



**SLOVENSKI STANDARD**  
**SIST EN ISO 23659:2023**

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**Športni in rekreacijski pripomočki - Trampolinski parki - Varnostne zahteve (ISO 23659:2022)**

Sports and recreational facilities - Trampoline parks - Safety requirements (ISO 23659:2022)

Sport- und Freizeitanlagen - Trampolinparks - Sicherheitstechnische Anforderungen (ISO 23659:2022)

Installations sportives et récréatives - Parcs de trampolines - Exigences de sécurité (ISO 23659:2022)

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## Sports and recreational facilities - Trampoline parks - Safety requirements (ISO 23659:2022)

Installations sportives et récréatives - Parcs de  
trampolines - Exigences de sécurité (ISO 23659:2022)

Sport- und Freizeitanlagen - Trampolinparks -  
Sicherheitstechnische Anforderungen (ISO  
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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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## European foreword

This document (EN ISO 23659:2022) has been prepared by Technical Committee ISO/TC 83 "Sports and other recreational facilities and equipment" in collaboration with 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of an identical text or by endorsement, at the latest by May 2023, and conflicting national standards shall be withdrawn at the latest by May 2023.

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The text of ISO 23659:2022 has been approved by CEN as EN ISO 23659:2022 without any modification.



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**Sports and recreational facilities —  
Trampoline parks — Safety  
requirements**

*Installations sportives et récréatives — Parcs de trampolines —  
Exigences de sécurité*

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CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 83, *Sports and other recreational facilities and equipment*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 136, *Sports, playground and other recreational facilities and equipment*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## ISO 23659:2022(E)

### Introduction

Trampoline parks offer a wide range of social, recreational and sport-based activities and can be aimed towards people of varying ages and skill levels. Risk-taking is a feature of trampoline parks. Trampoline parks aim to offer users the chance to encounter acceptable risks as part of a stimulating, challenging and controlled environment. As such they have the responsibility to balance the need to offer risk and the need to keep users safe from serious harm.

The existence of and adherence to this document will not prevent all injuries. Trampoline use has an inherent risk of injury, particularly if the equipment is used or supervised improperly. A high percentage of trampoline park users are children. Children benefit from, and develop knowledge and skill by, experimenting on equipment.

This document aims to define requirements that minimize the likelihood of serious and fatal accidents while allowing users, especially children, to expand their level of competence, socialize and enjoy themselves.

The most serious risks involved in any trampolining activity are spinal and neck injuries that can arise from incorrectly performed actions and failed landings. Experience has shown that adolescents and adults are more likely to perform high-risk actions. In trampoline parks the most frequent injury mechanisms are uncontrolled landings and misjudgement of one's own capabilities, resulting in both minor and more severe injuries.

For trampoline parks, potential risks can be reduced through construction (design, manufacture and installation) and operation (supervision, staff training, maintenance, instructions and continuous risk management etc.). Ongoing work to identify possible risks and injury scenarios is essential to ensure that all critical risks are mitigated and that all reasonable safety measures are established in the form of safety policies, safety procedures, safety information to users, staff education, etc.

This document aims to:

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- reflect the range of trampoline park concepts found on the market, from parks for children to areas aimed at target groups with high gymnastic demands and prior knowledge;
- set a general framework for design and operating conditions;
- prevent accidents with a disabling or fatal consequence;
- not restrict the manufacturer's construction freedom;
- not to restrict the operator's operational freedom;
- allow and encourage innovation;
- provide a direction for future developments for existing and new trampoline parks.

The committee recognized that they had a duty of care to protect trampoline park users from hazards that may not be obvious to the user. With these factors in mind, the Committee agreed that the document should aim to provide requirements to minimize the hazards known to cause injury.

This document is the result of an extensive process with a large group of experts from 3 continents that was finalized under COVID-19 conditions. It has proven challenging to come to a document that allows for all cultural and legal differences, since around the world similar installations are operated differently. This document is hesitant to set requirements that limit or block nonconventional-but-safe methods of operation. In applying this document, the legal and social conventions of the country in which the trampoline park is operated should be followed.

# Sports and recreational facilities — Trampoline parks — Safety requirements

## 1 Scope

This document specifies safety requirements for the design, construction, inspection and maintenance of trampoline parks and their components.

This document also specifies minimum operational requirements to ensure an appropriate level of safety and service when used for recreational, training or educational purposes.

This document is applicable to trampoline parks and trampoline park areas within multi activity parks. This also includes landing areas such as airbags and foam pits.

This document is intended for use by trampoline park manufacturers, installers, operators, inspectors and enforcement bodies.

This document does not cover:

- a) general building regulations;
- b) fire regulations;
- c) planning regulations;
- d) water testing;
- e) food and drink provision;
- f) non-trampoline activities e.g. artificial climbing, parkour, obstacle courses and miscellaneous future activities;
- g) chemical composition of components;
- h) outdoor trampoline parks;
- i) equipment and procedures covered by the referenced documents listed in [Clause 2](#);
- j) general aspects of work safety.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 913:2018+A1:2021, *Gymnastic equipment — General safety requirements and test methods*

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

EN 12503-1, *Sports mats — Part 1: Gymnastic mats, safety requirements*

EN 12503-2, *Sports mats — Part 2: Pole vault and high jump mats, safety requirements*

EN 13219:2008, *Gymnastics equipment — Trampolines — Functional and safety requirements, test methods*

EN 13814-1, *Safety of amusement rides and amusement devices – Part 1: Design and manufacture*

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EN 14960-1, *Inflatable play equipment — Part 1: Safety requirements and test methods*

EN 15312:2007+A1:2010, *Free access multi-sports equipment — Requirements, including safety test methods*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

ISO 1421, *Rubber- or plastics-coated fabrics — Determination of tensile strength and elongation at break*

ISO 1806, *Fishing nets — Determination of mesh breaking force of netting*

ISO 2411, *Rubber- or plastics-coated fabrics — Determination of coating adhesion*

**3 Terms and definitions**

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

**3.1**  
**trampoline park**  
venue with multiple *trampolines* (3.2) and/or trampoline courts

Note 1 to entry: Trampoline parks are offered both stand-alone and in conjunction with other (active) leisure activities.

**3.2**  
**trampoline**  
construction consisting of a frame, impact attenuation, trampoline bed and suspension system

**3.3.1**  
**park trampoline**  
fixed device that a user bounces on with a *performance index* (3.4)  $\leq 95$

**3.3.2**  
**performance trampoline**  
fixed device that has the potential of generating a greater height of rebound than a *park trampoline* (3.3.1) with a *performance index* (3.4)  $> 95$

**3.4**  
**performance index**  
numeric value which describes the level of performance of a *trampoline* (3.2) in terms of achievable jump height

**3.5**  
**framework**  
structure to which trampoline components are attached

**3.6**  
**padding**  
material used to attenuate the effect of impact with a hard surface

**3.7**  
**suspension system**  
material used to provide bounce to a trampoline bed

EXAMPLE Springs, rubber cables etc.

### 3.8

#### **suspension system protector**

material used to assist in protecting the user from entrapment/contact with the *suspension system* (3.7)

### 3.9

#### **feature**

specific equipment or combination of equipment offered as an attraction

Note 1 to entry: Examples of typical features in a trampoline park: dodge ball court, basketball court, trampoline court, trampoline with dismount foam pit, park trampoline, performance trampoline, performance wall, jump-tower with airbag, etc.

### 3.10

#### **dismount device**

area of impact attenuation material into which a user shall actively jump from a piece of equipment

Note 1 to entry: Dismount devices can be, for example, air bags or foam pits.

### 3.11

#### **walk-the-wall**

wall used in combination with trampoline activity

### 3.12

#### **air bag**

inflatable installation that provides an area of protection capable of dissipating the kinetic energy of one or more persons simultaneous falling from not more than a specified height onto the specified landing zone

### 3.13

#### **containment system**

methods used to contain the *user* (3.24) and materials to a *feature* (3.9) in the park

Note 1 to entry: The containment system can be manufactured from a material such as netting, PVC or impact attenuation material designed to assist in preventing users and other projectiles from passing out of the activity area.

### 3.14

#### **redundant barrier system**

secondary safety measure under or behind a *trampoline* (3.1) that helps passively contain the *user(s)* (3.24) to minimize the *risk* (3.45) for the user in case of failure of the trampoline bed

### 3.15

#### **mesh size**

distance between two knots or connections of mesh rope, measured from the centre to the centre of these connections

### 3.16

#### **activity area**

specified zone within the trampoline park for physical activity

Note 1 to entry: There can be one or more activity areas in a trampoline park, for example: young children area, park trampoline area, performance trampoline area.

### 3.17

#### **young children area**

area that is designated by the *operator* (3.32) as an area specifically for children under 6 years of age either permanently or for specific *session(s)* (3.19)

### 3.18

#### **non-trampoline activity area**

zone within the trampoline park that contains devices for physical activity other than defined trampolines