



SLOVENSKI STANDARD

SIST EN 916:1996

01-december-1996

Gymnastic equipment - Vaulting boxes

Gymnastic equipment - Vaulting boxes - Functional and safety requirements, test methods

Turngeräte - Sprungkästen - Funktionelle und sicherheitstechnische Anforderungen, Prüfverfahren

Matériel de gymnastique - Plints à parois verticales - Exigences fonctionnelles et de sécurité, méthodes d'essai

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ICS:

97.220.30 Oprema za dvoranske športe Indoor sports equipment

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EUROPEAN STANDARD

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English version

Gymnastic equipment - Vaulting boxes - Functional and safety requirements, test methods

Matériel de gymnastique - Plinths à parois
verticales - Exigences fonctionnelles et de
sécurité, méthodes d'essai

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Prüfverfahren

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Contents

	Page
Foreword	2
1 Scope	3
2 Normative reference	3
3 Requirements	3
4 Safety requirements	4
5 Test methods	4
6 Warning	6
7 Marking	6
Annex A (informative) Examples of vaulting boxes	7

Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 136 "Sports, playground and other recreational equipment", of which the secretariat 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of an identical text or by endorsement, at the latest by September 1996, and conflicting national standards shall be withdrawn at the latest by September 1996.

This European Standard is one of several standards, each of which deals with a particular type or a particular group of gymnastic equipment.

This European Standard should be read in conjunction with EN 913.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This standard specifies functional requirements (see clause 3) and specific safety requirements in addition to the general safety requirements in EN 913 (see clause 4).

This standard is applicable to five types of vaulting boxes (see table 1).

2 Normative reference

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 913

Gymnastic equipment – General safety requirements and test methods

3 Requirements

3.1 Classification

Vaulting boxes shall be classified by the design (types) as shown in table 1.

Table 1: Types

Type	Description	Example
1	rectangular vaulting box with individual box-sections and padded top box	figure A.1
2	rectangular mini vaulting box with padded top	figure A.2
3	pyramidal vaulting box with individual box sections and padded top box	figure A.3
4	padded vaulting tables with supported frame	figure A.4
5	vaulting box or table with any other design which fulfills the safety requirements of this standard and dimensions of padded top surface	table 2

3.2 Dimensions

Top surfaces of vaulting boxes shall comply with the dimensions specified in table 2.

Table 2: Dimensions of top surfaces

Dimensions in mm

Range	Length <i>l</i>	Width <i>b</i>
maximum	1 605	705
minimum	395	395

3.3 Performance of padded box top

When tested in accordance with EN 913 annex C using a drop height of 300 mm, the peak acceleration shall not exceed 500 m/s^2 (50 g).

4 Safety requirements

4.1 General

Vaulting boxes shall comply with the requirements of EN 913, except insofar as they are modified by this European Standard.

4.2 Stability

When tested in accordance with 5.1, the vaulting box shall not rotate about the base, nor shall any of the sections separate in normal use when subjected to a horizontal force representing 40 % of the self weight of the vaulting box.

4.3 Strength

When tested in accordance with 5.2, the vaulting box or any vertical sided individual section shall show no sign of loose bonds, breaking or cracking.

4.4 Durability of construction

When tested in accordance with 5.3, sections shall not show any loose joints, breakage, cracking or change in diagonal dimensions greater than 3 mm.

5 Test methods

5.1 Determination of stability

5.1.1 Principle

A horizontal force is applied to the top of the equipment and any tipping is noted.

5.1.2 Test temperature

Condition the equipment for a minimum of 3 h at a temperature of $(23 \pm 2) \text{ }^\circ\text{C}$.

5.1.3 Procedure

Carry out the test at maximum height.

Apply a horizontal force calculated from 40 % of the self weight of the equipment with a minimum of 90 N to the highest point in the centre of the top (see figure 1).

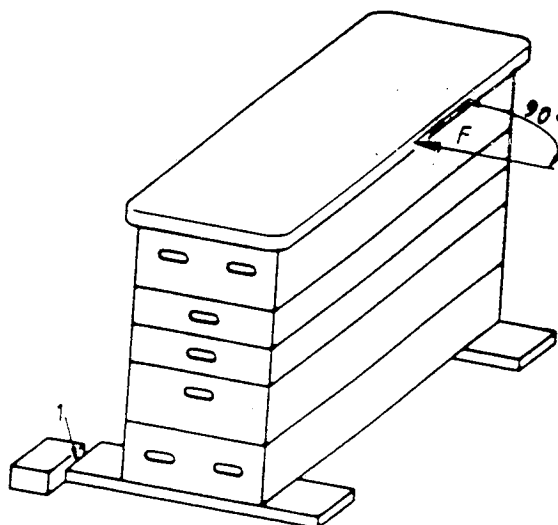
Note any tipping of the equipment.

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1 point of rotation
 F = Force

Figure 1: Determination of stability

5.1.4 Expression of results

Express the level of stability by whether tipping has occurred.

5.2 Determination of strength

5.2.1 Principle

Load the equipment with a calculated vertical force and examine for fracture or other damage.

5.2.2 Apparatus

A rigid plate of dimensions (200 mm × 200 mm × 10 mm) ± 1 mm with a radius of the lower edges of minimum 3 mm.

5.2.3 Test temperature

Condition the equipment for a minimum of 3 h at a test temperature of (23 ± 2) °C.

5.2.4 Procedure

5.2.4.1 Whole vaulting box

Apply a vertical force of 2 850 N at the centre of the top of the equipment for 1 min $^{+10}_{0}$ s.

Note any loose bonds, breaking or cracking of the equipment.

5.2.4.2 Sections

Apply a vertical force of 1 700 N at the centre of each long side of the equipment for 1 min $^{+10}_{0}$ s.

Note any loose bonds, breaking or cracking of the equipment.

5.2.5 Expression of results

Express the strength by whether loose bonds, breaking or cracking has occurred.

5.3 Determination of durability of construction

5.3.1 Principle

A section is dropped on a concrete floor from a specified height and examined for damage and the pre-test and post-test variation of diagonal dimensions is measured and the difference is determined.

5.3.2 Procedure

Before testing, measure the diagonal dimensions of a section. Drop the section onto a concrete floor, from a minimum height of 120 mm perpendicular to the section's diagonal axis. Carry out the test five times for each corner, taking diagonally opposite corners in turn.

5.3.3 Expression of results

Note any breakage or loose and easily moveable connections. Record the pre-test and post-test variation of diagonal dimensions in millimetres.

6 Warning

The manufacturer shall provide a warning notice that the equipment should be used under controlled supervision.

7 Marking

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a) marking shall comply with EN 913; <https://standards.iteh.ai/catalog/standards/sist/045fc04-30d1-434c-b461-521404c7a549/sist-en-916-1996>
b) type according to table 1.