



# SLOVENSKI STANDARD

## SIST EN 1510:1996

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### Playing field equipment - Tennis equipment - Requirements and test methods

Playing field equipment - Tennis equipment - Functional and safety requirements, test methods

Spielfeldgeräte - Tenniseinrichtungen - Funktionelle und sicherheitstechnische Anforderungen, Prüfverfahren

Equipements de jeux - Equipements de tennis - Exigences fonctionnelles et de sécurité, méthodes d'essai

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#### ICS:

97.220.40	Oprema za športe na prostem in vodne športe	Outdoor and water sports equipment
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EUROPEAN STANDARD

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Descriptors: sports equipment, sports, tennis, sport nets, columns, specifications, materials, design, safety, specifications, technical notices, marking

English version

## Playing field equipment - Tennis equipment - Functional and safety requirements, test methods

Equipements de jeux - Equipements de tennis -  
Exigences fonctionnelles et de sécurité,  
méthodes d'essai

Spielplatzgeräte - Tenniseinrichtungen -  
Funktionelle und sicherheitstechnische  
Anforderungen, Prüfverfahren

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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.

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# CEN

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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### 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.

Other types and sizes as those described in this standard are permissible provided the safety requirements are taken into consideration.

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of an identical text or by endorsement, at the latest by March 1997, and conflicting national standards shall be withdrawn at the latest by March 1997.

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 the functional requirements (see clause 3) and the safety requirements (see clause 4) of tennis equipment, excluding rackets and balls.

This European Standard is applicable to 3 types of tennis equipment (see 3.1) which are used indoors and outdoors.

## 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.

ISO 2062

Textiles – Yarns from packages – Determination of single-end breaking force and elongation at break

ISO 3108

Steel wire ropes for general purposes – Determination of actual breaking load

ISO 5081

Textiles – Woven fabrics – Determination of breaking strength and elongation (Strip method)

## 3 Requirements

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### 3.1 Classification

Tennis equipment shall be classified by the design (types) and the nets by the breaking force (classes) as shown in tables 1 and 2.

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Table 1: Types

Type	Description	Example
1	with ground sockets	figure 1
2	with bases and ground fixings	figure A.1
3	freestanding	figure A.2

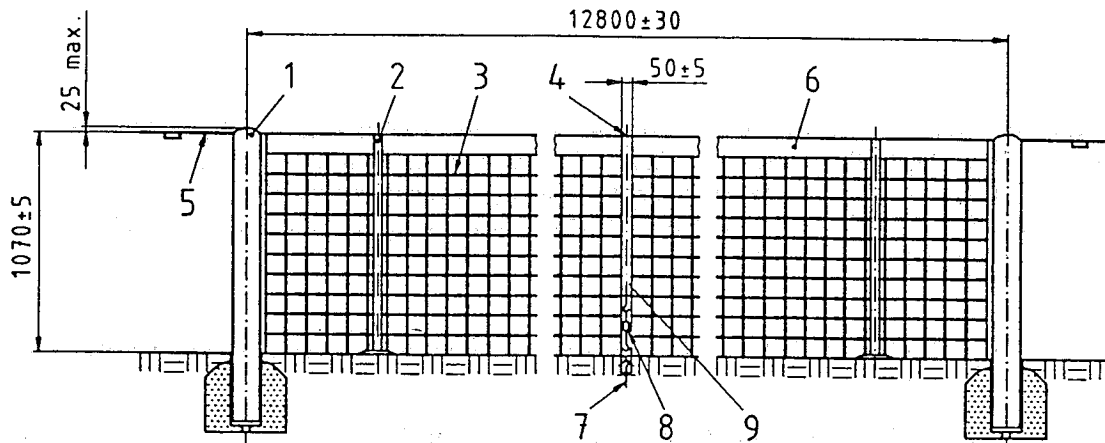
Table 2: Classes of nets

Class	Breaking force N min.		
	Net yarn	Top net line	Top tape
A	1 500	8 000	2 500
B	900	6 000	1 250
C	660	3 000	900

### 3.2 Dimensions

Tennis equipment shall comply with the dimensions shown in figure 1.

Dimensions in millimetres



- 1 post
- 2 single stick
- 3 net
- 4 centre net adjuster
- 5 top net line

- 6 top tape
- 7 floor anchorage (to secure the centre net adjuster)
- 8 adjuster
- 9 net centre strap

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Figure 1: Tennis equipment type 1

For example for foundations see annex B. <https://standards.iteh.ai/catalog/standards/sist/34e8e193-5961-4c8b-99a6-992eaa457a3f/sist-en-1510-1996>

Tennis equipment **type 1** shall have the following components:

- a) 2 posts (1 with tensioning device, 1 without);
- b) net with top net line;
- c) centre net adjuster;
- d) 2 singles sticks (optional);
- e) 2 ground sockets.

Tennis equipment **type 2** shall have the following components:

- a) 2 posts with bases and ground fixings (1 with tensioning device, 1 without);
- b) 1 net;
- c) 1 centre net adjuster.

An example of a tennis equipment type 2 is shown in annex A.

Tennis equipment **type 3** shall have the following components:

- a) 2 posts (1 with tensioning, 1 without);

- b) 1 net;
- c) 1 centre net adjuster;
- d) bottom structure.

An example of a tennis equipment type 3 is shown in annex A.

### 3.3 Materials

#### 3.3.1 Posts, singles sticks and bottom structure of type 3 and ground fixings

These may be made of steel, light metal, synthetics or wood, provided the requirements of this standard are fulfilled.

Light metal shall be non-corrosive and steel protected against corrosion (e.g. hot-galvanized, powder coated or painted).

#### 3.3.2 Net

The net shall be made from synthetic fibres.

#### 3.3.3 Top net line

The top net line shall be made from galvanized or corrosion-resistant steel wires or equivalent material.

NOTE: Plastics covering is acceptable.

#### 3.3.4 Top tape and net centre strap

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These can be made from synthetic or natural fibres.

### 3.4 Design

#### 3.4.1 Net posts

The net posts shall be not more than 150 mm square or not more than 150 mm in diameter.

The construction of the net posts shall be such that the top net line can be supported or guided at a height of 1 070 mm. One net post shall be provided with a tensioning device for the top net line, the other net post shall be provided with a guiding and fixing system for the top net line.

When tested in accordance with 5.2, after removal of the test force the net posts shall not be deformed permanently or show a deflection of more than 10 mm.

#### 3.4.2 Net

The top tape shall be white. It shall have a folded depth of between 50 mm and 63 mm.

The top tape shall be sewn into the net by one of the following methods:

- a) at least twice with synthetic thread of 50 N breaking force; or
- b) once with synthetic thread of 100 N breaking force; or

it shall be provided with a fastening device which is of at least equivalent strength.

The top net line shall have a diameter of not more than 8 mm.

The top net line shall be inserted into the top tape. The ends of the top net line shall be designed in such a way that they do not fray and so that they fit the appropriate tensioning and fixing devices.

The net shall be designed to completely fill the space between the posts, the top tape and the court surface. The net shall not be tensioned.

The mesh width shall be sufficiently small to prevent the ball from passing through.

Regarding the breaking forces of the net and its components the classes of table 2 shall be selected as appropriate.

### 3.4.3 Centre net adjuster

The centre net adjuster shall consist of the following components:

- a) 1 net centre strap;
- b) 1 adjuster;
- c) 1 floor anchorage (for types 1 and 2, for type 3 appropriate to the bottom structure).

The net centre strap shall be white.

The adjuster shall be capable of adjusting the height of the net from 1 070 mm to 914 mm.

### 3.4.4 Singles sticks

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Where a doubles net is used for singles play the net can be supported by two freestanding posts called singles sticks.

The single sticks shall maintain the top net line at the required height while supporting the doubles net when placed according to the rules of the game (see figure 1). A singles stick shall be not more than 75 mm square or in diameter. The height shall be not more than that of the posts.

### 3.4.5 Ground sockets

All ground sockets shall be resistant to corrosion.

## 4 Safety requirements

### 4.1 General

Exposed corners and edges shall be rounded with a radius of at least 3 mm.

The floor anchorage shall not protrude to the court surface.

### 4.2 Tensioning devices

The tensioning devices shall be constructed in such a way that, when tested in accordance with 5.2, they cannot start without control.



If handles are provided, e.g. for a winch, they shall be removable, retractable or remain inside the post.

### 4.3 Net hooks

The open end of net hooks (if any) shall not be directed towards the court. The net hooks shall be constructed in such a way that they are not dangerous to the players.

## 5 Test methods

### 5.1 General

Requirements of clauses 3 and 4, for which no particular tests are indicated in the following, shall be appropriately verified, e.g. by measurement, visual inspection, tactile or functional testing.

### 5.2 Posts and tensioning devices

Set up the posts in position of use.

Place a steel wire (5 mm diameter) with a force transducer placed within into the position of use of the top net line.

Increase the tension of the tensioning device up to a force of 2 290 N.

Apply the force for 10 min at a temperature of  $(23 \pm 2)$  °C.

### 5.3 Net

The components of the net shall be tested in accordance with table 3.

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Table 3: Testing of net  
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Component	Test method
Net yarn	ISO 2062
Top net line	ISO 3108
Top tape	ISO 5081

## 6 Instructions for use

The tennis equipment shall be accompanied by instructions for use including at least the following information:

- a) installation details;
- b) assembly details covering method of adjustment and tensioning device;
- c) correct fastening of the net;
- d) maintenance details.