ZHEJIANG LEJIAN AMUSEMENT TOYS CO.,LTD

CE

TEST REPORT

Prepared For :	ZHEJIANG LEJIAN AMUSEMENT TOYS CO.,LTD Qianshi Industrial Zone, Huangtian, Yongjia, Wenzhou, Zhejiang, China
Manufacturer	ZHEJIANG LEJIAN AMUSEMENT TOYS CO.,LTD Qianshi Industrial Zone, Huangtian, Yongjia, Wenzhou, Zhejiang, China
Product Name:	indoor playground equipment (trampoline and playground)
Trade mark:	/
Model :	trampoline001
Add. Model :	playground001
Testing institutions: Testing institutions address:	CTIC Testing Group (Guangdong) Co., Ltd. 201, Building A1 Lilang International Jewelry industrial Park, No.31, BulanRoad,Xialilang Community,Nanwan Street, Longgang District, Shenzhen,Guangdong,China
Test Date:	Jul.26,2024 To Aug.06,2024
Date of Report :	Aug.06,2024
Report No.:	CTICAK2352423250806120AR

CTIC Testing Group (Guangdong) Co., Ltd. APPROVED

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Test judgement terms:	
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 environment:	
temperature ……:	15-25℃
Humidity……:	50-65%RH
Pressure……:	101kPa
General remarks:	

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2. If the report is not tested, the signature of the approving personnel is invalid.
3. The report is invalid if altered.
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5. The test results in this report are only valid for the tested samples.
6. Objections to this report should be raised within 15 days of receipt of the report.

TEST REPORT DECLARATION

Applicant	:	ZHEJIANG LEJIAN AMUSEMENT TOYS CO.,LTD
Address	:	Qianshi Industrial Zone, Huangtian, Yongjia, Wenzhou, Zhejiang, China
EUT Description	:	indoor playground equipment (trampoline and playground)
Model Number	:	trampoline001
Testing laboratory		
Name	:	CTIC Testing Group (Guangdong) Co., Ltd.
Address	:	201, Building A1 Lilang International Jewelry industrial Park, No.31, BulanRoad,Xialilang Community,Nanwan Street, Longgang District, Shenzhen,Guangdong,China

Test Standards:

EN 1176-1-2017 Playground equipment and surfacing Part 1: General safety requirements and test methods

The EUT described above is tested by CTIC Testing Group (Guangdong) Co., Ltd. Reliability Laboratory to determine the harsh environments from the EUT and ensure the Reliability to be compliance with the environments requirements of the EUT. CTIC Testing Group (Guangdong) Co., Ltd. Reliability Laboratory is assumed full responsibility for the accuracy of the test results.
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Tested by: Chen Liang Reviewed: Jack Wang Approved:

CTIC Testing Group (Guangdong) Co., Ltd. APPROVED

EN 1176			
Clause	Requirement + Test	Result - Remark	Verdict
4	**Safety requirements**		P
4.1	**Materials**		P
4.1.1	**General**		P
	Materials shall be selected and protected such that the structural integrity of the equipment manufactured from them is not affected before the next relevant maintenance inspection.		P
	Materials should be manufactured in a workmanlike manner.		P
	Special attention should be given to surface coatings to avoid potential toxic hazards.		P
	The choice of materials should be appropriate where extreme climatic or atmospheric conditions are to be expected.		P
	Where very low or very high temperatures can be anticipated care should be taken on material selection to avoid possible hazards through direct skin contact.		P
	In the choice of a material or substance for playground equipment, consideration should be given to the eventual disposal of the material or substance having regard to any possible environmental toxic hazard.		P
4.1.2	**Flammability**		P
	To avoid the risk of fire and associated hazards, materials known to produce surface flash shall not be used. Particular attention should be given to newly developed products whose properties might not be fully known.		P
4.1.3	**Timber and associated products**		N
	Timber parts shall be designed in such a way that precipitation can drain off freely and water accumulation shall be avoided.		N
	In cases of ground contact, one or more of the following methods shall be used:		N
	a) use of timber species with sufficient natural resistance in accordance with classes 1 and 2 of the natural resistance classification given in EN 350-2:1994, 4.2.2;		N
	b) construction methods, e.g. post shoe;		N
	c) use of timber treated with wood preservatives in accordance with EN 351-1:2007, Figure A.1 and in accordance with EN 335-2:2006, use class 4.		N

	All components made of timber and associated products, other than those species conforming to a), that affect the stability of the structure and are in constant contact with the ground shall be treated in accordance with c).		N
	Plywood shall be in accordance with EN 636 and shall be weatherproofed.		N
	When selecting metal fastenings, consideration should be given to the species of timber and chemical treatments used as some will accelerate corrosion of metals if there is contact between them.		N
4.1.4	**Metals**		P
	Metal parts should be protected against atmospheric conditions and cathodic corrosion.		P
	Metals that produce toxic oxides that scale or flake shall be protected by a non-toxic coating.	No such metals	N
4.1.5	**Synthetics**		P
	manufacturers shall give an indication of the time period after which the part or equipment should be replaced.		P
	It should be possible for the operator of the playground to visually identify excessive wear of the gelcoat of GRP (glass-reinforced plastics) products intended for sliding before the user becomes exposed to the glass fibres	No such product	N
4.1.6	**Dangerous substances**		N
	Dangerous substances shall not be used in playground equipment in such a way that they can cause adverse health effects to the user of the equipment.		N
4.2	**Design and manufacture**		P
4.2.1	**General**		P
	Equipment where the primary play function is augmented by a secondary motion, e.g. rocking and/or rotating, shall conform to the additional parts of EN 1176 relating to both play functions, as appropriate, unless the equipment is specifically covered in just one of the additional parts of EN 1176.		P
	The dimensions and degree of difficulty of the equipment should be suitable for the intended user group. The equipment should be designed so that the risk involved in play is apparent and foreseeable by the child.		P
	Except when intended for water play, all parts of playground equipment should be designed so that they do not accumulate water.		P
4.2.2	**Structural integrity**		P
	For playground equipment, the structural integrity for the worst case of the intended combinations		P

	shall be proved.		
	Structural integrity, including stability of the equipment shall be assessed by one of the following:		--
	a) calculation, in accordance with Annexes A and B;		P
	b) physical testing, in accordance with Annex C; or		P
	c) combination of a) and b).		P
	For some equipment, these specific calculations or tests are not always appropriate, but the structural integrity shall be at least equivalent		P
4.2.3	**Accessibility for adults**		P
	Playground equipment shall be designed to ensure that adults are able to gain access to assist children within the equipment.		P
	Enclosed parts of the equipment such as tunnels and playhouses, with an internal distance greater than 2 000 mm from an entry point shall have at least two access openings that are independent of one another and situated on different sides of the equipment. These openings shall not be capable of being locked and shall be accessible without any additional aids, These access openings shall have no dimension less than 500 mm.	The internal distance less than 2000mm	N
	Because of the risk of fire, these two openings shall allow the user to leave the equipment by different routes		P
4.2.4	**Protection against falling**		P
4.2.4.1	**Types of protection**		P
	When installed on ramps or stairs, handrails, guardrails or barriers shall commence at the lowest position on the ramp or stairs.		P
4.2.4.2	**Handrails**		P
	Handrails shall be not less than 600 mm and not more than 850 mm above the foot position (see Figure 9). As a minimum, handrails shall conform to the requirements for grasp see 4.2.4.7.		P
4.2.4.3	**Guardrails**		P
	For equipment other than that which is easily accessible, guardrails shall be provided when the platform is 1 000 mm to 2 000 mm above the playing surface. The height to the top of the guardrail shall be not less than 600 mm and not more than 850 mm measured from the surface of the platform, stairs or ramp.		P
	Guardrails shall completely surround the platform except for entrance and exit openings necessary for each play element. The width of entrance and exit openings in guardrails, with the exception of		P

	stairs, ramps and bridges, shall have a maximum clear opening of 500 mm. For stairs, ramps and bridges the width of the exit opening in the guardrail shall be no greater than the width of these elements.		
4.2.4.4	**Barriers**		P
	There shall be no intermediate horizontal or near horizontal rails or bars that can be used as steps by children attempting to climb. The design of the top of the barriers should not encourage children to stand or sit on them, nor should any infilling encourage climbing.		P
	For equipment other than easily accessible, barriers shall be provided when the platform is more than 2 000 mm above the playing surface.		N
	For easily accessible equipment barriers shall be provided when the platform is more than 600 mm above the playing surface.		N
	Openings in the barrier of easily accessible equipment/parts of equipment that give access to steep play elements shall conform to the requirements of 4.2.9.4. For all other equipment, openings in the barrier provided with a guardrail, which give access to steep play elements, shall not be greater than 1 200 mm (see Figure 10 c).		N
4.2.4.5	**Strength requirements**		P
4.2.4.6	**Grip requirements**		P
	The cross section of any support designed to be gripped (see Figure 5) shall have a dimension of not less than 16 mm or more than 45 mm in any direction, when measured across its centre.		P
4.2.4.7	**Grasp requirements**		P
	The cross section of any support designed to be grasped (see Figure 6) shall have a width not exceeding 60 mm.		P
4.2.5	**Finish of equipment**		P
	Wooden equipment shall be made of wood with a low susceptibility to splintering. The surface finish of equipment made of other materials (e.g. glass fibre) shall be non-splintering.		P
	There shall be no protruding nails, projecting wire rope terminations or pointed or sharp-edged components. Rough surfaces should not present any risk of injury. Protruding bolt threads within any accessible part of the equipment shall be permanently covered, e.g. dome headed nuts. Nuts and bolt heads that project less than 8 mm shall be free from burrs. All welds shall be ground smooth.		P
	Corners, edges and projecting parts within the space occupied by the user that protrude more than 8 mm, and which are not shielded by adjacent areas that are not more than 25 mm from the end of the projecting part, shall be		P

	rounded off. The minimum radius of the curve shall be 3 mm.		
	Corners, edges and projections with a radius less than 3 mm may be in other accessible parts of the equipment only if they are not sharp.		P
4.2.6	**Moving parts**		N
	There shall be no crushing points or shearing points between moving and/or stationary parts of the equipment, in accordance with 4.2.7.		N
	Parts from which a high impact force can emanate should have an attenuating construction.		N
	If moving parts of the equipment can endanger the body, there shall be a ground clearance of at least 400 mm to the ground.		N
4.2.7	**Protection against entrapment**		P
4.2.7.1	**General**		P
4.2.7.2	**Entrapment of the head and neck**		P
	Equipment shall be constructed so that any openings do not create head and neck entrapment hazards either by head first or feet first passage.		P
	Hazardous situations in which this type of entrapment can be encountered include the following:		P
	-completely bound openings through which a user may slide feet first or head first;		P
	partially bound or V-shaped openings;		N
	other openings (e.g. shearing or moving openings).		P
a)	**Completely bound openings:**		P
	Accessible completely bound openings with a lower edge more than 600 mm above ground shall be tested in accordance with D.2.1.		P
	Probes C or E shall not pass through any opening unless it also allows the passage of the large head probe D.		P
b)	**Partially bound and V-shaped openings:**		N
c)	**Other openings (e.g. shearing or moving openings):**		P
	Openings between the flexible parts of suspended bridges and any rigid side members shall be not less than 230 mm in diameter under the worst case condition of loading (see 4.2.2). Both loaded and unloaded situations shall be considered.		P
4.2.7.3	**Entrapment of clothing/hair**		P
	Equipment should be constructed so that hazardous situations including:		P
	a) gaps or V-shaped openings in which a part of clothing can become trapped while or immediately before the user is undergoing a		N

	forced movement;		
	b) protrusions; and		P
	c) spindles/rotating parts		P
	Special consideration should be given when using elements of circular cross-section, e.g. round tubes or poles, to avoid clothing entanglement within the falling space.		P
	Spindles and rotating parts shall be constructed so as to prevent entanglement of clothing or hair		P
4.2.7.4	**Entrapment of the whole body**		P
	Equipment should be constructed so that the following hazardous situations, which might cause entrapment, are not created:		P
	a) tunnels into which children can crawl with their whole body; and		P
	b) suspended parts which are heavy or have rigid suspension		P
4.2.7.5	**Entrapment of the foot or leg**		P
	Equipment should be constructed so that the following hazardous situations, which might cause entrapment, are not created:		P
	a) completely bound rigid openings in surfaces on which children can run or climb; and		P
	b) footholds, handholds, etc. extending from these surfaces.		P
	Surfaces intended for running/walking shall not contain gaps likely to cause foot or leg entrapment. Gaps in the main direction of travel shall not be greater than 30 mm when measured across the direction of travel, (see Figure 13).		P
4.2.7.6	**Entrapment of fingers**		P
	Equipment should be constructed so that the following hazardous situations, which might cause entrapment, are not created:		P
	a) gaps in which fingers can be trapped whilst the remainder of the body is moving or continues in forced movement, for example sliding, swinging; and		P
	b) variable gaps (excluding chains).		P
	c) 8 mm finger rod (see Figure D.10 a)) shall not pass through the minimum cross-section of the opening and the profile of the opening shall be such that the rod cannot be locked in any position when set in motion as given in D.4.2; or		P
	d) if the 8 mm finger rod passes through the opening, the 25 mm finger rod (see Figure D.10 b)) shall also pass through the opening, provided that the opening does not permit access to another finger entrapment site.		N
4.2.8	**Protection against injuries during movement and falling**		P
4.2.8.1	**Determination of free height of fall**		P

	In the case of roofs, or other features not intended for play, it is not required for them to be included in the free height of fall where access has not been encouraged.		P
4.2.8.2	**Determination of spaces and areas**		P
4.2.8.2.1	**General**		P
4.2.8.2.2	**Minimum space**		P
4.2.8.2.3	**Free space**		P
	Fireman's poles that are accessed via a platform or other starting point shall have a clearance of at least 350 mm from the pole to the edge of the adjacent structure.		P
4.2.8.2.4	**Extent of the impact area**		P
	In certain cases, such as a carousel giving the user a horizontal speed, the impact area may be extended to provide adequate protection against falling injuries.		P
	In determining the impact area the possible movements of the equipment and the user shall be taken into account.		P
4.2.8.2.5	**Extent of the falling space**		P
	Unless otherwise specified, the extent of the falling space shall be at least 1,5 m around elevated parts of the equipment, measured horizontally and extending from the vertical projection plane below the equipment.		P
	In most cases there may be overlapping of falling spaces including impact areas. Unless specified in other parts of this standard, overlapping of the falling space where forced movement exists should not occur.		P
	The falling space shall increase for free heights of fall above 1,5 m together with the extent of the impact area (see 4.2.8.2.4). This requirement can be varied in certain cases, e.g. increased, in the case of forced movement or reduced, in the case of equipment installed on or against a wall or fully enclosed equipment.		P
4.2.8.3	**Protection against injuries in the free space for users undergoing a movement that is forced by the equipment**		P
	The free space shall not contain any obstacles that interfere with the passage of a user whilst undergoing a forced movement e.g. tree branches, ropes, cross beams etc. Parts of the equipment bearing or containing the user, or helping the user to keep balance, shall be permitted within the free space, e.g. a platform with a fireman's pole (see 4.2.8.2.3).		P
4.2.8.4	**Protection against injuries in the falling space**		P
	The following parts of play structures may be in the falling space		P

	adjacent parts of play structures with a difference in free height of fall of less than 600 mm; - parts of the equipment bearing or containing the user, or helping the user to keep balance; parts of the equipment with an inclination of 60° or more from the horizontal.		P
4.2.8.5	**Protection against injuries from the surface of the impact area**		P
4.2.8.5.1	**General**		P
	The surface of the impact area shall be free from sharp edged parts or projections and shall be installed without creating any entrapment situation (see 4.2.7).		P
4.2.8.5.2	**Equipment with a free height of fall greater than 600 mm or with forced movement**		P
	Beneath all playground equipment with a free height of fall of more than 600 mm and/or equipment causing a forced movement on the body of the user (e.g. swings, slides, rocking equipment, cableways, carousels, etc.), there shall be impact attenuating surfacing over the entire impact area.		P
	The critical fall height of the surfacing shall be equal to, or greater than, the free height of fall of the equipment.		P
	Examples for commonly used impact attenuating materials are given in Table 4 with the related critical fall heights, tested in accordance with EN 1177 and measured partly on site and partly in the laboratory with different test conditions. For material specifications and thicknesses not covered by Table 4, EN 1177 shall be used as the method of test for the determination of the critical fall height.		P
4.2.8.5.3	**Equipment with a free height of fall not exceeding 600 mm and without forced movement**		N
	It is not necessary to test the critical fall height of a surface beneath playground equipment having a free fall height of less than 600 mm and which does not cause forced movement on the body of the user.		N
4.2.8.5.4	**Adjacent platforms**		N
4.2.8.6	**Protection against injuries due to other types of movement**		P
	The space in, on or around the equipment that can be occupied by the user shall not contain any obstacles that the user is not likely to expect and which could cause injuries if hit by the user.		P
4.2.9	**Means of access**		P
4.2.9.1	**Ladders**		N
	To allow for the foot to rest correctly on the rung or step there shall be an unobstructed space at the rear of the ladder of at least 90 mm from the		N

	centre of the rung or tread measured at 90° to the ladder.		
	Rungs and steps shall be horizontal to within ± 3°.		N
4.2.9.2	**Stairs**		P
	For stairs leading to platforms up to 1 m in height a guardrail may replace the barrier, providing the gap beneath the guardrail is less than 600 mm when measured from the middle of the tread.		P
	Where a set of stairs is higher than 1 m and of a greater inclination than 45°, the barrier shall comply with the requirements for grasp or a handrail shall be provided.		P
4.2.9.3	**Ramps**		P
	Ramps shall be inclined at an angle of up to 38° to the horizontal and shall be of a constant angle.		P
	For ramps leading to platforms up to 1 m in height a guardrail may replace the barrier, providing the gap beneath the guardrail is less than 600 mm. Guardrails shall be provided from the beginning of the ramp.		P
	Ramps shall be level within ± 3° across their width. To reduce the risk of slipping, ramps expected to be used by all children shall include means to improve the grip of the foot.		P
4.2.9.4	**Steep play elements**		N
	For steep play elements provided on easily accessible parts of equipment the opening in the barrier shall be 500 mm maximum and the free height of fall of the platform shall be 2 000 mm maximum.		N
4.2.9.5	**Easily accessible playground equipment**		N
	Ladders are a means of easy access to the equipment, unless the first rung is greater than 400 mm from the ground surface.		N
4.2.10	**Connections**		P
	Connections shall be secured such that they cannot come loose of their own accord unless specifically designed to do so.		P
4.2.11	**Consumable components**		N
	Components subjected to wear or designed to be renewed during the life of the equipment, for example bearings, shall be capable of being replaced.		N
4.2.12	**Ropes**		P
4.2.12.1	**Ropes fixed at one end**		P
	For suspended ropes between 1 m and 2 m in length, the distance between ropes fixed at one end and fixed equipment shall be not less than 600 mm and the distance between ropes fixed at one end and swinging equipment shall be not less than 900 mm.		P

	For suspended ropes of between 2 m and 4 m in length, the distance between ropes fixed at one end and other parts of equipment shall be not less than 1 m.		P
	The rope diameter shall be between 25 mm and 45 mm.		P
4.2.12.2	**Ropes fixed at both ends (climbing ropes)**	No climbing ropes	N
	For a rope fixed at both ends, typically for climbing up and not part of a larger net structure, it shall not be possible to make a loop in the rope that is wide enough to let probe C pass through (see Figure D.1).		N
4.2.12.3	**Wire ropes**		N
	Wire ropes shall be unstressed and shall be made from galvanized or corrosion-resistant wire		N
	Ferrules shall conform to EN 13411-3 and the rope end shall coincide with the edge of the grip.		N
4.2.12.4	**Sheathed wire ropes**		N
	When sheathed wire ropes are used for climbing ropes, climbing nets, hanging ropes and the like, each strand shall be sheathed with yarn made from synthetic or natural fibres. The sheath shall not contain monofilament or split yarns.		N
4.2.12.5	**Fibre ropes (textile type)**		P
	Fibre ropes shall either:		P
	a) conform to EN ISO 9554 or EN ISO 2307, or		P
	b) manufacturer shall supply a works certificate stating the material used and the safe working load		P
	Monofilament plastic ropes or ropes made from similar materials shall not be used.		P
4.2.13	**Chains**	No Chains	N
	Chains for playground equipment shall conform to ISO 1834 as a minimum and shall have a maximum opening of 8,6 mm in any one direction except where connections are made, where the maximum opening shall be greater than 12 mm or less than 8,6 mm.		N
4.2.14	**Foundations**		P
	The foundations shall be designed such that they do not present a hazard (tripping, impact). In loose fill surfaces (e.g. sand), foundations shall be installed or laid in accordance with one of the following:		P
	a) so that pedestals. footings and fixing elements on the equipment are at least 400 mm below the playing surface or;		P
	b) if the tops of the foundations are as shown in Figure 23 at least 200 mm below the surface: or		N
	c) so that they are covered by items of equipment or equipment parts (e.g. central foundation of a roundabout.)		N

	Any parts that protrude from the foundations such as the ends of screws, shall be at least 400 mm below the playing surface unless they are effectively covered and finished as described in 4.2.5.		P
4.2.15	**Heavy suspended beams**		N
	There shall be a ground clearance of at least 400 mm underneath heavy suspended beams		N
	The heavy suspended beam shall be so constructed that all changes in the profile of the beam shall have a radius of at least 50 mm.		N
	The range of movement (*a* in Figure 24) shall not exceed 100 mm and shall not go beyond the support posts.		N
	The distance between the support posts and the heavy suspended beam (*b*) shall not be less than 230 mm throughout its full range of movement.		N
5	**Test methods and reports**		P
	Unless otherwise specified the requirements of Clause 4 shall be verified by measurement, visual examination or practical tests.		P
	Before testing, the equipment shall be assembled in accordance with the manufacturer's instructions into a condition similar to its position of use.		P

6	**Information to be provided by the manufacturer/supplier**		P
6.1	**Information to be provided by the manufacturer/supplier of playground equipment**		P
6.1.1	**General product information**		P
a)	instructions shall be printed legibly and in a simple form		P
b)	illustrations shall be used wherever possible; and		P
c)	instructions shall include at least the following information		P
	1) details of the installation, operation, inspection and maintenance ofthe equipment		P
	2) clause or note drawing the operator's attention to the need to increase inspection/ maintenance if the equipment is subject to heavy use and /or the stability of the equipment relies on one post		P
	3) advice to take care, in relation to specific hazards to children, due to incomplete installation or dismantling, or during maintenance		P
6.1.2	**Pre-information**		P
6.1.3	**Installation information**		P
	The manufacturer/supplier shall supply an equipment delivery parts list with the equipment.		P
6.1.4	**Inspection and maintenance information**		P
6.1.4.1	The manufacturer/supplier shall provide instructions for maintenance (marked with the number of this standard), which shall include a statement that the frequency of inspection will vary with the type of equipment, e.g. equipment where the stability relies on one post, or materials used and other factors, e.g. heavy use, levels of vandalism, coastal location, air pollution, age of equipment.		P
6.1.4.2	The instructions shall specify the frequency with which the equipment or its components should be inspected or maintained and shall include guidance on the following, where relevant:		P
	a) routine visual inspection		P
	b) operational inspection		P
	c) annual main inspection		P
6.1.4.3	The instructions shall also specify the following		P
	a) if necessary, the servicing points and methods of servicing, e.g. lubrication, tightening of bolts, retensioning of ropes;		P
	b) that replacement parts shall conform to manufacturer's specifications;		P

	c) if special disposal treatment is required for some equipment or parts;		P
	d) identification of spare parts;		P
	e) any additional measures to be taken during the run-in period, e.g. tightening of fastenings, tensioning of ropes;		P
	f) need to keep drainage holes clear;		P
	g) that surfacing shall be maintained: in particular, the levels of loose fill materials;		P
	h) that GRP (glass-reinforced plastics) should be replaced or repaired before the glass fibres become exposed through wear or damage. This particularly applies to slides.		N
6.2	Information to be provided by the manufacturer or supplier of impact-attenuating surfacing		P
6.2.1	Pre-information		P
6.2.2	Installation		P
6.2.3	Inspection and maintenance		P
6.2.4	Identification of impact-attenuating playground surfacing		P

7	**Marking**		P
7.1	**Equipment identification**		P
	a) name and address of manufacturer or authorized representative	ZHEJIANG LEJIAN AMUSEMENT TOYS CO.,LTD	P
	b) equipment reference and year of manufacture; and	Model .trampoline001 year of manufacture 2024	P
	c) the number and date of this European Standard	EN 1176	P
7.2	Basic level mark		P

Annex A	Loads		P
A.1	Permanent loads		P
A.1.1	General		P
A.1.2	Self weight		P
A.1.3	Pre-stressing loads		P
	Pre-stressing loads are considered to be permanent loads. The maximum and minimum pre-stressing loads have to be considered.		P
A1.4	Mass of water		N
A2	Variable loads		N
A2.1	General		N
A2.2	User loads		N
A2.3	Snow loads		N
A2.4	Wind loads		N
A2.5	Temperature loads		N
A2.6	Specific loads		N
A3	Number of users on the equipment		P
A3.1	General		P
A3.2	Number of users on a point		P
A3.3	Number of users on line type elements		P
A3.4	Number of users on an area		P
A3.5	Number of users in a volume		P

Annex B	**Method of calculation of structural integrity**		P
B1	General principles: Limit state		P
B1.1	Limit state		P
	Each structure and structural element, e.g. connections, foundations, supports, shall be calculated taking into account the load combinations of B.2.		P
B1.2	**Ultimate limit state**		P
	Ultimate limit states requiring consideration include		P
	a) loss of equilibrium of the structure or any part of it, considered as a rigid body		P
	b) failure by excessive deformation, rupture, or loss of stability of the structure or any part of it.		P
B1.3	Serviceability limit state		P
	Where serviceability requirements are made, the preferred method of calculation shall be based on the principles for serviceability limit state as specified in the appropriate structural Eurocodes.		P
B2	Load combinations for static analysis		P
B3	Worked example of the calculation of user loads (without safety factors)		P
B3.1	General		P
B3.2	Platform		P
B3.3	Barrier		N
B3.4	Ladder		N
B3.5	Complete structure		P
B4	Calculation of forces acting on a swing seat		P
B5	Worked examples for forces acting on a swing (without safety factors)		P
B6	Calculation of forces acting on the cable of a cableway		P
B7	Worked example for forces acting on a cableway (without safety factors)		P

Appendix 1

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