SLOVENSKI STANDARD
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Oprema in podloge otroģkih igriģ - 2. del: Dodatne posebne varnostne zahteve in preskusne metode za vise e gugalnice

Playground equipment and surfacing - Part 2: Additional specific safety requirements and test methods for swings

Spielgeräte und Spielplatzböden - Teil 2: Zusätzliche besondere sicherheitstechnische Anforderungen und Prüfverfahren für Schaukeln

Equipement et sols d'aires de jeux - Partie 2: Exigences de sécurité et méthodes d'essai complémentaires spécifiques aux balançoires

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97.200.40 Igriģ a Playgrounds

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EUROPEAN STANDARD

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English Version

Playground equipment and surfacing - Part 2: Additional specific safety requirements and test methods for swings

Equipements et sols d'aires de jeux - Partie 2: Exigences de sécurité et méthodes d'essai complémentaires spécifiques aux balançoires

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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.

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Foreword

This document (EN 1176-2:2008) 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 document supersedes EN 1176-2:1998.

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 parts EN 1176-1, EN 1176-7 and EN 1177.

For inflatable play equipment see:

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

The principal changes from the previous edition of this part of EN 1176 are as follows.

a) Addition of requirements for contact swings and the amendment of requirements for single-point swings.

b) Inclusion of additional requirements for the extent of the falling space.

c) Deletion of a requirement not to mix cradle seats and flat seats in the same swing bay.

d) Impact test for swing seats now uses the mean of ten impacts.

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 part of EN 1176 specifies additional safety requirements for swings intended for permanent installation for use by children. Where the main play function is not swinging, the relevant requirements in this part of EN 1176 may be used, as appropriate.

NOTE Recommendations on the design and siting of swings are given in Annex A.

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

3 Terms and definitions

For the purposes of this European standard, the terms and definitions given in EN 1176-1:2008, together with the following apply.

NOTE In order not to confine the application of this European Standard to those items of equipment currently in use and to allow freedom of design for the manufacture of new equipment, only the fundamental forms of equipment and motion are defined.

3.1
swing
moving equipment where the weight of the user is supported below a pivot or universal joint

3.2
swing with one rotational axis (Type 1)
seat, flexibly suspended individually from a load bearing cross beam that can swing to and fro in an arc at right angles to the cross beam (see Figure 1)

Figure 1 — Example of a swing with one rotational axis (Type 1)

3.3
swing with several rotational axes (Type 2)
seat suspended from one or more load bearing cross beams, supported in such a way that it can move at right angles or longitudinally to cross beams (see Figure 2)

Figure 2 — Example of a swing with several rotational axes (Type 2)

3.4
single point swing (Type 3)
seat or platform with cables or chains that meet at one fixing point (see Figure 3) such that the swing can move in all directions

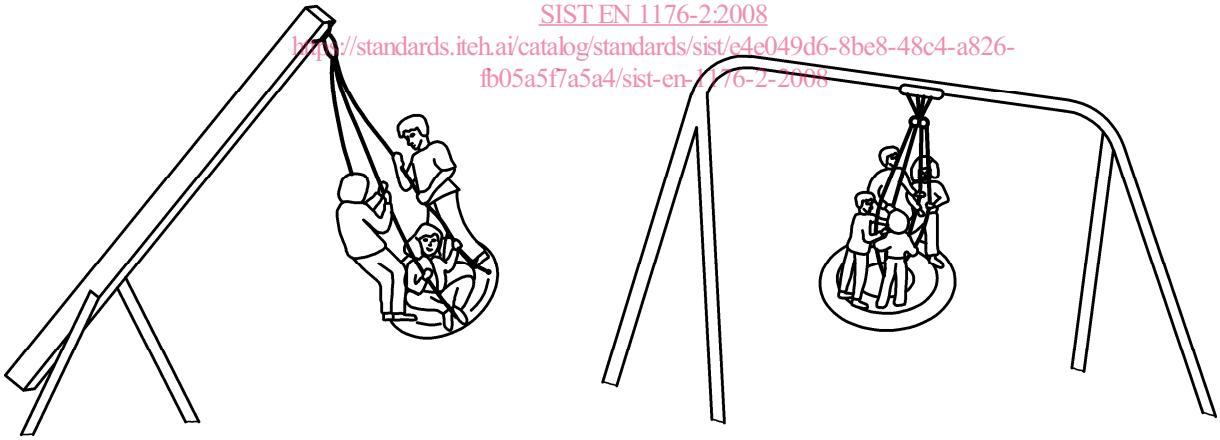
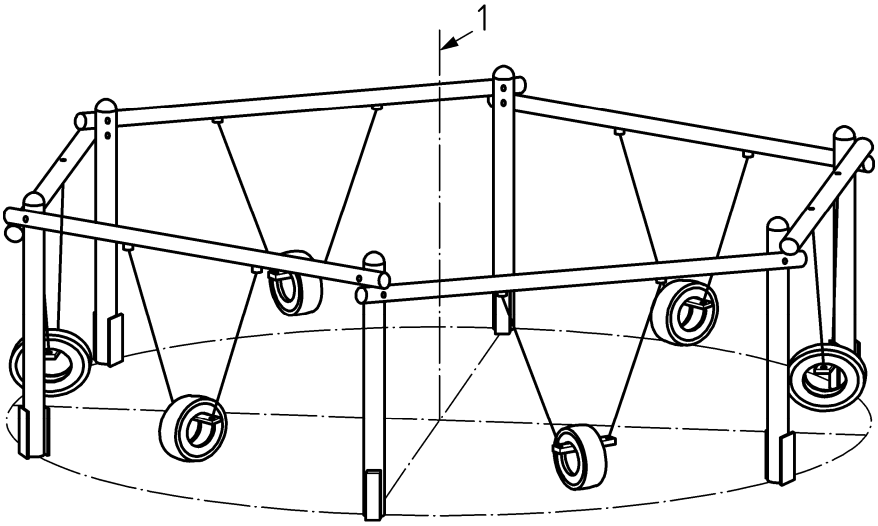


Figure 3 — Examples of a single point swings (Type 3)

3.5
contact swing (Type 4)
group of seats flexibly suspended individually from load bearing cross beams, which are arranged around a central axis (a centre point), typically six in number (see Figure 4)



Key
1 central axis

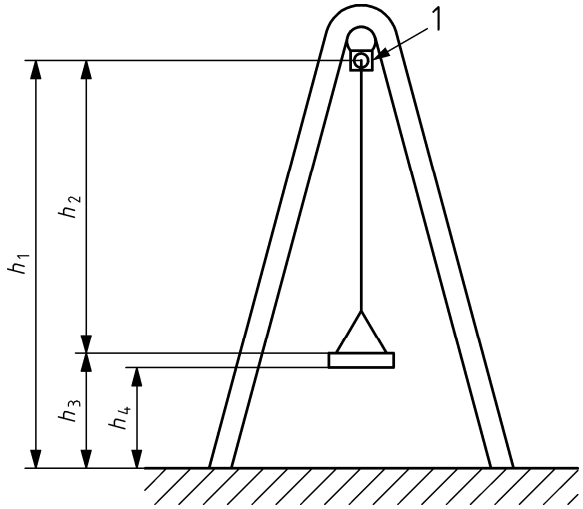
Figure 4 — Example of a contact swing (Type 4)

3.6
swing height
distance between the middle of the fulcrum of the suspension and the playing surface (see Figure 5)

3.7
length of swing suspension member
distance between the middle of the fulcrum of the suspension member and top surface of the seat or platform (see Figure 5)

NOTE Suspension members include chains and ropes.

3.8
ground clearance
distance between the lowest part of the seat or platform and the playing surface when the swing is at rest (see Figure 5)

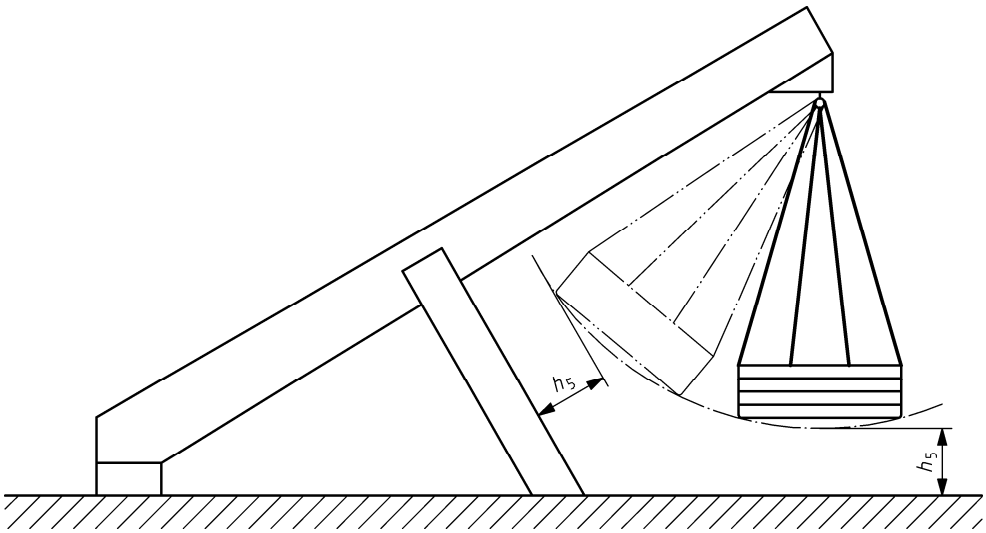


Key
1 rotational axis
h_1 swing height
h_2 length of swing suspension member (h_1-h_3)
h_3 height of seat
h_4 ground clearance

Figure 5 — Height dimensions

3.9
height of seat
distance between the top of the seat or platform and the playing surface (see Figure 5)

3.10
seat clearance
distance between the lower edge of the seat and any obstacle adjacent to the path of the swing (see Figure 6)



Key
h_5 seat clearance

Figure 6 — Example of a Type 3 swing showing seat clearance

3.11
flat swing seat
seat without back and side protections

3.12
cradle swing seat
seat provided with greater body support for younger or less able users, typically designed so that the user cannot slip through the constructional parts surrounding the seat

4 Safety requirements

4.1 General

Swings shall conform to EN 1176-1 unless otherwise specified in this part of EN 1176.

4.2 Ground clearance

The minimum ground clearance (see Figure 5) at rest position shall be 350 mm.

For tyre seats of swings of Types 1, 2 and 3, the ground clearance in the resting position shall be at least 400 mm. In the case of contact swings with vertical tyres as seats (see Figure 11), the ground clearance can be reduced to 100 mm minimum.

NOTE Contact swings with vertical tyres may have a lower ground clearance because their construction is flexible; if an impact occurs the tyre is deflected and the impact is reduced. Also, the tyre is made from impact attenuating material.

4.3 Seat clearance for single point swing (Type 3)

The minimum seat clearance (see Figure 6) shall be at least 400 mm except in the direction of the beam on which the suspension is fixed.

NOTE If during use, the side of the swing seat can come into contact with the swing frame, then protective material may be fitted to the frame at this point to protect the beam.

4.4 Minimum clearance and lateral stability of swing seats with more than one point of suspension

4.4.1 Minimum space between the seats of swings

The minimum horizontal dimension, *C*, between the side (see Figure 7a) of a swing seat and the adjacent structure in the rest position shall be

≥ 20 % length of the suspension member (+ 200 mm).

The minimum horizontal dimension, *S*, between adjacent swing seats (see Figure 7a) in the rest position shall be

≥ 20 % length of the suspension member (+ 300 mm).

For Type 4 swings the minimum distance between the seat surface and the central axis shall be 400 mm when the seat is at an angle of 90° (see Figure 7c).