

BS EN 13451-4:2014



BSI Standards Publication

Swimming pool equipment

Part 4: Additional specific safety requirements and test methods for starting platforms

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee SW/136/8, Swimming pools and aquatic equipment.

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

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Swimming pool equipment - Part 4: Additional specific safety requirements and test methods for starting platforms

Équipement de piscine - Partie 4: Exigences de sécurité et méthodes d'essai complémentaires spécifiques aux plots départ

Schwimmbadgeräte - Teil 4: Zusätzliche besondere sicherheitstechnische Anforderungen und Prüfverfahren für Startblöcke

This European Standard was approved by CEN on 30 August 2014.

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Foreword

This document (EN 13451-4:2014) 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of an identical text or by endorsement, at the latest by April 2015 and conflicting national standards shall be withdrawn at the latest by April 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13451-4:2001.

This 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 inlets and outlets and water/air based water leisure features*
- *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 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*

In relation to EN 13451-4:2001 the following main amendments have been made:

- a) the scope has been updated by referring to EN 15288-1 and EN 15288-2;
- b) requirements for an adjustable setting back plate have been added (see Figure 1);
- c) advice for handgrips forward start has been added;
- d) Clause 6 "Manufacturer's instructions" has been added;
- e) Annex A has been deleted.

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

1 Scope

This European Standard specifies safety requirements for starting platforms in addition to the general safety requirements of EN 13451-1:2011 and should be read in conjunction with it.

The requirements of this specific standard take priority over those in EN 13451-1:2011.

This European Standard is applicable to manufactured starting platforms for use in competition and training in classified swimming pools as specified in EN 15288-1 and EN 15288-2.

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 13451-1:2011, *Swimming pool equipment - Part 1: General safety requirements and test methods*

EN 15288-1, *Swimming pools - Part 1: Safety requirements for design*

EN 15288-2, *Swimming pools - Part 2: Safety requirements for operation*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13451-1:2011 and the following apply.

3.1 starting platform
raised platform, located on the pool edge, for elevated entry into the water from a stationary start in a racing dive

4 Safety requirements

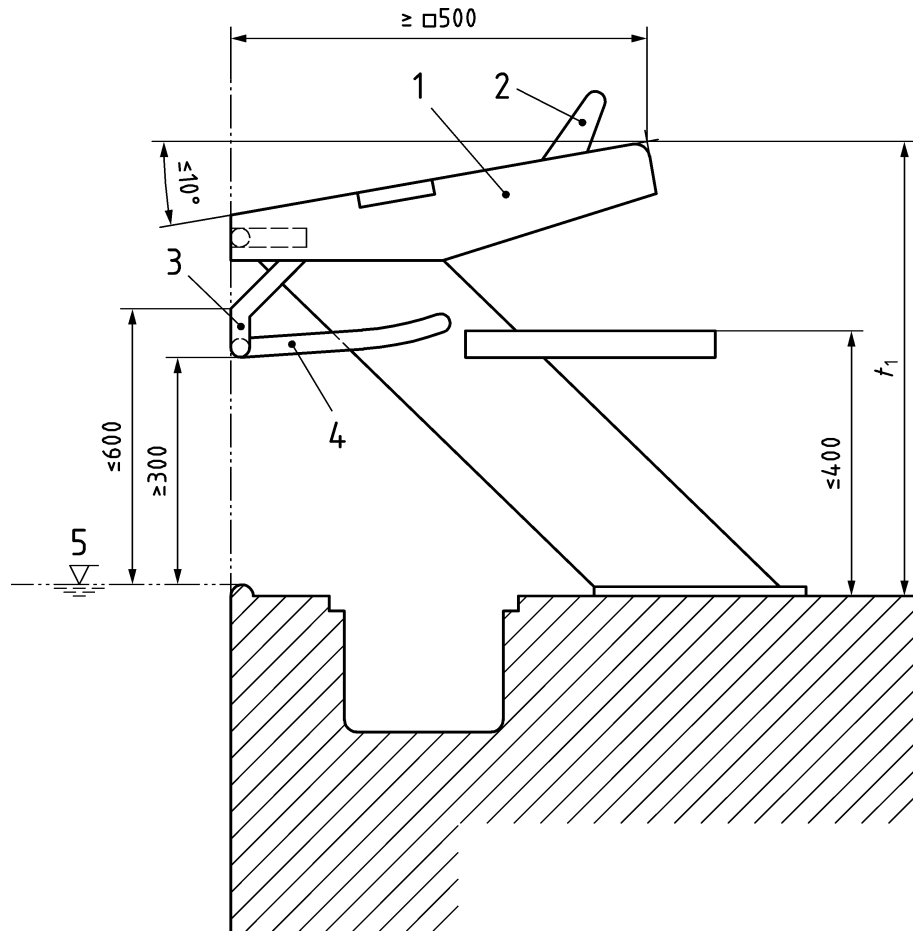
4.1 Design and manufacture

4.1.1 Dimensions

The dimensions indicated in the Figures 1 and 2 shall be complied with. The design of the equipment does not need to comply with the examples given.

If the height of the starting platform t_1 is ≥ 500 mm, a step shall be provided at a height ≤ 400 mm.

Dimensions in millimetres



Key

- 1 top platform
- 2 adjustable setting back plate
- 3 backstroke swimmer handgrips
- 4 forward swimmer handgrips (if needed, see 4.1.3)
- 5 water level

Figure 1 — Starting platform

NOTE Dimensional requirements for competitive use, stipulated by the governing body FINA (Fédération Internationale de Natation Amateur), are given in [1].

4.1.2 Top platform

The dimension of the top platform shall be $\geq 500 \text{ mm} \times 500 \text{ mm}$.

The top platform shall be constructed so as to permit grasping at the front for a length $\geq 400 \text{ mm}$ and at both sides for a length $\geq 100 \text{ mm}$ (see Figure 2).

In the zones designed to be grasped, the dimension between the top of the platform and the top of the recess shall be between 30 mm and 40 mm.

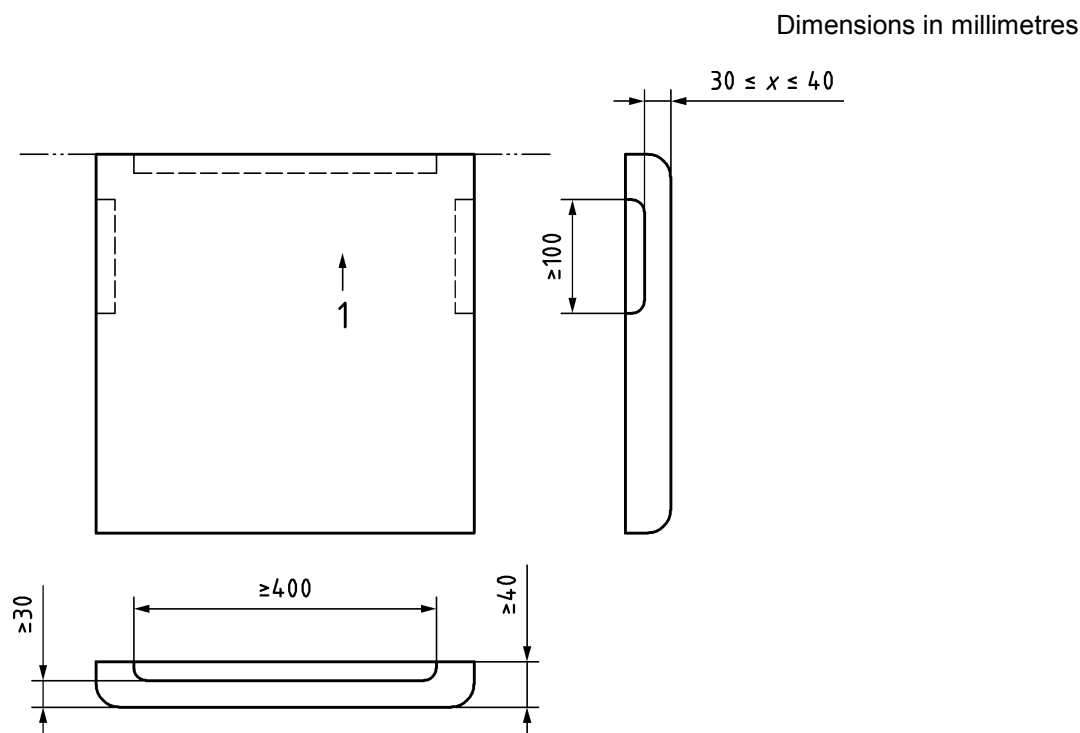
The top platform shall be horizontal or have a maximum slope of 10° in the direction of start.

The front edge shall be installed in the same plane as the pool wall.

4.1.3 Handgrips

Handgrips for backstroke starts shall be placed within 300 mm to 600 mm above the water surface both horizontally and vertically, in the same plane as the pool wall.

Cross section can be round, oval, a rounded rectangular or elliptical; the dimension shall be between 25 mm and 40 mm.



Key

1 direction of start

Figure 2 — Grasping zones

Handgrips for the forward start may be installed on the sides of the starting platforms.

4.2 Structural integrity

The starting platform shall be firm and give no springing effect.

Starting platforms shall be designed to withstand:

- a) a vertical load as stated in EN 13451-1:2011, Annex A;
- b) a horizontal load, applied at 90° on the front edge of the platform in the opposite direction of start, equivalent to 100 % of the vertical load stated in EN 13451-1:2011, Annex A.
- c) a horizontal load, applied at 90° on the upper part of backstroke handgrips in direction of starting equivalent to 100 % of the vertical load stated in EN 13451-1:2011, Annex A.

Backstroke handgrips shall be designed to withstand a horizontal pulling force in direction of starting equivalent to the load specified in b), applied in the position of maximum leverage.

Removable starting platforms shall be fitted with devices for securing them. The fixing method and its fixing devices shall comply with the requirements of the manufacturer/supplier and shall be tamper proof.

4.3 Slip resistance

The surface of the top platform and of the intermediate step shall comply with the requirements of rating group 24° according to EN 13451-1:2011, Table 1.

The slip resistant surface on the top platform shall extend over the front edge of the platform itself, where the user's toes grasp.

5 Test methods

The requirements of Clause 4 shall be verified by the most appropriate method:

- measurement;
- visual examination; or
- practical tests.

6 Manufacturer's instructions

The manufacturer shall at least provide the following information:

- a) warning that the starting platform shall only be used by people trained in its safe use (e. g. warning sign);
- b) warning, that diving can cause serious injury.

Racing dive from a starting platform should only be carried out under supervision or by people trained in its safe use. The FINA regulation [1] requires a minimum water depth of 1,35 m for a distance of 1,0 m to 6,0 m from starting wall. For competitive swimming and training the guidance and regulations of the national governing bodies of swimming should be followed at all times.

Bibliography

- [1] FINA Facilities Rules 2009-2013, enforced from September 24, 2009, FR 2.7 Starting platforms and FR 2.8 Numbering

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