BRITISH STANDARD

BS EN
1176-10:2008

Playground equipment and surfacing —

Part 10: Additional specific safety requirements and test methods for fully enclosed play equipment

ICS 97.200.40

National Foreword

This British Standard is the UK implementation of EN 1176-10:2008. It partially supersedes BS 8409:2002, which is going to be revised to remove conflicting material. In the meantime, where conflict exists between the two standards the provisions of BS EN 1176-10:2008 take precedence.

The UK participation in its preparation was entrusted to Technical Committee SW/65, Children's playground equipment.

National standards have been published by BSI on children's playground equipment since BS 3178 was first issued in 1959. That standard concentrated on specifications for specific types of equipment. It was replaced in 1979 by BS 5696 which switched focus to a design and safety approach.

With the increasing introduction of overseas equipment BSI led the way by calling for a European Standard to address the conflicting safety advice and standards from other countries. This was published in 1999 as BS EN 1176 and it further focused on the safety of playground equipment.

The process of UK standardization for the indoor play product range effectively began in 1992 with the first of a series of independent safety guideline and good practice references published by the Institute of Leisure and Amenity Management (ILAM). Further publications by ILAM on this theme followed in 1995 and 1999. The latter publication, *Indoor Play Areas – Guidance on Safe Practice*, was subsequently used as the base reference for BS 8409:2002, *Soft indoor play areas – Code of practice*, which was published by BSI.

The move towards European standardization for indoor play began in 2002. This followed a CEN decision that indoor play products should conform to EN 1176. Part 10 sets out additional specific safety requirements and test methods which also apply to indoor play products. This was to take account of those types of equipment that are specific to the indoor play product range.

Operators and providers are advised that equipment conforming to EN 1176 require regular maintenance. Guidance on this and appropriate inspection, maintenance and operation schedules are contained within BS EN 1176-7:2008.

Playground equipment not conforming to this revision should not automatically be considered as being unsafe or to require replacement. A risk assessment by competent persons should be used to determine what action, if any, is necessary. Manufacturers and Inspectors of the Register of Play Inspectors International (RPII) are amongst those that will be able to assist in this.

All standards published by the BSI are regularly revised. Therefore it is advised that from the date of this revised publication, a period of twelve months is to be given to manufacturers to enable them to amend their product lines.

A list of organizations represented on this Committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 November 2008

Amendments/corrigenda issued since publication

Date	Comments

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1176-10

May 2008

ICS 97.200.40

English Version

Playground equipment and surfacing - Part 10: Additional specific safety requirements and test methods for fully enclosed play equipment

Equipements d'aires de jeux et revêtements de surface d'aires de jeux - Partie 10: Exigences de sécurité et méthodes d'essai complémentaires spécifiques aux équipements de jeu totalement fermés

Spielplatzgeräte und Spielplatzböden - Teil 10: Zusätzliche besondere sicherheitstechnische Anforderungen und Prüfverfahren für vollständig umschlossene Spielgeräte

This European Standard was approved by CEN on 25 April 2008.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN 1176-10:2008: E

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Foreword

This document (EN 1176-10:2008) has been prepared by Technical Committee CEN/TC 136 “Sports, playground and other recreational facilities and equipment”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2008, and conflicting national standards shall be withdrawn at the latest by May 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This European Standard consists of a number of parts as follows:

EN 1176-1, *Playground equipment and surfacing — Part 1: General safety requirements and test methods*

EN 1176-2, *Playground equipment and surfacing — Part 2: Additional specific safety requirements and test methods for swings*

EN 1176-3, *Playground equipment and surfacing — Part 3: Additional specific safety requirements and test methods for slides*

EN 1176-4, *Playground equipment and surfacing — Part 4: Additional specific safety requirements and test methods for cableways*

EN 1176-5, *Playground equipment and surfacing — Part 5: Additional specific safety requirements and test methods for carousels*

EN 1176-6, *Playground equipment and surfacing — Part 6: Additional specific safety requirements and test methods for rocking equipment*

EN 1176-7, *Playground equipment and surfacing — Part 7: Guidance on installation, inspection, maintenance and operation*

EN 1176-10, *Playground equipment and surfacing — Part 10: Additional specific safety requirements and test methods for fully enclosed play equipment*

EN 1176-11, *Playground equipment and surfacing — Part 11: Additional specific safety requirements and test methods for spatial network*

This part of EN 1176 should not be used in isolation, but in conjunction with EN 1176-1, EN 1176-7 and EN 1177.

For inflatable play equipment see

EN 14960, *Inflatable play equipment — Safety requirements and test methods*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This document is applicable to fully enclosed play equipment intended for installation inside and outside buildings, for children up to 14 years old, see 3.1.

The purpose of this document is to provide additional safety requirements covering particulars of these structures, such as exits and escape routes, visibility, external "climbability", containment walls/netting in relation to safety area, ignition resistance, specific equipments/components, impact-attenuating surfaces, signage, specific inspection and maintenance.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1021-1, *Furniture — Assessment of the ignitability of upholstered furniture — Part 1: Ignition source smouldering cigarette*

EN 1021-2, *Furniture — Assessment of the ignitability of upholstered furniture — Part 2: Ignition source match flame equivalent*

EN 1176-1:2008, *Playground equipment and surfacing — Part 1: General safety requirements and test methods*

EN 1176-3:2008, *Playground equipment and surfacing — Part 3: Additional specific safety requirements and test methods for slides*

EN 1176-4: *Playground equipment and surfacing — Part 4: Additional specific safety requirements and test methods for cableways*

EN 1177:2008, *Impact attenuating playground surfacing - Determination of critical fall height*

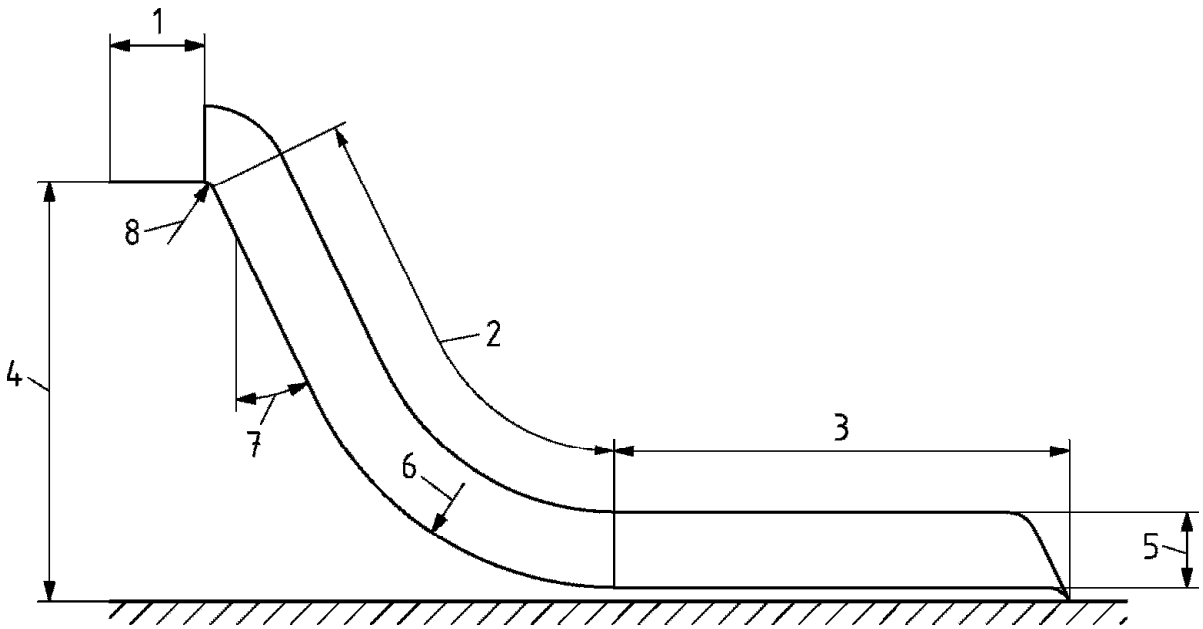
EN ISO 11925-2, *Reaction to fire tests - Ignitability of building products subjected to direct impingement of flame - Part 2: Single-flame source test (ISO 11925-2:2002)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1176-1:2008 and EN 1177:2008 and the following apply.

3.1
fully enclosed play equipment
equipment and structures, including components and constructional elements with, or on which, children can play, that are within a three dimensional enclosure with specified entrances and exits

3.2
drop slide
open-fronted, near vertical free-fall slide which continues into a concave curve to a near horizontal run-out section (see Figure 1)



Key

1 starting section
2 sliding section (includes curve)
3 run-out section
4 height of slide
5 lateral protection
6 concave curve
7 slide angle to vertical, 15° min.
8 radius, 100 mm min.

Figure 1 — Typical drop slide, side view

3.3
overhead track ride (rigid)
equipment on which children can travel by self propulsion along a rigid fixed horizontal or inclined overhead track

3.4
terminus or starting point
area in which the user can reach the grip and/or "seat" and set the equipment in motion

3.5
area of travel
area in which the user can travel freely

3.6
overhead track
part of the structure that supports the traveller

3.7
traveller
moving part that, by influence of self propulsion by the user, he/she moves along the overhead track

3.8
linkage element
part of the structure between the traveller and the "seat" and which often also provides grip

3.9
end stops
energy absorbing materials positioned to cushion the impact of the traveller at the start and end of the over-head track

3.10
ball pools
enclosure designed to contain a depth of balls within which children can play

3.11
evacuation route
path inside the equipment enabling adult access to bring a child to an exit; this includes access/egress points

3.12
evacuation slide
slide which ends either outside the play equipment or directly in front of an exit

4 Safety requirements

4.1 General

Fully enclosed play equipment shall conform to EN 1176-1 unless otherwise specified in this part of EN 1176.

4.2 Emergency procedures and fire safety management

4.2.1 Materials including flammability

Materials used in the construction of fully enclosed play equipment shall conform to EN ISO 11925-2 and/or EN 1021-1 and EN 1021-2.

4.2.2 Evacuation

4.2.2.1 Accessibility for adults

Equipment should be designed to ensure that adults are able to gain access to any point to assist children within the equipment.

4.2.2.2 General requirements for entrapment of the whole body

To prevent entrapment of the whole body, tunnels shall conform to the requirements for tunnels given in EN 1176-1:2008, 4.2.7.4.

4.2.2.3 Evacuation routes

Evacuation routes shall conform to Table 1.

An evacuation route shall have a height of at least 1 300 mm and a width of at least 900 mm, except that for capacities of less than 20 children, the width may be reduced to a minimum of 720 mm.

Play equipment can be placed inside the evacuation route only if it meets the following requirements.

— Play equipment that is placed along the vertical or horizontal surfaces of the evacuation route shall not impede exit and shall not provide a risk of entrapment.

— Moving play equipment hanging in the evacuation route, for example punching bags, shall allow easy passage through when using a manual pushing action.

— Play equipment in the evacuation route shall not reduce the route to a width of less than 900 mm or a height of less than 1 300 mm.

— Items of play equipment placed inside the evacuation route shall have a depth of no more than 200 mm and there shall be a distance of at least 1 000 mm between any pieces of such play equipment which reduce the dimensions of the evacuation route.

4.2.2.4 Evacuation slide

For any slide that ends directly in front of an exit, there shall be a distance no greater than 3 000 mm between the end of the run-out section and the exit.

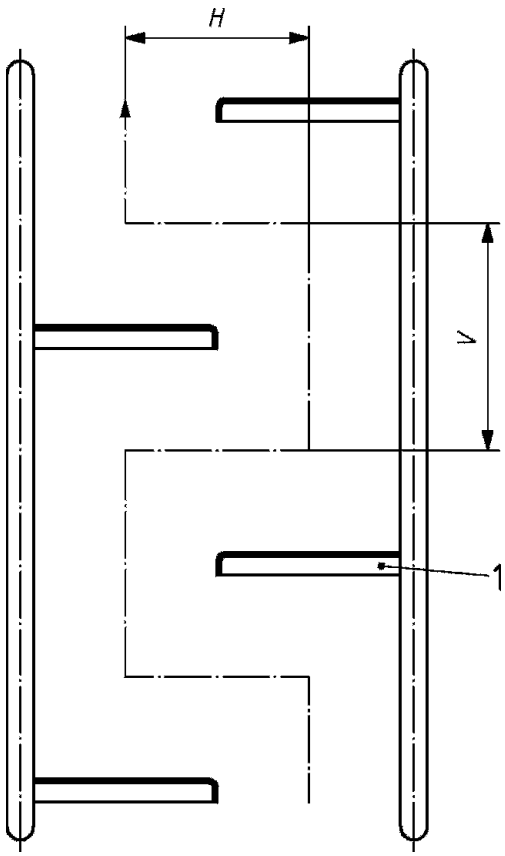
4.2.2.5 Distance to the exit

The distance from any point in the equipment to the nearest exit shall be no greater than 18 m.

There are some special cases for calculation of this distance:

— for a slide, the distance is half the length of the sliding surface;

— for a climbing tower, add vertical and horizontal distances between the geometric centres of the openings (see Figure 2).



Key

1 platform

H horizontal distance

V vertical distance

Figure 2 — Measuring distances within a climbing tower

4.2.2.6 Access and egress

The number of access and egress points shall conform to Table 1.

Access/egress points shall be located so as to distribute evacuation through different zones of the play equipment (see Table 1).

Table 1 — Evacuation routes, access and egress points

Dimensions in metres

Capacity (number of users) Calculated according to 4.2.2.7	1 to 20				21 to 50				51 to 100				101 to 200				> 201
Highest platform	0 ≤ 2	>2 ≤ 4	>4 ≤ 6	>6	0 ≤ 2	>2 ≤ 4	>4 ≤ 6	>6	0 ≤ 2	>2 ≤ 4	>4 ≤ 6	>6	0 ≤ 2	>2 ≤ 4	>4 ≤ 6	>6	
Minimum number of access and/or egress points	2	2	2	2	2	2	3	3	2	2	3	4	3	3	4	4	See formula [a]
Maximum distance from any point to an evacuation route, or evacuation slide	10 [b]								5 [b]								

[a] For capacities in excess of 200 users, the following formula shall be applied:

$$\text{Minimum number of access and/or egress points} = \left(\frac{capacity}{50} \right) + 1$$

[b] If this maximum distance is sufficient to reach the exit, an evacuation route or an evacuation slide is not necessary inside the equipment.

4.2.2.7 Capacity

Capacity, C_1, shall be calculated taking into account:

a) the strength of the structure in accordance with EN 1176-1;

b) practical use based upon the following Equation (1):

$$C_1 = \frac{C_2 + C_3}{3} \quad (1)$$

where

C_2 is the capacity calculated according to EN 1176-1; and

C_3 is the capacity of the ground floor playing area, calculated at 3 children per square metre.

NOTE This takes into consideration that the structure is not fully loaded at the time of use.

4.3 Design and manufacture

NOTE No requirements are given in this part of EN 1176 for ventilation. However, attention is drawn to local and/or national regulations regarding ventilation within the equipment and the building.

4.3.1 Structural integrity

Structural integrity shall be in accordance with EN 1176-1.

4.3.2 Impact protection

4.3.2.1 Free height of fall

The free fall height shall not exceed 2 m.

NOTE The possibility for free fall is limited by separation and containment.

4.3.2.2 Impact attenuating surfacing (IAS)

Impact attenuating surfacing shall be provided in accordance with EN 1176-1.

4.3.3 External climbability

Protection against climbing shall be provided at a height up to 2 m from ground level and 2 m above other potential footholds or supports.

Such methods of protection shall conform to entrapment requirements in EN 1176-1 and to the visibility requirements in 4.3.4.

NOTE This may be achieved by small mesh netting, panels without openings or with openings of less than 8 mm.

4.3.4 Visibility

4.3.4.1 Good visibility is essential to the safety management of fully enclosed play equipment. Effective supervision and monitoring are dependent upon it and fire risk assessment research has shown it is important for successful search and rescue.

4.3.4.2 There shall be unrestricted sight lines from the supervision areas to the playing areas.

NOTE If, due to the shape of the building or other unavoidable design factors, this cannot be achieved, closed circuit television surveillance could be provided.

4.3.4.3 Equipment within which the user is not visible from the outside shall have good accessibility for adults.

4.3.5 Determination of spaces and areas

4.3.5.1 General

Fully enclosed play equipment has a number of unique features that make a different hazard approach to EN 1176 necessary. Requirements are given in 4.3.5.2 to 4.3.5.4 for specific features.

4.3.5.2 Falling space

For a free height of fall greater than 600 mm but less than or equal to 1 500 mm, the extent of the falling space as given in EN 1176-1:2008, 4.2.8.2.5, can be reduced to 1 000 mm around the accessible parts of the equipment if protection against impact is provided to the surrounding vertical surfaces.

4.3.5.3 Impact area

If the free height of fall is less than or equal to 600 mm and there is no forced movement, there are no special requirements for impact attenuation. If the free height of fall is greater than 600 mm but less than or equal to 1 500 mm, the materials used in the horizontal impact area shall conform to EN 1176-1:2008, 4.2.8.5.

The extent of the impact area can be reduced to the extent of the falling space.

If the free height of fall is greater than 1 500 mm, the requirements given in EN 1176-1 for impact attenuation and extent of the impact area shall apply.

If the extent of the impact area to the side of an entrance or exit can be reduced by use of a suitable barrier (e.g. netting, panels without openings, or with openings of less than 8 mm), it shall conform to the entrapment requirements of EN 1176-1 and protection against impact shall be provided.

4.3.5.4 Free space

The dimensions of the cylinder used for the determination of the free space (see EN 1176-1) shall be as given in Table 2.

NOTE The dimensions of the free space can be altered by provision of dividers that present no risk of entrapment or impact injury.

Table 2 — Dimensions of the cylinder for the determination of the free space

Dimensions in millimetres

Type of use	Radius *A*	Height *h*
Standing	500	1 800
Sitting	500	1 500
Hanging	500	300 above and 1 500 below position of hanging grip
NOTE In the case of hanging, *h* = 300 mm because of the possibility that the users pull themselves up.		

4.3.6 Connections

Connections shall be inspected in accordance with 5.1.

4.3.7 Rope features

All rope features shall be securely knotted and strand ends treated to prevent fraying.

Care shall be taken when heat sealing nylon rope to avoid hard edges.

Rope climbs and walks shall be designed to prevent limbs falling through. This shall not create an additional hazard.

Where rope features go over a rigid bar they should be secured against movement.

Where necessary to improve the safety of grip and/or to minimize friction burns, protection sleeves shall be fitted to appropriate sections of rope features.

4.3.8 Lighting

Light fittings should be appropriately protected and be inaccessible to children.

4.3.9 Signage

Adequate and clear signage shall be displayed, to include:

— age group(s) or height(s) of children;

— capacity;

— emergency signs;

— rules of play.

4.4 Specific equipment

4.4.1 Drop slides

4.4.1.1 General

Drop slides shall conform to EN 1176-3 unless otherwise specified in this part of EN 1176.

NOTE It is important for drop slides to be supervised when they are in use.

4.4.1.2 Access

Access to the starting section shall be secured against access when no trained staff is available to monitor safe use.

4.4.1.3 Starting section

Each slide shall have a horizontal starting section at least 1 000 mm long. The starting section shall be separated from travelling routes.

4.4.1.4 Sitting position

The radius in the sitting position between the starting and sliding sections shall be at least 100 mm to avoid bumping the back of the head.

4.4.1.5 Lateral protection (sides)

Lateral protection shall be provided on each side of a drop slide. The top edge of the lateral protection shall be continuous from the starting section to the sliding section and the run-out section.

Where the slide starts at or below 2 000 mm, lateral protection shall be provided to a height of at least 500 mm, measured at 90° from the surface of the slide.

Where the slide starts above 2 000 mm, lateral protection shall be provided to a height of at least 750 mm, measured at 90° from the surface of the slide.

NOTE Lateral protection can be made up of the slide walls plus any extension that provides containment.

4.4.1.6 Sliding section

Angles of declination may exceed those given in EN 1176-3 to an angle of at least 15° from the vertical.

4.4.1.7 Run-out section

At the run-out section a velocity of 5 m/s shall not be exceeded, assuming a coefficient of friction of $\mu = 0,3$.

The length of the run-out section shall be calculated according to the velocity.

NOTE Calculation for the length of a horizontal run-out section until the stop point can be carried out by using the formula: $l = v^2/2\ g\ \mu$, where

l is the length of the horizontal run-out section;

v is the velocity;

g is the acceleration due to gravity; and

μ is the coefficient of friction.

4.4.1.8 Impact area

The impact area shall conform to EN 1176-3:2008, 4.8. Where the slider stops before the end of the run-out section, the clearance distance beyond the end can be reduced to 1 000 mm for all slides.

4.4.2 Overhead track rides (rigid)

4.4.2.1 The overhead track ride (see Figures 3 and 4) shall conform to EN 1176-4 unless otherwise specified in this part of EN 1176.

4.4.2.2 The traveller shall be fixed into position within the overhead track with movement restricted by the provision of end stops.

4.4.2.3 There shall be only one traveller on each overhead track.

4.4.2.4 The traveller shall be protected to prevent the possibility of the users trapping their fingers in the overhead track as the traveller moves along.

4.4.2.5 The end stop at the starting point or terminus shall be of suitable energy absorbing material and shall be located a minimum of 1 220 mm from the back enclosure or a distance of 75 % of the total length of the linkage element.

4.4.2.6 For overhead track rides arranged in parallel, a barrier shall be installed between the two units.

NOTE This is typically constructed from materials that present no risk of entrapment or impact injury.

4.4.2.7 Linkage elements shall be designed to facilitate grip and, where ropes are used, they shall be between 16 mm and 45 mm in diameter. The grip shall not be enclosed (e.g. a loop).

4.4.2.8 Seats shall be designed so that the user can get off the seat at any time.

Seats shall be made of, or covered by, suitable impact attenuating material.

The underside of the seat shall have a minimum ground clearance of 350 mm.

NOTE Seats comprising hoops or straps are unsuitable.

4.4.2.9 The maximum speed of the traveller shall not exceed 7 m/s when the seat is loaded in accordance with EN 1176-4.

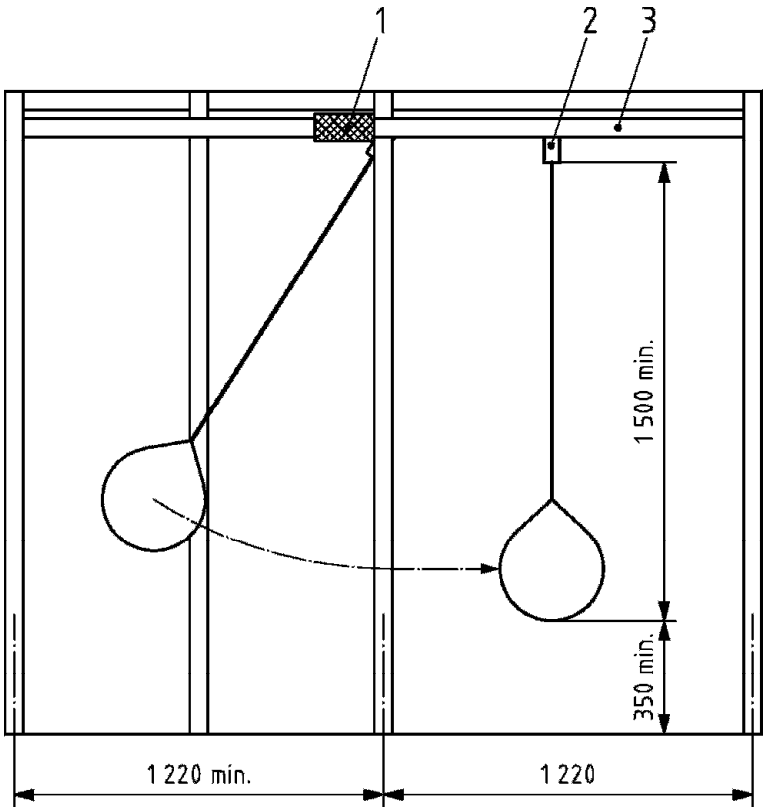
4.4.2.10 The impact area shall be free from objects that may cause injury.

4.4.2.11 Vertical surfaces shall be present along the travel length (see Figure 4).

4.4.2.12 Clearance shall be provided to a distance of at least 1 220 mm to each side of the overhead track unless a suitable form of enclosure is provided.

4.4.2.13 Impact attenuating surfacing shall be provided conforming to EN 1176-1:2008, 4.2.8.5 for a free height of fall of 1 000 mm in the impact area.

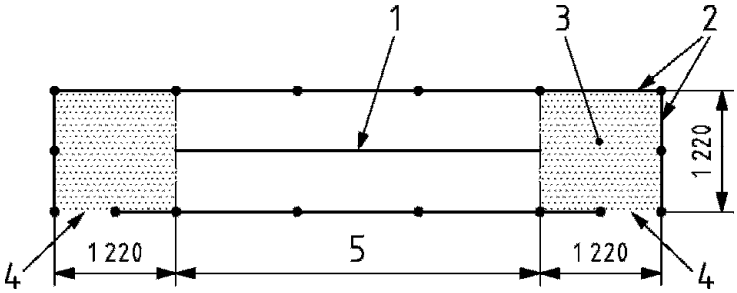
Dimensions in millimetres



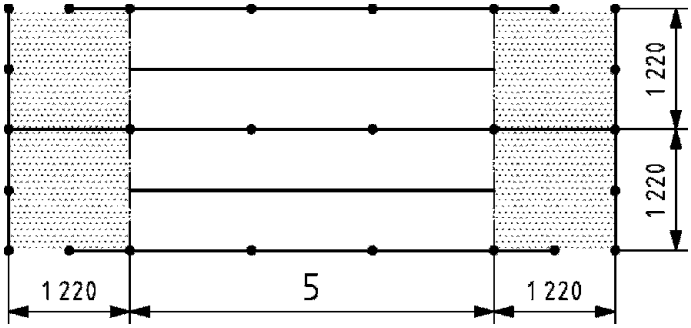
Key
1 stopper
2 protection on traveller
3 overhead track

Figure 3 — Overhead track rides (rigid) — Typical section

Dimensions in millimetres



a) Single



b) Double

Key

1 overhead track
2 protective barrier
3 terminus
4 access
5 travel length

Figure 4 — Overhead track rides (rigid) — Typical plan layouts

4.4.3 Ball pool

4.4.3.1 Any ball pool shall be designed to minimize ball spillage during normal play.

4.4.3.2 Impact attenuating, continuous-level floor surfaces shall be fitted in accordance with EN 1176-1:2008, 4.2.8.5.

4.4.3.3 Sides that are easily cleaned shall be provided.

4.4.3.4 The base shall be designed to prevent objects that might present a hazard from being lodged in gaps.

4.4.3.5 To minimize the dangers of concealment of children in a ball pool, the maximum depth shall not exceed 600 mm in a ball pool intended for use by children over 36 months, and 450 mm in a ball pool intended for use by children up to 36 months.

4.4.3.6 Balls shall be a minimum of 70 mm in diameter to prevent choking.

4.4.3.7 Any point of entry into a ball pool or any accessible platform within a ball pool shall not exceed a height of 1 000 mm from the base of the ball pool.

4.4.3.8 A ball pool shall only be part of a slide run-off area if it is:

— separated from ball pool areas used for general play;

— visible from viewing and supervision areas;

— limited to 400 mm maximum depth of balls.

The length of such a ball pool shall be at least 2 000 mm, measured from the end of the slide run-off.

Such a ball pool shall be clear of obstructions.

The floor surface of the ball pool shall conform to the requirements for a critical fall height of at least 600 mm.

4.4.4 Electrically powered equipment

4.4.4.1 Electrical appliances incorporated into fully enclosed play equipment should meet the specific standards for that equipment and should be installed according to manufacturer's instructions; national regulations may also apply.

4.4.4.2 The electrical supply cords shall not be accessible to users.

5 Inspection and maintenance information to be provided by the manufacturer or supplier

5.1 The manufacturer or supplier shall provide instructions for maintenance marked with the number of this part of EN 1176 (see also 5.5), which shall include a statement that the frequency of inspection will vary with the type of equipment or materials used and other factors, e.g. heavy use levels, of vandalism, air pollution, age of equipment.

Drawings and diagrams necessary for maintenance, inspection and checking of correct operation and, when appropriate, repair of the equipment shall also be provided.

5.2 The instructions shall specify the frequency with which the equipment or its components should be inspected or maintained.

5.3 The instructions shall also specify the following:

a) where necessary, the servicing points and methods of servicing, e.g. lubrication, tightening of bolts, re-tensioning of ropes and nets;

b) replacement parts shall comply with the manufacturer's specifications;

c) whether special disposal treatment is required for some equipment or parts;

d) identification of spare parts;

e) any additional measures to be taken during the run-in period, e.g. tightening of fastenings, tensioning of ropes and nets;

f) all damaged balls shall be removed from ball pools as they are found. Balls shall be maintained to an even depth throughout the ball pool;

g) safety surfacing shall be maintained.

5.5 The instructions for maintenance shall include advice or statements on the following:

a) That all installations or equipment of the following types shall be maintained in accordance with EU, national and local standards and/or regulations:

   1) electrical;

   2) gas;

   3) lifting;

   4) fire detection;

   5) fire fighting;

   6) ventilation.

b) That additional safety testing procedures shall be determined and carried out for all areas in or adjacent to the indoor play area.

c) That a daily safety checklist, which is tailored to the specific needs of the facility and includes advice, is obtainable from the supplier.

d) That a daily checklist form shall be completed by the duty staff every day before the facility opens to the public.

e) That an annual inspection shall be carried out by a competent person with knowledge and experience in the type of facility, to audit procedures and identify long-term problems giving special attention to "sealed for life" parts.

f) That structural parts need to be inspected, as a minimum annually, at the points relevant for strength and stability, in particular the fixings on the ground and the connections off load bearing parts. If inside corrosion can occur (e.g. in tubes), the instructions shall state that specific corrosion checks shall be carried out on load bearing parts at a maximum of 5 year intervals.

g) That any inspection and maintenance procedures carried out shall be documented and shall include details of action taken and confirmation of all remedial work carried out. The statement shall require that this written record is carefully and systematically maintained and stored permanently, so that the results are available for examination by management, the supplier and an interested authority.

h) That fully enclosed play areas shall be efficiently maintained and cleaned at all times.

i) That points of access shall be positioned throughout the play frame to facilitate passage for cleaning and maintenance personnel and equipment.

j) That all cleaning and maintenance access points shall be capable of being secured against unauthorised access when not in use.

6 Test reports

Test reports shall be in accordance with EN 1176-1:2008, Clause 5, in addition to the following:

a) test report regarding compliance with EN 1176-10;

b) certification of conformity with the relevant requirements of EN 1176-1 and EN 1176-10;

c) the number and date of this European Standard, i.e. EN 1176-10:2008.

7 Marking

Fully enclosed play equipment shall be marked in accordance with EN 1176-1:2008, Clause 7.

Marking shall be positioned on the equipment in a location that will be visible when erected on site.

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