PC COOLERS SRL
Matei Basarab 98th Street, 86th Block,
3rd District, Bucharest, Romania

Date: Aug. 11, 2023
Our ref: EPOCH
Customer No:22-2240

Ref: Test Report

Type of Equipment : OFFICE CHAIR

Model Designation : ATLAS

Report No. : 23082224002

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

UNE EN 1335-1:2021 Office furniture - Office work chair - Part 1: Dimensions - Determination of dimensions

UNE EN 1335-2:2019 Office furniture - Office work chair - Part 2: Safety requirements

Prepared by:

Wessly Wang(Project engineer)

Approved by:

Gorden Cheng(Reviewer)

Note: ALL RESULTS ARE ONLY VALID FOR THE SAMPLES BEING TESTED. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE TESTING LABORATORY.

Test Report No.:	23082224002
Client:	PC COOLERS SRL Matei Basarab 98th Street, 86th Block, 3rd District, Bucharest, Romania
Manufacturer:	ZHEJIANG HEBANG INDUSTRY CO.,LTD. No.33, QianXi North Rd, RongJiang, Jinyun, Lishui City, ZheJiang Prov, P.R.China
Test item:	OFFICE CHAIR
Model:	ATLAS
Testing location:	EPOCH(HangZhou) Inspection And Certification Limited 769,5th Floor, 51 Renmin Road, Chengxiang Street, Xiaoshan District, Hangzhou City,Zhejiang Province, China
Test Specification:	UNE EN 1335-1:2021 Office furniture - Office work chair - Part 1: Dimensions - Determination of dimensions UNE EN 1335-2:2019 Office furniture - Office work chair - Part 2: Safety requirements
Test Result:	The test item passed the test specification(s).
Abbreviations:	OK/P = passed Fail/F = failed N/A = not applicable
Remarks:	/

1. UNE EN 1335-1:2021 Office furniture - Office work chair - Part 1: Dimensions - Determination of dimensions

Clause	Requirements	Comments	OK	Fail	N/A
1	**Scope**		-	-	-
2	**Normative References**		-	-	-
3	**Terms and Definitions**		-	-	-
4	**Definitions of measurements**		-	-	-
5	**Measurement conditions**		-	-	-
6	**Test equipment including CMD**		-	-	-
7	**Measurement methods and procedures**		-	-	-
8	**Dimensional requirements**	Conformed	X	-	-
9	**Information for use**	Conformed	X	-	-
10	**Test report**	Conformed	X	-	-

2. UNE EN 1335-2:2019 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** 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 fulfilled when: a) 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; b) the edges of handles are rounded or chamfered in the direction of the force applied; c) all other edges and corners are free from burrs and rounded or chamfered; d) the ends of accessible hollow components are closed or capped. 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. It shall not be possible for any load bearing part of the chair to come loose unintentionally.		X	-	-
4.2	**Shear and squeeze points**		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
4.2.1	**Shear and squeeze points under influence of powered mechanisms** There shall be no accessible shear and squeeze points created by parts of the chair operated by powered mechanisms, i.e. springs, gas lifts and motorized systems.		X	-	-
4.2.2	**Shear and squeeze points during use** There shall be no accessible shear and squeeze points created by loads applied during normal use. Shear and squeeze points are not acceptable if there is a risk of injury created by the weight of the user during normal movements and actions, e.g. manipulating levers and crank handles.		X	-	-
4.3	**Sequence of testing** All applicable tests shall be carried out on the same sample. The chair shall be tested for stability according to UNE EN 1022:2019, 7.3 and in the order of Table 1. The chair shall be tested for strength and durability according to UNE EN 1728:2013, Clause 7 and in the order of Table 2. With the exception of the armrest downward static load test – central test, which shall be performed before and after the stability test according to Table 1, the chair shall be tested for stability after the strength and durability tests according to Table 2.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
4.4	**Stability tests and requirements** When tested according to Table 1, the seating shall not overturn.		X	-	-
UNE EN 1022:2019 7.3.3	**Corner stability** This test is only applicable on seating where it is possible to apply the stability loading pad (5.5) at the specified position. Where features such as arms prevent the loading pad from being applied at the specified position, the test is not applicable. Position the seating on the floor surface (5.3) with two adjacent supporting points on the front, or base restrained by stops (5.4). The loading point shall be defined as the point 60 mm from the edge of the load bearing structure on a line that passes through the seat loading point and the intersection of lines parallel to the transverse and median planes, projected from the most forward point of the load bearing structure and the side edges of the load bearing structure of the seat at the widest point on the seat at, or in front of, the transverse plane (see Figure 13). For seating with a single seat apply a force F1 vertically by means of the loading pad (5.5) acting at the loading point. For seating with multiple seats apply a force F1 at the loading point on one outside seating position. For rigid seating with a large radius edge, where the geometry does not allow the vertical load to be applied 60 mm from the edge of the load bearing structure, the load shall be applied 60 mm behind the point nearest the edge of the load bearing structure, that is 20 mm below the highest point of the edge of the seat utilising the principle shown in Figure 11.		-	-	X

Clause	Requirements	Comments	OK	Fail	N/A
UNE EN 1022:2019 7.3.1	**Forwards overturning** Position the seating on the floor surface (5.3) with two adjacent supporting points on the front or base restrained by stops (5.4). For seating with a single seat apply the force F1 vertically by means of the loading pad (5.5) acting at the point on the centre line of the seat 60 mm behind the front edge of the load bearing structure. For seating with multiple seats simultaneously apply two forces of F1 each vertically, by means of the loading pad (5.5) acting at the point on the centre line of the seats 60 mm behind the front edge of the load bearing structure, at the positions most likely to cause overturning. For rigid seats with a large radius front edge, where the geometry does not allow the vertical load to be applied 60 mm from the front edge of the load bearing structure, the load shall be applied 60 mm behind the point nearest the front edge of the load bearing structure, that is 20 mm below the highest point of the front edge of the seat (see Figure 11). At each loaded position apply a force F2 horizontally outwards along a horizontal line extended forward from the point where the base of the loading pad meets the upper surface of the seat (see Figure 12). For items of seating with a leg rest attached to the structure of the item, and where the leg rest is designed to support the weight of the user, the test procedure shall be repeated with the leg rest fully extended and the force F1 vertically by means of the loading pad (5.5) acting at the point on the centre line of the leg rest 60 mm behind the front edge of the load bearing structure. For items of seating with a leg rest not designed to support the weight of the user the test is not applicable to the leg rest.		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
UNE EN 1022:2019 7.3.2	**Forwards overturning for chairs with footrests** For seating with foot rests of tubular construction, or where the foot rest depth is less than 120 mm, repeat the procedure in 7.3.1 applying the vertical force F1 at the most onerous point along the centre line of the tube, or the middle of the foot rest surface, by any suitable means. For all other seating with foot rests apply the vertical force F1at the most onerous point 60 mm from the edge of the foot rest by means of the local loading pad (5.10). For foot rests apply a force F2 horizontally outwards along a horizontal line extended forward from the point where the base of the loading pad meets the upper surface of the foot rest.		-	-	X

Clause	Requirements	Comments	OK	Fail	N/A
UNE EN 1022:2019 7.3.4	**Sideways overturning for chairs without arm rests** This test is applicable to all seating where the top edge of the seat on the transverse plane is 50 mm or less above the height of the loaded seat loading point (6.4). The transverse plane shall pass through the seat loading point. Position the seating on the floor surface (5.3) with two adjacent supporting points on one side, or base restrained by stops (5.4). Apply a force F1 vertically by means of the loading pad (5.5) at a point 60 mm behind the edge of the load bearing structure on the side nearest the stopped feet and on the transverse plane of the seat. For rigid seating with a large radius side edge, where the geometry does not allow the vertical load to be applied 60 mm from the side edge of the load bearing structure, the load shall be applied 60 mm behind the point nearest the side edge of the load bearing structure, that is 20 mm below the highest point of the side edge of the seat, utilising the principle shown in Figure 11, and on the transverse plane. In the transverse plane, apply a sideways force F2 horizontally outwards along a line from the point where the base of the loading pad meets the upper surface of the seat (see Figure 15).		-	-	X

Clause	Requirements	Comments	OK	Fail	N/A
UNE EN 1022:2019 7.3.5.1 and UNE EN 1022:2019 7.3.5.2	**Sideways overturning for chairs with arm rests** This test is applicable to all seating with arms, or where the top edge of the seat on the transverse plane is more than 50 mm above the height of the seat loading point (A). Position the seating on the floor surface (5.3) with two adjacent supporting points on one side, or base restrained by stops (5.4). Apply a force F1 vertically by means of any suitable device (see Figure 16), at a point 100 mm to the side of the median plane of the seat which is nearest the stopped feet and on the transverse plane. Apply a force F2 vertically by any suitable device, at a position on the centre line of the arm up to a maximum 40 mm inwards from the outside edge of the arm structure at the intersection of the arm rest and the transverse plane, but not less than 40 mm from the front or rear edge of the arm structure. If the transverse plane does not intersect with the arm rest, apply the force F2, 40 mm from the point at the front or rear of the arm rest structure that is nearest the transverse plane. Apply a horizontal force F3 outwards, and perpendicular to the line joining the stopped feet, for at least 5s, at the upper surface of the seat or arm rest in line with the vertical force F2 and on the side with stopped feet (Figure 16).		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
UNE EN 1022:2019 7.3.6	**Rearwards overturning for chairs without back rest inclination and for chairs with adjustable backrest inclination that can be locked** The test is not applicable to seating that has adjustable back rest inclination that cannot be locked in position. For seating that has an adjustable back rest inclination that can be locked in position, it shall be locked in the most upright position. When an independent lumbar adjustment is fitted it shall be set in the most adverse configuration. Position the seating on the floor surface (5.3) with two adjacent supporting points on the back, or base restrained by stops (5.4). Apply a vertical force F1 to the seat by means of the loading pad (5.5) at the seat loading point (A). Apply the force F2 horizontally in a rearward direction to the back of the seating at the back loading point, B, or at the top edge of the back rest, whichever is the lower (Figure 18). When the seating has more than one sitting place, carry out the procedure on two most adverse sitting places simultaneously. If the back rest 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 the back rest is height adjustable, the axis shall be set as close as possible to 300 mm above the seat loading point (A).		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
UNE EN 1022:2019 7.4	**Rearwards overturning for chairs with back rest inclination** In addition to the tests in 7.3, seating with reclining back rests shall be subjected to the tests for tilting or reclining, as specified below provided their geometry falls within the reclining angle ranges defined for the appropriate tests. Seating with back rests permanently reclined which fall within the reclining angle ranges for reclining chairs, shall be tested as reclining chairs. The test shall be carried out with the seating in the fully tilted or reclined condition. For seating with shaped or padded seats or backs the load position template (5.2) shall be used to establish the relevant angles of inclination (see Figure 19a)) If the height of the stack of loading discs (5.7) used in tests 7.4.2, 7.4.3, 7.4.4 and 7.4.5 exceeds the height of the back rest, prevent the upper discs from sliding off by the use of the support (5.9).		X	-	-
4.5	**Structural safety requirements** The structural safety requirements are met when the requirements according to 5.2 are fulfilled.		X	-	-
5	**Strength and durability**		X	-	-
5.1	**General**		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
UNE EN 1728:2013 7.3	**Combined seat and back static load test** Prevent the chair from moving rearwards by placing stops (5.3) behind two adjacent supporting points 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. Apply a vertical force F1 through the seat loading pad (5.4) at point A (7.2.2). Keep the seat loaded and apply a force F2 through the centre of the back loading pad (5.6) at point B (7.2.3). When fully loaded the force shall act at (90 ± 10)° to the back rest plane (see Figure 28). 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	-	-
UNE EN 1728:2013 7.4	**Seat front edge static load test** Position the smaller seat loading pad (5.5) at loading point F or J (7.2.7 or 7.2.10). Apply a vertical downward force through the centre of the loading pad.		X	-	-
UNE EN 1728:2013 7.8	**Foot rest static load test** Apply the specified downward force to the seat at the seat loading point. Apply a vertical force by means of the local loading pad (5.7) 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 seating tends to overturn, increase the load on seat to a magnitude that just prevents overturning and record the load used.		-	-	X

Clause	Requirements	Comments	OK	Fail	N/A
UNE EN 1728:2013 7.9	**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 of the base with stops (5.3) against these supporting points. The seat load shall be applied vertically using the seat loading pad (5.4) in positions A and C, and using the smaller seat loading pad (5.5) in positions D, F, G and J. The back rest force shall be applied at an angle of (90 ± 10)° to the back rest when fully loaded (see Figure 31) using the back loading pad (5.6). All chairs shall be tested to steps 1 to 5 (see Table 4). 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. 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 (7.2.2). If the axis cannot be adjusted to 300 mm, adjust the force to produce the same bending moment.		X	-	-

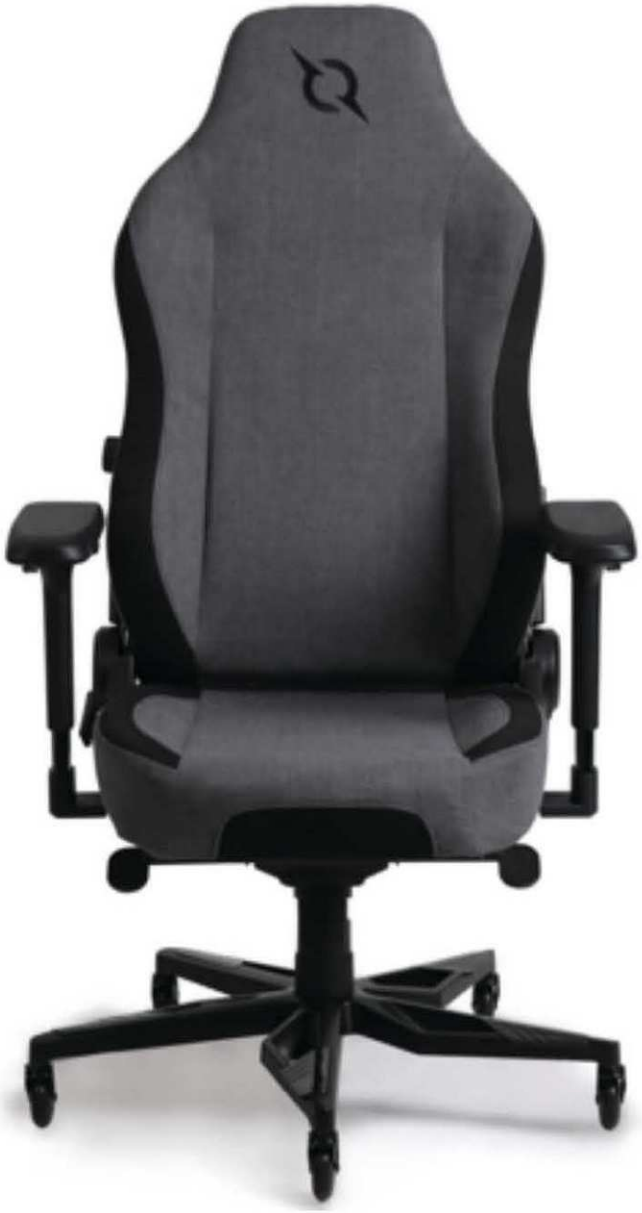
Clause	Requirements	Comments	OK	Fail	N/A
UNE EN 1728:2013 7.10	**Armrests durability** Place the chair on the test floor with stops against the outside of the legs, feet or castors. The test forces shall be applied simultaneously on each arm rest, at the point most likely to cause failure, but not less than 100 mm from the front or rear edge of the arm rest length (3.6) and through the centre of the width of the arm rest, but not more than 100 mm from the inner edge of the arm rest. Using the arm rest durability test apparatus (5.11), adjust the apparatus so that with no load applied to arm rests the angle of load application arms is $(10 \pm 1)^{\circ}$ to the vertical and the distance between the low friction pivots and the horizontal surface of the arm loading devices is (600 ± 10) mm. With the apparatus set as above, apply the specified load for the required number of cycles to both arm rests simultaneously for seating with only one seating position and to one arm rest only for seating with multiple seating positions.		X	-	-
UNE EN 1728:2013 7.5	**Armrest downward static load test – central** The arm rests shall be loaded vertically by means of the local loading pads (5.7). The loading points shall be at the mid point of the arm rest length and centred side to side. In the case of an arm rest which is not horizontal, or which is curved, the length is measured in a horizontal plane 20 mm below the highest point of the arm rest. Apply the force to both arm rests simultaneously (see Figure 29).		X	-	-

Clause	Requirements	Comments	OK	Fail	N/A
5.2	**Requirements** The strength and durability requirements are fulfilled when, after testing in accordance with Table 2: a) there are no fractures of any member, joint or component; b) there is no loosening of joints intended to be rigid; and c) the chair fulfils its functions after removal of the test loads.		X	-	-
5.3	**Rolling resistance test and requirements** The rolling resistance test shall be carried out after the stability (according to Table 1) and after the strength and durability tests (according to Table 2). The unloaded chair shall be tested for rolling resistance according to UNE EN 1728:2013, 6.30 and shall fulfil the following requirements: a) the castors shall be of identical construction; b) the rolling resistance shall be ≥ 12 N.		X	-	-
6	**Information for use**		X	-	-

Appendix I:

Test item	Test Requirement(Type C)	Result
Seat height and sitting height [a]	Adjustable: min. ≤430mm, max. ≥480mm Adjustment range: ≥80mm	Pass
Depth of the seat [b]	Adjustable: min. ≤425mm Adjustment range: no requirement	Pass
	Fixed: ≥425mm	
Height of lumbar support [f]	Adjustable: min. ≤170mm, max. ≥300mm Adjustment range: no requirement	Pass
	Fixed: 170mm - 300 mm	
Maximum distance from the backrest to the front of the armrests [q]	≤400mm	Pass
Hip breadth clearance when armrests are in widest position [r]	≥460mm	Pass
Clear distance between armrest pads [z]	Adjustable: min. ≤460mm, max. ≥510mm Adjustment range: no requirement	Pass
	Fixed: ≥460mm	
Height of armrests [p]	Adjustable: min. ≤200mm, max. ≥250mm Adjustment range: no requirement	Pass
	Non-adjustable: 200mm - 250 mm	
Seat pad width [d]	≥400mm	Pass
Seat pad depth [c]	≥380mm	Pass
Backrest height [h]	≥360mm	Pass
Backrest width [j]	≥360mm	Pass
Radius of backrest [k]	≥400mm	Pass
Armrest length [n]	≥150mm	Pass
Armrest width [o]	≥40mm	Pass
Offset of the underframe [s]	≤415mm	Pass
Angle between seat and back [γ]	≥90°	Pass
Backrest inclination range [l]	No requirement	N/A
Seat pad angle [e]	Adjustable: ≥-2° Adjustment range: Min. 5°	Pass
	Fixed: +2°– -7°	
Height of neck rest or head rest [x]	Adjustable: ≥590mm Adjustment range: no requirement	N/A
	Fixed: ≥590mm	

Product Photo:



TEST REPORT END