



SLOVENSKI STANDARD

SIST EN 16899:2017

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Oprema za šport in rekreacijo - Oprema za parkour - Varnostne zahteve in preskusne metode

Sports and recreational equipment - Parkour equipment - Safety requirements and test methods

Sport- und Freizeitanlagen - Parkoureinrichtungen - Sicherheitstechnische Anforderungen und Prüfverfahren

Equipements de sports et de loisirs - Equipements de parkour - Exigences de sécurité et méthodes d'essai

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Sports and recreational equipment - Parkour equipment - Safety requirements and test methods

Equipements de sports et de loisirs - Equipements de
parkour - Exigences de sécurité et méthodes d'essai

Sport- und Freizeitanlagen - Parkoureinrichtungen -
Sicherheitstechnische Anforderungen und
Prüfverfahren

This European Standard was approved by CEN on 17 September 2016.

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European foreword

This document (EN 16899:2016) 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of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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.

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Introduction

This document is primarily intended for manufacturers of parkour equipment, operators and designers of parkour parks and supervisors of parkour lessons who are appropriately qualified and experienced and have sufficient knowledge on parkour as sports.

It is not expected that every scenario has been addressed. Where new designs or concepts are delivered, a risk-benefit assessment should be completed by a competent person.

The design and layout of parkour facilities requires a good understanding of the sport and the interrelationship of equipment and “flow” routes. To ensure the safety of equipment it is recommended that design advice is obtained from a competent person and that appropriate risk-benefit assessments are carried out.

NOTE National federations/governing bodies, if exist, can provide advice on suitable competent persons.

Compliance with this European Standard cannot confer immunity from legal obligations.

Parkour as sports

Parkour, also known as “freerunning” and “Art du Déplacement”, is the non-competitive sport of training to move freely over and through any terrain using only the abilities of the body, principally through running, jumping, climbing and quadrupedal movement. In practice, it focuses on developing the fundamental attributes required for such movement, which include functional strength and fitness, balance, spatial awareness, agility, coordination, precision, control and creative vision.

It is a sport that encourages self-improvement on all levels, revealing one’s physical and mental limits, while simultaneously offering ways to overcome them. It is a method of training one’s body and mind in order to be as completely functional, effective and liberated as possible in any environment.

The sport aims to build confidence, determination, self-discipline and self-reliance, and responsibility for one’s actions. It encourages humility, respect for others and for one’s environment, self-expression and community spirit, and emphasizes the importance of discovery and safety at all times.

Founding of parkour

The sport, originally termed l’Art du Déplacement, was founded in France in the 1980s by a group of nine young men who called themselves “The Yamakasi”. “Yamakasi” is a Lingala word loosely meaning “strong man, strong spirit”, and summed up the core aim of the sport: to be a strong individual: physically, mentally and ethically.

The Yamakasi founders are Yann Hnautra, Chau Belle, David Belle, Laurent Piemontesi, Sebastien Foucan, Guylain N’Guba Boyeke, Charles Perriere, Malik Diouf and Williams Belle.

The term “parkour” was first introduced by David Belle in 1998. “Parkour” derives from the French word “parcours” meaning “route” or “course”.

The term “freerunning” was coined by Guillaume Pelletier, a representative of a group of French practitioners involved in the production of the 2003 Channel 4 documentary, Jump London, to communicate this new sport to an English-speaking audience.

Grounds for requirements of this European Standard

According to national product safety laws, products complying with standards are assumed to be safe. However operators, manufacturers, designers and the working group of this European Standard need to make observations and implement necessary changes to products as well as to the future revisions of this standard in order to provide safe environments for users.

This European Standard covers the design of equipment for the practice and development of the principle techniques/movements of the sport of parkour by those new to parkour and by experienced practitioners, known as traceurs (or freerunners).

Parkour facilities can comprise a combination of items of equipment permitting flowing movement of the user. Equipment is usually installed permanently, but for temporary use, equipment may also be portable.

The use of facilities as parkour equipment is connected with sporting risks. Sporting skills and the use of appropriate equipment can reduce the risk of accident, but it is important to recognize that traceurs and/or users are not required to wear personal protective equipment. Because parkour movements are self-controlled, it is expected that injuries resulting from falls/misjudgement can occur, just like in any sport.

It is not the intention of this European Standard to specify every possible shape and construction of facilities for traceurs and/or users. Parkour is a new, developing sport and the standard does not specify requirements that affect the design of the overall parkour facility.

It is also anticipated that sites might be used by/for non-parkour activities.

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1 Scope

This European Standard specifies requirements for parkour equipment for use mainly by users starting from 8 years of age. This European Standard recognizes that parkour movement is personally determined by users, using controlled physical exertion from, to and through equipment elements and structures; both permanently installed and portable.

The requirements are intended to protect users from hazards that they might be unable to foresee when using the equipment as intended, or in a manner that can be reasonably anticipated.

This European Standard also specifies requirements for the installation and maintenance of parkour equipment, including area, height, flow, location and separation from other facilities, including children's playgrounds and multi-use games areas (free access multi-sports equipment).

NOTE As listed above, this European Standard is only applicable to parkour equipment, installation and maintenance, but not for example to parkour activities.

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 206, *Concrete - Specification, performance, production and conformity*

EN 335:2013, *Durability of wood and wood-based products - Use classes: definitions, application to solid wood and wood-based products*

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 351-1:2007, *Durability of wood and wood-based products - Preservative-treated solid wood - Part 1: Classification of preservative penetration and retention*

EN 636, *Plywood — Specifications*

EN 1177, *Impact attenuating playground surfacing - Determination of critical fall height*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 clearance

dimension that allows the opportunity of passing from, to and through equipment elements and structures and during a flow of movements

3.2 competent person

individual with sufficient training, experience or knowledge of this standard and understanding parkour as sports and/or particular qualifications, who is able to carry out a task properly

Note 1 to entry: The required level of competence is dependent upon the task involved whether it is assessing the layout, safety, materials or separation from other activities.

3.3**critical fall height**

maximum free height of fall for which a surface will provide an acceptable level of impact attenuation

3.4**enclosed passage way**

tunnel through or under an equipment, enclosed except for entrance and exit, commonly at each end

3.5**entrapment**

situation in which the user becomes trapped or is unable to continue movement without risking a serious injury

3.6**falling space**

space in, on or around the equipment through which a user can pass or fall from an elevated part of the equipment

Note 1 to entry: Landing, rail or bar may be in the falling space (see 6.5).

3.7**flow**

move smoothly with unbroken continuity

3.8**free height of fall**

greatest vertical distance from the body support to the impact area below

Note 1 to entry: The body support is standing, running, hanging etc.

3.9**groove**

gap that does not pass through the material

Note 1 to entry: See Figure 1 for an example groove.

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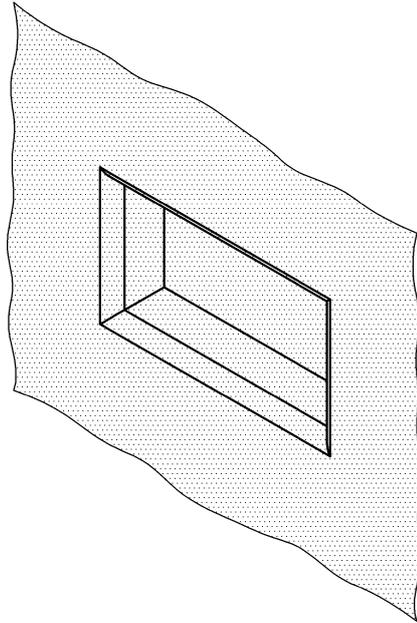


Figure 1 — Example groove

3.10

impact area

area that can be hit by a user after falling through the falling space

3.11

impact attenuating surface

IAS

material on the ground that has a property to attenuate some of the impact energy of a falling user

3.12

landing

regular and inflexible surface in any plane

3.13

mechanical movement

movement to which a user is committed by the equipment

3.14

movement

method of travelling from and to equipment

Note 1 to entry: See 3.7.

3.15

opening

gap that passes through the material

Note 1 to entry: See Figure 2 for an example opening.

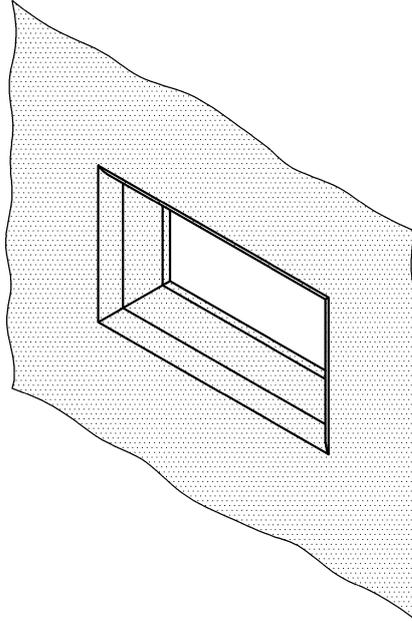


Figure 2 — Example opening

3.16

parkour

non-competitive sport of training to move freely over and through any terrain using only the abilities of the body, principally through running, jumping, climbing and quadrupedal movement

Note 1 to entry: See also Introduction. [SIST EN 16899:2017](https://standards.iteh.ai/catalog/standards/sist/0d7efaf0-4ea3-4a73-96d4-1c2ab90c481a/sist-en-16899-2017)

Note 2 to entry: <https://standards.iteh.ai/catalog/standards/sist/0d7efaf0-4ea3-4a73-96d4-1c2ab90c481a/sist-en-16899-2017> Movements such as somersaults, flips or tricks are gymnastic/acrobatic movements. Gymnastics/acrobatics is an entirely separate sport in its own right and has been practised much longer than the sport of parkour. However, traceurs/freerunners (practitioners) sometimes include acrobatics as part of their movement for fun and as a method of improving coordination, flight, balance and spatial awareness.

3.17

parkour equipment

product or a combination of products intended to be used to practice a sport of parkour

3.18

portable

property of an item that can be moved when needed and is not fixed to one place, position or posture

3.19

rails and bars

rails are typically of a square or rectangular section; bars are typically of a circular or oval section

3.20

supervision

condition where a competent person personally attends and oversees the setting and takes care of the user's safety

Note 1 to entry: In some countries, national sports associations and/or governing bodies may have rules and/or advice for proper supervision and the level of supervisor's competence.

EN 16899:2016 (E)**3.21****traceur
freerunner**

competent practitioner in the sport of parkour

3.22**user**

person who is able to access the equipment, including but not restricted to a traceur

4 Materials and structural integrity**4.1 Requirements for materials****4.1.1 General**

European and national regulations on chemical safety of products shall be taken into consideration.

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

Special care shall be drawn to brick and block structures and fibreglass products, since they are more susceptible to repeated impacts by users.

NOTE Brick structures and fibreglass products do not necessarily hold against the impact test method nor repeated impacts from users.

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Parkour equipment reliant on bolted connections shall incorporate a secondary proven system to prevent loosening caused by the vibrations of repeated user impact e.g. nuts with locking system.

4.1.2 Concrete

[SIST EN 16899:2017](https://standards.iteh.ai/catalog/standards/sist/0d7fefa0-4ea3-4a73-96d4-1c2ab3b8461a/sist-en-16899-2017)

Concrete shall be at least hardness of C25/30 and shall comply with EN 206.

4.1.3 Wood

Wooden parts shall be designed in such a way that precipitation can drain off freely so that water does not accumulate.

In cases of ground contact, one or more of the following methods shall be used:

- a) use of species of wood with sufficient natural resistance in accordance with classes 1 and 2 of the natural resistance classification given in EN 350-2:1994, 4.2.2;
- b) appropriate construction methods, e.g. post shoe, that protect the wood;
- c) use of wood treated with wood preservatives in accordance with EN 351-1:2007, Figure A.1, and EN 335:2013, class 4.

Consideration should also be given to other issues, such as the potential for splintering or poisoning.

All components made of wood and associated products, other than those species conforming to a) that affect the stability of the structure and are in constant contact with the ground, shall be treated in accordance with c).

When selecting metal fastenings, consideration should be given to the species of wood and chemical treatments used as some accelerate corrosion of metals if there is contact between them.

Any plywood used in construction shall conform to EN 636 and shall be weatherproofed.

4.1.4 Metals

Metals that produce oxides that scale or flake shall be protected by a durable, non-toxic coating.

Metal parts shall be protected against atmospheric conditions and cathodic corrosion.

4.1.5 Rubbers and synthetics

An indication of the time period after which a part or item of equipment shall be replaced shall be provided if it could be difficult to determine during maintenance the point at which the material becomes brittle.

All structural plastic components shall have appropriate substances to reduce the influences of ultraviolet radiation and oxygen.

If rubber is used in structural components, deterioration due to ozone shall be prevented or reduced either by:

- a) using considerably thicker material;
- b) leaving rubber parts visible for inspection; or
- c) making a notification to product or to maintenance instruction to check their conditions.

4.2 Requirements for structural integrity and loading

Due to the dynamic loads applied by parkour activities, the structural integrity of equipment shall be verified by the calculations and/or physical test. The test method is in Annex A and the appropriate number of users is calculated according to Annex B. During the physical test (see A.5), the equipment shall show no cracks, damage or excessive permanent deformation and no connections shall be loosened.

Parkour equipment for standing, walking, jumping or climbing upon, or any flat surface $\geq 0,1$ m wide, and which has less than a 30° angle from the horizontal, shall be able to carry the load caused by at least one user.

NOTE 1 This also applies to rungs or steps for supporting a user's feet.

Additional measures shall be taken for equipment in which the stability depends on only one cross section. When parkour equipment relies on one post for its stability, the construction shall be carried out such as to:

- a) minimize rotting or corrosion in parts contributing to stability;
- b) allow for controlling degradation and the need for decommissioning; and
- c) be used without collapse within the foreseen inspection period when maintained correctly.

NOTE 2 No allowance for accidental loads, i.e. loads produced by fire, collision by vehicles or earthquake, needs to be made.

NOTE 3 The loads associated with fatigue are generally much smaller than the loads in combination with the appropriate load factors when calculated in accordance with A.2. Therefore, equipment in general doesn't need to be verified for fatigue.

Structural parts shall resist the worst-case loading condition, as demonstrated by, for example, that part of the user load causing favourable effects, as shown in Figure 3.