



SLOVENSKI STANDARD

SIST EN 16579:2018

01-marec-2018

Oprema športnih igrišč - Premična in nepremična nogometna vrata - Funkcionalne in varnostne zahteve ter preskusne metode

Playing field equipment - Portable and permanent socketed goals - Functional, safety requirements and test methods

Spielfeldgeräte - Ortsveränderliche und standortgebundene Tore - Funktionale und sicherheitstechnische Anforderungen und Prüfverfahren

Équipements de jeux - Buts mobiles et fixes - Exigences fonctionnelles et de sécurité et méthodes d'essai

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Ta slovenski standard je istoveten z: EN 16579:2018

ICS:

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

EN 16579

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2018

ICS 97.220.40

English Version

Playing field equipment - Portable and permanent socketed goals - Functional, safety requirements and test methods

Équipements de jeux - Buts mobiles et fixes - Exigences fonctionnelles et de sécurité et méthodes d'essai

Spielfeldgeräte - Ortsveränderliche und standortgebundene Tore - Funktionale und sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 6 November 2017.

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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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EN 16579:2018 (E)**European foreword**

This document (EN 16579:2018) 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of an identical text or by endorsement, at the latest by July 2018, and conflicting national standards shall be withdrawn at the latest by July 2018.

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.

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1 Scope

This European Standard is applicable to playing field goals used for competition, training or recreational play, indoor and outdoor areas including educational establishments and public recreational areas.

It specifies the functional and safety requirements and test methods for all types of portable and permanent socketed goals having a total weight greater than 10 kg with the exception of goals with a size of 5,00 m × 2,00 m and 7,32 m × 2,44 m with a weight of > 42 kg, which are covered by EN 748 (see Table 1, Footnote b and c).

The following goals specified in the standards listed below are also excluded:

- a) EN 748 (football);
- b) EN 749 (handball);
- c) EN 750 (hockey);
- d) EN 1270 (basketball) and any other type of goal used for basketball;
- e) EN 15312 (free access multi-sports);
- f) EN 13451-7 (water polo);
- g) EN 16664 (lightweight goals).

The following goals are also excluded:

- h) inflatable goals;
- i) goals which are classified as toys under the responsibility of CEN/TC 52;
- j) for portable and permanent socketed playing field goals for American football;
- k) goals which are intended to move in use (e.g. Lacrosse, rink hockey and roller hockey).

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 913:2008, *Gymnastic equipment — General safety requirements and test methods*

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

EN 16579:2018 (E)

3 Terms and definitions

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

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

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

3.1

goal

opening or area which forms the target for ball games, usually comprising two uprights and one crossbar

Note 1 to entry: Includes any other parts such as net, net support, net fixing, socket(s), anchoring system(s), wheels and handles, which are permanently fitted to the goal.

3.2

portable goal

goal structure which, when erected or assembled is stabilised by means of a specific anchorage or weight system which enables the structure to withstand the required design and test loads

Note 1 to entry: Portable goals can be referred to as movable goals or free standing goals.

Note 2 to entry: See Annex B for more information on portable goals.

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3.3

socketed goal

goal structure which is set in a suitably-sized permanent fixed foundation in such a way as to enable the combined structure to withstand the required design and test loads

Note 1 to entry: See Annex B for Foundation information.

3.4

goal frame

crossbar and uprights which form the goal opening

3.5

net support

attachment which may be fixed to the goal frame for supporting the net

3.6

frame support

framework comprising the side frame and back frame that may support the goal frame

3.7

anchoring system

system for ensuring that a portable goal cannot tip over, slide or displace

3.8

in use

period commencing with the erection of the goals on the field of play and their subsequent use for training or play

3.9**intended use**

purpose for which the goal has been designed and manufactured

3.10**not in use**

period commencing with the dismantling of the goal, the subsequent movement and storage after use and any subsequent period when they are not available for their intended use

3.11**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

[SOURCE: EN 1176-1:2017, 3.11]

3.12**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

[SOURCE: EN 1176-1:2017, 3.12]

3.13**entrapment**

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

Note 1 to entry: EN 16579 only considers certain types of entrapment where the user is not able to free him/herself and injury is caused by the entrapment.

[SOURCE: EN 1176-1:2017, 3.18, modified — The note to entry has been adapted to this document.]

3.14**transport system**

means of moving the goal

4 General

A goal should be used as a complete unit (e.g. goal, net, back bar, anchors, stabilizers, etc.) together with any other accessories that may be required.

NOTE 1 Sport governing bodies specify additional requirements of a goal within their rules.

NOTE 2 The net is optional.

5 Measurements, Categorization and Classification**5.1 General**

The categories are shown in Figures 1 and 2 and Tables 1 and 2.

NOTE See Annex C for examples.

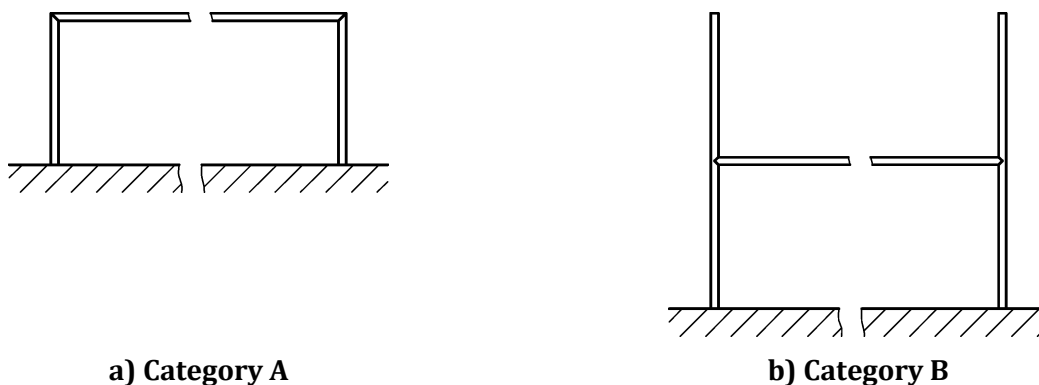


Figure 1 — Goal frame categories

Table 1 — Goal sizes — Category A (internal height to crossbar)

Category	Type	Class	Total weight m (including back bar, net, net fixing, and any permanently attached anchoring or stabilizing system) kg	Size ranges		
				Width w (internal) m	Height to crossbar h_1 (internal) m	Overall height of uprights h_2 m
A1	1	Socketed ^a	$m > 10,0$	$0,70 \leq w \leq 1,80$	$0,50 \leq h_1 \leq 1,20$	—
	2	Portable	$10,0 < m \leq 18,0$			
	3	Portable	$18,0 < m \leq 42,0$			
	4	Portable	$m > 42,0$			
A2	1	Socketed ^a	$m > 10,0$	$1,80 \leq w \leq 4,88$	$0,80 \leq h_1 \leq 1,99$	—
	2	Portable	$10,0 < m \leq 22,0$			
	3	Portable	$22,0 < m \leq 42,0$			
	4	Portable	$m > 42,0$			
A3	1	Socketed ^a	$m > 10,0$	$3,00 \leq w \leq 6,40$	$2,00 \leq h_1 \leq 2,44$	—
	2	Portable	$10,0 < m \leq 18,0$			
	3	Portable	$18,0 < m \leq 42,0$			
	4 ^b	Portable	$m > 42,0$			
A4 ^c	1	Socketed ^a	$m > 10,0$	$6,40 < w \leq 7,32$	$2,00 \leq h_1 \leq 2,44$	—
	2	Portable	$18,0 < m \leq 42,0$	$6,40 < w \leq 7,32$	$2,00 \leq h_1 \leq 2,44$	—

^a As socketed goals can be left on a playing field they need to satisfy the highest stability and strength requirements for their Class irrespective of their weight, to minimize the risk of injury in case of misuse.

^b Goals with a weight $> 42,0$ kg and a size of $5,00 \text{ m} \times 2,00 \text{ m}$ are covered in EN 748.

^c Goals with a weight $> 42,0$ kg and a size of $7,32 \text{ m} \times 2,44 \text{ m}$ are covered in EN 748.

Table 2 — Goal sizes — Category B (height to crossbar/height to top of the crossbar)

Category	Type	Class	Total weight m (including net, net fixing and any permanently attached anchoring or stabilizing system) kg	Size ranges		
				Width w (internal) m	Height to crossbar h_1 (Gaelic) (to top of the crossbar (Rugby)) m	Overall height of uprights h_2 m
B1	1	Socketed ^a	—	$2,50 \leq w < 3,00$	$1,50 \leq h_1 < 1,85$	$4,50 \pm 0,05$
	2	Portable	$10,0 < m \leq 20,0$			
	3	Portable	$20,0 < m \leq 42,0$			
	4	Portable	$m > 42,0$			
B2	1	Socketed ^a	—	$3,00 \leq w < 4,60$	$1,85 \leq h_1 < 2,20$	$4,50 \pm 0,05$
	2	Portable	$10,0 < m \leq 20,0$			
	3	Portable	$20,0 < m \leq 42,0$			
	4	Portable	$m > 42,0$			
B3	1	Socketed ^a	—	$4,60 \leq w < 6,50$	$2,20 \leq h_1 \leq 2,50$	$8,50 \pm 0,05$
	2	Portable	$10,0 < m \leq 20,0$			
	3	Portable	$20,0 < m \leq 42,0$			
	4	Portable	$m > 42,0$			
B4	1	Socketed ^a	—	$4,55 \leq w < 4,65$	$2,20 \leq h_1 \leq 2,50$	$6,00 \leq h_2 \leq 10,00$
	2	Portable	$10,0 < m \leq 20,0$			
	3	Portable	$20,0 < m \leq 42,0$			
	4	Portable	$m > 42,0$			
B5	1	Socketed ^a	—	$6,45 \leq w < 6,55$	$2,39 \leq h_1 \leq 2,49$	$11,00 \pm 0,05$
B6	1	Socketed ^b	—	$5,50 \leq w < 6,50$	$2,44 \leq h_1 \leq 3,10$	$3,40 \leq h_2 \leq 16,00^b$

^a As socketed goals can be left on a playing field they need to satisfy the highest stability and strength requirements for their Class irrespective of their weight, to minimize the risk of injury in case of misuse.

^b The laws of the game of Rugby Union do not specify any maximum value (see [1]). The maximum value is given as guidance.

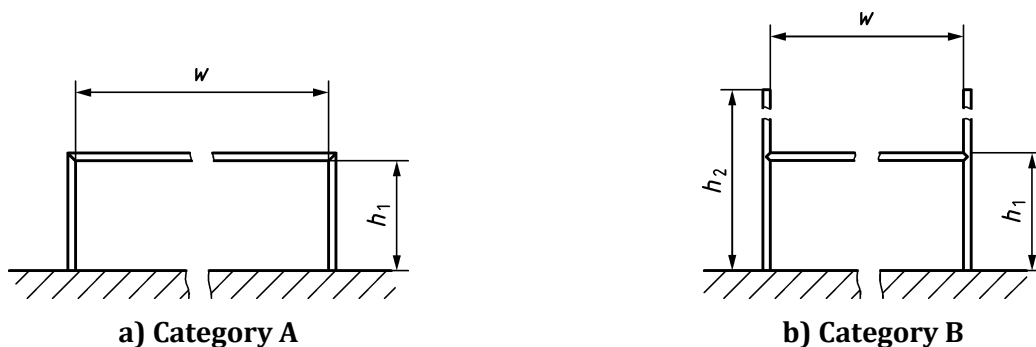


Figure 2 — Dimensions of goal frame

EN 16579:2018 (E)**5.2 Materials**

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

Further information for the selection of material is given in Annex D.

The materials should be selected so that potential hazards through direct contact with the skin can be avoided.

6 Requirements**6.1 Strength****6.1.1 Goal frame of all classes and types other than Type 2 goals**

When tested in accordance with 7.1.2 the goal frame of all classes and types other than Type 2 goals shall not show:

- a) visible signs of cracks/fractures or collapse and no frame component shall become detached;
- b) a measured deflection (or permanent deformation) d (see Formula (1)) of the crossbar of > 10 mm.

6.1.2 Additional test for any type of goal with a height of ≥ 2 m and a weight of between 22 kg and 42 kg

These goals shall be tested in accordance with 7.1.2 under a load of $(1\,800 \pm 50)$ N. After the test the goal shall:

- a) not show visible signs of cracks/fractures or collapse and no frame component shall become detached;
- b) pass entrapment requirements according to 6.3.

6.1.3 Goal frame of Type 2 goals

When tested in accordance with 7.1.2 the goal frame of Type 2 goals shall not show:

- a) visible signs of cracks/fractures or collapse and no frame component shall become detached;
- b) a measured deflection (or permanent deformation) d (see Formula (1)) of the crossbar of > 50 mm after disassembly and re-assembly.

6.2 Stability

When tested in accordance with 7.2, the goal frame of all classes and types of goals shall not fall over, shall have no permanent deflection from the vertical of 100 mm or greater.

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6.3 Entrapment

6.3.1 General

Goals shall be designed and constructed so that during use, transportation, and storage (if applicable) there shall be no crushing or shearing hazards between moving parts and/or fixed parts or risk of entrapment of finger, head and neck when assessed in accordance with the procedure given in EN 913:2008, Annex A and with the additional requirements according to Annex A of this standard.

6.3.2 Completely bound (enclosed) openings

Accessible completely bound (enclosed) openings with a lower edge more than 600 mm above ground shall be tested in accordance with A.2.2.

Small probes E and C shall not pass through any opening unless it also allows the passage of large probe D.

Non-rigid parts (e.g. ropes) shall not overlap if this creates apertures that are not in accordance with the above.

6.3.3 Partially bound and V-shaped openings

Partially bound and V-shaped openings with an entrance at 600 mm or more above the ground shall be constructed so that either:

- a) the opening is not accessible when tested in accordance with A.3.2; or
- b) if accessible at a position of 600 mm or more above ground when tested in accordance with A.3.2, depending on the angular orientation range of the opening (see Figure A.4), shall comply with the following:

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Range 1: (template centre line $\pm 45^\circ$ from vertical); the template apex contacts the base of the opening and the depth of the opening is less than the length of the template to the underside of the shoulder section.

Range 2: (template centre line from horizontal to $+ 45^\circ$); when the template apex contacts the base of the opening, the depth of the opening shall be less than the 'A' portion of the template. If the depth of the opening is greater than the 'A' portion of the template all parts of the opening above the 'A' portion shall also allow insertion of the shoulder section of the test template (see Figure A.2) or probe D (see Figure A.1c).

Range 3: no template test requirements.

6.4 Net fixings

When tested according to 7.3 no visible fracture and/or permanent deformation shall occur at the net fixings and the net fixing shall not dislodge.

Any opening in the net fixing outside the profile of the goal frame shall not result in entrapment when tested in accordance with 6.3.

Metal cup hooks and metal spring cup hooks shall not be used as a means of fixing the net to the goal frame.

The spacing between net fixings shall not allow a ball for which the goal is intended to be used to pass and shall not create any entrapment in accordance with 6.3.