F Hua Qin International Bldg 340 Queen's RD Central HK
Test Specification:	EN 1335-1:2000 Office furniture - Office work chair - Part 1: Dimensions EN 1335-2:2009 Office furniture - Office work chair - Part 2: Safety requirements EN 1335-3:2009 Office furniture - Office work chair - Part 3: Safety test methods
Test Result:	The test item passed the test specification(s).
Abbreviations:	OK/P = passed Fail/F = failed N/A = not applicable
Remarks:	/

1. EN 1335-1:2000 Office furniture - Office work chair - Part 1: Dimensions

Clause	Requirements	Comments	OK	Fail	N/A
1	**Scope**		-	-	-
2	**Normative References**		-	-	-
3	**Terms and Definitions**		-	-	-
4	**Dimensions**		-	-	-
5	**Determination of reference points**	See below	X	-	-
6	**Determination of dimensions**	See appendix I.	X	-	-
	The chair shall be positioned on a flat, rigid and horizontal test surface. The seat shall be set as close as possible to the horizontal and the back rest shall be set as close as possible to the vertical. Linear dimensions shall have an accuracy of ±2 mm and all angles an accuracy of ±1°. Unless otherwise specified, all dimensions shall be measured loading at the measurement point. Where point "A" is used as reference point the seat shall be loaded by the dummy in accordance with 5.1. All adjustable dimensions and angles shall be measured both in the smallest an largest position.	Conformed	X	-	-

2. EN 1335-2:2009 Office furniture - Office work chair - Part 2: Safety requirements

Clause	Requirements	Comments	OK	Fail	N/A
1	**Scope**		-	-	-
2	**Normative References**		-	-	-
3	**Terms and Definitions**		-	-	-
4	**Safety Requirements**		X	-	-
4.1	**General design requirements**		X	-	-
4.1.1	**Corners and edges, trapping, pinching and shearing** The chair shall be so designed as to minimise the risk of injury to the user. All parts of the chair with which the user comes into contact during intended use, shall be so designed that physical injury and damage to property are avoided. These requirements are met when: a) the safety distance of accessible movable parts is either $\leq$ 8 mm or $\geq$ 25 mm in any position during movement; b) accessible corners are rounded with minimum 2 mm radius; c) the edges of the seat, back rest and arm rests which are in contact with the user when sitting in the chair are rounded with minimum 2 mm radius; d) the edges of handles are rounded with minimum 2 mm radius in the direction of the force applied; e) all other edges are free from burrs and rounded or chamfered; f) the ends of accessible hollow components are closed or capped.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
4.1.2	**Adjusting devices** Movable and adjustable parts shall be designed so that injuries and inadvertent operation are avoided. It shall be possible to operate the adjusting devices from sitting position in the chair.		X	-	-
4.1.3	**Connections** It shall not be possible for any load bearing part of the chair to come loose unintentionally.		X	-	-
4.1.4	**Avoidance of soiling** All parts which are lubricated to assist sliding (greasing, lubricating, etc.) shall be designed to protect users from lubricant stains when in normal use.		X	-	-
4.2	**Test sequence** The same chair shall be tested in the following sequence: a) stability tests (optional); b) rolling resistance test (optional); c) seat and back rest tests; d) foot rest static load test; e) arm rests durability test; f) arm rest downward static load test - central (see Table A.2, Footnote a); g) stability tests; h) arm rest downward static load test - central (see Table A.2, Footnote b); i) rolling resistance test.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
4.3	**Stability during use** The chair shall not overbalance under the following conditions: a) by pressing down on the front edge of the seat surface in the most adverse position; b) by leaning out over the arm rests; c) by leaning against the back rest; d) by sitting on the front edge. Requirement a) is fulfilled if the chair does not overbalance when tested according to 7.1.1 of EN 1335-3:2009 with the forces and numbers of cycles according to Table A.1 of this standard. Requirements b) and d) are fulfilled if the chair does not overbalance when tested according to 7.1.2, 7.1.3, 7.1.4 and 7.1.5 of EN 1335-3:2009 with the forces and numbers of cycles according to Table A.1 of this standard. Requirement c) is fulfilled if the chair does not overbalance when tested according to 7.1.6 or 7.1.7 of EN 1335-3:2009 with the forces and numbers of cycles according to Table A.1 of this standard.		X	-	-
4.4	**Rolling resistance of the unloaded chair** The unloaded chair shall not roll unintentionally. This requirement is met when: a) the castors are of identical construction; b) the rolling resistance is $\geq$ 12 N when tested according to EN 1335-3:2009, 7.4.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
4.5	**Strength and durability** The chair shall be constructed to ensure that it does not create a risk of injury to the user of the chair under the following conditions: a) sitting on the seat, both centrally and off-centre; b) moving forward, backwards, and sideways while sitting in the chair; c) leaning over the arm rests; d) pressing down on the arm rests while getting up from the chair. These requirements are fulfilled when after the tests specified in 7.2.1, 7.2.2, 7.2.6, 7.3.1 and 7.3.2 of EN 1335-3:2009 with the forces and numbers of cycles according to Table A.2 of this standard: e) there are no fractures of any member, joint or component, and f) there is no loosening of joints intended to be rigid, and g) no major structural element is significantly deformed and the chair fulfils its functions after removal of the test loads h) and when: after the test in 7.2.3 of EN 1335-3:2009 with the forces and numbers of cycles according to Table A.2 of this standard, the arm rests show no fracture.		X	-	-
5	**Information for use**		X	-	-

3. EN 1335-3:2009 Office furniture - Office work chair - Part 3: Safety test methods

Clause	Requirements	Comments	OK	Fail	N/A
1	**Scope**		-	-	-
2	**Normative References**		-	-	-
3	**Terms and Definitions**		-	-	-
4	**General test conditions**		X	-	-
4.1	**Preliminary preparation** The unit shall be assembled and/or configured according to the instructions supplied with it. The most adverse configuration shall be used for each test, see Table 1. For testing a range of related chair models, only worst case(s) need to be tested. If mounting or assembly instructions are not supplied, the mounting or assembly method shall be recorded in the test report. Fittings shall not be re-tightened unless specifically required by the manufacturer. If the configuration must be changed to produce the worst case conditions, any retightening of the fittings shall be recorded in the test report. Unless otherwise stated all tests shall be carried out on the same sample. The tests shall be carried out in indoor ambient conditions. If during a test the temperature is outside of the range of 15 °C to 25 °C, the maximum and/or minimum temperature shall be recorded in the test report.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
	In the case of designs not addressed in the test procedures, the test shall be carried out as far as possible as described, and deviations from the test procedure recorded in the test report. Before beginning the testing, visually inspect the unit thoroughly. Record any defects so that they are not assumed to have been caused by the tests. Carry out measurements if specified.		X	-	-
4.2	**Test equipment** Unless otherwise specified, the tests may be applied by any suitable device because results are dependent only upon correctly applied forces and not on the apparatus. The equipment shall not inhibit deformation nor cause unnatural deformation of the unit/component, i.e. it shall be able to move so that it can follow the deformation of the unit/component during testing. All loading pads shall be capable of pivoting in relation to the direction of the applied force. The pivot point shall be as close as practically possible to the load surface. If a loading pad tends to slide use a slip resistant material between the loading pad and the surface being tested.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
4.3	**Application of forces** The forces in the static load tests shall be applied sufficiently slowly to ensure that negligible dynamic force is applied. Each force shall be maintained for not less than 10 s and not more than 15 s. The forces in durability tests shall be applied at a rate to ensure that excessive heating does not occur. Each force shall be maintained for (2 ± 1) s. The forces may be applied using masses.		X	-	-
4.4	**Tolerances** Unless otherwise stated, the following tolerances are applicable: Forces: ± 5 % of the nominal force Masses: ± 1 % of the nominal mass Dimensions: ± 5 mm of the nominal dimension on soft surfaces ± 1 mm of the nominal dimension on all other surfaces Angles: ± 2° of the nominal angle The accuracy for the positioning of loading pads shall be ±5 mm. The tests specify the application of forces. Masses may, however, be used. The relation 10 N for 1 kg may be used for this purpose.		X	-	-
4.5	**Sequence of testing** All applicable tests shall be carried out on the same sample. The sequence of the safety tests shall be as specified in EN 1335-2:2009, 4.2. If functional tests shall be carried out, this shall be done in the sequence of Table C.1 after completing all the safety tests specified in EN 1335-2.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
4.6	**Inspection and assessment of results** After completion of each test, inspect the unit again. Record any changes including: a) fracture of any component or joint; b) loosening of any joint intended to be rigid, which can be demonstrated by hand pressure; c) deformation or wear of any part or component such that its function is impaired; d) loosening of any means of fixing components to the unit; e) changes that may affect stability.		X	-	-
5	**Test apparatus**		X	-	-
6	**Loading points**		X	-	-
7	**Tests methods**		X	-	-
7.1	**Stability** Position the chair on the test surface (see 5.1) with its components as specified in 4.1 and Table 1. Record whether the chair overturns during the tests in 7.1.1 to 7.1.7.		X	-	-
7.1.1	**Front edge overturning** Do not position the chair with the stops against the supporting points (3.5). Fix the strap (5.8) to the chair as shown in Figure 7, i.e. the force is applied at the point on the front edge that is furthest from the axis of rotation, and allow the mass M1 to hang freely (see Figure 7).		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
7.1.2	**Forwards overturning** Position the chair with two adjacent supporting points (3.5) on the front against the stops (5.2). Apply by means of the stability loading device (5.9) a vertical force F1 acting 60 mm from the front edge of the load bearing structure of the seat at those points most likely to result in overturning. Apply for at least 5 s a horizontal outwards force F2 from the point on the seat surface where the vertical force is applied (see Figure 8).		X	-	-
7.1.3	**Forwards overturning for chairs with footrest** For chairs with footrests repeat the principle of 7.1.2 on the footrest. For round cross section ring shaped footrests, the vertical force F1 shall be applied through the centre of the ring cross section.		-	-	X
7.1.4	**Sideways overturning for chairs without arm rests** Position the chair with two adjacent supporting points (3.5) on one side against the stops (5.2). Apply by means of the stability loading device (5.9) a vertical force F1 acting 60 mm from the side edge of the load bearing structure of the seat at those points most likely to result in overturning. Apply for at least 5 s a horizontal sideways force F2 outwards from the point on the seat surface where the vertical force is applied, (see Figure 9).		-	-	X

Clause	Requirements	Comments	OK	Fail	N/A
7.1.5	**Sideways overturning for chairs with arm rests** Position the chair with two adjacent supporting points (3.5) on one side against the stops (5.2). Apply by means of the stability loading device (5.9) a vertical force F1 acting at a point 100 mm from the fore and aft centre line of the seat at the side where the supporting points (3.5) are restrained (see Figure 10) and between 175 mm and 250 mm forward of the rear edge of the seat. Apply a vertical downward force F2 acting at points on the arm rest which is on the same side as the restrained supporting points (3.5) up to a maximum 40 mm inwards from the outer edge of the upper surface of the arm rest, but not beyond the centre of the arm rest, and at the most adverse position along its length. Apply a horizontal sideways force F3 outwards from the same point for at least 5 s (see Figure 10).		X	-	-
7.1.6	**Rearwards overturning for chairs without back rest inclination** Position the chair with two adjacent supporting points (3.5) on the back against the stops (5.2). When an independent lumbar adjustment is fitted it shall be set in the most adverse configuration. A vertical force F1 shall be applied at point "A" (6.1) and a horizontal force F2 shall be applied at point "B" (6.2), (see Figure 11). If the back rest pad is pivoting around a horizontal axis above the height of the seat and is free to move, the horizontal force shall be applied on the axis. If height adjustable, the axis shall be set as close as possible to 300 mm above point "A" (6.1).base and the centre column. Record any fracture or damage to the chair.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
7.1.7	**Rearwards overturning for chairs with adjustable back rest inclination** Do not position the chair with the supporting points (3.5) against the stops (5.2). When an independent lumbar adjustment is fitted it shall be set in the most adverse configuration. Load the chair with discs (5.10) so that the discs are firmly settled against the back rest (see Figure 12). If the height of the stack of discs exceeds the height of the back rest, prevent the upper discs from sliding off by the use of a light support.		-	-	X
7.2	**Static load tests** Position the chair and its components as specified in 4.1 and Table 1 on the test surface (5.1).		X	-	-
7.2.1	**Seat front edge static load test** Position the smaller seat loading pad (5.4) at loading point "F" or "J" (6.6 or 6.9). Apply a vertical downward force F1 through the centre of the loading pad.		X	-	-
7.2.2	**Combined seat and back static load test** Prevent the chair from moving rearwards by placing stops (5.2) behind two adjacent supporting points (3.5) at the rear of the chair. Chairs with a locking device(s) for seat and/or back rest angle movements shall be tested first with the device(s) locked for half of the cycles and then with the device(s) unlocked for the other half of the cycles. For the first half of the cycles the back rest shall be in the upright position.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
	Apply a vertical force F1 through the seat loading pad (5.3) at point "A" (6.1). Keep the seat loaded and apply a force F2 through the centre of the back loading pad (5.6) at point "B" (6.2). When fully loaded the force shall act at 90° ± 10° to the back rest plane (see Figure 13). If the chair tends to overturn reduce the back rest force and report the actual force. Remove the back force and then the seat force.		X	-	-
7.2.3	**Arm rest downward static load test - central** The arm rests shall be loaded vertically by means of the local loading pads (5.5). The loading points shall be at the mid point of the arm rest length (3.4) and centred side to side. Apply the force to both arm rests simultaneously (see Figure 14).		X	-	-
7.2.4	**Arm rest downward static load test – front** The arm rests shall be loaded vertically by means of the local loading pads (5.5). The loading points shall be 75 mm from the front edge and centred side to side. Apply the force to both arm rests simultaneously (see Figure 15).		X	-	-
7.2.5	**Arm rest sideways static load test** Apply an outward horizontal force to both arm rests simultaneously. Apply the forces to the edge of the arm rest at the point along the arm rest most likely to cause failure but not less than 75 mm from the front or rear edge (see Figure 16).		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
7.2.6	**Foot rest static load test** Apply a vertical force acting 80 mm from front edge of the load bearing structure of the foot rest at those points most likely to cause failure. For round cross section ring shaped footrests, the force shall be applied through the centre of the ring cross section. If the chair tends to overturn load the seat to prevent overturning and report this.		-	-	X
7.3	**Durability tests** Position the chair and its components as specified in 4.1 and Table 1 on the test surface (5.1) except for the castor and chair base durability test (7.3.5).		X	-	-
7.3.1	**Seat and back durability** The upper part of the chair shall be positioned so that the centre of the back rest is midway between two adjacent supporting points (3.5) of the base with stops (5.2) against these supporting points. The seat load shall be applied vertically using the seat loading pad (5.3). The back rest force shall be applied at an angle of 90° ± 10° to the back rest when fully loaded (see Figure 17) using the back loading pad (5.6).		X	-	-
	All chairs shall be tested to steps 1 to 5 (see Table 2). Chairs with a locking device(s) for seat and/or back rest angle movements shall be tested in step 2 first with the device(s) locked for half of the cycles and then with the device(s) unlocked for the other half of the cycles.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
	For the first half of the cycles the back rest shall be in the upright position. In steps 3, 4 and 5 the mechanism shall be set free to move. One cycle shall consist of the application and removal of the force(s) at the respective loading point(s). Each step shall be completed before going to the next. First the seat force shall be applied and maintained while the back rest force is applied. If the back rest pad is pivoting around a horizontal axis above the height of the seat and is free to move, the horizontal force shall be applied on the axis. If height adjustable, the axis shall be set as close as possible to 300 mm above point "A" (6.1). If the axis cannot be adjusted to 300 mm, adjust the force to produce the same bending moment.		X	-	-
7.3.2	**Arm rest durability** Apply simultaneously and cyclically the force on each arm rest at points 100 mm behind the foremost point of the arm rest length (see 3.4). Apply a force of (10 ± 5) N through a loading device in principle functioning as shown in Figure 4. With this force applied adjust the apparatus so that each "arm" of the test apparatus has an angle of 10° ± 1° to the vertical. The length of the "arm" of the test apparatus shall be 600 mm ± 10 mm. The arm rests shall be allowed to deform freely.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
7.3.3	**Swivel test** The base of the chair shall be secured on a rotating table with a test surface (see 5.1) so that the rotating axis of the chair coincides with the rotating axis of the table. The upper part of the chair shall be loosely fixed in such a way as not to hinder the rotation of the base. Load the seat in loading point A (6.1) with a mass M1 and in loading point C (6.3) with a mass M2 or any equivalent loading which will result in the same downwards force and bending moment on the chair. The angle of rotation shall be 360° at a rate of (10 ± 5) cycles/minute. Change direction after each rotation.		X	-	-
7.3.4	**Foot rest durability** Using the local loading pad (5.5) apply a vertical downward force to the foot rest at the point most likely to cause failure but not less than 80 mm from the front edge. For round cross section ring shaped foot rests, the force shall be applied through the centre of the ring cross section.		-	-	X
7.3.5	**Castor and chair base durability** This test does not apply to chairs with castors which are braked when the chair is loaded.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
	The chair shall be placed on a rotating table with a test surface (see 5.11) so that the rotating axis of the chair coincides with the rotating axis of the table. Load the seat in point A with M1. The base shall be loosely fixed in such a way that there is no rotation of the base but that the natural movements of the castors during testing are not prevented. The castors shall be left free to swivel, the table shall be rotated with a rate of 6 cycles per minute. The angle of rotation shall be from 0° to 180° and back. One rotation forward and one rotation backward constitutes one cycle.		X	-	-
	Alternatively attach the chair to a device that provides a linear movement of (1 000 ± 250) mm and a test surface (see 5.11). Load the seat in point "A" with M1. The base shall be loosely fixed in such a way that there is no rotation of the base but that the natural movements of the castors during testing are not prevented. The castors shall be left free to swivel, the device shall move with a rate of 6 cycles per minute. One movement forward and one movement backward constitutes one cycle.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
7.4	**Rolling resistance of the unloaded chair** The chair shall be placed on the test surface (see 5.1) and shall be pushed or pulled over a distance of at least 550 mm. A speed of (50 ± 5) mm/s shall be maintained over the measuring distance. The force shall be applied at a height of (200 ± 50) mm above the test surface. Record the force used to push or to pull the chair over the distance from 250 mm to 500 mm as the rolling resistance.		X	-	-

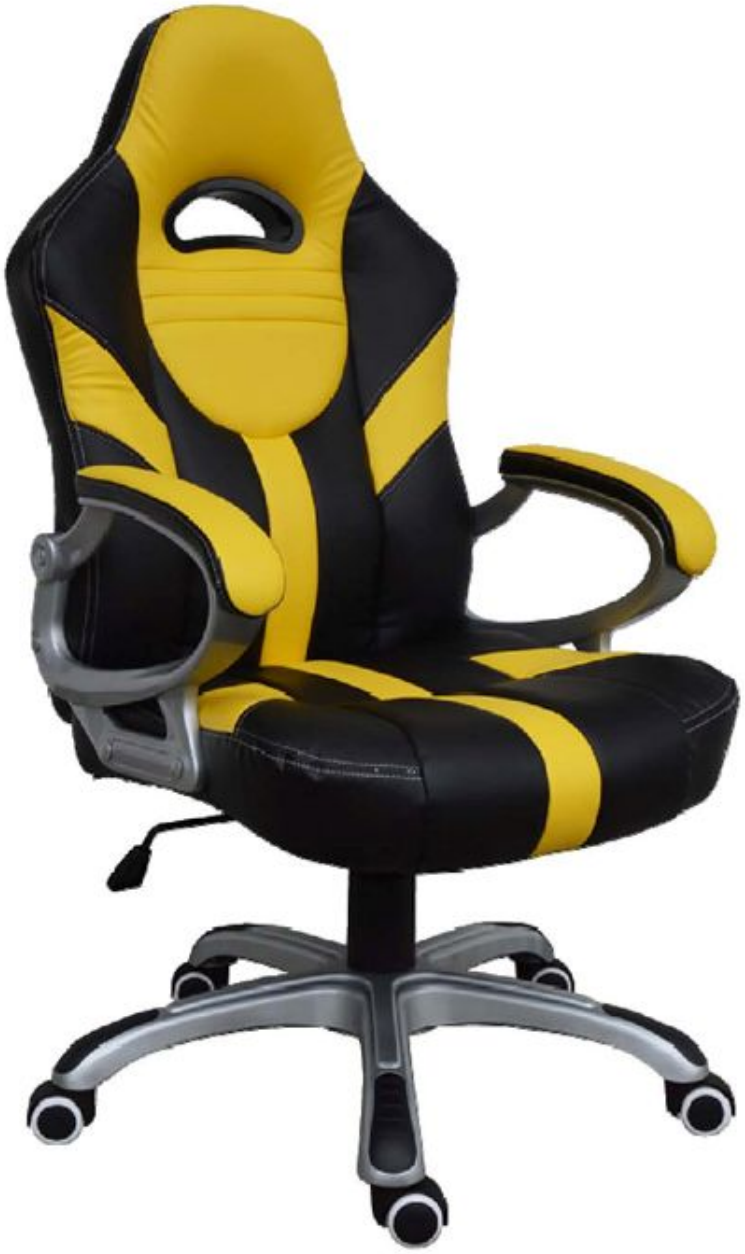
Appendix I:

Dimension	[Symbol]	Adjustability		Type B			Measured value	Pass/Fail
			(-) allow.	Min.[a)]	Max.[a)]	(+) allow.		N/A
SEAT								
Seat Height (b)	[a]	Adjustable	yes	420	510	yes	381 – 523 mm	P
		Adjustment range	no	100	⊕	yes	133 mm	P
Seat depth	[b]	Non-adjustable	no	380	440	no		
		Adjustable	no	400	420	yes	400 – 436 mm	P
		Adjustment range	no	50	⊕	yes	44 mm	P
Depth of seat surface	[c]		no	380	⊕	yes	423 mm	P
Seat width	[d]		no	400	⊕	yes	411 mm	P
Inclination of seat surface	[e]	Non-adjustable	no	-2°	-7°	no		
		Adjustable	yes	-2°	-7°	yes	-2.0° - -7.3°	P
		Adjustment range		⊕	⊕		11.6°	P
BACK REST								
Height of the back Supporting point "S" above the seat surface	[f]	Non-adjustable	no	170	220	no		
		Adjustable	yes	170	220	yes	153 – 268 mm	P
		Adjustment range	no	50	⊕	yes	68 mm	P
Height of the back pad	[g]							
- adjustable in height			no	220	⊕	yes	256 mm	P
- non-adjustable in height			no	260	⊕	yes		
Height of the upper edge of the back rest above the seat surface	[h]		no	360	⊕	yes	386 – 518 mm	P
Back rest width	[i]		no	360	⊕	yes	386 mm	P
Horizontal radius of the back rest	[k]		no	400	⊕	yes	443 mm	P
Back rest inclination	[l]	Adjustment range	no	15°	⊕	yes	16.8°	P
ARMREST								
Length of arm rest	[n]		no	200	⊕	yes	236 mm	P
Width of arm rest	[o]		no	40	⊕	yes	68 mm	P
Height of arm rest above the seat	[p]	Non adjustable	no	200	250	no		
		Adjustable	yes	200	250	yes	156 – 263 mm	P

Appendix I:

Dimension	[Symbol]	Adjustability		Type B			Measured value	Pass/Fail
			(-) allow.	Min.[a)]	Max.[a)]	(+) allow.		N/A
Distance from the front of the arm rest to the front edge of the seat surface	[q]		no	40	⊕	yes	86 – 156 mm	P
Clear width between the arm rests	[r]		no	460	510	no	447 mm	P
Maximum offset of the underframe (anti-stumbling –dimension)	[s]		yes	⊕	365	no	356.8 mm	P
Stability dimension	[t]		no	195	⊕	yes	223 mm	P

Product Photo:



TEST REPORT END