



SLOVENSKI STANDARD
SIST EN 1176-1:2000
01-september-2000

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Playground equipment - Part 1: General safety requirements and test methods

Spielplatzgeräte - Teil 1: Allgemeine sicherheitstechnische Anforderungen und Prüfverfahren

Equipements d'aires de jeux - Partie 1: Exigences de sécurité et méthodes d'essai générales

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Ta slovenski standard je istoveten z: **EN 1176-1:1998**

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ICS:

97.200.40 Q|ž æ Playgrounds

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EUROPEAN STANDARD

EN 1176-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 1998

ICS 97.190; 97.200.40

Descriptors: playgrounds, recreation facilities, toys, communal equipment, safety requirements, hazards, accident prevention, specifications, tests, design, verification, maintenance, marking, technical notices

English version

Playground equipment - Part 1: General safety requirements and test methods

Equipements d'aires de jeux - Partie 1: Exigences de sécurité et méthodes d'essai générales

Spielplatzgeräte - Teil 1: Allgemeine sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 24 May 1998.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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EN 1176-1:1998

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 136 "Sports, playground and other recreational 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 December 1998, and conflicting national standards shall be withdrawn at the latest by December 1998.

It is not the purpose of the requirements of this part of EN 1176 to affect the child's need to play, or to lessen the contribution that playground equipment makes either to the child's development or play that is meaningful from an educational point of view.

This standard consists of a number of parts as follows:

prEN 1176-1	Playground equipment - Part 1: General safety requirements and test methods
prEN 1176-2	Playground equipment - Part 2: Additional specific safety requirements and test methods for swings
prEN 1176-3	Playground equipment - Part 3: Additional specific safety requirements and test methods for slides
prEN 1176-4	Playground equipment - Part 4: Additional specific safety requirements and test methods for runways
prEN 1176-5	Playground equipment - Part 5: Additional specific safety requirements and test methods for carousels
prEN 1176-6	Playground equipment - Part 6: Additional specific safety requirements and test methods for rocking equipment
EN 1176-7	Playground equipment - Part 7: Guidance on installation, inspection, maintenance and operation

and should be read in conjunction with EN 1177 - Impact absorbing playground surfacing - Safety requirements and test methods.

CEN/TC136/SC1 have decided to package EN 1176-1, EN 1176-7 and EN 1177. The dates of withdrawal (DOW) of EN 1176-7 and EN 1177 are being aligned with the DOW of EN 1176-1, which will be 6 months after the date of availability.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech

Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard specifies general safety requirements for playground equipment. These requirements have been laid down bearing in mind the risk factor based on available data. Additional specific safety requirements for specific pieces of playground equipment are specified in subsequent parts of this standard.

This standard is applicable to playground equipment intended for individual and collective use by children, but excluding adventure playgrounds¹⁾. It is also applicable to equipment and units installed as children's playground equipment although they are not manufactured as such, but excludes those items defined as toys in EN 71²⁾ and the Toy Directive.

This standard specifies the requirements that will protect the child from hazards that he or she may be unable to foresee when using the equipment as intended, or in a manner that can be reasonably anticipated.

It is not the purpose of this standard to encompass the play value.

NOTE: This standard has been drafted with full recognition of the need for supervision of children of 0 to 3 years of age. For additional safety, specific requirements have been included for equipment accessible to children under 36 months. See note to 4.2.1.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- | | |
|----------|--|
| EN 59 | Glass reinforced plastics - Measurement of hardness by means of a Barcol impressor |
| EN 335-2 | Durability of wood and wood-based products- Definition of hazard classes of biological attack -Part 2: Application to solid wood |

¹⁾ Adventure playgrounds are fenced, secured playgrounds, run and staffed according to the pedagogical principles that encourage children's development and often use self-build equipment.

²⁾ EN 71 Safety of Toys.

EN 350-2:1994	Durability of wood and wood-based products - Natural durability of solid wood - Part 2 : Guide to natural durability and treatability of selected wood species of importance in Europe
EN 351-1:1995	Durability of wood and wood-based products - Preservative-treated solid wood - Part 1 : Classification of preservative penetration and retention
EN 636-3	Plywood - Specifications - Part 3 : Requirements for plywood for use in exterior conditions
EN 701	Fibre ropes for general service - General specification
EN 919	Fibre ropes for general service - Determination of certain physical and mechanical properties
EN 1021-1	Furniture - Assessment of the ignitability of upholstered furniture - Part 1: Ignition source: Smouldering cigarette (ISO 8191-1:1987 modified)
EN 1021-2	Furniture - Assessment of the ignitability of upholstered furniture - Part 2: Ignition source: Match flame equivalent (ISO 8191-2:1988 modified)
EN 1177:1997	Impact absorbing playground surfacing - Safety requirements and test methods
EN 45001	General criteria for the operation of testing laboratories
ENV 1991-2-2	Eurocode 1: Basis of design and actions on structures - Part 2-2: Actions on structures - Actions on structures exposed to fire
ENV 1991-2-3	Eurocode 1: Basis of design and actions on structures - Part 2-3: Actions on structures - Snow loads
ENV 1991-2-4	Eurocode 1: Basis of design and actions on structures - Part 2-4: Actions on structures - Wind actions
ISO 1834	Short link chain for lifting purposes - General conditions of acceptance
ISO 5470	Rubber or plastics coated fabrics - Determination of abrasion resistance

ISO 8793 Steel wire ropes - Ferrule-secured eye terminations

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 playground equipment: Equipment and structures, including components and constructional elements with, or on which, children can play outdoors or indoors, either individually or in groups, according to their own rules or own reasons for playing which can change at any time.

3.2 climbing equipment: Playground equipment or equipment parts that have no areas on which it is possible to stand unsupported and which, therefore, require the user to hold on with both hands.

3.3 playing surface: Surface of a playground from which the use of the playground equipment commences.

3.4 free space: Space in, on or around the equipment that can be occupied by a user undergoing a movement forced by the equipment (e.g. sliding, swinging, rocking).

3.5 falling space: Space in, on or around the equipment that can be occupied by a user falling from an elevated part of the equipment (see figure 1). The falling space commences at the free height of fall (see 3.6).

3.6 free height of fall: Greatest vertical distance from the clearly intended body support to the impact area below (see figure 17).

NOTE: The intended body support includes those standing surfaces to which access is provided.

3.7 collective use: Use by more than one user at the same time.

3.8 crushing point: Place where parts of the equipment can move against each other, or against a fixed area so that persons, or parts of their body, can be crushed.

3.9 shearing point: Place where part of the equipment can move past a fixed or other moving part, or past a fixed area so that persons, or parts of their body can be cut.

3.10 ladder: Primary means of access incorporating rungs or steps on which a user can ascend or descend.

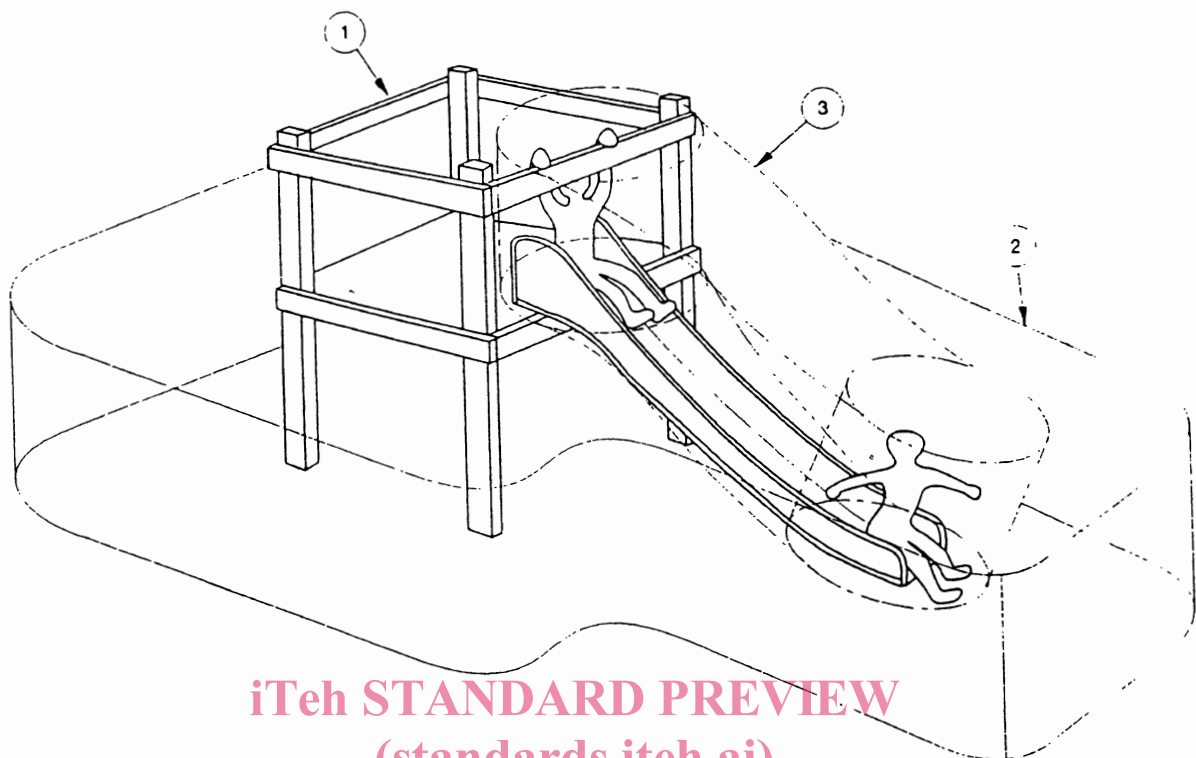
NOTE: A ladder is normally inclined at an angle between 60° and 90° to the horizontal (see figure 2).

3.11 stairs: Primary means of access incorporating steps on which a user can ascend or descend.

NOTE: Stairs are normally inclined at an angle between 15° and 60° to the horizontal (see figure 3).

3.12 ramp: Primary means of access incorporating an inclined surface on which a user can ascend or descend.

NOTE: A ramp is normally inclined at an angle of up to 38° to the horizontal (see figure 4).



- 1 Space occupied by equipment [SIST EN 1176-1:2000](https://standards.iteh.ai/catalog/standards/sist/07aa125b-9798-4799-acfc-3fca3ff10783/sist-en-1176-1-2000)
- 2 Falling space <https://standards.iteh.ai/catalog/standards/sist/07aa125b-9798-4799-acfc-3fca3ff10783/sist-en-1176-1-2000>
- 3 Free space
- 1 + 2 + 3 = Minimum space

Figure 1: Minimum space

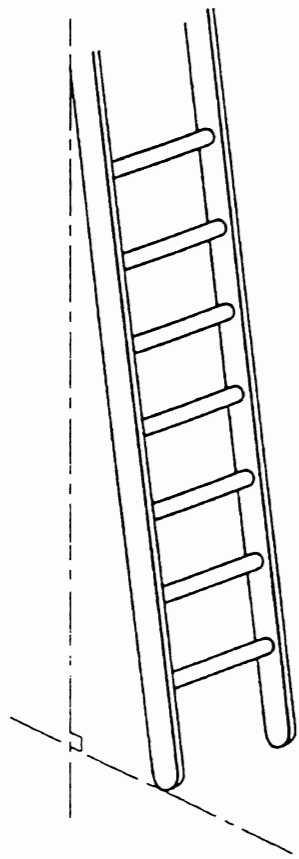


Figure 2: Example of a ladder

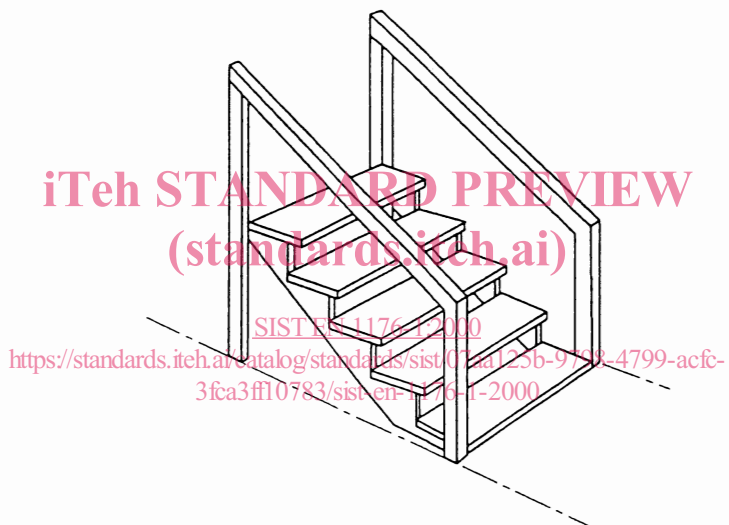


Figure 3: Example of stairs

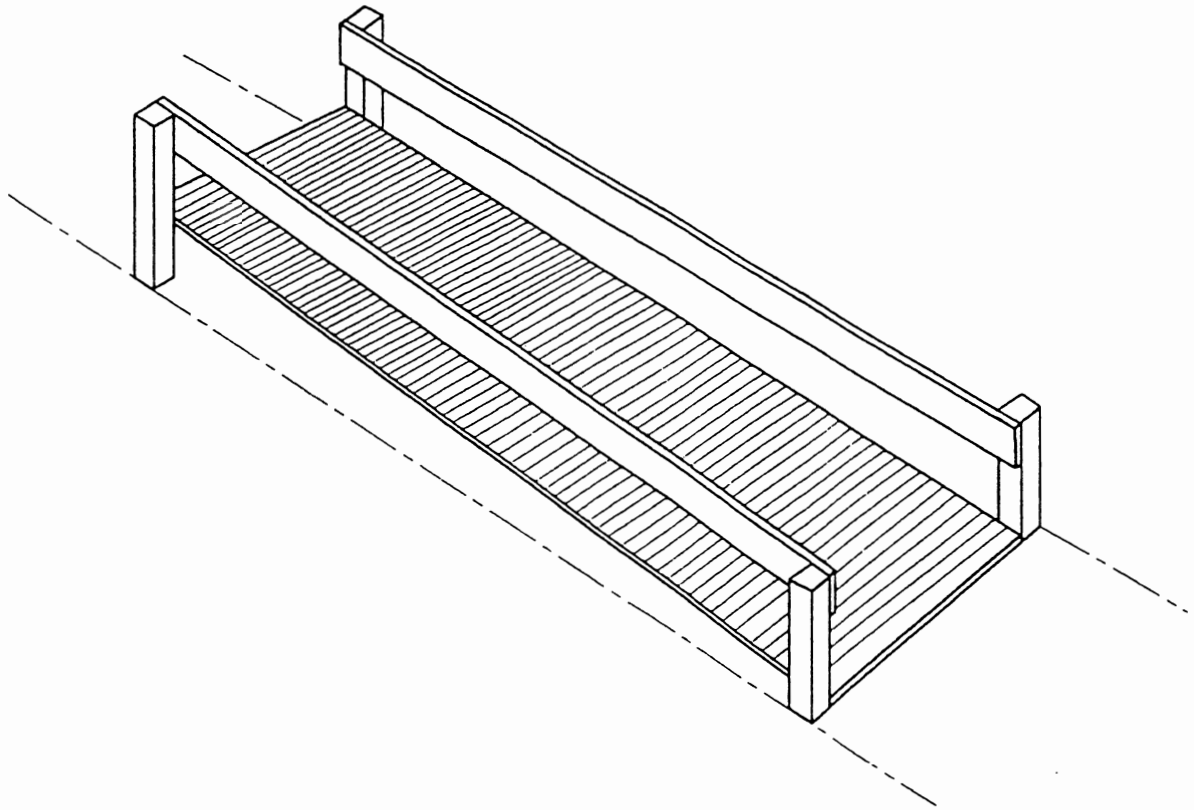


Figure 4: Example of a ramp

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3.13 impact area: Area that can be hit by a user after falling through the falling space (see 3.5).

3.14 grip: Holding of the hand round the entire circumference of a support (see figure 5).

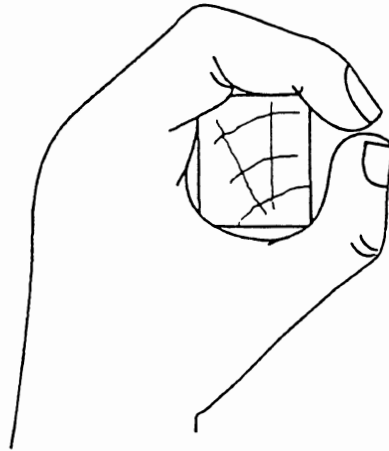


Figure 5: Grip

3.15 grasp: Holding of the hand round part of the circumference of a support (see figure 6).



Figure 6: Grasp

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3.16 entrapment: Hazard presented by the situation in which a body, or part of a body, or clothing can become trapped.

NOTE: The user is not able to free him/herself and injury is caused by the entrapment.

3.17 minimum space: Space required for the safe use of equipment (see figure 1).

3.18 obstacle: Object, or portion of an object, that protrudes inside the equipment or extends into the path of movement.

3.19 family of products: Modular systems or components that can be assembled in different ways.

3.20 cluster: Two or more separate pieces of equipment designed to be installed in close proximity to each other to provide continuity of the play activity.

3.21 platform: Raised level surface.

3.22 handrail: Rail intended to assist the user to balance.

3.23 guardrail: Rail intended to prevent a user from falling.

3.24 barrier: Guardrail intended to prevent a user passing beneath.

3.25 zone: Two- and three-dimensional spaces occupied by both the playground equipment and the user of the playground equipment.

3.26 not easily accessible: Requiring a degree of difficulty in accessing the equipment.

NOTE: For children under 36 months, this can be achieved, for example, by ensuring a clearance of 400 mm from the playing surface to the lowest foothold on the equipment or a clearance of 600 mm from the top surface of a platform.

3.27 routine visual inspection: Inspection intended to identify obvious hazards that can result from vandalism, use or weather conditions.

NOTE: Typical hazards can take the form of broken parts or broken bottles.

3.28 operational inspection: Inspection, more detailed than routine visual inspection, to check the operation and stability of the equipment.

NOTE: Typical checks include an examination for wear.

3.29 annual main inspection: Inspection, at intervals not exceeding 12 months intended to establish the overall level of safety of equipment, foundations and surfaces.

NOTE: Typical checks include the effects of weather, evidence of rotting or corrosion and any change in the level of safety of the equipment as a result of repairs made, or of added or replaced components.

4 Safety requirements

4.1 Materials

4.1.1 General

Materials shall conform to 4.1.2 to 4.1.6.

Materials should be manufactured in a workmanlike manner.

NOTE 1: The provisions relating to certain materials in this standard do not imply that other equivalent materials are unsuitable in the manufacture of children's playground equipment.

The selection of materials and their use should be in accordance with appropriate European Standards.

Special attention should be given to potential toxic hazards of surface coatings.

Materials shall be selected and protected such that the structural integrity of the equipment manufactured from them is not affected before the next relevant maintenance inspection.

NOTE 2: EN 1176-7 gives recommendations on maintenance inspections.

Particular care should be taken in the choice of materials where equipment is to be used in extreme climatic or atmospheric conditions.

Where very low or very high temperatures can be anticipated care should be taken on material selection to avoid possible hazards through direct skin contact.

In the choice of a material or substance for playground equipment, consideration should be given to the eventual disposal of the material or substance having regard to any possible environmental toxic hazard.