SLOVENSKI STANDARD
oSIST prEN 17164:2017

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Plezalne stene za uporabo na vodnih površinah javnih plavalnih bazenov - Zahteve za varnost in obratovanje

Climbing walls for use in the water area of public used swimming pools - Safety and operational requirements to the place of installation

Kletterwände für den Einsatz im Wasserbereich von öffentlich genutzten Schwimmbadanlagen - Sicherheitstechnische und betriebliche Anforderungen

Murs et blocs d'escalade destinés aux bassins des piscines à usage public - Exigences de sécurité et d'exploitation

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Climbing walls for use in the water area of public used swimming pools - Safety and operational requirements to the place of installation

Murs et blocs d'escalade destinés aux bassins des piscines à usage publi - Exigences de sécurité et d'exploitation

Kletter- und Boulderwände für den Einsatz im Wasserbereich von öffentlich genutzten Schwimmbädern - Sicherheitstechnische und betriebliche Anforderungen

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (prEN 17164:2017) 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.

Introduction

Climbing walls for use in the water area are artificial climbing structures which enable climbing above water without rope safeguarding. The climbing process is terminated either by an accidental fall into the water or by an intentional jump or intentional dropping into the water. When specifying the water depths, it is assumed that no more height can be gained from a fall - as opposed to a jump from a diving board - and the splashdown feature is normally a different one.

The European Committee for Standardization (CEN) draws attention to the fact that it is claimed that compliance with CEN-CENELEC Guide 8:2015 may involve the use of a patent concerning climbing walls given in Clause 4.

CEN/CENELEC take no position concerning the evidence, validity and scope of this patent right.

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Christofer Born

Bleichstraße 10 A

90429 Nuremberg

Germany

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The market for climbing walls for use in the water area of public used swimming pools is specific and still developing. It is impossible to define an all-embracing safety specification, including all dimensions and design requirements as required by a standard, without limiting the design possibilities and preventing innovative and new but safe products.

This standard is intended to establish safety requirements and design guidance rules to serve anyone involved with climbing walls for use in the water area of public used swimming pools, especially designers, manufacturers, operators and users, to ensure largely safe products. Its basic approach is the consciousness that the use of climbing walls usually implies for the users a higher risk level than swimming. Consequently, the use of a climbing wall requires a certain degree of self-responsibility in terms of sports equipment. These safety requirements should be taken into consideration and be fulfilled in order to avoid danger to users as much as possible.

1 Scope

This document specifies safety requirements for climbing walls for use in the water area of public swimming pools in addition to the general safety requirements of EN 13451-1 and should be read in conjunction with it. Requirements for the use, the operation and the maintenance are also specified.

This standard is applicable to climbing walls in classified swimming pools as specified in EN 15288-1.

This standard has limited application to pools which consist of segregated areas of rivers, lakes or the sea. The recommendations on safe design, working methods and supervision should be followed insofar as they are relevant. This standard is not applicable to artificial climbing structures according to EN 12572 and to inflatable climbing walls according to EN 15649-6.

In the aspects which overlap with EN 13451-10 the requirements of this EN standard take precedence over the EN 13451-10.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 12572-2:2017, *Artificial climbing structures - Part 2: Safety requirements and test methods for bouldering walls*

EN 12572-3:2017, *Artificial climbing structures - Part 3: Safety requirements and test methods for climbing holds*

EN 13451 (all parts), *Swimming pool equipment*

EN 15288 (all parts), *Swimming pools*

EN ISO 7010, *Graphical symbols - Safety colours and safety signs - Registered safety signs (ISO 7010)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15288-1, EN 13451 (all parts) and the following apply.

3.1
climbing wall/bouldering wall
artificial climbing structure for climbing above water that enables climbing without rope safeguarding

3.2
main climbing surface
main action surface of a climbing wall

3.3
access climbing surface
climbing surface as a possible access to reach the main climbing surface

3.4
climbing surface
area of a climbing wall that may consist of a main climbing surface and an access climbing surface and that may be partially situated under water

3.5
climbing zone
defined area within a climbing surface that it is equipped with holds

3.6
falling space
clearance zone above the pool that can be occupied by a user during a fall

3.7
splashdown space
space of the pool in which the user plunges after a fall

3.8
safety space
falling space and splashdown space

3.9
hold
removable climbing component used for progression on a climbing or bouldering wall

[SOURCE: EN 12572-3:2017, modified]

3.10
maximal height of hold ($H_{H\max}$)
height of the highest hold above water level

3.11
height of fall related to the water level
H_F
height of fall of a climbing wall equals the maximal height of hold ($H_{H\max}$) minus 1,0 m as follows:

$H_F = H_{H\max} - 1{,}0$ m

3.12
water depth
vertical distance between water level and pool bottom

4 Safety requirements

4.1 Dimensions

All dimensions related to the pool walls refer to the pool wall above the standing step (if a standing step is present).

All dimensions related to a hold refer to the centre of the bolt connecting the hold to the wall.

4.2 Water depth and safety space

The minimum dimensions given in Table 1 and Figure 1 shall be complied with.

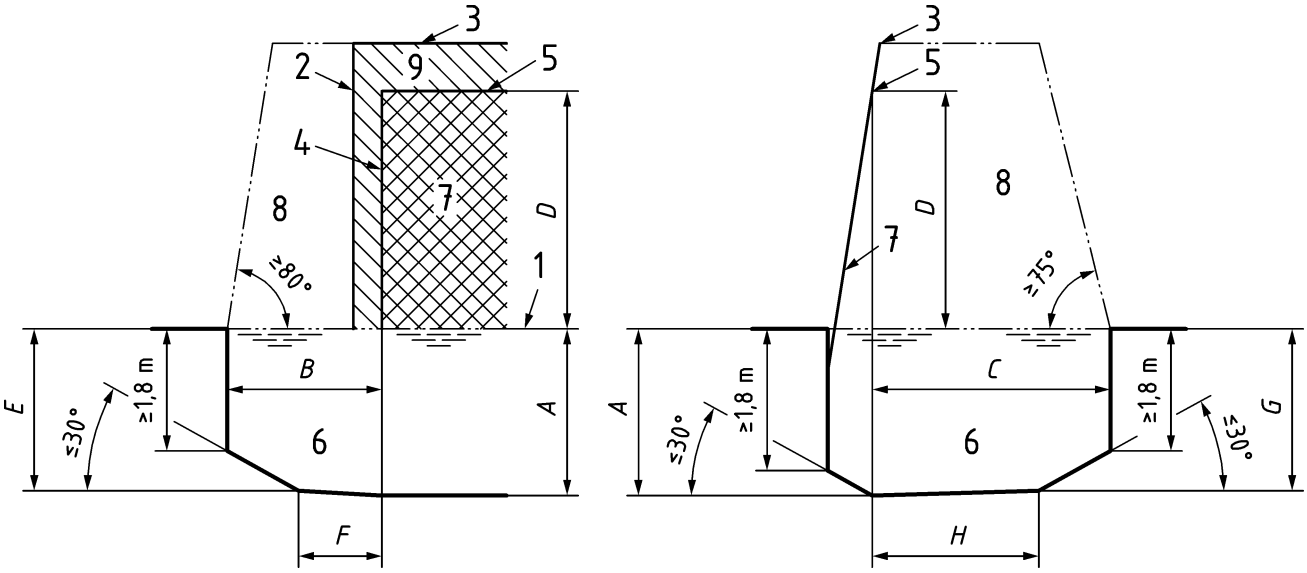
Table 1 — Minimum safety distances

Dimensions in metres

Maximal height of hold H_{H}max	≤ 2	2 < x ≤ 3	3 < x ≤ 4	4 < x ≤ 5	5 < x ≤ 6	6 < x ≤ 7	7 < x ≤ 8,5
Height of fall H_F	≤ 1	≤ 2	≤ 3	≤ 4	≤ 5	≤ 6	≤ 7,5
A[a]	$0{,}65 \times H_F + 1{,}35$ at least 1,80	$0{,}65 \times H_F + 1{,}35$	$0{,}65 \times H_F + 1{,}35$	3,50	3,70	3,90	4,10
B	2,5	2,75	3,00	3,25	3,50	3,75	4,15
C	3,5	4,00	4,50	5,00	5,50	6,00	6,75
D	$H_F + 1{,}00$						
E	$0{,}65 \times H_F + 1{,}25$ at least 1,80	$0{,}65 \times H_F + 1{,}25$	$0{,}65 \times H_F + 1{,}25$	3,40	3,60	3,80	4,00
F	1,50	1,50	1,50	1,75	2,00	2,25	2,65
G	$0{,}65 \times H_F + 1{,}25$ at least 1,80	$0{,}65 \times H_F + 1{,}25$	$0{,}65 \times H_F + 1{,}25$	3,40	3,60	3,80	4,00
H	2,00	2,50	3,00	3,50	4,00	4,50	5,25

NOTE Key is explained in Figure 1.

a No head first entry allowed when depth less than 3,5 metres.



a) Front view (Section through the pool) **b) Cross section (Section through the pool)**

Key

1 Water level
2 Lateral edge climbing wall
3 Top edge climbing wall
4 Outer hold line
5 Highest hold line
6 Splashdown space
7 Climbing zone
8 Falling space
9 Climbing surface

A Water depth at the plummet at the highest hold line
B Lateral distance of the plummet of the outer hold line to the pool wall, or to the barrier of the splashdown space
C Frontal distance of the plummet of the highest hold line to the pool wall or to the barrier of the splashdown space
D Height of the highest hold line above the water level ($H_{H\max}$)
E Water depth in a distance F from the plummet of the outer hold line
F Horizontal distance from the plummet of the outer hold line
G water depth in a distance H from the plummet of the highest hold line
H horizontal distance from the plummet of the highest hold line

Figure 1 — Diagrammatic front and side view

The safety space of a climbing wall may overlap by a maximum of 2,0 m with other safety spaces of the same climbing wall or other simultaneously used climbing walls.

If the distances B and C of Table 1 and Figure 1 are not measured to a pool wall, but to the safety space of a simultaneously used diving facility or other sports equipment, they may be reduced by 2,0 m.

In case that a climbing wall includes more climbing zones it shall be guaranteed that a wall cannot be climbed between the individual climbing zones and that, in consequence, holds and/or treads do not exist. The horizontal minimum width of the holdless area is calculated as follows:

— For a height of fall H_F up to and including 1,5 m: minimum width = 2,0 m;

— For a height of fall H_F greater than 1,5 m: minimum width = 2 × B – 2,0 m.