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Interested committees:

Title: Draft BS EN 913 Gymnastic equipment - General safety requirements and test methods.

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## Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

## UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

## Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

## Template for comments and secretariat observations

|                  |                        |
|------------------|------------------------|
| Date: xx/xx/20xx | Document: ISO/DIS xxxx |
|------------------|------------------------|

| 1  | 2                                          | (3)                          | 4               | 5                                                                                                                                  | (6)                                                                      | 7                                                  |
|----|--------------------------------------------|------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------|
| MB | Clause No./ Subclause No./Annex (e.g. 3.1) | Paragraph/ Figure/Table/Note | Type of comment | Comment (justification for change) by the MB                                                                                       | Proposed change by the MB                                                | Secretariat observations on each comment submitted |
|    | 3.1                                        | Definition 1                 | ed              | Definition is ambiguous and needs clarifying.                                                                                      | Amend to read '...so that the mains connector to which no connection...' |                                                    |
|    | 6.4                                        | Paragraph 2                  | te              | The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK. | Delete reference to UV photometer.                                       |                                                    |

English Version

## Gymnastic equipment - General safety requirements and test methods

Matériel de gymnastique - Exigences générales de sécurité et méthodes d'essai

Turngeräte - Allgemeine sicherheitstechnische Anforderungen und Prüfverfahren

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 136.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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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 (prEN 913:2025) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 913:2018+A1:2021.

prEN 913:2025 includes the following significant technical changes with respect to EN 913:2018+A1:2021:

- new Clause 6, “Marking and warning label”;
- update of Annex A;
- update of Annex ZA.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

## 1 Scope

This document specifies general safety requirements and test methods for all pieces of gymnastic and sports equipment and for all pieces of equipment for the use of physical education, training and competition, intended for use supervised by a competent person and not specified in other, individual standards.

## 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 1991-1-1:2025, *Eurocode 1 - Actions on structures - Part 1-1: Specific weight of materials, self-weight of construction works and imposed loads for buildings*

EN 1991-1-3:2025, *Eurocode 1 — Actions on structures — Part 1-3: General actions — Snow loads*

EN 1991-1-4:2005,<sup>1</sup> *Eurocode 1: Actions on structures — Part 1-4: General actions — Wind actions*

EN 1991-1-5:2025, *Eurocode 1: Actions on structures — Part 1-5: General actions — Thermal actions*

## 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

#### **hazard**

potential source of harm

[SOURCE: EN ISO 12100:2010, 3.6]

### 3.2

#### **risk**

combination of probability of occurrence of harm and the severity of that harm

[SOURCE: EN ISO 12100:2010, 3.12]

### 3.3

#### **body mass**

mass of the person(s) using the equipment

### 3.4

#### **static load**

load acting on the equipment due to its structure, added weights and pre-stressed components

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<sup>1</sup> As impacted by EN 1991-1-4:2005/A1:2010 and EN 1991-1-4:2005/AC:2010

**3.5****dynamic factor**

factor to take account of the increase in effective body mass during a dynamic movement

**3.6****safety factor**

factor intended to cover uncertainties in the body loading and dynamic factor used, and which does not cover allowance for variations in materials and manufacturing processes

**3.7****variable load**

load due to factors other than the static and body loads

**3.8****ready for use**

when the assembly is completed, and the equipment is placed in position

**3.9****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

**3.10****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

**3.11****entrapment**

hazard presented by the situation in which a body, or part of a body can become trapped

**3.12****V-shape**

partially bound opening subject to neck entrapment test regardless to its real shape (V, U, square, etc.)

**4 Risk assessment**

The assessment of risks has been based on EN ISO 12100:2010. Twelve categories of hazard or sources of hazard have been considered relevant to gymnastic equipment. These are as follows:

- a) crushing;
- b) shearing;
- c) cutting and severing;
- d) entanglement and trapping;
- e) impact;
- f) stabbing or puncture;
- g) friction and abrasion;

- h) insufficient mechanical strength;
- i) use of unsuitable material;
- j) unintended movement, including sliding;
- k) unsuitable ergonomic design;
- l) wrong or missing information.

NOTE See also Regulation (EU) 2023/988.

## **5 General safety requirements**

### **5.1 Materials**

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. For more information on inspection and maintenance see Annex E.

NOTE 1 The provisions relating to certain materials in this document do not imply that other equivalent materials are unsuitable in the manufacture of multi-sports equipment.

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

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

NOTE 2 See also Regulation (EU) 2023/988.

### **5.2 Surface finish**

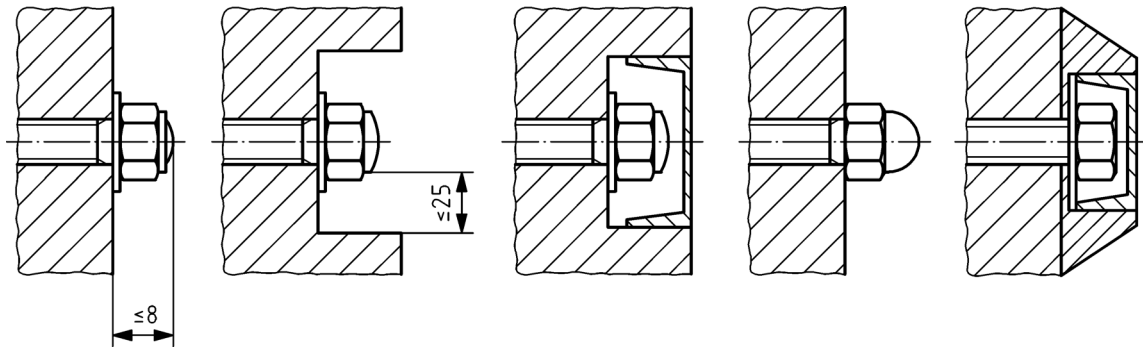
There shall be no protruding nails, projecting wire rope terminations or pointed or sharp-edged components. Rough surfaces should not present any risk of injury. All welds shall be smooth. Protruding bolt threads within any accessible part of the equipment shall be permanently covered, e.g. dome headed nuts. Nuts and bolt heads that project less than 8 mm are permitted in non-accessible parts, provided they are free from burrs.

Corners, edges and projecting parts within the space occupied by the user that protrude more than 8 mm, and which are not shielded by adjacent areas that are not more than 25 mm from the end of the projecting part, shall be rounded off. The minimum radius of the curve shall be 3 mm.

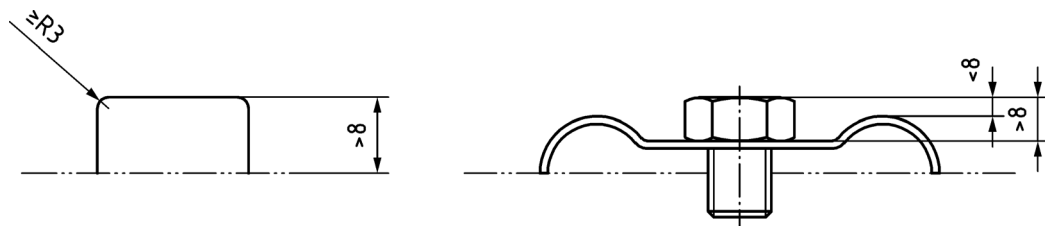
Figure 1 shows examples of protection for nuts and bolts and permissible protruding parts. Figure 2 shows examples of non-permissible protruding parts.

This requirement is intended only to prevent injuries caused by unintended contact with components.

Dimensions in millimetres



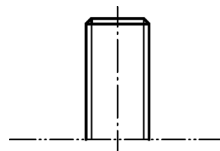
a) Examples of protection for nuts and bolts



b) Examples of permissible protruding parts

Figure 1 — Examples of permissible parts

Dimensions in millimetres



a) Uncovered protruding exterior screw thread



b) Unprotected, overhanging sharp-edged (hard) equipment part

Figure 2 — Examples of non-permissible protruding parts

## 5.3 Safety of openings

### 5.3.1 Entrapments

#### 5.3.1.1 General

Equipment shall be designed to prevent head, neck and finger entrapments.

NOTE All dimensions given hereafter are copied from EN 1176-1:2017+A1:2023.

### 5.3.1.2 Head entrapment/strangulation

Completely bound openings with a lower edge more than 600 mm above the floor shall be tested in accordance with A.1.

E (small head) shall not pass through any opening unless it also allows the passage of the probe D (large head).

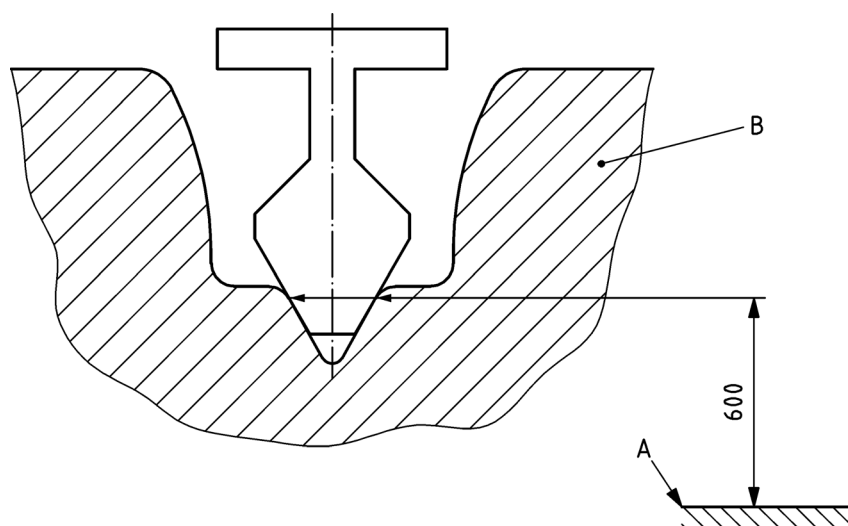
NOTE The two exceptions are given due to practical experience and to align the test closer to the former EN 913 tests.

### 5.3.1.3 Neck entrapment

V-shapes in height of 600 mm or more above the floor (see Figure 3) shall be constructed so that one of the following conditions exist:

- 1) When tested in accordance with A.4.1.2 first phase, opening does not allow insertion of the template's B-portion for its full thickness, width or length.
- 2) When tested in accordance with A.4.1.2 second phase, the opening shall conform to one of the following requirements:
  - Range 1: When the template apex contacts the bottom, the depth of the V-shape shall either be less than the length of the template to the underside of the shoulder section or allow insertion of the whole template, including the shoulder section.
  - Range 2: When the template apex contacts the bottom, the depth of the V-shape shall be less than the 'A' portion of the template. If the opening is deeper, the opening above the 'A' portion shall allow insertion of the shoulder section of the template.
  - Range 3: No template test requirements.

Dimensions in millimetres



#### Key

- A floor  
 B equipment  
 arrow points of contact during test's second phase

**Figure 3 — Determining the height of the V-shape**

#### 5.3.1.4 Finger entrapment

Openings which are located closer than 90 mm from those parts of the equipment, that the user is intended to touch with their hands, when tested in accordance with A.4.1.2, shall conform to one of the following:

- 1) The 8 mm finger rod does not fit into the opening.
- 2) The 25 mm finger rod passes through the opening or to the bottom of the recess.
- 3) If only the 8 mm finger rod fits into the recess, while being at the bottom of the recess, it can be bended to less than 45° angle from the adjacent surface and moved full circle along conical surface (see Figure A.4).

**NOTE** When the user is exercising, the risk of finger entrapment is related to the speed of the user more than opening's physical height from the floor. When fast movement does not exist, openings less than 1 000 mm from the floor are typically of low risk.

#### 5.3.2 Crushing/shearing/pinching points

When the equipment is in use and its parts can move relative to each other or to the floor, either by design or through deflection or bending under load, there shall be no shearing/crushing/pinching points that can create a danger for head, neck, or finger.

These requirements shall be assessed by carrying out a visual inspection and probes specified in Annex A.

#### 5.3.3 Transport system

Where a transport system is used, it shall be considered in the risk assessment. The risk assessment shall consider disengagement, crushing, shearing and unintentional dropping. Transport systems shall be marked according to Clause 7. For more information on risk assessment see Annex D.

#### 5.3.4 Floor fixings

Any floor fixings shall be designed in such a way that they will not protrude from the floor level, nor provide openings equal to or greater than 12 mm in diameter unless they are covered with a flush fitting cover, when the equipment is not attached to the floor.

**NOTE** Should a risk be seen through the opening, a cover might be required even at less than 12 mm.

### 5.4 Stability and strength

#### 5.4.1 General

Unless specified elsewhere in individual equipment standards, verification of the stability and strength of equipment shall be achieved by engineering calculation or by testing in accordance with the procedures specified in Annex B.

#### 5.4.2 Stability

For stability testing where the normal action produces a destabilizing force in a horizontal direction, e.g. vaulting, the theoretical horizontal test force shall be calculated using the formula given in B.1.8. The calculation shall give a result which is  $\geq 35\%$  of the self-weight of the equipment or 50 N, whichever is the greater.

Unless specified elsewhere in individual equipment standards, for equipment with unfixed body sections an actual test shall be carried out with a theoretical horizontal test force of 65 % of the

theoretical test force calculated according to the formula given in B.1.8, or 50 N, whichever is the greater. Unfixed body sections shall not become separated.

### **5.4.3 Strength**

When tested in accordance with Annex B, equipment shall not collapse or fracture, or show any permanent deformation that would result in an additional safety hazard as described in the standard.

### **5.5 Adjustment devices**

Any adjustment devices shall prevent accidental changes during use of the device or the equipment.

None of the operating levers shall protrude into the user's free space.

This shall be assessed by carrying out a visual inspection and operation of the adjustment device.

### **5.6 Shock absorption of top padding**

Shock absorption of top padding shall be determined in accordance with Annex C. When tested in accordance with the method specified in Annex C, the peak acceleration shall not exceed 500 m/s<sup>2</sup>, if not specified in other, individual equipment standards.

### **5.7 Friction and abrasion**

Requirements are related to the specific gymnastic and sports equipment and dealt within the appropriate European Standards (where applicable).

### **5.8 Ergonomics**

Requirements are related to the specific gymnastic and sports equipment and dealt within the appropriate European Standards (where applicable).

## **6 Marking and warning label**

### **6.1 Marking**

All gymnastic equipment shall bear the following marking:

- a) number of the relevant European Standard;
- b) name, trademark or other means of identification of the producer, retailer or importer;
- c) year of manufacture;
- d) number of users for which the equipment is intended.

Any other information regarding the intended use is related to the specific gymnastic and sports equipment and dealt within the appropriate European Standards (where applicable).

Transport systems shall be marked with:

- a) safe working loads;
- b) identified intended use.

### **6.2 Warning label**

When setting up or transport of equipment there could be risk for shearing or crushing. Those points shall be highlighted with a warning label.

## 7 Manufacturer instructions

The producer shall provide written instructions for the safe assembly, installation, transportation, storage and maintenance in the appropriate language(s) of the country in which the gymnastic and sports equipment is to be installed and used.

Further requirements are related to the specific gymnastic and sports equipment and dealt within the appropriate European Standards (where applicable).