



BST Testing (Shenzhen) Co., Ltd.

Test Report No: BSTXD210425001004SR

Prepared For:	Jinhua Kafan Metal Products Co., Ltd. Mafuxia Village, Wangzhai Town, Wuyi County, Jinhua City, Zhejiang Province (Xuhong Guidu)
Product name:	Child seat fixing bracket
Model:	ZL-2022
Prepared by:	BST Testing (Shenzhen) Co., Ltd. No.7, New Era Industrial Zone, Guantian, Bao'an District, Shenzhen, Guangdong, China
Test date:	May 10-15, 2021
Date of report:	May 18, 2021
Report No.:	BSTXD210425001004SR

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Test Report No.:	BSTXD210425001004SR
Applicant's name:	Jinhua Kafan Metal Products Co., Ltd.
Address.....:	Mafuxia Village, Wangzhai Town, Wuyi County, Jinhua City, Zhejiang Province (Xuhong Guidu)
Test item description:	Child seat fixing bracket
Trade Mark.....:	KALASEN
Model/Type reference.....:	ZL-2022
Testing Laboratory name:	BST Testing (Shenzhen) Co.,Ltd.
Address.....:	1402 of Building 1, Songshan Lake High-tech Industrial Development Zone, Dongguan, Guangdong, China
Test specification:	
Standard:	EN 60068-2-1: 2007 EN 60068-2-2: 2007 EN 60068-2-11: 1999
Procedure deviation	N/A
Non-standard test method...:	N/A
Test item description.....	Child seat fixing bracket
Trade Mark	KALASEN
Model/Type reference.....	ZL-2022
Ratings	--
Test case verdicts	
- test case does not apply to the test object	N/A
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement.....	F (Fail)
- test case does not apply to the test object	N/A



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Product label

Child seat fixing bracket
Model: ZL-2022
Trademark: KALASEN



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Name and address of the testing laboratory: BST Testing (Shenzhen) Co.,Ltd.

**No.7, New Era Industrial Zone, Guantian, Bao'an District,
Shenzhen, Guangdong, China**

Test by:

Signature

Date

Technician

Title

Review by:

Signature

Date

Technician

Title

Approved by:

Signature

Date

Andy Yan/ Manager

Name and Title



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EN 60068-2-1: 2007			
Clause	Requirement + Test	Result - Remark	Verdict
POSSIBLE TEST CASE VERDICTS:			
- test case does not apply to the test object		N/A	
- test object does meet the requirement		P (Pass)	
- test object does not meet the requirement		F (Fail)	
TESTING:			
Date of receipt of test item.....		April 22, 2021	
Date (s) of performance of tests.....		May 10-15, 2021	
GENERAL REMARKS:			
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.			
GENERAL PRODUCT INFORMATION:			
The product is a "Child seat fixing bracket" which provide Seat Protection for child.			

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EN 60068-2-1: 2007			
Clause	Requirement + Test	Result - Remark	Verdict

Below requirement according to standard EN 60068-2-1: 2007

4.1	A specimen is considered to be heat-dissipating only if the hottest point on its surface, measured in free air conditions (i.e. with low air velocity circulation), is more than 5 K above the ambient temperature of the surrounding atmosphere after temperature stability has been reached (see 4.8 of IEC 60068-1). When the relevant specification calls for a storage or transportation test, or does not specify an applied load during the test, the Cold Test Ab will apply.		P
4.2	Ascertaining high or low air velocity in the test chamber	Complied	P
4.3	Non heat-dissipating specimens In Test Ab with gradual change of temperature, the specimen is introduced into the test chamber, the latter being at the laboratory temperature. The temperature in the chamber is then reduced gradually so as to cause no detrimental effects on the test specimen due to the temperature change. High air velocity is recommended as this will reduce the time required for temperature stabilization.		P
4.4	Testing of heat-dissipating specimens Tests Ad and Ae describe procedures for testing heat-dissipating specimens with low air velocity circulation. This is to allow localized hot spots to develop within the specimen similar to those that would appear in installed applications.	Non heat-dissipating specimens considered.	N/A
4.5	Temperature monitoring The air temperature in the chamber shall be measured by temperature sensors located at such a distance from the specimen that the effect of the dissipation is negligible. Suitable precautions shall be taken to avoid heat radiation affecting these measurements. For more information see IEC 60068-3-5.	Considered	P
4.6	Packaging For storage and transportation tests, equipment may be tested with its packaging in place. However, as these tests are steady-state tests, the equipment will eventually stabilize at chamber temperature. Packaging shall be removed unless the relevant specification requires it to remain in place, or heating elements are incorporated in the package.		P
4.7	Diagrammatic representations To facilitate the choice of test method, a		P



EN 60068-2-1: 2007			
Clause	Requirement + Test	Result - Remark	Verdict
	diagrammatic representation of the various procedures is given in Figure 1.		
5.1	General Tests Ab, Ad, and Ae are similar. Differences are noted in 5.2.2, 5.3.2 and 5.4.2. All other portions of the test are the same, starting with Clause 6. The rate of change of temperature within the chamber shall not exceed 1 K per minute, averaged over a period of not more than 5 min. The relevant specification shall define the functioning of the specimen under test. Care shall be taken to see that any cooling devices of the specimen are in accordance with the requirement in the relevant specification		P
	This procedure is intended for non heat-dissipating specimens which are subjected to a lower temperature for a time long enough for the specimen to achieve temperature stability.		P
5.2.1	Object This procedure is intended for non heat-dissipating specimens which are subjected to a lower temperature for a time long enough for the specimen to achieve temperature stability.		P
5.2.2	General description The specimen is introduced into the chamber which is at the temperature of the laboratory. The temperature is then adjusted to the temperature appropriate to the degree of severity, as specified in the relevant specification. After temperature stability of the test specimen has been reached, the specimen is exposed to these conditions for the specified duration. For specimens that are required to be operational (even though they do not meet the requirements of being heat dissipating), power shall then be applied to the specimen and a functional test is performed as necessary. A further period of stabilization may be necessary and the specimen shall then be exposed to the low temperature conditions for a duration as specified in the relevant specification. Specimens under test are normally in non-operating conditions. High air velocity circulation is normally used for this test.		P
5.3.1	Object This procedure is for heat-dissipating specimens which are subjected to a low temperature for a time long enough for the specimen to achieve temperature stability.		P
5.3.1	The specimen is introduced into the chamber which is at the temperature of the laboratory. If		P



EN 60068-2-1: 2007			
Clause	Requirement + Test	Result - Remark	Verdict
	necessary, a test is performed to determine if the chamber fulfils the requirements of low air velocity. The temperature is then adjusted to the temperature appropriate to the degree of severity, as specified in the relevant specification. After temperature stability of the test specimen has been reached, the specimen is powered on and stabilized again and then exposed to these conditions for the specified duration. The specimen shall remain in the operating condition in accordance with the duty cycle and at the loading condition (if applicable) as prescribed by the relevant specification. Low air velocity circulation is normally used for this test.		
5.4	Test Ae: Cold for heat-dissipating specimens with gradual change of temperature that are required to be powered throughout the test		P
6.1	Confirmation of performance EC 60068-3-5 provides guidance for the confirmation of performance of temperature test chambers. IEC 60068-3-1 provides general guidance for the performance of Tests A and B. The chamber shall be large enough compared with the size and amount of heat-dissipation of the test sample.		P
6.2	Working space The dimensions of the test sample shall be such that it is entirely within the working space of the test chamber. The temperature of incident air delivered to the test specimen shall be within ± 2 K of test severity temperature during the steady-state condition. The air temperature in the working space shall be measured in accordance with 4.5. Where, due to the size of the chamber, it is not feasible to maintain these tolerances, the tolerance may be widened to ± 3 K down to -25 °C and ± 5 K down to -65 °C. When this is done, the tolerance used shall be specified in the test report.		P
6.3	Thermal radiation The ability of the specimen to transfer heat by thermal radiation shall be minimized. This will normally result in the screening of any heating or cooling elements from the specimen and ensuring that parts of the chamber surfaces are not significantly different in temperature from that of the conditioning air.		P
6.4	Specimen with artificial cooling The relevant specification shall define the		P



EN 60068-2-1: 2007															
Clause	Requirement + Test	Result - Remark	Verdict												
	characteristics of the coolant supplied to the specimen. When the coolant is air, care shall be taken that the air is not contaminated by oil and dry enough to avoid moisture problems.														
6.5	Mounting Thermal conduction and other relevant characteristics of the mounting and connections of the test specimen should be specified in the relevant specification. When the test specimen is intended for use with specific mounting devices, these shall be used for testing.		P												
6.6	Severities The severities, as indicated by temperature and duration of exposure, shall be prescribed by the relevant specification. They shall be: a) chosen from the values given in 6.6.1 and 6.6.2; or b) derived from the known environment if this gives significantly different values; or c) derived from other known sources of relevant data (for example IEC 60721)		P												
6.6.1	Temperature <table><tr><td>- 65 °C</td><td>- 40 °C</td><td>- 20 °C</td><td>+ 5 °C</td></tr><tr><td>- 55 °C</td><td>- 33 °C</td><td>- 10 °C</td><td></td></tr><tr><td>- 50 °C</td><td>- 25 °C</td><td>- 5 °C</td><td></td></tr></table>	- 65 °C	- 40 °C	- 20 °C	+ 5 °C	- 55 °C	- 33 °C	- 10 °C		- 50 °C	- 25 °C	- 5 °C		-40	P
- 65 °C	- 40 °C	- 20 °C	+ 5 °C												
- 55 °C	- 33 °C	- 10 °C													
- 50 °C	- 25 °C	- 5 °C													
6.6.2	Duration <table><tr><td>2 h</td><td>72 h</td></tr><tr><td>16 h</td><td>96 h</td></tr></table> When this testing procedure is used in connection with tests associated with endurance or reliability, due note shall be taken of IEC publications that give particular recommendations for the duration of such tests.	2 h	72 h	16 h	96 h	96h	P								
2 h	72 h														
16 h	96 h														
6.7	The relevant specification may call for preconditioning		P												
6.8	The initial state of the specimen shall be known. This may be achieved by visual inspection, and/or functional tests as required by the relevant specification.		P												
6.9	Conditioning The specimen shall be exposed to the low temperature conditions for the duration, as detailed in the relevant specification. For the exceptional cases when the specimen does not achieve temperature stability, the		P												



EN 60068-2-1: 2007			
Clause	Requirement + Test	Result - Remark	Verdict
	duration of the test starts at the time that the specimen is energized. Such cases are typically caused by specimens having long duty cycles.		
6.10	Intermediate measurements The relevant specification may call for loading and/or measurements during or at the end of conditioning while the specimen is still in the chamber. If such measurements are required, the relevant specification shall define the measurements and the period(s) after which they shall be carried out. For these measurements, the specimen shall not be removed from the chamber.		P
6.11	Final temperature ramp If the specimen remains in operating or loaded condition during the test, it shall be switched off or unloaded before the temperature is raised with the exception of Test Ae in which the specimen shall remain operational throughout the recovery period. At the end of the specified duration, the specimen shall remain in the chamber and the temperature shall be gradually raised to a value lying within the limits of standard atmospheric conditions for testing. The rate of change of temperature within the chamber shall not exceed 1 K per minute, averaged over a period of not more than 5 min.		P
6.12	Recovery The specimen shall be subjected to the recovery procedure in the chamber or otherwise, as deemed suitable. Appropriate steps may be taken to remove droplets of water, as required, without damaging the specimen. The specimen shall then remain under standard atmospheric conditions for recovery for a period adequate for the attainment of temperature stability, with a minimum of 1 h. If required by the relevant specification, the specimen shall be switched on or loaded and measured continuously during the recovery period. If the standard conditions given above are not appropriate for the specimen to be tested, the relevant specification may call for other recovery conditions.		P
6.13	Final measurements The specimen shall be visually inspected and such performance checks made as are required by the relevant specification.		P



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EN 60068-2-1: 2007			
Clause	Requirement + Test	Result - Remark	Verdict
7	Information to be given in the relevant specification When Test A: Cold is included in the relevant specification, the following details shall be given, as far as they are applicable: a) type of test; b) preconditioning; c) initial measurements; d) details of mounting or supports; e) state of specimen including cooling system during conditioning; f) severity, temperature and duration of exposure; g) rate of change of temperature; h) measurements and/or loading during conditioning; i) recovery if non-standard; j) final measurements; k) any deviation in procedure as agreed upon between customer and supplier; l) temperature difference if low air velocity was not established (see 4.2).		P

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EN 60068-2-1: 2007			
Clause	Requirement + Test	Result - Remark	Verdict

Below requirement according to standard EN 60068-2-2: 2007

6.1	Confirmation of performance IEC 60068-3-5 provides guidance for the confirmation of performance of temperature test chambers. IEC 60068-3-1 provides general guidance for the performance of tests A and B. The chamber shall be large enough compared with the size and amount of heat-dissipation of the test sample.		P
6.2	Working space The dimensions of the test sample shall be such that it is entirely within the working space of the test chamber. The temperature of the incident air delivered to the test specimen shall be within ± 2 K of test severity temperature during the steady state conditions. The air temperature in the working space shall be measured in accordance with Subclause 4.5.		P
6.3	Thermal radiation The ability of the specimen to transfer heat by thermal radiation shall be minimised. This will normally result in the screening of any heating or cooling elements from the specimen and ensuring that parts of the chamber surfaces are not significantly different in temperature from that of the conditioning air.		P
6.4	The thermal conduction and other relevant characteristics of the mounting and connections of the test specimen should be specified in the relevant specification. When the test specimen is intended for use with specific mounting devices, these shall be used for testing.		P
6.5	Severities		P
6.5.1	General The severities, as indicated by temperature and duration of exposure, shall be prescribed by the relevant specification. They shall be a) chosen from the values given in 6.5.2 and 6.5.3; or b) derived from the known environment if this gives significantly different values; or c) derived from other known sources of relevant data (for example IEC 60721).		P



BST Testing (Shenzhen) Co., Ltd.

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EN 60068-2-1: 2007			
Clause	Requirement + Test	Result - Remark	Verdict
6.5.2	6.5.2 Temperature +1 000 °C +250 °C +85 °C +45 °C +800 °C +200 °C +70 °C +40 °C +630 °C +175 °C +65 °C +35 °C +500 °C +155 °C +60 °C +30 °C +400 °C +125 °C +55 °C +315 °C +100 °C +50 °C	200C	
6.5.3	6.5.3 Duration 2 h 72 h 168 h 336 h 16 h 96 h 240 h 1 000 h	168h	
6.6	Preconditioning The relevant specification may call for a preconditioning.		P
6.7	Initial measurements The initial state of the specimen shall be known. This may be achieved by visual inspection, and/or functional tests as required by the relevant specification.		P
6.8.1	Steady state conditions		P
6.8.2	Absolute humidity		P
6.9	Intermediate measurements		P
6.10	Final temperature ramp		P
6.11	Recovery		P
6.12	Specimen with artificial cooling		P
6.13	Final measurements		P
7	Information to be given in the relevant specification		P

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EN 60068-2-2: 2007			
Clause	Requirement + Test	Result - Remark	Verdict

Salt mist according to standard EN 60068-2-11: 1999

4	Salt mist		P
4.1	Concentration The salt used for the test shall be high quality sodium chloride (NaCl) containing, when dry, The salt solution concentration shall be 5f 1YOb by weight. The solution shall be prepared by dissolving 5 not more than 0.1% sodium iodide and not more than 0.3% of total impurities. 1 parts by weight of salt in 95 parts by weight of distilled or demineralized water.	Complied	P
4.2	p H value The pH value of the solution shall be between 6.5 and 7.2, at a temperature of 35+2 OC. The pH value shall be maintained within this range during conditioning; for this purpose, diluted hydrochloric acid or sodium hydroxide may be used to adjust the pH value provided that the concentrations of NaCl remains within the prescribed limits. The pH shall be measured when preparing each new batch of solution. The pH value may need to be adjusted, within the limits specified above, to 'meet the requirements of Clause 7.	Ph: 7.0, Complied	P
4.1.3	The sprayed solution shall not be re-used.		P
4.2	Air supply as oil and dust. The compressed air entering the atomizer(s) shall be essentially free from all impurities, such Means shall be provided to humidify and warm the compressed air as required to meet the operating conditions. The air pressure shall be suitable to produce a finely divided dense mist with the atomizer(s) used. To ensure against cloggingof the atomizer by salt deposition, it is recommended that the air have a relative humidity of at least 85% at the point of release from the nozzle. A satisfactory method is to pass the air in very fine bubbles through a tower containing heated water which shall be automatically maintained at a constant level. The temperature of this water should be at least 35 "C. The permissible water temperature increases with increasing volume of air and with decreasing heat insulation of the chamber and the surroundings of the chamber.		P



EN 60068-2-2: 2007			
Clause	Requirement + Test	Result - Remark	Verdict
	The temperature should not exceed a value above which an excess of moisture is introduced into the chamber or a value which makes it impossible to meet the requirements for operating temperature.		
5	Initial measurements The test specimens shall be visually examined and, if necessary, electrically and mechanically checked as required by the relevant specification.		P
6	Pre-conditioning The relevant specification shall prescribe the cleaning procedure to be applied immediately before the test; it shall also state whether temporary protective coatings shall be removed		P
7	Conditioning The specimens shall be tested in their normal operating positions according to the relevant specification. They shall therefore be divided into lots, and each lot shall be tested in one of the operating positions. The specimens shall not be in contact with each other or with other metal parts, and shall be so arranged as to exclude any influence of one part upon another.		P
7.2	The temperature of the test chamber shall be maintained at 35 ± 2 °C.		P
7.3	The salt mist conditions shall be maintained in all parts of the exposure zone, such that a clean collecting receptacle with a horizontal collecting area of 80 cm ² , placed at any point in the exposure zone, shall collect between 1.0 ml and 2.0 ml of solution per hour averaged over a minimum period of 16h. A minimum of two receptacles shall be used. The receptacles shall be placed such that they are not shielded by the test specimens and so that no condensate from any source will be collected. The contents of the receptacles may be combined, if necessary, for the measurements of pH values and concentration. Collection of the solution shall be made either before or during the test, as specified in Subclause 7.5.		P
7.4	The solution as collected in Sub-clause 7.3 shall, when measured at 35 ± 2 °C, have concentration and pH as specified in Sub-clauses 4.1.1 and 4.1.2 respectively.		P
7.5	The measurement of both concentration and pH shall be made at the following times:		P



EN 60068-2-2: 2007			
Clause	Requirement + Test	Result - Remark	Verdict
	a) For chambers in continuous use, measurements shall be made following each test, on the solution collected during the test.		
	b) For chambers not used continuously, a trial run between 16 and 24 h shall be made before the tests are performed. The measurements shall be made immediately following the trial run and before exposing the specimens to be tested. Measurements as detailed in Item a) above will also be made to ensure constant test conditions		P
7.6	The relevant specification shall prescribe one of the following conditioning durations: 16 h, 24 h, 48 h (2 days), 96 h (4 days), 168 h (1 week), 336 h (2 weeks), 672 h (4 weeks).	168h	P
	Recovery At the completion of the test, small specimens, unless otherwise specified by the relevant specification, shall be washed in running tap water for 5 min, rinsed in distilled or demineralized water then shaken by hand or subjected to air blast to remove droplets of water. The temperature of the water used for washing shall not exceed 35 OC. If necessary, the relevant specification shall detail the methods to be used for washing and the specimens shall then be stored under standard recovery conditions for not less than 1 h drying larger specimens. and not more than 2 h.		P
9	Final measurements The specimens shall be visually inspected and, if necessary, electrically and mechanically checked as required by the relevant specification. The results shall be recorded.		P
10	Test reports Reports on this test shall include information necessary to compare the specimen tested. In addition, the duration of the exposure and the orientation in the test chamber shall be given. The measurement of concentration and pH shall also be included in the report	Considered	P
11	Information to be given in the relevant specification a) Initial measurements Clause 5 b) Pre-conditioning Clause 6 c) Position of the specimens during the test Sub-clause 7.1 d) Test duration Sub-clause 7.6 e) Recovery Clause 8 f) Final measurements Clause	Complied	P



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Product photo



Report end