



SLOVENSKI STANDARD
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Oprema športnih igrišč - Prenosna in nepremična nogometna vrata - Funkcionalne in varnostne zahteve ter preskusne metode (EN 16579)

Playing field equipment - Portable and fixed goals - Functional, safety requirements and test methods (EN 16579)

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

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

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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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English Version

**Playing field equipment - Portable and fixed goals -
Functional, safety requirements and test methods (EN
16579)**

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

Spielfeldgeräte - Ortsveränderliche und
standortgebundene Tore - Funktionale und
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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (prEN 16579:2016) 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.

iTeh STANDARD PREVIEW
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<https://standards.iteh.ai/catalog/standards/sist/c1aaf342-eb33-4df3-b9c0-ccc8e06f27c0/sist-en-16579-2018>

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 playing field goals having a total weight greater than 10 kg.

The following goals specified in the standards listed below are 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, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

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

3 Terms and definitions

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

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.

Note 2 to entry: The net is optional.

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.

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

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

Note 1 to entry: The attachment does not support the goal frame.

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

that 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

prEN 16579:2016 (E)**3.10****not in use**

commencement of the dismantling of goals and the 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 1176-1:2008, 3.10]

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 1176-1:2008, 3.11]

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: This part of EN 1176 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 1176-1:2008, 3.17]

4 General

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

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

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.

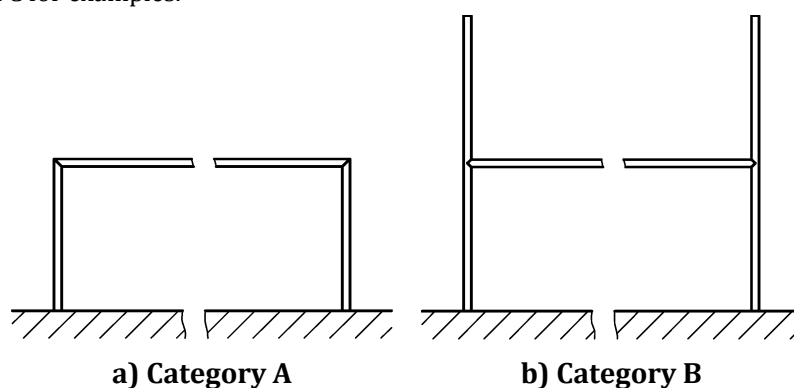


Figure 1 — Goal frame categories

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

Category	Type	Class	Total weight <i>m</i> (kg) (including net, net fixing and any permanently attached anchoring or stabilizing system)	Size ranges		
				Width <i>w</i> (m) (internal)	Height to crossbar <i>h</i> ₁ (m) (internal)	Overall height of uprights <i>h</i> 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	$m > 10,0$	$1,80 \leq w \leq 4,88$	$1,20 \leq h_1 \leq 1,99$	—
	2	Portable	$10,0 > m \leq 18,0$			
	3	Portable	$18,0 > m \leq 42,0$			
	4	Portable	$m > 42,0$			
A3	1	Socketed ^a	$m > 10,0$	$3,00 \leq w \leq 5,00$	$2,00 \leq h_1 \leq 2,44$	—
	2	Portable	$10,0 > m \leq 18,0$			
	3	Portable	$18,0 > m \leq 42,0$			
	4	Portable	$m > 42,0$			
A4	1	Socketed ^a	$m > 10,0$	$3,00 \leq w < 6,40$	$2,00 \leq h_1 < 2,44$	—
	2	Portable	$10,0 > m \leq 18,0$			
	3	Portable	$18,0 > m \leq 42,0$			
	4	Portable	$m > 42,0$			

^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.

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 ^b	—	$2,50 \leq w < 3,00$	$1,50 \leq h_1 < 1,85$	$4,50 \pm 0,05$
	2	Portable	$10,0 < m \leq 20,0$			
	3	Portable	$> 20,0 \ m \leq 42,0$			
	4	Portable	$> 42,0$			
B2	1	Socketed ^b	—	$3,00 \leq w < 4,60$	$1,85 \leq h_1 < 2,20$	$4,50 \pm 0,05$
	2	Portable	$10,0 < m \leq 20,0$			
	3	Portable	$20,0 < m \leq 42,0$			
	4	Portable	$> 42,0$			
B3	1	Socketed ^b	—	$4,60 \leq w < 6,50$	$2,20 \leq h_1 \leq 2,50$	$8,50 \pm 0,05$
	2	Portable	$10,0 < m \leq 20,0$			
	3	Portable	$20,0 < m \leq 42,0$			
	4	Portable	$> 42,0$			
B4	1	Socketed ^b	—	$4,55 \leq w < 4,65$	$2,20 \leq h_1 \leq 2,50$	$6,00 \leq h_2 \leq 10,00$
	2	Portable	$10,0 < m \leq 20,0$			
	3	Portable	$20,0 < m \leq 42,0$			
	4	Portable	$> 42,0$			
B5	1	Socketed ^b	—	$6,45 \leq w < 6,55$	$2,39 \leq h_1 \leq 2,49$	$11,00 \pm 0,05$
B6	1	Socketed ^b	—	$5,50 \leq w < 6,50$	$2,44 \leq h_1 \leq 3,10$	$3,40 \leq h_2 \leq 16,00^a$

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

^b 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.

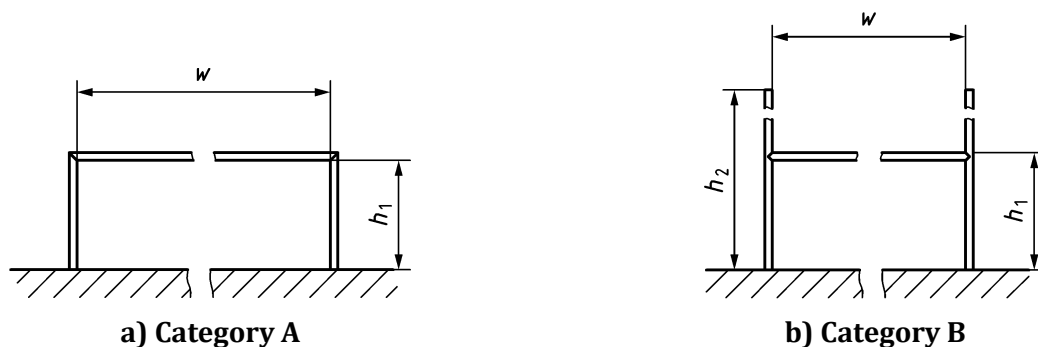


Figure 2 — Dimensions of goal frame

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 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 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 vertical of 100 mm or greater and the distance it lifts of the ground shall not exceed 25 mm.

6.3 Entrapment

6.3.1 General

Goals, transport systems and storage systems (if applicable) shall be designed and constructed so that, when assembled ready for use 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:
 - 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.

6.5 Net

Net yarn shall have a minimum diameter of 2 mm to reduce the risk of cutting.

Net dimensions shall comply with the requirements of goal frame dimensions and the associated goal frame net supports, for which it is intended to be used.

Mesh sizes shall be:

- ≤ 50 mm for Gaelic Football, Camogie and Hurling;
- ≤ 120 mm for Football;
- ≤ 45 mm for Hockey.

The mesh size shall not allow a ball for which the goal is intended to be used to pass through nor create any finger, head and neck entrapment when tested in accordance with 6.3.

The net shall meet at least the requirement for mesh breaking strength according to Table 3.

Table 3 — Mesh breaking strength

Minimum Force N	Test method
792 (660) ^a	EN ISO 1806
^a This corresponds to the breaking strength of the net yarn, tested in accordance with EN ISO 2062.	

6.6 Surface finish

The requirements of EN 913:2008, 5.1, shall be met, when assessed by visual inspection and measurement.

6.7 Transport system

When a transport system is fitted no part of the goal shall disengage or drop unintentionally.

The transport system shall not result in entrapment in accordance with 6.3.

7 Test methods

7.1 Strength test procedure

7.1.1 General

Condition the goal frame for a minimum of 1 h at a temperature of $(20 \pm 15) ^\circ\text{C}$. These shall be recorded. Assemble and install the goal ready for use in accordance with the manufacturer's instructions.

7.1.2 Determination of strength

It shall be taken into account that the loadings during the strength test may cause localized settlement of the uprights. The following procedure shall apply to take this into account: