

Swimming pool equipment —

Part 7: Additional specific safety requirements and test methods for water polo goals

The European Standard EN 13451-7:2001 has the status of a
British Standard

ICS 97.220.10

National foreword

This British Standard is the official English language version of EN 13451-7:2001.

The UK participation in its preparation was entrusted by Technical Committee SW/136, Sports and playground equipment, to Subcommittee SW/136/8, Swimming pool equipment, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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This British Standard, having been prepared under the direction of the Consumer Products and Services Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 April 2001

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 7 and a back cover.

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Amendments issued since publication

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English version

Swimming pool equipment - Part 7: Additional specific safety requirements and test methods for water polo goals

Équipement de piscine - Partie 7: Exigences de sécurité et méthodes d'essai complémentaires spécifiques aux buts de water-polo

Schwimmbadgeräte - Teil 7: Zusätzliche besondere sicherheitstechnische Anforderungen und Prüfverfahren für Wasserballtore

This European Standard was approved by CEN on 13 January 2001.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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Contents

	Page		Page
Foreword	2	4.2 Structural integrity	5
1 Scope	3	4.3 Buoyancy	5
2 Normative references	3	4.4 Stability	5
3 Terms and definitions	3	4.5 Net	5
4 Safety requirements	4	4.6 Protrusions	5
4.1 Dimensions	4	4.7 Positioning	5
		5 Test methods	5
		5.1 General	5
		5.2 Structural integrity	6
		5.3 Net	6
		5.4 Stability	6
		Annex A (informative) Requirements of FINA ..	7

Foreword

This European Standard was 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 August 2001, and conflicting national standards shall be withdrawn at the latest by August 2001.

The European Standard EN 13451 "Swimming pool equipment" consists of

- Part 1: General safety requirements and test methods
- Part 2: Additional specific safety requirements and test methods for ladders, stepladders and handle bends
- Part 3: Additional specific safety requirements and test methods for equipment for water treatment purposes
- Part 4: Additional specific safety requirements and test methods for starting platforms
- Part 5: Additional specific safety requirements and test methods for lane lines
- Part 6: Additional specific safety requirements and test methods for turning boards
- Part 7: Additional specific safety requirements and test methods for water polo goals
- Part 8: Additional specific safety requirements and test methods for leisure water features
- Part 9: Safety signs
- Part 10: Additional specific safety requirements and test methods for diving platforms, diving springboards and associated equipment
- Part 11: Additional specific safety requirements and test methods for moveable pool floors and moveable bulkheads

Annex A is informative.

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

1 Scope

This part of EN 13451 specifies safety requirements for water polo goals in addition to the general safety requirements of EN 13451-1:2001

The requirements of this specific standard take priority over those in EN 13451-1:2001.

This part of EN 13451:2001 is applicable to manufactured water polo goals for use in competition and training.

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 (including amendments).

EN 13451-1:2001

Swimming pool equipment - Part 1: General safety requirements and test methods.

EN 22768-1

General tolerances – Part 1: Tolerances for linear and angular dimensions without individual tolerance indications (ISO 2768-1 : 1989)

ISO 1805

Fishing nets – Determination of breaking load and knot breaking load of netting yarns

ISO 2062

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

3 Terms and definitions

For the purposes of this standard the terms and definitions of EN 13451-1:2001 and the following apply:

3.1 water polo goals type A: Freely floating, held in place by playing field limitation lines.

3.2 water polo goals type B: Fixed to the pool surround.

4 Safety requirements

4.1 Dimensions

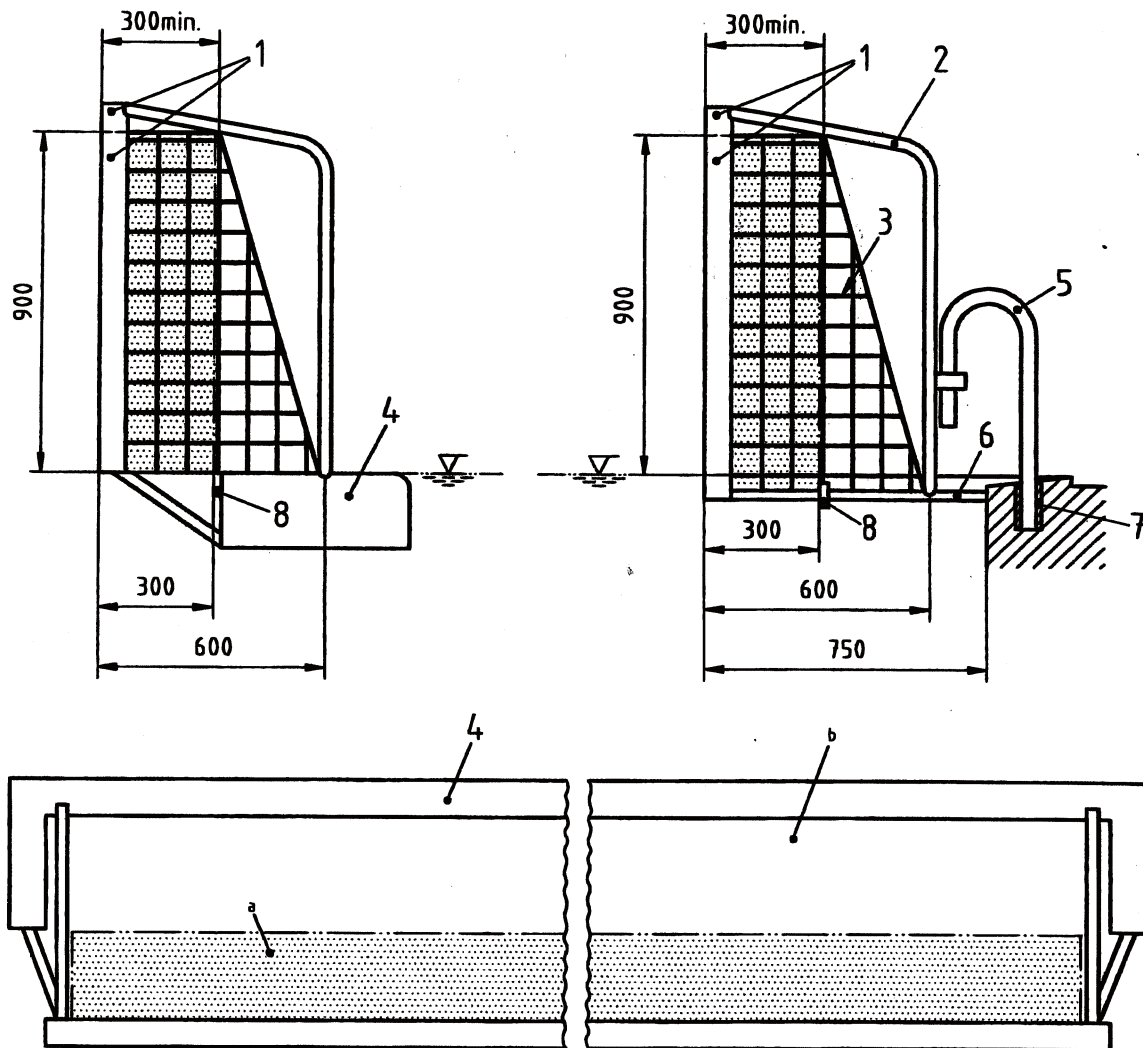
The dimensions indicated in figure 1 shall be complied with. The design of the equipment doesn't need to comply with the examples given.

Dimensions in millimetres

General tolerances: EN 22768-1 – v.

Type A

Type B



Key

- 1 Goal frame
- 2 Net fixings
- 3 Net
- 4 Float
- 5 Support
- 6 Bottom bar
- 7 Method of fixing (e.g. floor sleeve)
- 8 Fixing for playing field limitation rope
- a Clearance zone of the goal
- b Internal goal area

Figure 1: Water polo goals type A and type B

NOTE: Dimensional requirements for competitive use, stipulated by the governing body FINA (Fédération Internationale de Natation Amateur) are given in annex A for information.

The height 900 mm is valid at water depths of 1 500 mm. At lower water depths the distance between the bottom side of the crossbar and the pool bottom shall be 2 400 mm.

For water polo goals of type B, the fixings shall be designed for the specific type of pool/overflow channel.

4.2 Structural integrity

When tested in accordance with 5.2, the water polo goal structure shall show no damages or permanent deformations.

4.3 Buoyancy

The design of the goals type A shall ensure a stable floating position.

The float shall neither protrude into the internal goal area b) (see figure 1), nor into the field of play.

4.4 Stability

When tested in accordance with 5.4, water polo goals type A shall not capsize.

4.5 Net

The net shall be loosely attached to the interior of the goal in such a way that the ball cannot pass between net and goal structure and cannot rebound from the rear structure of the goal into the playing field.

The net shall be made of net yarn with a breaking force of at least 1 600 N and a knot breaking force with a figure eight knot of at least 800 N. A net of colour contrasting to the goal frame shall be installed.

The meshes shall be square, with a side of a minimum of 100 mm.

4.6 Protrusions

Net fixings shall be fitted to the back of the goal frame, they shall not protrude by more than 12 mm and shall not project into the clearance zone a) of the goal area (see figure 1).

4.7 Positioning

For type A water polo goals the fixing for the playing field limitation ropes, used for keeping the goal in position, shall be fitted to the outside of the float.

5 Test methods

5.1 General

Unless otherwise specified, the requirements of clause 4 shall be verified by the most appropriate method: measurement, visual examination or practical tests.

5.2 Structural integrity

Place the goal type A on a solid surface so that tilting is excluded and fix the water polo type B according to its intended use.

Apply a vertical force of 950 N at the centre of the crossbar of the goal and maintain it for 5 min.

Check whether the specimen is able to withstand the test load or whether the specimen shows cracks, damages or permanent deformation and connections are loosened.

5.3 Net

Test the breaking force of the net yarn according to ISO 2062 and the knot breaking force according to ISO 1805.

Check whether the specimen is able to withstand the test load or whether the specimen shows splits, damages or plastic deformation.

5.4 Stability

Place the goal type A into the water according to its intended use and apply a vertical force of 500 N at the centre of the crossbar.

Check whether the specimen doesn't tilt or capsizes.

Annex A (informative)

Requirements of FINA

The goal posts and crossbar must be of wood, metal or synthetic (plastic) with rectangular sections of 0,075 m, square with the goal line and painted white. The goal posts must be fixed, rigid and perpendicular at each end of the playing space, equal distances from the sides and at least 0,3 m in front of the ends of the field of play of any obstruction. Any standing or resting place for the goalkeeper other than the floor of the pool is not permitted.

The inner sides of the goal posts must be 3,0 m apart.

The underside of the crossbar must be 0,9 m above the water surface when the water is 1,5 m or more in depth, and 2,4 m above the bottom of the pool when the depth of the water is less than 1,5 m.

Limp nets must be attached to the goal fixtures to enclose the entire goal space, securely fastened to the goal posts and crossbar and allowing not less than 0,3 m clear space behind the goal line everywhere within the goal area.

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