



SLOVENSKI STANDARD

SIST EN 1176-11:2014

01-oktober-2014

Nadomešča:
SIST EN 1176-11:2008

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

Playground equipment and surfacing - 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
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Équipements d'aires de jeux et revêtements de surface d'aires de jeux - Partie 11: Exigences de sécurité et méthodes d'essai complémentaires
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Ta slovenski standard je istoveten z: EN 1176-11:2014

ICS:

97.200.40 Igrišča Playgrounds

SIST EN 1176-11:2014 en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1176-11

August 2014

ICS 97.200.40

Supersedes EN 1176-11:2008

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 4 July 2014.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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

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

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Foreword

This document (EN 1176-11:2014) 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 February 2015 and conflicting national standards shall be withdrawn at the latest by February 2015.

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 1176-11:2008.

The main technical changes compared to EN 1176-11:2008 are:

- a) Figure 5 revised;
- b) Clarification of the requirements for converging parts;
- c) Standard editorially revised.

EN 1176, *Playground equipment and surfacing* consists of the following parts:

- *Part 1: General safety requirements and test methods*
- *Part 2: Additional specific safety requirements and test methods for swings*
- *Part 3: Additional specific safety requirements and test methods for slides*
- *Part 4: Additional specific safety requirements and test methods for cableways*
- *Part 5: Additional specific safety requirements and test methods for carousels*
- *Part 6: Additional specific safety requirements and test methods for rocking equipment*
- *Part 7: Guidance on installation, inspection, maintenance and operation*
- *Part 10: Additional specific safety requirements and test methods for fully enclosed play equipment*
- *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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 1176-11:2014 (E)**1 Scope**

This European Standard specifies additional safety requirements for spatial networks intended for permanent installation for use by children.

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

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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, which by its design will yield

Note 1 to entry: Flexible elements can be e.g. ropes, chains, etc.

Note 2 to entry: See Figure 1 for examples.

Note 3 to entry: 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.

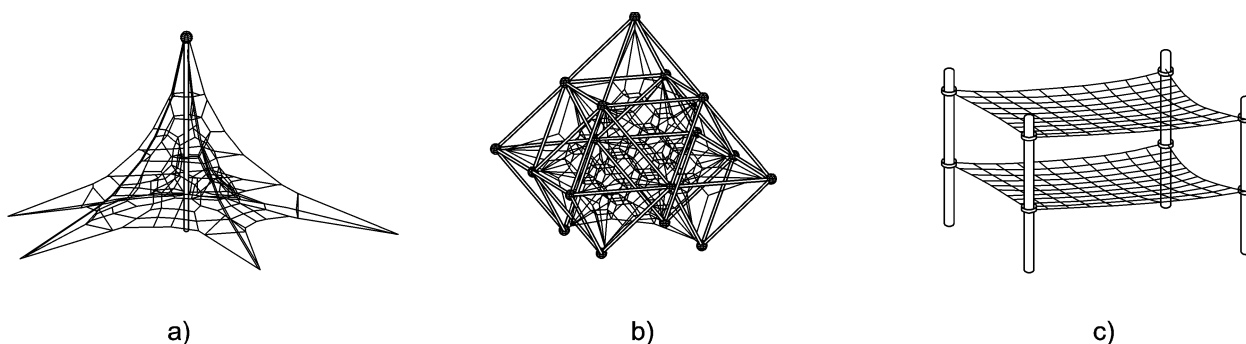


Figure 1 — Examples of spatial network

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

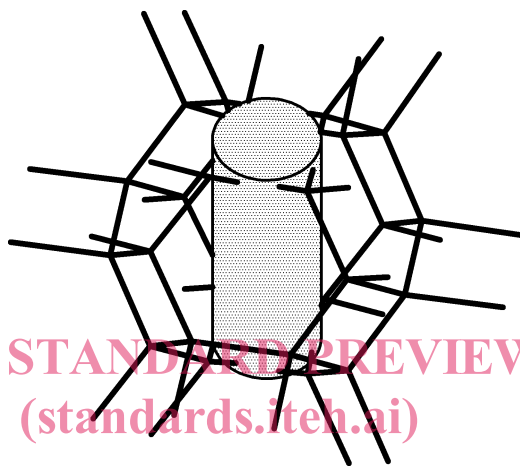
4 Safety requirements

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.

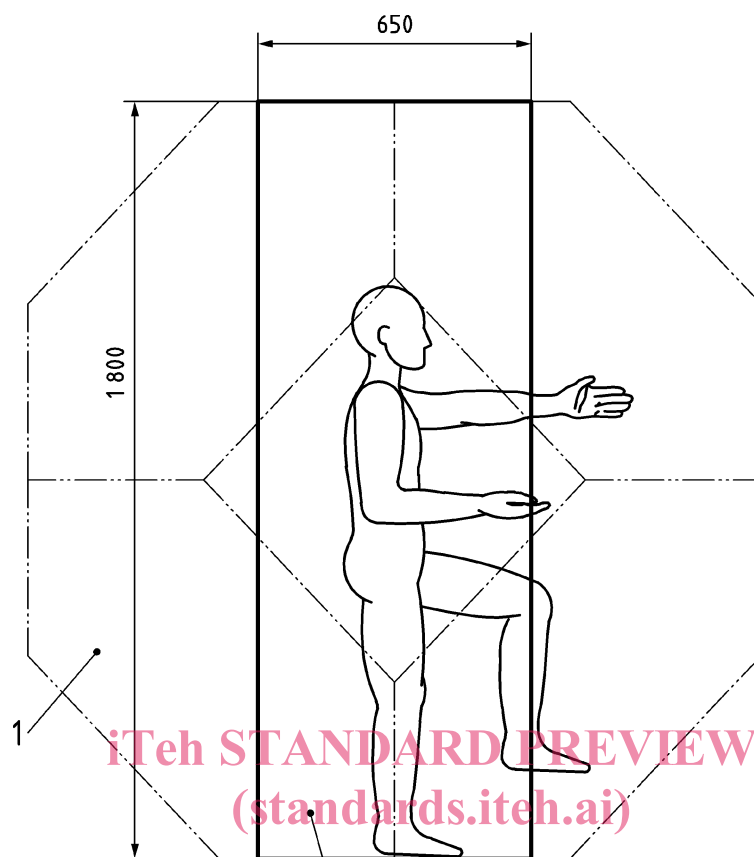
NOTE The dimensions of the imaginary cylinder are derived from anthropometric data and have been selected to ensure that a secure hold can be achieved by the user from any point within the net structure.



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Figure 2 — Cylindrical body

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Key

- 1 spatial network
- 2 cylindrical body

Figure 3 — Achievement of secure hold

4.2 Additional requirements for 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 all 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.

Dimensions in millimetres

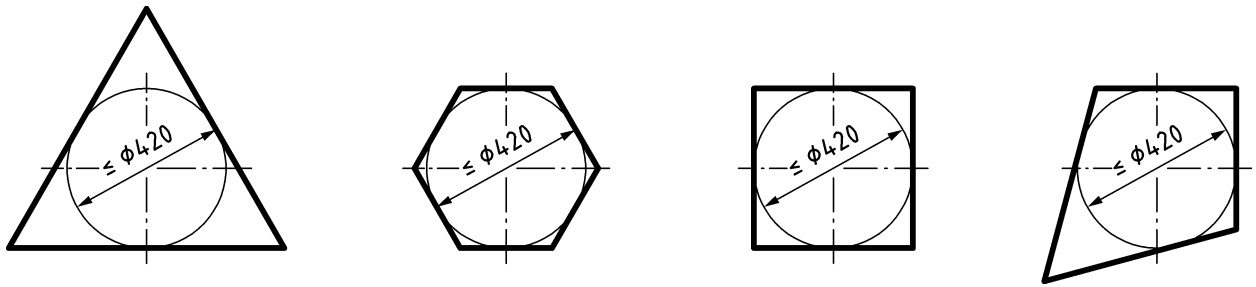
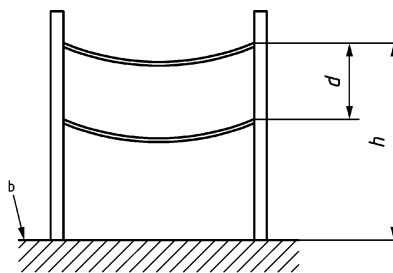
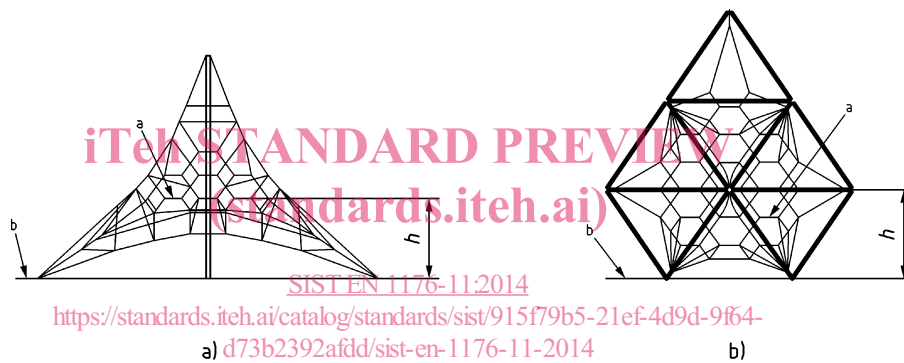


Figure 4 — Principal measurement of effective diameter of mesh size

4.3 Protection against injuries in the falling space

The free height of fall (h) shall be as given in EN 1176-1:2008, 3.6, and shall be measured as shown in Figure 5.

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



c)

Key

- a mesh size smaller than the diameter of the imaginary cylindrical body (see 4.1)
- b impact absorbing surface
- d distance between the nets:

$d = \text{max. } 1,8 \text{ m}$ for mesh size up to $420 \text{ mm} \times 420 \text{ mm}$
 $d = \text{max. } 1,0 \text{ m}$ for mesh size bigger than $420 \text{ mm} \times 420 \text{ mm}$

h free height of fall

Figure 5 — Free height of fall