SLOVENSKI STANDARD
SIST EN 1176-11:2008

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Oprema igrišč in športne podloge - 11. del: Dodatne posebne varnostne zahteve in preskusne metode za prostorske mreže

Playground equipment and surfaces - Part 11: Additional specific safety requirements and test methods for spatial network

Spielplatzgeräte und Spielplatzböden - Teil 11: Zusätzliche besondere sicherheitstechnische Anforderungen und Prüfverfahren für Raumnetze

Équipements d'aires de jeu et revêtements de surface d'aires de jeu - Partie 11: Exigences de sécurité et méthodes d'essai complémentaires spécifiques des filets a grimper tridimensionnels

Ta slovenski standard je istoveten z: **EN 1176-11:2008**

ICS:

97.200.40	Igrišča	Playgrounds

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EUROPEAN STANDARD

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English Version

Playground equipment and surfacing - Part 11: Additional specific safety requirements and test methods for spatial network

Équipements et sols d'aires de jeux - Partie 11 : Exigences de sécurité et méthodes d'essai complémentaires spécifiques des filets à grimper tridimensionnels

Spielplatzgeräte und Spielplatzböden - Teil 11: Zusätzliche besondere sicherheitstechnische Anforderungen und Prüfverfahren für Raumnetze

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 1176-11:2008) 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 specifies additional safety requirements for spatial networks intended for permanent installation for use by children.

This standard is not applicable to artificial climbing structures, which are used for training for sports activities, e.g. alpinism.

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*

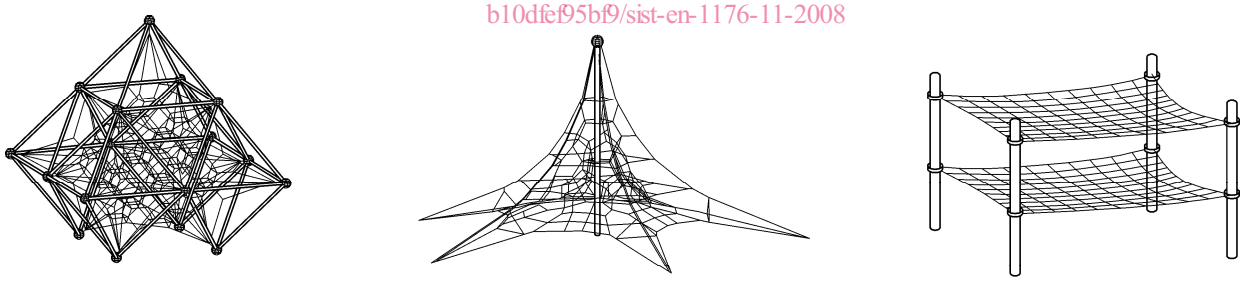
3 Terms and definitions

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

3.1
spatial network
climbing equipment as geometric 3-dimensional assembly of flexible elements (e. g. ropes, chains, etc.), which by its design will yield

NOTE 1 See Figure 1 for examples.

NOTE 2 Because of the way in which climbing equipment is used (see EN 1176-1:2008, 3.2) if the user were to fall, this would be a vertical downward fall into the structure. Therefore, structural elements outside the net are not considered to be in the falling space.



a) b) c)

Figure 1 — Examples of spatial network

3.2
3-dimensional arranged planar nets
3-dimensional assembly of two or more planar nets one above the other

3.3
converging parts
any two linear elements, i.e. not flat surfaces, the distance between which diminishes along their length

4 Safety requirements

4.1 Protection against falling in spatial network

The meshes of a spatial network shall not be so large as to allow an imaginary cylindrical body in a vertical position, with a diameter of 650 mm and a height of 1 800 mm, to be introduced into the cellular structure and to pass through, see Figures 2 and 3.

If the cylindrical body passes through, the falling height and the shock absorbing surface shall conform to EN 1176-1.

NOTE The dimensions of the imaginary cylinder are derived from anthropometric data and have been selected to ensure that a secure hold can be achieved by the user from any point within the net structure.

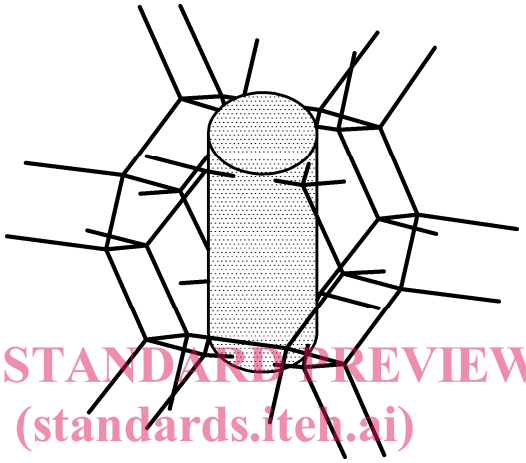
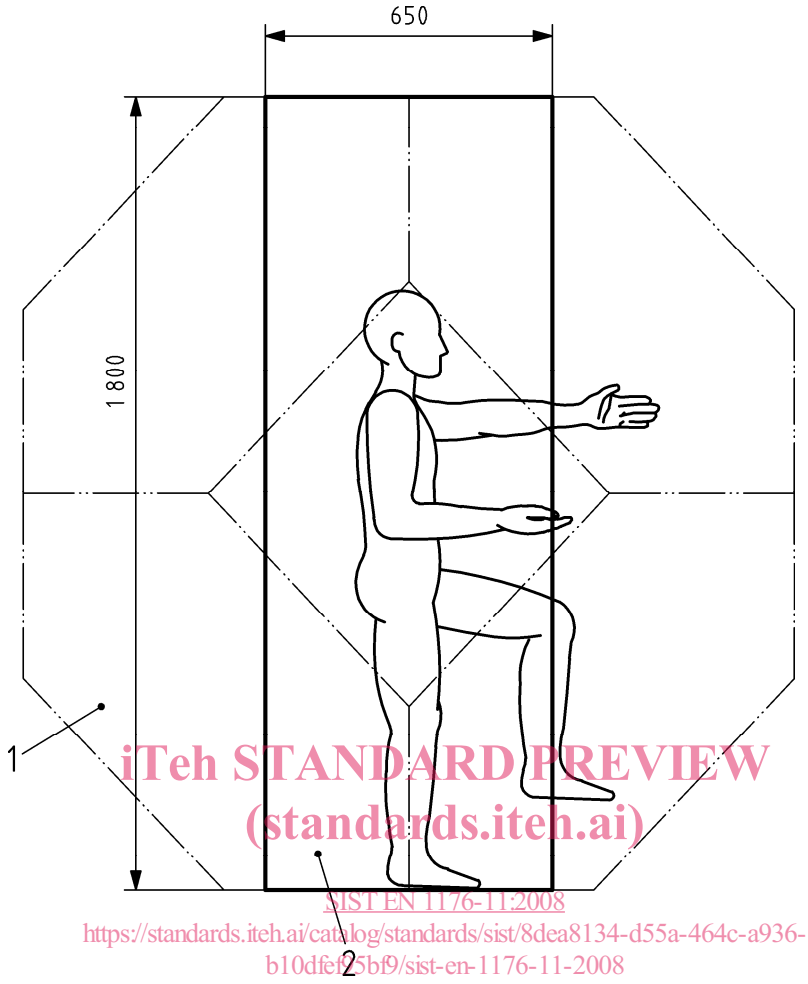


Figure 2 — Cylindrical body

Dimensions in millimetres



Key

1 spatial network

2 cylindrical body

Figure 3 — Achievement of secure hold

4.2 Mesh size in 3-dimensional arranged planar nets

If a 3-dimensional assembly is an arrangement of planar nets (see Figure 1 c) with a vertical separation greater than 1 000 mm, the diameter of the largest circle that can be inscribed in the net openings shall be not greater than 420 mm when unloaded, see Figure 4.

Where the arrangement of planar nets has a lower net with mesh size greater than 420 mm circular inner diameter, the impact attenuating surface below the lower of the nets shall have a critical fall height appropriate for the highest planar net with a mesh size greater than 420 mm circular inner diameter.

NOTE The mesh size of planar nets has been reduced to 420 mm to compensate for the reduction in grip opportunities within a 2-dimensional net structure.

If the vertical separation is less than 1 000 mm, the requirements of 4.1 shall apply.

Dimensions in millimetres

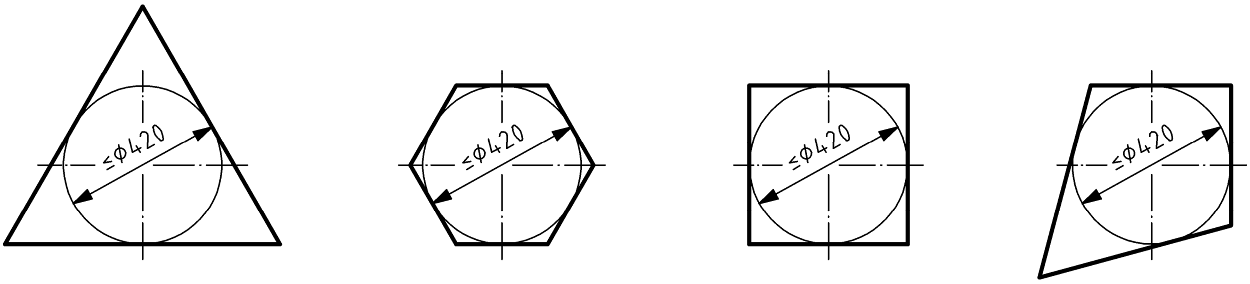
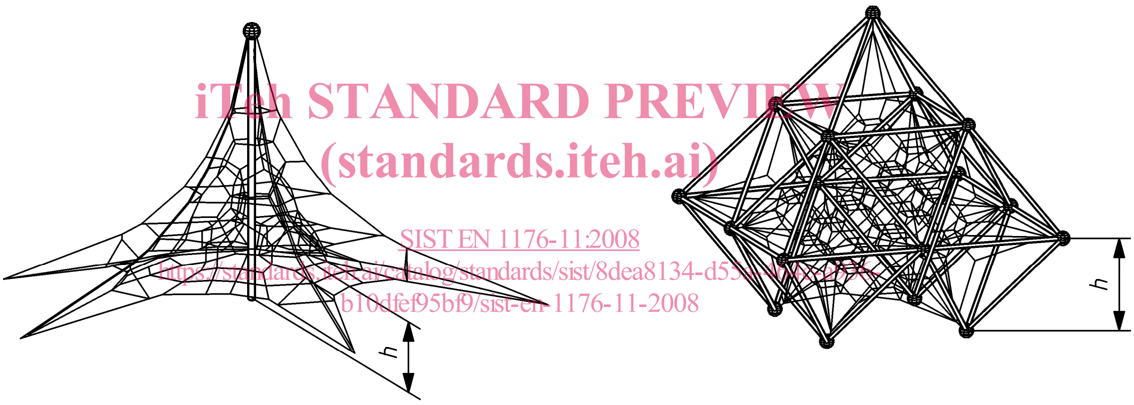


Figure 4 — Principal measurement of effective diameter of mesh size

4.3 Protection against injuries in the falling space

The free height of fall (*h*) shall be as given in EN 1176-1:2008, 4.2.8.1, and shall be measured as shown in Figure 5.

NOTE 1 For spatial network this means the highest foot position giving an unimpeded fall.



a) b)

Figure 5 — Free height of fall

NOTE 2 Persons climbing on the outside of inclined 3-dimensional climbing structures (e.g. pyramids) do not fall to the outside, due to their orientation while climbing, but fall vertically downwards into the structure.

When non-flexible elements (e.g. support poles) are arranged in a slanted position and have a smooth surface, they have a deflecting character and the impact energy is reduced. The maximum internal height of fall can then be increased in accordance with Table 1.