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Plavalni bazeni - 1. del: Varnostne zahteve za načrtovanje

Swimming pools - Part 1: Safety requirements for design

Schwimmbäder - Teil 1: Sicherheitstechnische Anforderungen an Planung und Bau

Piscines - Partie 1 : Exigences de sécurité pour la conception

Ta slovenski standard je istoveten z: prEN 15288-1

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Swimming pools - Part 1: Safety requirements for design

Piscines - Partie 1 : Exigences de sécurité pour la
conception

Schwimmbäder - Teil 1: Sicherheitstechnische
Anforderungen an Planung und Bau

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 136.

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

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Contents

	Page
European foreword.....	4
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
4 Classification.....	9
4.1 Swimming pool type 1	9
4.2 Swimming pool type 2	9
4.3 Swimming pool type 3	9
5 Safety related design factors and requirements.....	9
5.1 General.....	9
5.2 Occupancy.....	10
5.3 Layout.....	10
5.4 Public-safety information systems	11
5.5 Materials.....	11
5.6 Safety of barefoot areas	11
5.6.1 Finishes to wet areas.....	11
5.6.2 Slip resistance	12
5.7 General areas for bathers.....	13
5.7.1 General.....	13
5.7.2 Accessible pathways, floors.....	13
5.7.3 Steps and ramps.....	13
5.7.4 Emergency routes	13
5.7.5 Walls, pillars and protruding structures.....	13
5.7.6 Lighting, illumination and glare prevention	14
5.7.7 Acoustic design of indoor pool buildings	14
5.7.8 Pool hall heating and ventilation	15
5.7.9 Heated surfaces.....	15
5.8 Specific areas	16
5.8.1 Pool surrounds.....	16
5.8.2 Pool basin edge	18
5.8.3 Pool basin.....	18
5.9 Additional requirements for wave pools.....	20
5.10 Pool covers	21
5.11 First aid rooms	21
5.12 Control points.....	22
5.13 Storage rooms/areas for water treatment chemicals.....	22
5.14 Plant rooms and related equipment	23
5.14.1 General.....	23
5.14.2 Filtration plant room and related equipment	23
5.14.3 Disinfection and pH control plant room and related equipment	23
5.14.4 Coagulation and Flocculation equipment.....	24
6 Pool water distribution effectiveness.....	25
Annex A (normative) Dye test.....	26

A.1	General	26
A.2	Chemicals for the dye test and dosing.....	26
A.3	Preparation of the dye test.....	26
A.4	Carrying out the dye test.....	27
A.5	Dye test for pre-fabricated pools with integrated systems	27
A.6	Verifying and documentation of the dye test.....	27
	Bibliography	28

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SIST EN 15288-1:2019

<https://standards.iteh.ai/catalog/standards/sist/ebc76710-0ce2-4c34-a22c-d121aab7d8c2/sist-en-15288-1-2019>

European foreword

This document (prEN 15288-1:2017) 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.

This document will supersede EN 15288-1:2008+A1:2010.

In relation to EN 15288-1:2008+A1:2010 the following main amendments have been made:

- a) introduction has been revised;
- b) scope has been revised by excluding EN 16582;
- c) normative references have been updated;
- d) definition "Indoor swimming pools" has been revised;
- e) definition "ramp" has been added;
- f) definition "therapeutic pool" has been revised;
- g) definition "Finnish overflow" has been deleted;
- h) definition "rest ledge" has been revised;
- i) definition "bather" has been revised; [SIST EN 15288-1:2019](https://standards.iteh.ai/catalog/standards/sist/ebc76710-0ce2-4c34-a22c-121aab7d8c2/sist-en-15288-1-2019)
- j) definition "bund" has been added; <https://standards.iteh.ai/catalog/standards/sist/ebc76710-0ce2-4c34-a22c-121aab7d8c2/sist-en-15288-1-2019>
- k) definition "reverberation time" has been added;
- l) definition "sound pressure level" has been added;
- m) definition "freeboard" has been added;
- n) classification Type 3 pools has been revised;
- o) new clause "Occupancy" has been added;
- p) water depth for the Depth indications where the pool floor profile changes abruptly has been changed;
- q) new clause "safety of barefoot" area has been added by adding requirements for the finish of the wet area and the slip resistance;
- r) requirements for steps and ramps have been revised;
- s) requirements for Lighting, illumination and glare prevention have been revised;
- t) acoustic requirements have been revised;

- u) recommendation for a certain number of means of access around the pool basin has been added;
- v) additional requirements for wave pools have been added;
- w) clause "Plant rooms and related equipment" has been revised;
- x) new clause "Pool water distribution effectiveness" has been added;
- y) Annex A "Dye test" has been moved from EN 15288-2 to this standard by revising it;
- z) Bibliography has been updated.

This standard EN 15288 "*Swimming pools*" consists of the following parts:

- *Part 1: Safety requirements for design*
- *Part 2: Safety requirements for operation*

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Introduction

Design is a key factor for a safe swimming pool. All of those involved in designing new pools or upgrading existing ones will need to give the highest priority to ensuring that they provide users and staff with a safe facility. Four steps need to be developed in order to achieve this:

- a) the layout of the pool hall (if any) and the pool basin (including its dimensions, profile and any water features) should be designed to make the safe use and supervision of the pool achievable without complex or costly management arrangements;
- b) the layout of the ancillary areas, including changing areas, clothes storage, shower and toilet areas, should be similarly designed for safe use;
- c) the structural elements, materials, finishes and details, including the pool hall enclosure (if any), basin and equipment and the way they are assembled should be the most appropriate to achieving a safe-to-use physical environment;
- d) relevant planning criteria for safe and functionally correct maintenance.

There are specific sources of information from which the technical design and planning standards recommended in the design of swimming pools can be obtained. Those involved in the process of specifying, designing and constructing pools should be familiar with these design and planning standards and should ensure that they are given careful consideration in all pool projects.

It is also important to draw the attention of those involved in the design process to the implications of their work for the pool operator. What might be thought a small change in the layout of the pool or in the finishes specified could have a significant impact on the ability of the pool to be used safely. If that change is ill-considered and creates a serious design flaw, the result might be an increase in accidents. More likely it will be an increase in the cost of operating the pool (perhaps through the employment of additional staff) to compensate for the resulting problems.

One way of anticipating the management consequences of design decisions is to include a qualified/competent pool operational person on the design team. This person should give advice and guidance during the various development stages of the project.

This standard includes requirements, recommendations and notes. While compliance with requirements is mandatory to fulfil this standard, recommendations indicate best practices and notes give additional information and/or explanations.

1 Scope

This European Standard specifies safety requirements relevant to certain aspects of the design and construction of classified pools according to Clause 4. It is intended for those concerned with the construction, planning and operation of classified swimming pools. It provides guidance about the risks associated by identifying the design characteristics required for a safe environment.

The requirements of this European Standard are applicable to all new classified pools and, as appropriate, to specific refurbishments of classified existing pools.

This European Standard has limited application to classified pools which consist of segregated areas of rivers, lakes or the sea but should be followed where relevant.

National and/or local legislation may apply.

This standard is not applicable to domestic swimming pools according to EN 16582 (all parts).

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 1838, *Lighting applications — Emergency lighting*

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

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

EN 13451-3:2011+A1:2016, *Swimming pool equipment — Part 8: Additional specific safety requirements and test methods for leisure water features*

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

HD 60364-7-702, *Low-voltage electrical installations — Part 7-702: Requirements for special installations or locations — Swimming pools and fountains*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

pool/swimming pool

facility, with one or more water areas, intended for swimming, leisure or other water based physical activities

3.2

indoor swimming pool

one or more constructed water areas for bathing enclosed in a building, covered by a roof (fixed or moveable)

Note 1 to entry: A pool under a shelter is not considered an indoor swimming pool.

prEN 15288-1:2017 (E)**3.3****outdoor swimming pool**

one or more constructed open-air water areas for bathing

3.4**ramp**

inclined plane installed in addition to or instead of steps

3.5**public use**

use of an installation open to everyone or to a defined group of users, not designated solely for the owner's/proprietor's/operator's family and guests independently from paying an entrance fee

3.6**therapeutic pool**

one or more constructed water areas specifically designed to provide medical and physical care under control of a competent person

Note 1 to entry: Pools destined for fitness and related activities are not considered therapeutic pools.

3.7**pool basin**

water tank where water-related activities can take place

3.8**pool surround**

walkable area around a pool basin, associated with the use of the basin itself, such as circulation areas, areas of entry and exit, etc.

3.9**deck level pool basin**

pool basin with the water level at the same level as the pool surround

3.11**built-in step/ladder**

step/ladder which is integral to the basin construction

3.12**rest ledge**

submerged step for users to rest on in standing position

3.13**control point**

designated space or room placed at basin deck level or higher, designed to allow control at least of the water leisure features and overview of water areas and pool surrounds

3.14**bather**

barefoot person in a bathing costume, or in comparable conditions

3.15**bund**

containment devices or structures designed to control spillages, permanent, portable or built into equipment

EXAMPLES Drip trays, double-skinned tanks, etc.

3.16

reverberation time

RT

time, in seconds, that would be required for the sound pressure level to decrease by 60 dB after the sound source has stopped

3.17

sound pressure level

SPL

technical value and logarithmic measure (dB) to describe the loudness of sound

3.18

freeboard

vertical distance between the water surface and the pool deck level

4 Classification

4.1 Swimming pool type 1

Pool where the water-related activities are the main business (e.g. communal pools, leisure pools, water parks) and whose use is “public” according to 3.5.

4.2 Swimming pool type 2

Pool which is an additional service to the main business (e.g. hotel pools, campsite pools, club pools, therapeutic pools, school pools) and whose use is “public” according to 3.5.

4.3 Swimming pool type 3

All pools of public use according to 3.5 except:

- pools type 1;
- pools type 2.

EXAMPLES Diving tower, military training pools, rescue training pools, scuba diving pools.

5 Safety related design factors and requirements

5.1 General

The requirements of Clause 5 refer to pools which are intended for public use within a defined classification. The optional application of requirements to specific types is explained in the related paragraphs. The requirements apply as far as the selected items are present in the swimming pool.

As safe operation is influenced by safe design, the design shall take into account the facility's use, the activity, planned occupancy and its control. Where minimum requirements are given for different types, the designer shall consider the kind of activity foreseen. If it is more similar to those of another type, it should adhere to the strictest requirements.

As swimming and water-related activities carry an inherent risk (e.g. users have bare feet and wear only bathing costumes), the need for specific design requirements shall always be considered.

Facilities designed to meet specific needs or programmes (e.g. competitions, special activities, events) require special consideration.

prEN 15288-1:2017 (E)

Also at the design stage, the needs of the following shall be considered:

- a) special users (see Bibliography, e.g. with disabilities);
- b) special installations (e.g. technologies to detect users in a potential risk of drowning video supervision of pool surrounds and/or other areas).

Design construction and operation risk assessment shall be conducted for any refurbishment or alteration work. The assessments shall be developed, updated and implemented as and when required to suit the work stages and any relevant occurrences.

NOTE A review at fixed intervals has proved to be effective.

All electrical installations shall be designed and installed in accordance with HD 60364-7-702.

It may be necessary to tighten the construction tolerances of the structure and finishes within the pool basin to meet the tolerances set out within this European Standard.

5.2 Occupancy

The maximum occupancy rate at any one time shall be defined at the design stage taking into account:

- a) the number of users in the water-related areas/activities, and
- b) the number of users generated by other areas/activities.

Admissions are normally controlled at the point of entry to the pool facility, rather than to the water itself, therefore allowance can be made in setting a maximum figure for the proportion of bathers likely to be out of the water at any one time.

However, allowance should be made for any large influx of bathers to the water particularly associated with the operation of equipment, such as wave machines.

In addition to considerations of physical safety, the maximum loading should take account of the capacity of the pool water treatment plant and a control mechanism provided, such as a locker system, bands, keys or turnstiles to ensure that this figure is not exceeded.

5.3 Layout

The layout of a facility shall be considered in terms of the relationship between its elements and between the elements and users.

Particular attention shall be paid to the intended circulation routes and to the likely behaviour of users.

Significant planning recommendations especially for type 1 and type 2 are:

- a) segregation of the barefoot and shoe-clad areas, where reasonably practicable;
- b) toilets and showers should be located at the access to the pool basins to encourage users to use them before entering the pool basins;
- c) general circulation routes shall avoid dangerous areas (e.g. deep water, wave pools, pools with high freeboards, areas of potential queuing, e.g. in front of the means of access to water slides) or be suitably segregated from them (see Table 2);
- d) non-swimmers and paddling pools should be segregated and/or placed at a suitable distance from pools with deeper water (see Table 2);
- e) access to the pool surround should be positioned where the water is shallower;