



SLOVENSKI STANDARD SIST EN 1176-10:2008

01-oktober-2008

CdfYa U]b'dcX'c[Y'clfcý_]\][[f]ý '!'%"XY.'8 cXU'by'dcgYVbY'j U'fbcgfbY'nU hYj Y
]b'dfYg_i gbY'a Y'lcXY'nU'nU_`'f YbY]] fU'by'YbchY

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

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

(standards.iteh.ai)

Équipement 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

Ta slovenski standard je istoveten z: EN 1176-10:2008

ICS:

97.200.40 Q|ž æ Playgrounds

SIST EN 1176-10:2008 en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 1176-10:2008

<https://standards.iteh.ai/catalog/standards/sist/c00a62a6-ec52-4bba-bc52-39c229390cc3/sist-en-1176-10-2008>

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents	Page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Safety requirements	6
4.1 General.....	6
4.2 Emergency procedures and fire safety management.....	6
4.2.1 Materials including flammability	6
4.2.2 Evacuation	6
4.3 Design and manufacture	10
4.3.1 Structural integrity	10
4.3.2 Impact protection.....	10
4.3.3 External climbability.....	10
4.3.4 Visibility	10
4.3.5 Determination of spaces and areas	10
4.3.6 Connections	11
4.3.7 Rope features	11
4.3.8 Lighting	12
4.3.9 Signage	12
4.4 Specific equipment.....	12
4.4.1 Drop slides	12
4.4.2 Overhead track rides (rigid).....	13
4.4.3 Ball pool.....	15
4.4.4 Electrically powered equipment.....	16
5 Inspection and maintenance information to be provided by the manufacturer or supplier.....	16
6 Test reports	18
7 Marking	18

iTeh STANDARD PREVIEW

(standards.iteh.ai)

ON 10/06/2016

<https://standards.iteh.ai/catalog/standards/sist/c00a62a6-ec52-4bba-bc52-39c229390cc3/sist-en-1176-10-2008>

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.

EN 1176-10:2008 (E)**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*

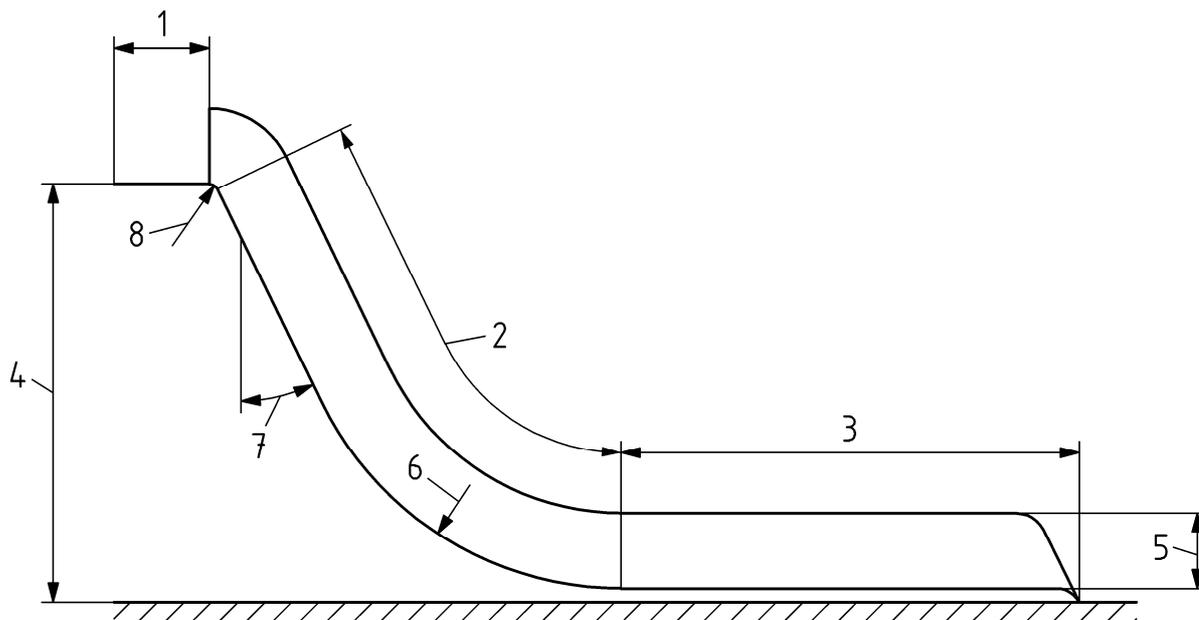
EN ISO 11925-2, *Reaction to fire tests - Ignitability of building products subjected to direct impingement of flame - Part 2: Single-flame source test (ISO 11925-2:2002)*

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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 1176-10:2008

<https://standards.iteh.ai/catalog/standards/sist/c00a62a6-ec52-4bba-bc52-39c229390cc3/sist-en-1176-10-2008>

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

EN 1176-10:2008 (E)

3.9 end stops
energy absorbing materials positioned to cushion the impact of the traveller at the start and end of the overhead 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** (standards.iteh.ai)

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. <https://standards.iteh.ai/catalog/standards/sist/c00a62a6-ec52-4bba-bc52-39c229390cc3/sist-en-1176-10-2008>

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.

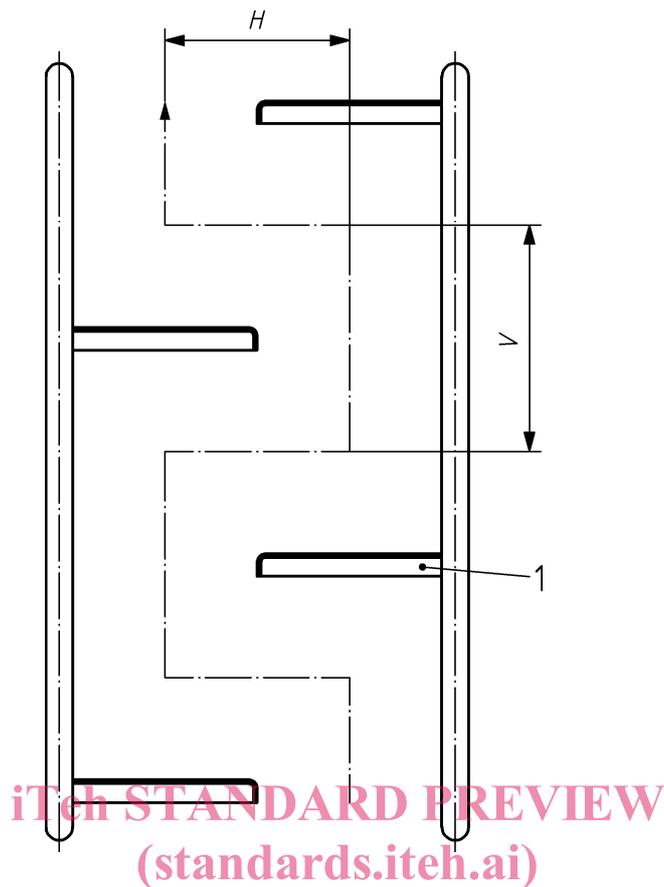
There are some special cases for calculation of this distance:

- 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).

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 1176-10:2008](https://standards.iteh.ai/catalog/standards/sist/c00a62a6-ec52-4bba-bc52-39c229390cc3/sist-en-1176-10-2008)

<https://standards.iteh.ai/catalog/standards/sist/c00a62a6-ec52-4bba-bc52-39c229390cc3/sist-en-1176-10-2008>

**Key**

- 1 platform
- H horizontal distance
- V vertical distance

SIST EN 1176-10:2008

<https://standards.iteh.ai/catalog/standards/sist/c00a62a6-ec52-4bba-bc52-39c229390cc3/sist-en-1176-10-2008>

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	See formula ^a
Minimum number of access and/or egress points	2	2	2	2	2	2	3	3	2	2	3	4	3	3	4	4	
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: Minimum number of access and/or egress points = $\left(\frac{\text{capacity}}{50} \right) + 1$																	
^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:

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