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**Zařízení hracích ploch – Branky pro pozemní hokej –  
Funkční a bezpečnostní požadavky, zkušební metody**





English version

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

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

Spielfeldgeräte - Hockeytore - Funktionelle und sicherheitstechnische Anforderungen, Prüfverfahren

This European Standard was approved by CEN on 24 June 2004.

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## Foreword

This document (EN 750:2004) has been prepared by Technical Committee CEN/TC 136 "Sports, playground and other recreational 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of an identical text or by endorsement, at the latest by March 2005, and conflicting national standards shall be withdrawn at the latest by March 2005.

This document supersedes EN 750:1995 + A1: 1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## 1 Scope

This document specifies the functional requirements for 2 types (see Clause 3) and the safety requirements (see Clause 4) for hockey goals.

This standard is applicable to goals for training and competition intended to be used for outdoor hockey. Goals intended to be used for indoor hockey see EN 749.

## 2 Normative references

The following referenced documents are indispensable for the application 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 749:2004, *Playing field equipment — Handball goals — Functional and safety requirements, test methods*

EN ISO 1806, *Fishing nets — Determination of mesh breaking force of netting (ISO 1806:2002)*

prEN ISO 2307, *Fibre ropes — Determination of certain physical and mechanical properties (ISO/DIS 2307:2003)*

## 3 Requirements

### 3.1 Classification

Hockey goals shall be classified by the design (types) as shown in Table 1.

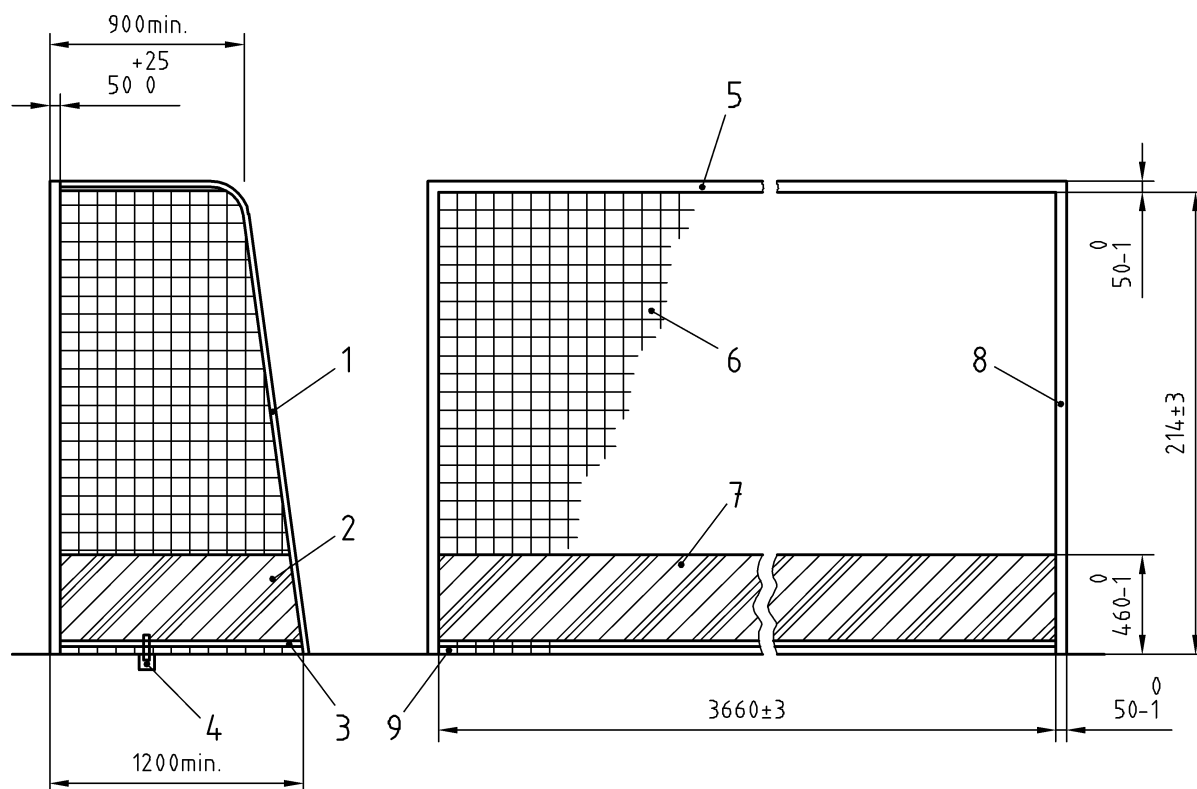
Table 1 — Types

Type	Description
1	Hockey goal with ground sockets
2	Freestanding hockey goal

### 3.2 Dimensions

Hockey goals shall comply with the dimensions shown in Figure 1.

Dimensions in millimetres

**Key**

- |   |                                |   |                 |
|---|--------------------------------|---|-----------------|
| 1 | Net supporting brackets        | 6 | Net             |
| 2 | Side backboard                 | 7 | Rear backboard  |
| 3 | Bottom side bar                | 8 | Upright         |
| 4 | Example of anti-tilting device | 9 | Bottom back bar |
| 5 | Crossbar                       |   |                 |

**Figure 1 — Hockey goal type 2**

One hockey goal consists of:

- the goal frame (2 uprights and 1 crossbar) including net fixings (and ground sockets for type 1);
- the backboards (1 rear backboard, 2 side backboards);
- 2 net supporting brackets;
- 2 bottom side bars;
- anti-tilting devices (at least one at each side) (for type 2);
- 1 bottom back bar;
- 1 net.

**3.3 Material**

The goal frame and the backboards may be made of timber, steel, light metal or plastic material, provided the requirements of this document are fulfilled.

Net supporting brackets and bottom side and back bars shall be made of light metal and/or steel protected against corrosion (e.g. hot galvanized, powder coated or painted).

For the net, net yarns made of synthetic or natural fibres may be used.

**3.4 Design**

**3.4.1 Goal frame**

The construction shall be sufficiently secure to withstand the stresses occurring during a game and during transport.

The latter requirement is fulfilled when the corner section of the goal frame is not deformed or damaged after testing according to 5.2.

The goal frame should be either white or the natural silver colour of light metal.

NOTE White colour is in line with the International Hockey Federation.

**3.4.2 Nets**

**3.4.2.1 Dimensions**

The net dimensions shall comply with Table 2.

**Table 2 — Net dimensions**

Dimensions in millimetres

length	height	depth		width of mesh	diameter of yarn
		top min.	ground min.		
min. 3 660	min. 2 140	900	1 200	max. 45	min. <sup>a</sup> 2

<sup>a</sup> The diameter is minimum to minimize the risk of cutting.

**3.4.2.2 Physical properties**

Nets shall comply with Tables 3 and 4, as appropriate

**Table 3 — Mesh breaking strength**

Class	N min.	Test method
A	1 800 (1 500) <sup>a</sup>	EN ISO 1806
B	1 080 (900) <sup>a</sup>	
C	792 (660) <sup>a</sup>	

<sup>a</sup> This corresponds to the breaking strength of the net yarn, tested in accordance with EN ISO 2062.

**Table 4 — Rope breaking forces of net head line**

Class	N min.	Test method
Z	7 000	prEN ISO 2307
Y	3 000	



### 3.4.2.3 Net fixing

The net shall be so fixed that the ball will not pass between the goal frame and the net or between the back board and the net.

### 3.4.3 Ground sockets

For the ground socket see informative Annex A of EN 749:2004.

When using sockets out of doors, they shall have a drainage hole.

## 4 Safety requirements

### 4.1 General

Corners and edges which may cause injuries, shall be rounded with a radius of at least 3 mm.

### 4.2 Goal frame

The edges of the goal frame shall be rounded to a radius of  $(3 \pm 1)$  mm.

### 4.3 Strength

When tested in accordance with 5.2, the crossbar shall not fracture or collapse or show permanent deformation greater than 10 mm.

### 4.4 Stability

When tested in accordance with 5.3, the goal shall not tilt nor slide.

### 4.5 Net supporting brackets

The connection of net supporting brackets shall not protrude outside the goal frame.

### 4.6 Net fixings

Net fixings shall be designed in such a way that the player cannot be hurt.

This requirement is fulfilled if e. g. external openings (i.e. on the circumference of the cross section of the uprights and the cross bar) are  $\leq 8$  mm or  $\geq 25$  mm.

Metal cup hooks shall not be used. If spring hooks are used as means of fixation or for the end of a rope, they shall have screw caps.

### 4.7 Frame entrapment

Any possible entrapment in the frame above 1200 mm above the ground, e.g. net supports, shall have no downwards angle of less than  $60^\circ$  and no openings of less than 230 mm diameter.

## 5 Test methods

### 5.1 General

If not otherwise specified in the following requirements of Clauses 3 and 4 are tested by measuring, visual inspection or practical test.

Execute the test after conditioning the goal for a minimum of 1 h at a test temperature of  $(20 \pm 5) ^\circ\text{C}$ .

### 5.2 Determination of strength

Apply a vertical force of 1 800 N at the centre of the crossbar for  $1 \text{ min}^{+10}_0 \text{ s}$ .

Note any fracture or other damage to the goal.

Remove the force and measure any permanent deformation  $30 \text{ min}^{+30}_0 \text{ s}$  after removal of the force.

### 5.3 Determination of stability

Install the goal in its normal position of use. Apply a horizontal force ( $F$ ) of 1 100 N at the top of the centre of the crossbar for  $1 \text{ min}^{+10}_0 \text{ s}$  by means of a rope of 3 000 mm length (see Figure 2). Note any falling over or sliding.

## 6 Assembly, installation and maintenance instructions

The manufacturer shall provide written instructions for assembly, installation and maintenance.

It shall be pointed out in the assembly instructions that any goals that are not being used at the moment should be secured against overturning.

Dimensions in millimetres

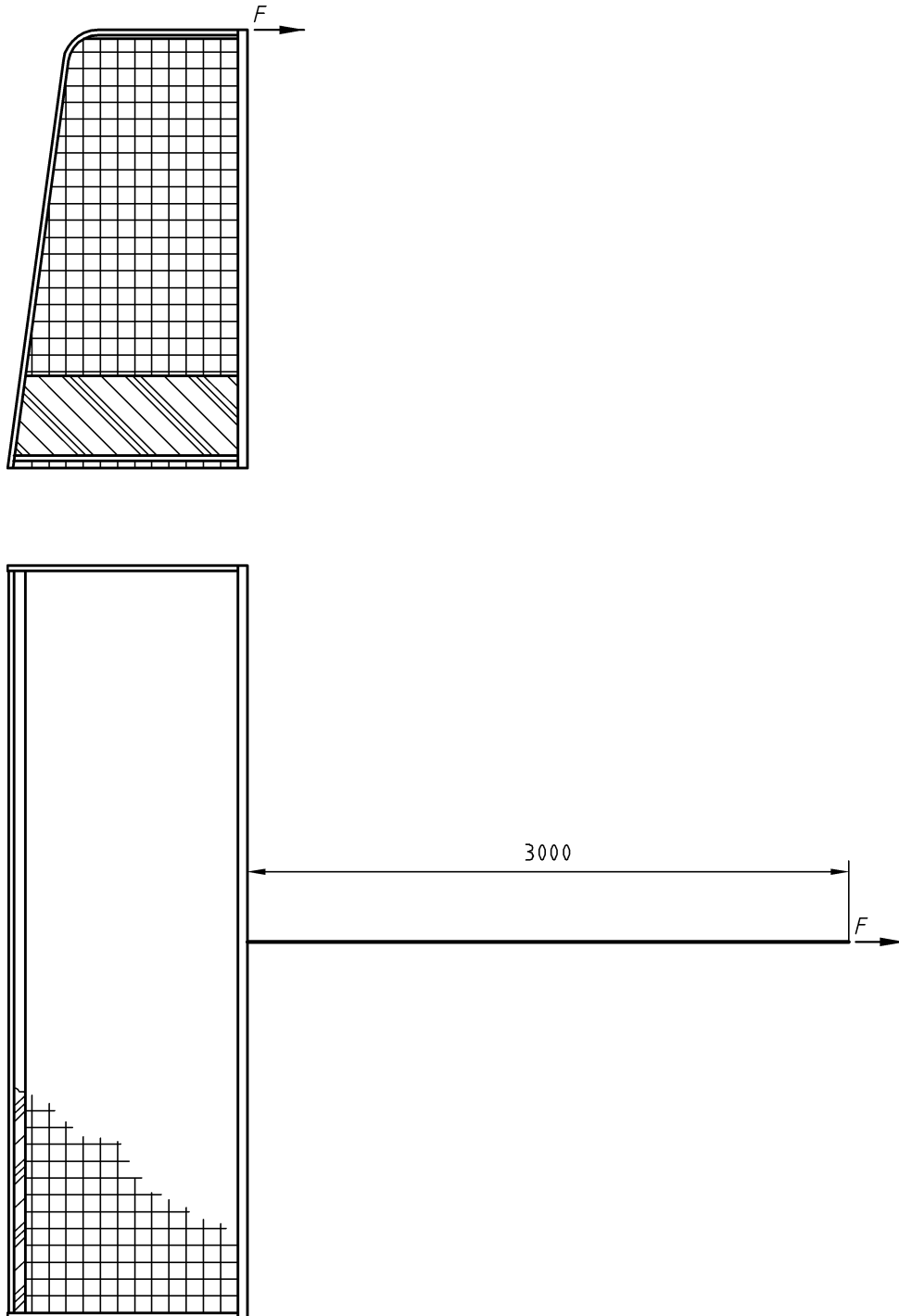


Figure 2 — Stability test

## **7 Warning label**

A permanent warning label shall be fixed to the goal with the following wording:

- This goal is designed to be used for hockey only and no other purpose;
- Check all fastenings are fully tightened before using this product and check periodically afterwards;
- At all times the goal shall be secured against tilting;
- Never climb on the net or goal framework.

NOTE Also an appropriate graphical symbol may be used.

## **8 Marking**

Goals shall be marked with the following information:

- a) the number of this document EN 750<sup>1)</sup>;
- b) the name or trademark of the manufacturer, retailer or importer and the year of manufacturing of the frame;
- c) a warning label giving details of use that the goal is designed for and type of net in accordance with Clause 7.

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<sup>1)</sup> Marking EN 750 on or in relation to a product represents the manufacturer's declaration of conformity, i.e. a claim by or on behalf of the manufacturer that the product meets the requirements of the standard. The accuracy of the claim is therefore solely the responsibility of the person making the claim. Such a declaration should not be confused with third party certification of conformity, which may also be desirable.

## Bibliography

EN ISO 2062, *Textiles — Yarns from packages — Determination of single-end breaking force and elongation at break (ISO 2062:1993)*





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