

Swimming pool equipment —

Part 10: Additional specific safety requirements and test methods for diving platforms, diving springboards and associated equipment

The European Standard EN 13451-10:2004 has the status of a
British Standard

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National foreword

This British Standard is the official English language version of EN 13451-10:2004.

The UK participation in its preparation was entrusted to Technical Committee SW/136, Sports, playground and other recreational equipment, which has the responsibility to:

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Schwimmbadgeräte - Teil 10: Zusätzliche besondere sicherheitstechnische Anforderungen und Prüfverfahren für Sprungplattformen, Sprungbretter und zugehörige Geräte

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Foreword

This document (EN 13451-10:2004) 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of an identical text or by endorsement, at the latest by November 2004, and conflicting national standards shall be withdrawn at the latest by November 2004.

This European Standard EN 13451 “Swimming pool equipment” consists of

- $\frac{3}{4}$ *Part 1: General safety requirements and test methods*
- $\frac{3}{4}$ *Part 2: Additional specific safety requirements and test methods for ladders, stepladders and handle bends*
- $\frac{3}{4}$ *Part 3: Additional specific safety requirements and test methods for pool fittings for water treatment purposes*
- $\frac{3}{4}$ *Part 4: Additional specific safety requirements and test methods for starting platforms*
- $\frac{3}{4}$ *Part 5: Additional specific safety requirements and test methods for lane lines*
- $\frac{3}{4}$ *Part 6: Additional specific safety requirements and test methods for turning boards*
- $\frac{3}{4}$ *Part 7: Additional specific safety requirements and test methods for water polo goals*
- $\frac{3}{4}$ *Part 8: Additional specific safety requirements and test methods for leisure water features*
- $\frac{3}{4}$ *Part 10: Additional specific safety requirements and test methods for diving platforms, diving springboards and associated equipment*
- $\frac{3}{4}$ *Part 11: Additional specific safety requirements and test methods for moveable pool floors and moveable bulk-heads*

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, 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 part of EN 13451 specifies safety requirements for diving platforms, diving springboards and associated equipment in addition to the general safety requirements of EN 13451-1 and should be read in conjunction with it.

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

This part of EN 13451 is applicable to manufactured platforms and springboards, and associated equipment for use in public diving.

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 13451-2:2001, *Swimming pool equipment — Part 2: Additional specific safety requirements and test methods for ladders, stepladders and handle bends*.

EN 13451-3, *Swimming pool equipment — Part 3: Additional specific safety requirements and test methods for pool fittings for water treatment purposes*.

EN 22768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications (ISO 2768:1:1989)*.

3 Terms and definitions

For the purposes of this European Standard the terms and definitions given in EN 13451-1:2001 and the following apply.

3.1

diving facility

installation designed to provide the opportunity of diving

3.2

diving platform

raised rigid horizontal platform, protruding over the water, intended for diving

3.3

diving springboard type 1

raised flexible board, installed at a height 1,0 m h 3,05 m above water level and protruding over the water, intended for diving

3.4

diving springboard type 2

raised flexible board, which can be permanently installed or portable, with a height < 1,0 m from water level and protruding over the water, intended for recreational diving

3.5

plummet line

vertical line extending through the centre of the front edge of a platform or springboard

3.6

water agitation device

device designed to improve visibility of the water surface by disturbance

3.7

air cushion equipment

training device, designed for introducing air from the bottom of a diving pool, in front of a diving platform and/or springboard, to reduce the effects of the impact of the diver with the pool water and make training safer

4 Safety requirements

4.1 Diving platforms

4.1.1 General

Wherever a tolerance is not indicated EN 22768-1 applies.

Particular attention shall be paid to avoid glare and reflecting surfaces, which can disturb the vision of the diver.

NOTE In Europe, outdoor diving facilities should face north.

4.1.2 Dimensions

The dimensions indicated in Figures 1 to 4 and Tables 1 to 2 shall be complied with. The design of the equipment doesn't need to comply with the examples given.

Platforms shall be horizontal.

The minimum dimensions of the platforms shall comply with Table 1.

Table 1 — Dimensions of platforms

Dimensions in metres

height of platforms from WL ^a	min. usable width	length reserved for the diver ^b	min. projection
1	0,60	0,75	0,75
3	0,60	1,25	1,25
5	1,50	1,25	1,25
7,5	1,50	1,50	1,50
10	2,00	1,50	1,50
^a tolerance of height from WL $+0,05$ 0 m			
^b min. distance back from plummet			

NOTE 1 In addition to the length reserved for the diver (minimum distance back from plummet), additional space can be necessary for other purposes, as wider range of dives (e.g. dives with preliminary run), space for waiting for the dive, space for divers passing to the next platform.

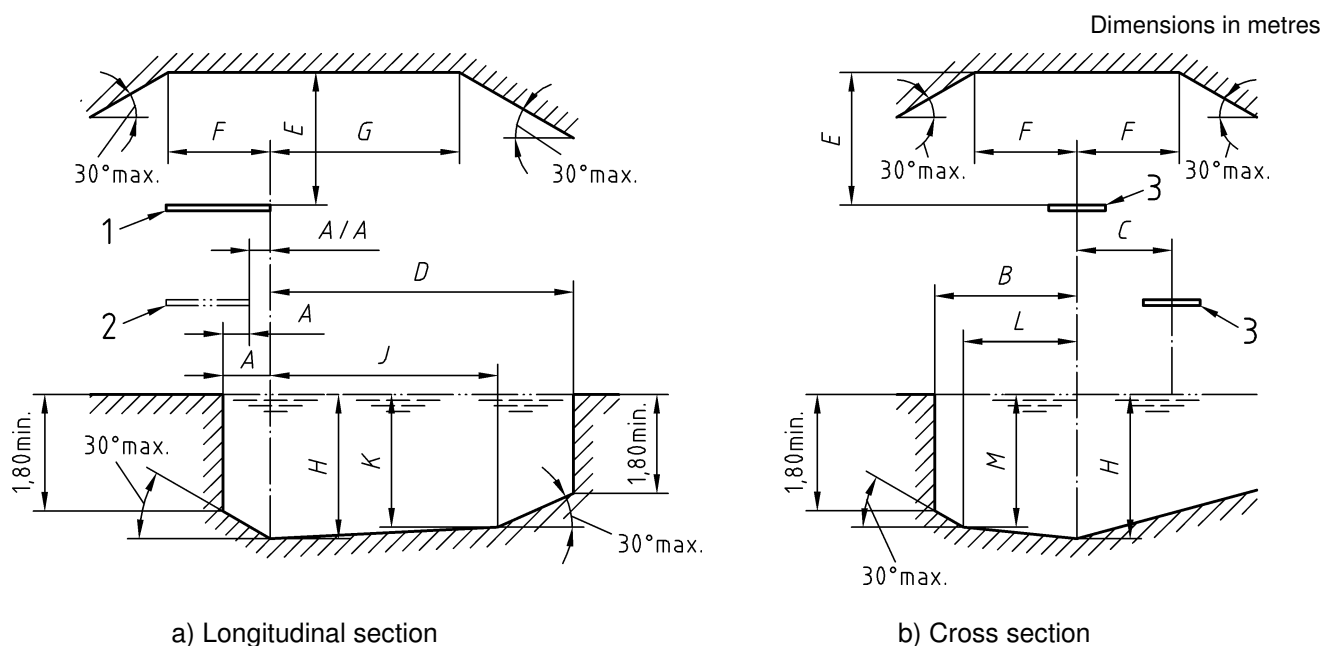
NOTE 2 If synchronized diving (more than one diver starting at a same time from the platform) is foreseen, the width of the platforms should be suitably increased. As an alternative, during synchronized diving activities only there should be the possibility to increase temporarily the distance of the barriers in the zone higher than 500 mm to allow clearance for arms movement.

The minimum dimensions of the platform facilities shall comply with Table 2 and with Figure 1.

Table 2 — Dimensions of diving platform facilities

Dimensions in metres

Height of platform from WL ^a			1 m		3 m		5 m		7,5 m		10 m	
			hori- zontal	vertical	hori- zontal	vertical	hori- zontal	vertical	hori- zontal	vertical	hori- zontal	vertical
A	From plummet back to pool wall	minimum	0,75	—	1,25	—	1,25		1,50	—	1,50	—
		preferred	0,75	—	1,25	—	1,25	—	1,50	—	1,50	—
A/A	From plummet back to plat- form plummet directly below	minimum	—	—	—	—	0,75	—	0,75	—	0,75	—
		preferred	—	—	—	—	1,25	—	1,25	—	1,25	—
B	From plummet to pool wall at side	minimum	2,30	—	2,80	—	3,25	—	4,25	—	5,25	—
		preferred	2,30	—	2,90	—	3,75	—	4,50	—	5,25	—
C	From plummet to adjacent plummet	minimum	1,65	—	2,00	—	2,25	—	2,50	—	2,75	—
		preferred	1,95	—	2,10	—	2,50	—	2,50	—	2,75	—
D	From plummet to pool wall ahead	minimum	8,00	—	9,50	—	10,25	—	11,00	—	13,50	—
		preferred	8,00	—	9,50	—	10,25	—	11,00	—	13,50	—
E	From plummet, on board to ceiling	minimum	—	3,25	—	3,25	—	3,25	—	3,25	—	4,00
		preferred	—	3,50	—	3,50	—	3,50	—	3,50	—	5,00
F	Clear overhead behind and each side of plummet	minimum	2,75	3,25	2,75	3,25	2,75	3,25	2,75	3,25	2,75	4,00
		preferred	2,75	3,50	2,75	3,50	2,75	3,50	2,75	3,50	2,75	5,00
G	Clear overhead ahead of plummet	minimum	5,00	3,25	5,00	3,25	5,00	3,25	5,00	3,25	6,00	4,00
		preferred	5,00	3,50	5,00	3,50	5,00	3,50	5,00	3,50	6,00	5,00
H	Depth of water at plummet	minimum	—	3,20	—	3,50	—	3,70	—	4,10	—	4,50
		preferred	—	3,30	—	3,60	—	3,80	—	4,50	—	5,00
J/K	Distance and depth ahead of plummet	minimum	4,50	3,10	5,50	3,40	6,00	3,60	8,00	4,00	11,00	4,25
		preferred	4,50	3,20	5,50	3,50	6,00	3,70	8,00	4,40	11,00	4,75
L/M	Distance and depth each side of plummet	minimum	1,40	3,10	1,80	3,40	3,00	3,60	3,75	4,00	4,50	4,25
		preferred	1,90	3,20	2,30	3,50	3,50	3,70	4,50	4,40	5,25	4,75
N	Maximum slope to reduce dimen- sions beyond full requirements	pool depth	30°	NOTE Dimensions C apply to platforms with widths as in Table 1; if platform widths are increased then C should be increased by half of the additional width(s).								
		ceiling	30°									
^a tolerance of height from WL $+0,05$ 0 m												

**Key**

- 1 Platform
- 2 Platform under platform
- 3 Platform

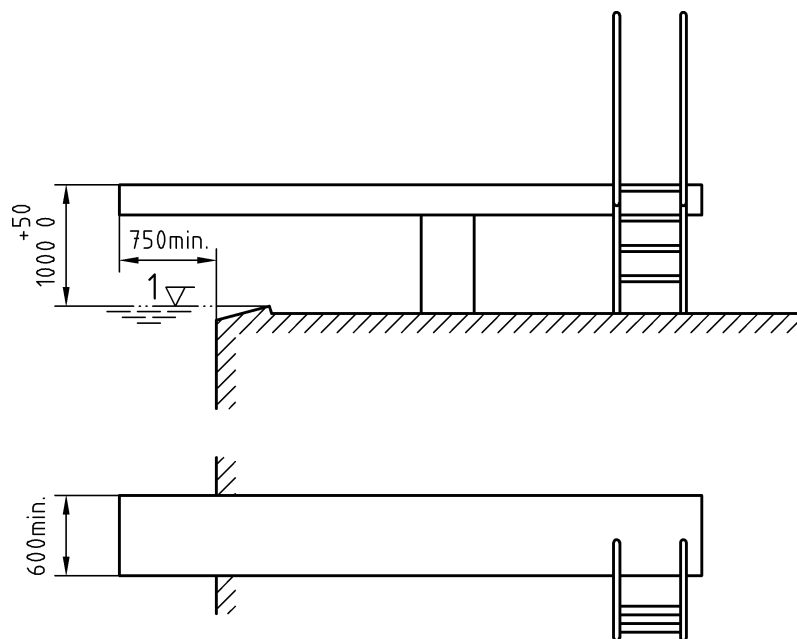
Figure 1 — Diagrammatic side and front view of diving platform facilities

Intermediate heights from water level are allowed, provided the user is made aware of the actual height and the safety requirements of the next higher facility are fulfilled.

The front edge of each platform shall be vertical, or inclined up to an angle 10° to the vertical inside the plummet line. The thickness of the front edge shall be between 200 mm and 300 mm.

NOTE 3 Special attention should be paid to drainage of water from the platform surface.

Dimensions in millimetres

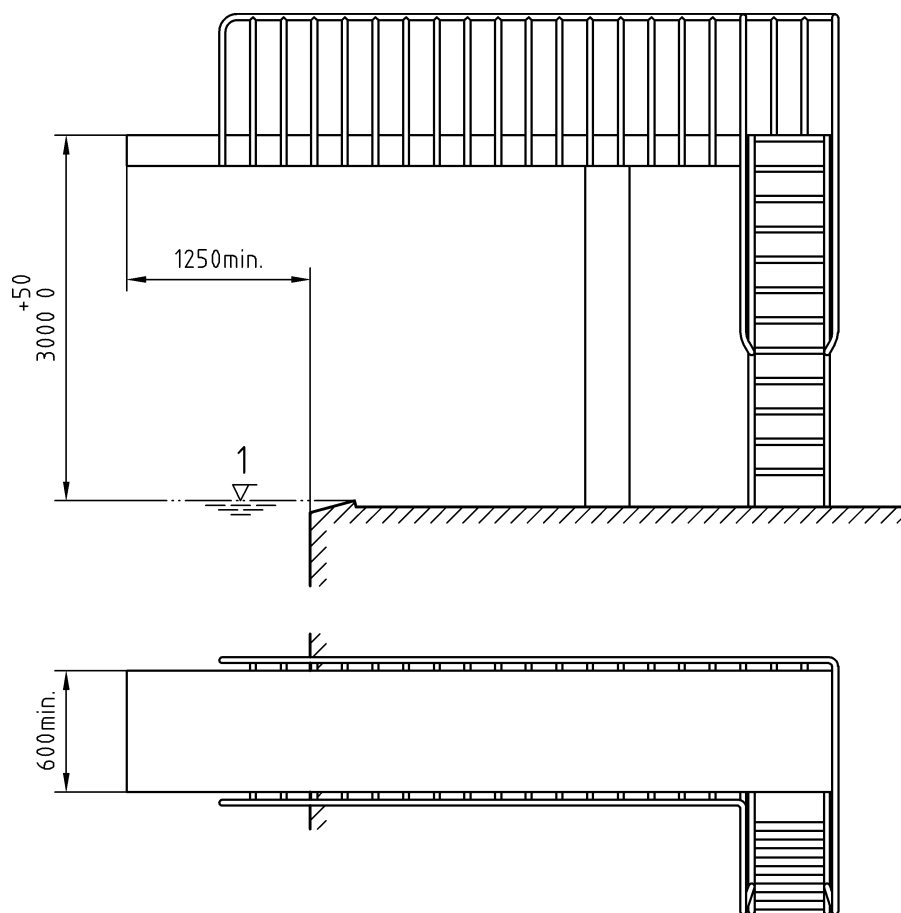


Key

1 Water level

Figure 2 — Diving platform (1 m high)

Dimensions in millimetres

**Key**

1 Water level

Figure 3 — Diving platform (3 m high)