

Technical Construction File
EN 1176-1:2017+A1:2023, EN 1176-3:2017

EN 1176-7:2020

Multi-Play Equipment and surfacing - Part 1: General safety requirements and test methods

Part 3: Additional specific safety requirements and test methods for slides

Part 7: Guidance on installation, inspection, maintenance and operation

Report Reference No..... : TCZJ25122580331

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Date of issue..... : January 19,2026

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Shanghai, China

Reviewing procedure : TL [] TMP[] WMT[]

Applicant's name..... : ZZRS AMUSEMENT EQUIPMENT CO.,LTD.

Address..... : XIAOJING INDUSTRIAL ZONE, QIAOXIA TOWN, YONGJIA
COUNTY, ZHEJIANG PROVINCE, CHINA

Review specification:

Standard..... : EN 1176-1:2017+A1:2023, EN 1176-3:2017, EN 1176-7:2020

Type of Test : PST[] Registration (type test) []

Non-standard test method..... : N/A

Manufacturer..... : ZZRS AMUSEMENT EQUIPMENT CO.,LTD.


XIAOJING INDUSTRIAL ZONE, QIAOXIA TOWN, YONGJIA
COUNTY, ZHEJIANG PROVINCE, CHINA

Product name..... : Playground Equipment

Model No. : 25F213, 25H429-1, 25CB017-173, 25AC010-207, 25AC011-208,
CB1101, CB1102, 25LY004

Rating..... : /



<p>Possible review case verdicts:</p> <ul style="list-style-type: none"> - review case does not apply to the test object.....: N(.A.) - review object does meet the requirement.....: P(ass) - review object does not meet the requirement..... : F(ail) 	
<p>General remarks:</p> <p>”(see remark #)” refers to a remark appended to the report.</p> <p>”(see appended table)” refers to a table appended to the report.</p> <p>Throughout this report a comma is used as the decimal separator.</p> <p>The review results presented in this report relate only to the object reviewed.</p> <p>This report shall not be reproduced except in full without the written approval of the third party.</p>	
<p>Testing:</p> <p>Date of receipt of review item:</p> <p>Date(s) of performance of review:</p>	<p>January 09,2026</p> <p>January 09,2026 to January 19,2026</p>
<p>General product information:</p> <p>Playground Equipment</p>	
<p>Summary of reviewing:</p> <p>This review report includes:</p> <p>Annex I: 7 page(s) of photo documentation.</p> <p>Copy of marking plate</p>	
<p>Playground Equipment, 25F213</p> <p>ZZRS AMUSEMENT EQUIPMENT CO.,LTD. Co., Ltd.</p>	<p>Marking</p> 

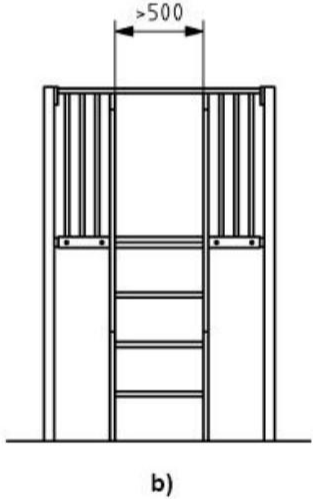
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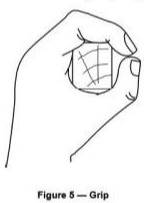
Amusement equipment and surfacing —Part 1: General safety requirements and test methods(EN 1176-1:2017+A1:2023)

EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
4	Safety requirements		—
4.1	Materials		—
4.1.1	General		—
4.1.2	Flammability		—
	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.	After testing, no flash shall on the surface	Pass
4.1.3	Timber and associated products		N/A
	Timber parts shall be designed in such a way that precipitation can drain off freely and water accumulation shall be avoided.		
4.1.4	Metals		—
	Metal parts should be protected against atmospheric conditions and cathodic corrosion. Metals that produce toxic oxides that scale or flake shall be protected by a non-toxic coating.		N/A
4.1.5	Synthetics		—
	If, during maintenance, it is difficult to determine at what point material becomes brittle, manufacturers shall give an indication of the time period after which the part or equipment should be replaced. 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.		Pass

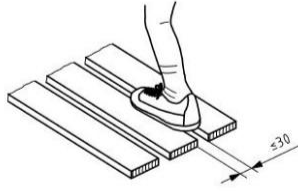
EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
	Consideration should also be given to degradation of structural components through ultraviolet influences.		
4.1.6	Dangerous substances		—
	Dangerous substances shall not be used in Amusement equipment in such a way that they can cause adverse health effects to the user of the equipment.	Not found dangerous substance	Pass
4.2	Design and manufacture		—
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> <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> <p>NOTE For additional safety of equipment that is easily accessible, specific requirements have been included for the following:</p> <ul style="list-style-type: none"> -protection against falling -steep elements -easily accessible Amusement equipment 		
4.2.2	Structural integrity		—
	<p>For Amusement equipment, the structural integrity for the worst case of the intended combinations shall be proved.</p> <p>Structural integrity, including stability of the equipment shall be assessed by one of the following:</p>	C, not show any cracks, damage or excessive permanent deformation	Pass

EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
	a) calculation, in accordance with Annexes A and B; b) physical testing, in accordance with Annex C; c) combination of a) and b).		
4.2.3	Accessibility for adults		—
	Amusement equipment shall be designed to ensure that adults are able to gain access to assist children within the equipment. 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 (e.g. a ladder that is not an integral part of the equipment). These access openings shall have no dimension less than 500 mm.		Pass
4.2.4	Protection against falling		—
4.2.4.1	Types of protection		—
	When installed on ramps or stairs, handrails, guardrails or barriers shall commence at the lowest position on the ramp or stairs.	With handrails and safety lock See photo	Pass
4.2.4.2	Handrails		—
	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.		N/A
4.2.4.3	Guardrails		—
	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		N/A

EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
	<p>more than 850 mm measured from the surface of the platform, stairs or ramp.</p> <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 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.</p>		
4.2.4.4	Barriers		—
	<p>Except for entrance and exit openings necessary for each play element, barriers shall completely surround the platform. The width of entrance and exit openings in barriers shall have a clear opening of 500 mm maximum, unless a guardrail is provided across the opening (see Figure 10 b and c). For stairs, ramps, bridges, etc., that have additional barriers as part of their structure, the width of the exit opening in the barrier shall be no greater than the width of these elements.</p> <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. Openings between the platform surface and the lower edge of the barrier and between any infilling elements shall not allow passage of the small probe C.</p> <p>For easily accessible equipment barriers shall be provided when the platform is more than 600 mm above the playing surface.</p> <p>For equipment other than easily accessible, barriers shall be provided when the platform is more than 2 000 mm above the playing surface.</p>	 <p>The diagram shows a cross-section of a barrier structure. It consists of two vertical posts connected by a top rail and a bottom rail. A horizontal dimension line above the top rail indicates a clear opening of >500 mm. Below the barrier, there are three horizontal steps or rails. The label 'b)' is centered below the diagram.</p>	N/A

EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
	<p>The height to the top of the barrier shall be at least 700 mm measured from the surface of the platform, stairs or ramp.</p> <p>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).</p>		
4.2.4.5	Strength requirements		—
	Barriers and guardrails shall conform to 4.2.2.		Pass
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>		Pass
4.2.4.7	Grasp requirements		—
	The cross section of any support designed to be grasped (see Figure 6) shall have a width not exceeding 60 mm.		Pass
4.2.5	Finish of equipment		—
	<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>		Pass

EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
4.2.6	Moving parts		—
	<p>There shall be no crushing points or shearing points between moving and/or stationary parts of the equipment, in accordance with 4.2.7.</p> <p>Parts from which a high impact force can emanate should have an attenuating construction.</p> <p>If moving parts of the equipment can endanger the body, there shall be a ground clearance of at least 400 mm to the ground.</p>		Pass
4.2.7	Protection against entrapment		—
4.2.7.1	General		—
	<p>When choosing materials, the manufacturer should take into account the entrapment hazards that can occur through distortion of materials during use.</p> <p>Openings shall have no parts that converge in the downward direction at an angle of less than 60°.</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> <p>Hazardous situations in which this type of entrapment can be encountered include the following:</p> <p>Other openings (e.g. shearing or moving openings):</p> <p>Non-rigid members (for example ropes) shall not overlap if, by doing so, they create openings that do not conform to the requirements for completely bound openings.</p> <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</p>	No risk	Pass

EN 1176-1:2017+A1:2023																																						
Clause	Requirement + Test	Result – Remark	Verdict																																			
	and unloaded situations shall be considered. NOTE This requirement relates to the potential change in dimensions as a result of the stretching of bridge flexible supports (e.g. wire) over time. A typical suspended bridge is illustrated in Figure 12.																																					
4.2.7.3	Entrapment of clothing/hair		—																																			
	Equipment should be constructed so that hazardous situations including: a) gaps or V-shaped openings in which a part of clothing can become trapped while or immediately before the user is undergoing a forced movement; b) protrusions; and c) spindles/rotating parts in which clothing entrapment can be encountered are not created.	No risk	Pass																																			
4.2.7.4	Entrapment of the whole body		—																																			
	Equipment should be constructed so that the following hazardous situations, which might cause entrapment, are not created: a) tunnels into which children can crawl with their whole body; and b) suspended parts which are heavy or have rigid suspension.	<p style="text-align: center;">Table 1 – Requirements for tunnels <small>Linear dimensions in millimetres</small></p> <table border="1"> <thead> <tr> <th></th> <th colspan="2">Open one end</th> <th colspan="2">Open both ends</th> </tr> <tr> <th>Inclination</th> <td colspan="2">≤ 3° and upwards only when entering</td> <td>≤ 15°</td> <td>≤ 15°</td> </tr> <tr> <th>Minimum internal dimension*</th> <td>≥ 750</td> <td>≥ 400</td> <td>≥ 500</td> <td>≥ 750</td> </tr> <tr> <th>Length</th> <td>≤ 2 000</td> <td>≤ 1 000</td> <td>≤ 2 000</td> <td>None</td> </tr> <tr> <th>Other requirements</th> <td>None</td> <td>None</td> <td>None</td> <td>Provision for opening e.g. steps or handles</td> </tr> </thead> <tbody> <tr> <td colspan="5"><small>*NOTE – For tunnel exits, see EN 1176-3</small></td> </tr> <tr> <td colspan="5"><small>* Measured at the narrowest point</small></td> </tr> </tbody> </table>		Open one end		Open both ends		Inclination	≤ 3° and upwards only when entering		≤ 15°	≤ 15°	Minimum internal dimension*	≥ 750	≥ 400	≥ 500	≥ 750	Length	≤ 2 000	≤ 1 000	≤ 2 000	None	Other requirements	None	None	None	Provision for opening e.g. steps or handles	<small>*NOTE – For tunnel exits, see EN 1176-3</small>					<small>* Measured at the narrowest point</small>					Pass
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4.2.7.5	Entrapment of the foot or leg		—																																			
	Equipment should be constructed so that the following hazardous situations, which might cause entrapment, are not created: a) completely bound rigid openings in surfaces on which children can run or climb; and b) footholds, handholds, etc. extending from these surfaces. 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		Pass																																			

EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
	across the direction of travel		
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> <p>Equipment should be constructed so that the following hazardous situations, which might cause entrapment, are not created:</p> <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> <p>b) variable gaps (excluding chains).</p> <p>Openings within the free space, where the user is subjected to forced movement, and/or holes which have a lower edge more than 1 000 mm above the potential impact area, when tested in accordance with D.4, shall conform to one of the following requirements:</p> <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> <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.</p> <p>The ends of tubes and pipes shall be closed off to prevent the risk of finger entrapment.</p> <p>The closures shall not be removable without using tools. Gaps whose dimensions change during use of the equipment shall have a minimum dimension in any position of 12 mm.</p>		Pass
4.2.8	Protection against injuries during movement and falling		—

EN 1176-1:2017+A1:2023													
Clause	Requirement + Test	Result – Remark	Verdict										
4.2.8.1	Determination of free height of fall		—										
	<p>Unless stated otherwise, the free height of fall shall be as given in Table 2. In determining the free height of fall, the possible movements of the equipment and of the user shall be taken into account. In general, this means that the maximum movement of the equipment shall be taken.</p> <p style="text-align: center;"><small>Table 2 — Free height of fall for different types of use</small></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"><small>Type of use</small></th> <th style="width: 50%;"><small>Vertical distance</small></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><small>Standing</small></td> <td><small>from foot support to surface below</small></td> </tr> <tr> <td style="text-align: center;"><small>Sitting</small></td> <td><small>from seat to surface below</small></td> </tr> <tr> <td style="text-align: center;"><small>Hanging</small> <small>(When full body support is provided by the hands only and the whole body can be lifted up to the hand support, see Figure 14b)</small></td> <td><small>From hand support height to surface below</small></td> </tr> <tr> <td style="text-align: center;"><small>Climbing *</small> <small>(When body support is a combination of feet/legs and hands, e.g. climbing ropes or sliding poles)</small></td> <td><small>maximum foot support: 3 m to the surface below</small> <small>maximum hand support: 4 m to the surface below</small> <small>(Free height of fall measured from maximum hand support minus 1 m to the surface below)</small></td> </tr> </tbody> </table> <p><small>* Such equipment constructed for use as 'Climbing' shall not allow access to positions with a free height of fall of more than 3 m.</small></p>	<small>Type of use</small>	<small>Vertical distance</small>	<small>Standing</small>	<small>from foot support to surface below</small>	<small>Sitting</small>	<small>from seat to surface below</small>	<small>Hanging</small> <small>(When full body support is provided by the hands only and the whole body can be lifted up to the hand support, see Figure 14b)</small>	<small>From hand support height to surface below</small>	<small>Climbing *</small> <small>(When body support is a combination of feet/legs and hands, e.g. climbing ropes or sliding poles)</small>	<small>maximum foot support: 3 m to the surface below</small> <small>maximum hand support: 4 m to the surface below</small> <small>(Free height of fall measured from maximum hand support minus 1 m to the surface below)</small>		Pass
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4.2.8.2	Determination of spaces and areas		—										
4.2.8.2.1	General		—										
	<p>The requirements for falling space and impact area within this standard are intended to offer some protection to users during the first impact of a potential fall. These spaces and areas will also afford some protection to other users who may be circulating around the equipment items, but these requirements should be considered in addition to this standard as they are likely to be site specific and may be subject to national control. In particular</p> <p>the attention of the play area designer is directed to possible hazards associated with the close proximity of play structures intended for users of greatly different age groups and those in highly populated play areas such as those found in some schools.</p> <p>Care should be taken when seated dynamic equipment with significant motion, e.g. swings and certain types of rocking equipment, to discourage users of the surrounding play area from</p>		—										

EN 1176-1:2017+A1:2023															
Clause	Requirement + Test	Result – Remark	Verdict												
	unintentionally coming into contact with the play area.														
4.2.8.2.2	Minimum space		—												
	The minimum space shall consist of the following: a) space occupied by the equipment; b) free space, if any; and c) falling space.		Pass												
4.2.8.2.3	Free space		—												
	The free space is a series of cylindrical spaces representing the user (see Figure 15), originating from and perpendicular to the bearing surface, along the forced path of the user. The cylindrical space is shown in Figure 16 and its dimensions are given in Table 3. In determining the free space, the possible movements of the equipment and the user shall be taken into account. 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>According with the following table</p> <p>Table 3 — Dimensions of the cylinder for the determination of the free space Dimensions in millimetres</p> <table border="1"> <thead> <tr> <th>Type of use</th> <th>Radius</th> <th>Height</th> </tr> </thead> <tbody> <tr> <td>Standing</td> <td>1 000</td> <td>1 600</td> </tr> <tr> <td>Sitting</td> <td>1 000</td> <td>1 500</td> </tr> <tr> <td>Hanging</td> <td>500</td> <td>300 above and 1 800 below hanging grip position</td> </tr> </tbody> </table> <p>NOTE In case of hanging, $h = 300$ mm because of the possibility that the users pull themselves up (see Fig 15a).</p>	Type of use	Radius	Height	Standing	1 000	1 600	Sitting	1 000	1 500	Hanging	500	300 above and 1 800 below hanging grip position	Pass
Type of use	Radius	Height													
Standing	1 000	1 600													
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4.2.8.2.4	Extent of the impact area		—												
	Dimensions of the impact area are shown in Figure 17. 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. In determining the impact area the possible movements of the equipment and the user shall be taken into account.		N/A												
4.2.8.2.5	Extent of the falling space		—												
	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.		Pass												

EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
	<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> <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>		
4.2.8.3	Protection against injuries in the free space for users undergoing a movement that is forced by the equipment		—
	<p>Unless stated otherwise, there shall be no overlapping of adjacent free spaces, or of free space and falling space.</p> <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>		Pass
4.2.8.4	Protection against injuries in the falling space		—
	<p>The falling space shall not contain any obstacles onto which a user could fall and cause injuries, e.g. posts not flush with adjacent parts or exposed foundations (see 4.2.14).</p> <p>The following parts of play structures may be in the falling space:</p> <ul style="list-style-type: none"> –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° 		Pass

EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
	or more from the horizontal.		
4.2.8.5	Protection against injuries from the surface of the impact area		—
4.2.8.5.1	General		—
	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).		—
4.2.8.5.2	Equipment with a free height of fall greater than 600 mm or with forced movement		—
	<p>Beneath all Amusement 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> <p>The critical fall height of the surfacing shall be equal to, or greater than, the free height of fall of the equipment.</p> <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>		Pass
4.2.8.5.3	Equipment with a free height of fall not exceeding 600 mm and without forced movement		Pass
4.2.8.5.4	Adjacent platforms		—
	If the free height of fall between adjacent platforms is more than 1m, the upper surface of the lower platform shall present the necessary impact attenuating properties		N/A

EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
4.2.8.6	Protection against injuries due to other types of movement		N/A
4.2.9	Means of access		—
4.2.9.1	Ladders		—
	<p>The spacing of the rungs or steps shall conform to the head entrapment requirements given in 4.2.7.2.</p> <p>Rungs and steps shall be non-rotating and equally spaced.</p> <p>Equal spacing is required only between the rungs. It is not required between the highest rung and the platform or the ground and the first rung. The requirement for equal spacing does not apply to rope ladders.</p> <p>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 centre of the rung or tread measured at 90° to the ladder. Rungs and steps shall be horizontal to within $\pm 3^\circ$.</p> <p>Ladders shall have rungs and/or styles that conform to the requirements for grasp given in 4.2.4.7 or shall have handrails that conform to the requirements for grip given in 4.2.4.6.</p>		N/A
4.2.9.2	Stairs		—
	<p>Stairs shall conform to the requirements of 4.2.4 concerning protection against falling.</p> <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> <p>Guardrails and/or barriers shall be provided from the first step and shall conform to the requirements for grasp (4.2.4.7).</p> <p>Where a set of stairs is higher than 1 m and of a greater inclination than 45°, the barrier shall</p>		N/A

EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
	comply with the requirements for grasp or a handrail shall be provided.		
4.2.9.3	Ramps		—
	Ramps shall be inclined at an angle of up to 38° to the horizontal and shall be of a constant angle. Ramps shall conform to the requirements of 4.2.4. 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. 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.		Pass
4.2.9.4	Steep play elements		—
	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/A
4.2.9.5	Easily accessible Amusement equipment		—
	Ladders are a means of easy access to the equipment, unless the first rung is greater than 400 mm from the ground surface. Stairs are a means of easy access to the equipment. Tiered platforms with a height difference less than 600 mm are considered to be a means of easy access to the equipment.		Pass
4.2.10	Connections		—
	Connections shall be secured such that they cannot come loose of their own accord unless specifically designed to do so. Connections shall be safeguarded so that they		Pass

EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
	cannot be undone without tools.		
4.2.11	Consumable components		—
	<p>Components subjected to wear or designed to be renewed during the life of the equipment, for example bearings, shall be capable of being replaced.</p> <p>Replaceable components should be protected against unauthorized intervention and should require little maintenance. Any lubricants leaking out should not soil the equipment or adversely affect its safe use.</p>		Pass
4.2.12	Ropes		—
4.2.12.3	Wire ropes		—
	<p>Wire ropes shall be unstressed and shall be made from galvanized or corrosion-resistant wire</p> <p>Ferrules shall conform to EN 13411-3 and the rope end shall coincide with the edge of the grip.</p> <p>Wire rope grips shall be utilized in accordance with EN 13411-5. If accessible and the thread ends protrude more than 8 mm, they shall only be used outside the minimum space or shall be covered by suitable means.</p> <p>The ends of the turnbuckles shall be closed (see Figure 22) and shall be made from corrosion-resistant material.</p> <p>It shall not be possible to undo turnbuckles without a tool.</p>		N/A
4.2.13	Chains		—
	<p>Chains for Amusement 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.</p>		N/A

EN 1176-1:2017+A1:2023			
Clause	Requirement + Test	Result – Remark	Verdict
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> <p>a) so that pedestals, footings and fixing elements on the equipment are at least 400 mm below the playing surface or;</p> <p>b) if the tops of the foundations are as shown in Figure 23 at least 200 mm below the surface: or</p> <p>c) so that they are covered by items of equipment or equipment parts (e.g. central foundation of a roundabout.)</p>		Pass
4.2.15	Heavy suspended beams		N/A

TEST CONDUCTED:

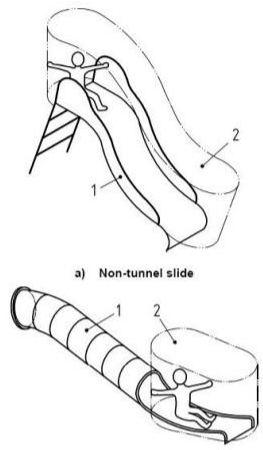
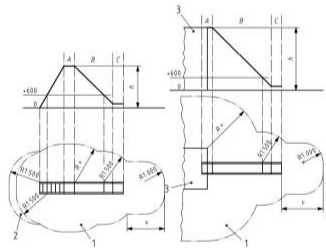
Amusement equipment and surfacing —Part 3: Additional specific safety requirements and test methods for slides (EN 1176-3:2017)

EN 1176-3:2017			
Clause	Requirement + Test	Result – Remark	Verdict
4	Safety requirements		—
4.1	General		—
	Slides shall conform to EN 1176-1 unless otherwise specified in this part of EN 1176.		
4.2	Access		—
	<p>Access to the starting section shall be by means of an access ladder, stairs, climbing section or device.</p> <p>NOTE 1 In the case of embankment slides, access to the starting section may be gained directly from the mound. For free-standing slides, the maximum vertical height that the first stairs can reach without a change in direction or offset, by a minimum width of the means of access, shall be 2 500 mm.</p> <p>Where the starting section of a slide is easily accessible the free height of fall (<i>h</i>) shall be 2 000 mm maximum unless guarding is provided (see 4.3.2 and Table 1).</p> <p>For all attachment slides with a fall height greater than 1 000 mm, a crossbar across the access opening shall be provided (see Figure 1a)). The crossbar shall be positioned between the platform guard rail or barrier and the start of the sliding section. The height of the crossbar shall be between 600 mm and 900 mm above the starting section. For attachment slides with a starting section or barrier beyond the edge of the platform, the area of the starting section between the crossbar and the platform shall comply with the same requirements as platforms.</p> <p>NOTE 2 Such requirements include the height of guard rail or barrier.</p>		Pass

EN 1176-3:2017			
Clause	Requirement + Test	Result – Remark	Verdict
4.3	Starting section		—
	The starting section and run-out section are illustrated in Figure 2.		Pass
4.3.1	Length and angle		—
	Each slide shall have a starting section of at least 350 mm length. The starting section shall have a downward slope tolerance from 0° to 5° in the direction of the sliding section, the measurement being made at the centreline of the starting section.		Pass
4.3.2	Guarding section		—
	<p>The starting section shall have a guarding section conforming to the barrier requirements of EN 1176-1 when one of the following applies:</p> <ul style="list-style-type: none"> –the length of the starting section is more than 400 mm; –the starting section is easily accessible and has a free height of fall of more than 1 000 mm; –the free height of fall of the starting section is more than 2 000 mm. <p>The guarding section shall either be a continuation of the lateral protection or be outside the plane of the lateral protection.</p> <p>When the guarding section is separate from or outside the plane of the lateral protection, the maximum vertical or horizontal offset shall be less than 89 mm.</p> <p>For attachment slides, the opening in the barrier shall be the same as the width of the starting section or guarding section.</p> <p>For attachment slides where all or part of the starting section is beyond the platform edge, the guarding section shall have a height of at least</p>		Pass

EN 1176-3:2017			
Clause	Requirement + Test	Result – Remark	Verdict
	500 mm at some point		
4.3.3	Width		—
	The width of the starting section shall be equal to that of the sliding section. The starting section shall be designed so that it is aligned with the direction of the initial sliding movement. If the starting section is a platform or the extension of a platform the starting section can be greater in width than the sliding section.		Pass
4.3.4	Lateral protection (sides)		—
	The lateral protection of the starting section shall be a continuous unbroken extension of the lateral protection of the sliding section. NOTE The construction of the lateral protections may be from multiple components. Any joints should be free from entrapment and not present a hazard to users. Any variations in the angle of declination of the top of the lateral protection in the sliding direction shall be made with a radius of at least 50 mm at some point.		Pass
4.4	Sliding section		—
4.4.1	Angle		—
	The angle of declination to the horizontal of the sliding section shall not exceed 60° at any point and shall not exceed an average of 40°. The declination of the sliding section shall be measured from the centreline. If the changes in angle of declination of slides are greater than 15°, other than for the transitional part between the starting section and the sliding section, the angle shall have a radius as follows: a) for the initial 2 000 mm change in height, at least 450 mm; and b) for the remainder of the slide, at least 1 000		Pass

EN 1176-3:2017			
Clause	Requirement + Test	Result – Remark	Verdict
	mm.		
4.4.2	Width		—
	<p>When measured as shown in Figure 3 and Figure 5b) (for flat bed slides) open and straight, non-tunnel slides with sliding sections exceeding 1 500 mm in length shall have a width (W) of the sliding section of either:</p> <p>a) less than 700 mm; or</p> <p>b) more than 950 mm.</p> <p>Each track of a multi-track slide shall have a width of less than 700 mm.</p> <p>When measured as shown in Figure 3 helical or curved slides (see Figure 4 for examples) shall have a width (W) of the sliding section of less than 700 mm.</p>	<p>B</p> <p>a) Helical slide</p> <p>b) Curved slide</p>	Pass
4.4.3	Sides and profile of the slide		—
	<p>The sliding section shall have solid lateral protection of heights (p) (see Figure 5a) and Figure 5b)) as given in Table 1, when measured perpendicular to the sliding section surface.</p> <p>In the case of flat-sided slides, the sides shall not tip out from the vertical by more than 30° (see Figure 5b)). In the case of curved profile sided slides, the profile of the sliding section shall be designed in such a way that the short arm of the template (see Figure 5c)) remains horizontal when placed with the long arm perpendicular to the sliding surface at the highest internal point of the inner face of the side (see Figures 5d)) and Figure 5e)).</p>	<p>Dimensions in</p> <p>a) Measurement of height of sides of curved profile sliding section</p> <p>b) Measurement of width, height and inclination of sides of flat sided sliding section</p> <p>c) Template for determining profile of curved profile sliding section</p> <p>d) Application of template to curved profile sliding — Pass condition</p> <p>e) Application of template to curved profile sliding section — Fail condition</p>	Pass
4.5	Run-out section		Pass
4.6	Surface of the slide		—
	<p>The design of slides and accessible structures around them shall be such that no part of clothes can become trapped (see EN 1176-1:2008, D.3).</p>		Pass

EN 1176-3:2017			
Clause	Requirement + Test	Result – Remark	Verdict
4.7	Free space		—
	<p>The free space starts at the beginning of the starting section and finishes at the end of the run-out section (see Figure 8). Certain slide features, e.g. crossbar, hoods or similar, may be present in the free space as they provide additional safety. If present, any such features shall conform to the relevant requirements EN 1176-1, e.g. entrapment.</p> <p>Central supporting posts on spiral slides may be used in the free space.</p> <p>For open spiral slides, the height of the free space shall be 1 000 mm minimum (see EN 1176-1:2008, 4.2.8.2.3).</p> <p>In the case of multi-track slides, the free spaces may overlap.</p>		Pass
4.8	Impact area		—
	<p>In addition to the requirements given in EN 1176-1, the impact area shall be provided to a distance of at least 1 000 mm to the sides of the run-out section. The impact area shall be provided to a distance of at least 2 000 mm beyond the required run-out section for type 1 and 1 000 mm beyond the end of the required runout section for type 2 (see Figure 9).</p>		Pass
4.9	Tunnel and mixed tunnel slides		—
4.9.1	Clearance		—
	<p>Enclosed sections of tunnel slides shall have a minimum internal height of 750 mm, when measured perpendicular to the sliding surface, and a minimum internal width of 750 mm.</p> <p>Tunnel sections shall start at least at the end of the starting section and shall not extend into the run-out section.</p>		N/A

EN 1176-3:2017			
Clause	Requirement + Test	Result – Remark	Verdict
	Tunnel sections shall be continuous over their whole length.		
6	Marking		—
	Slides shall be marked in accordance with EN 1176-1:2008, Clause 7. Marking shall be positioned on the slide in a location that will be visible when erected on site.		Pass

TEST CONDUCTED:


Amusement equipment and surfacing (EN 1176-7:2020)

EN 1176-7:2020			
Clause	Requirement + Test	Result – Remark	Verdict
4	General		
	If equipment is not safe, access by the public, including children, should be prevented. A book, inspection and servicing sheets or computer records should be kept by the owner/operator in charge of the equipment maintenance and inspection.		Pass
5	Installation		
	Equipment should be installed in accordance with the manufacturer's instructions		Pass
6	Inspection and maintenance		
	Equipment and its components should be inspected and maintained in accordance with the manufacturer's instructions at a frequency not less than that given by the manufacturer		Pass
7	Inspection schedule		
	To prevent accidents, the owner or operator should ensure that an appropriate inspection schedule is established and maintained for each playground.		Pass
8	Operation		
	the operator or owner should take into account the manufacturer's information, and the information of operation shall include general and specific recommendation specified in standard		Pass

Photo documentation:


Type of equipment:	Playground Equipment
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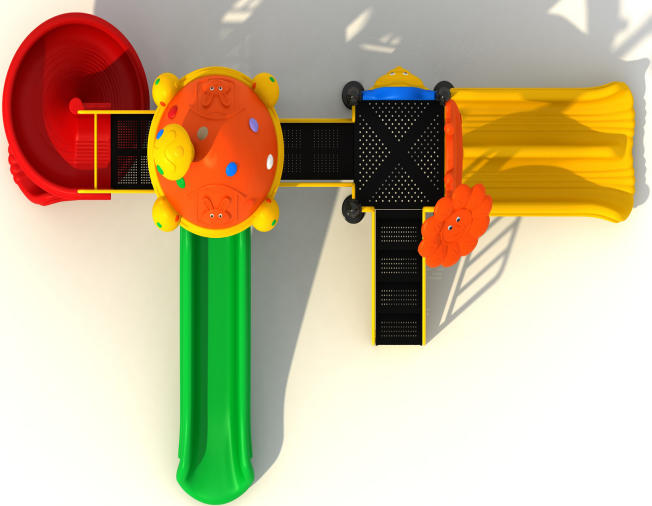
Details of:	25F213
View:	
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Details of:	25H429-1
<p>View:</p> <p><input checked="" type="checkbox"/> general</p> <p><input type="checkbox"/> front</p> <p><input type="checkbox"/> rear</p> <p><input type="checkbox"/> right</p> <p><input type="checkbox"/> left</p> <p><input type="checkbox"/> top</p> <p><input type="checkbox"/> bottom</p>	 <p>A 3D rendering of a wooden play structure. It features a central vertical post with several horizontal rungs. To the left, there is a curved wooden handle. On the right side, there is a climbing wall made of light-colored panels with green circular cutouts. Below the climbing wall, there are several circular platforms. The structure is supported by four legs. The background is a plain white surface with a soft shadow cast to the right.</p>

Details of:	25H429-1
<p>View:</p> <p><input checked="" type="checkbox"/> general</p> <p><input type="checkbox"/> front</p> <p><input type="checkbox"/> rear</p> <p><input type="checkbox"/> right</p> <p><input type="checkbox"/> left</p> <p><input type="checkbox"/> top</p> <p><input type="checkbox"/> bottom</p>	 <p>A 3D rendering of the same wooden play structure, viewed from an interior perspective. The structure is shown from a low angle, looking up. The wooden frame is dark brown, and the climbing wall panels are light-colored with green circular cutouts. The platforms are visible at the bottom. The background is a plain white surface with a soft shadow cast to the left.</p>

Details of:	25CB017-173
<p>View:</p> <p><input checked="" type="checkbox"/> general</p> <p><input type="checkbox"/> front</p> <p><input type="checkbox"/> rear</p> <p><input type="checkbox"/> right</p> <p><input type="checkbox"/> left</p> <p><input type="checkbox"/> top</p> <p><input type="checkbox"/> bottom</p>	


Details of:	25CB017-173
<p>View:</p> <p><input checked="" type="checkbox"/> general</p> <p><input type="checkbox"/> front</p> <p><input type="checkbox"/> rear</p> <p><input type="checkbox"/> right</p> <p><input type="checkbox"/> left</p> <p><input type="checkbox"/> top</p> <p><input type="checkbox"/> bottom</p>	

Details of:	25AC010-207
View: <input checked="" type="checkbox"/> general <input type="checkbox"/> front <input type="checkbox"/> rear <input type="checkbox"/> right <input type="checkbox"/> left <input type="checkbox"/> top <input type="checkbox"/> bottom	 A 3D rendering of a playground structure. The structure features two towers with red, conical roofs topped with red stars. A central climbing wall with colorful handholds is flanked by two slides. A large, stylized character with a yellow face and an orange hat is integrated into the design. Several children are shown interacting with the structure on a sandy surface.

Details of:	25AC010-207
View: <input checked="" type="checkbox"/> general <input type="checkbox"/> front <input type="checkbox"/> rear <input type="checkbox"/> right <input type="checkbox"/> left <input type="checkbox"/> top <input type="checkbox"/> bottom	 A top-down view of the same playground structure. This perspective shows the layout of the climbing wall, slides, and towers from above. The sandy ground is visible, and the shadows of the structure and children are cast across it.

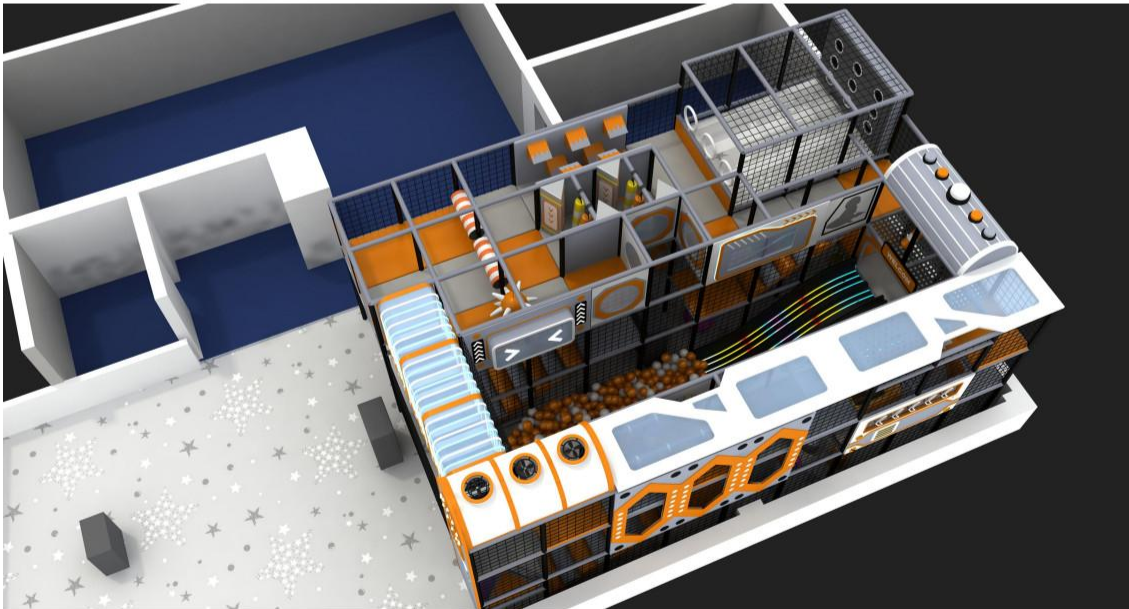
Details of:	25AC011-208
View: <input checked="" type="checkbox"/> general <input type="checkbox"/> front <input type="checkbox"/> rear <input type="checkbox"/> right <input type="checkbox"/> left <input type="checkbox"/> top <input type="checkbox"/> bottom	 <p>A 3D rendering of a colorful playground structure. The structure features a central tower with a red star on top, two slides with yellow faces, and a swing set. A yellow bee-shaped climbing structure is also visible. Several children are shown interacting with the equipment on a sandy surface.</p>

Details of:	25AC011-208
View: <input checked="" type="checkbox"/> general <input type="checkbox"/> front <input type="checkbox"/> rear <input type="checkbox"/> right <input type="checkbox"/> left <input type="checkbox"/> top <input type="checkbox"/> bottom	 <p>A 3D rendering of the same playground structure, viewed from a high angle. This perspective shows the layout of the equipment, including the tower, slides, and swing set, and the shadows cast on the sandy ground. Children are visible playing on the structure.</p>

Details of:	CB1101
<p>View:</p> <p><input checked="" type="checkbox"/> general</p> <p><input type="checkbox"/> front</p> <p><input type="checkbox"/> rear</p> <p><input type="checkbox"/> right</p> <p><input type="checkbox"/> left</p> <p><input type="checkbox"/> top</p> <p><input type="checkbox"/> bottom</p>	

Details of:	CB1102
<p>View:</p> <p><input checked="" type="checkbox"/> general</p> <p><input type="checkbox"/> front</p> <p><input type="checkbox"/> rear</p> <p><input type="checkbox"/> right</p> <p><input type="checkbox"/> left</p> <p><input type="checkbox"/> top</p> <p><input type="checkbox"/> bottom</p>	

Details of:	25LY004
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Details of:	25LY004
<p>View:</p> <p><input checked="" type="checkbox"/> general</p> <p><input type="checkbox"/> front</p> <p><input type="checkbox"/> rear</p> <p><input type="checkbox"/> right</p> <p><input type="checkbox"/> left</p> <p><input type="checkbox"/> top</p> <p><input type="checkbox"/> bottom</p>	

*****End of Report*****