

Domestic swimming pools - Part 1: General
requirements including safety and test methods

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 16582-1:2015+A1:2021 sisaldab Euroopa standardi EN 16582-1:2015+A1:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 16582-1:2015+A1:2021 consists of the English text of the European standard EN 16582-1:2015+A1:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 12.05.2021.	Date of Availability of the European standard is 12.05.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 97.220.10

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele. Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis- ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis- ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

Domestic swimming pools - Part 1: General requirements including safety and test methods

Piscines privées à usage familial - Partie 1 : Exigences
générales et de sécurité et méthodes d'essai

Schwimmbäder für private Nutzung - Teil 1:
Allgemeine Anforderungen einschließlich
sicherheitstechnischer Anforderungen und
Prüfverfahren

This European Standard was approved by CEN on 20 June 2015 and includes Amendment approved by CEN on 11 December 2020.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 General requirements and test methods.....	12
4.1 General.....	12
4.2 Tolerances	12
4.3 Water leakage.....	12
4.4 Minimum performance requirements for structural materials	13
4.4.1 General.....	13
4.4.2 Specific requirements and testing for corrosion resistance	14
4.4.3 Osmosis resistance of composites and polymers	15
4.4.4 Wood.....	16
4.5 Injury risks	16
4.5.1 Small elements, edges and corners.....	16
4.5.2 Permissible openings	17
4.6 Accessibility	19
4.6.1 General.....	19
4.6.2 Secure access to the swimming pool.....	19
5 Requirements and test methods for means of access.....	20
5.1 General.....	20
5.2 Slip resistance	20
5.3 Crushing and entrapment hazards	21
5.4 Ladders	21
5.4.1 Dimensions.....	21
5.4.2 Load-bearing strength.....	25
5.4.3 Test for lateral stability of removable ladders.....	26
5.4.4 Specific requirements for secured access points to enter the pool	26
5.4.5 Other requirements	27
5.5 Bearing points	27
5.5.1 Recessed bearing points.....	27
5.5.2 Raised bearing points.....	28
5.6 Submerged stairs.....	30
5.6.1 General.....	30
5.6.2 Built-in stairs	32
5.6.3 Fitted stairs	32
5.7 Handrails.....	32
6 Instructions for the consumer.....	32
6.1 General principles.....	32
6.2 Self-built/installed pools.....	33
6.2.1 Point-of-purchase information	33
6.2.2 Installation and commissioning manual	34

6.2.3	Operating and maintenance manual	34
6.3	Constructed / installed pools by professionals	34
6.3.1	Point-of-purchase information	34
6.3.2	Operating and maintenance manual	35
6.4	Means of access	35
6.4.1	Point-of-purchase information	35
6.4.2	Operating and maintenance manual	36
6.5	Examples illustrating pool sizes	37
7	Safety signage	39
Annex A (informative) Swimming pool structures		41
Annex B (informative) Safety information in the owner's manual and instruction sheets accompanying the swimming pool		43
Annex C (normative) Methods of test for entrapment		46
C.1	Head and neck entrapment	46
C.1.1	Apparatus	46
C.1.2	Test method	47
C.2	Finger and toe entrapment	47
C.2.1	Apparatus	47
C.2.2	Test method	47
C.3	Foot and hand entrapment	47
C.3.1	Apparatus	47
C.3.2	Test method	48
Annex D (informative) Aesthetic aspects on composite shells		49
D.1	General	49
D.2	Scope	49
D.3	Operating requirements and maintenance	49
D.3.1	General	49
D.3.2	Operating requirements	50
D.3.3	Maintenance	50
D.3.4	Influence of water quality	50
D.4	Discolourations and possible origins	51
D.5	Stains and possible origins	52
D.6	Repair of the aesthetic coating	54
D.7	Mechanical disorders affecting only the aesthetic layer	54
D.7.1	Aesthetic cracks	54
D.7.2	Surface protuberances	55
Bibliography		56

European foreword

This document (EN 16582-1:2015+A1:2021) has been prepared by Technical Committee CEN/TC 402 “Domestic pools and spas”, the secretariat of which is held by AFNOR.

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 2021 and conflicting national standards shall be withdrawn at the latest by November 2021.

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

This document includes Amendment 1 approved by CEN on 11 December 2020.

This document supersedes EN 16582-1:2015.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**.

This document is part of a series of standards dealing with domestic swimming pools which consists of:

- *Part 1: General requirements including safety and test methods;*
- *Part 2: Specific requirements including safety and test methods for inground pools;*
- *Part 3: Specific requirements including safety and test methods for aboveground pools.*

This European Standard has to be read in conjunction with local and national regulations if they exist.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This part of EN 16582 specifies requirements including safety and test methods that are generally applicable to domestic swimming pools. For specific types of pools these requirements are supplemented or modified by the requirements of specific standards which have been issued as additional parts of this European Standard.

As specific standards exist, this general standard should not be used alone.

The users of this standard could be either in a Business to consumer (B to C) relationship, such as constructors, installers, retailers, etc. or in a Business to business (B to B) relationship, such as manufacturers, suppliers, distributors, etc. Safe products are the basis of the consumers' safety and therefore, this European Standard should take into account the following topics:

- product safety and performance requirements;
- safe construction and installation,
- safe use, which could include information and red flags for consumers (e.g. “Don’t leave your child unattended in the pool”).

Special attention should also be paid to environmental aspects, according to CEN Guide 4 (e.g. minimizing water being wasted, etc.).

1 Scope

This European Standard specifies the general safety and quality requirements and test methods for domestic swimming pools. These requirements and test methods are applicable to inground, aboveground or recessed swimming pool structures, including their installation and means of access.

This standard does not apply to:

- pools for public use covered by EN 15288-1;
- spas for domestic or public use;
- paddling pools according to EN 71-8.

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 350-2, *Durability of wood and wood-based products - Natural durability of solid wood - Part 2: Guide to natural durability and treatability of selected wood species of importance in Europe*

EN 351-1, *Durability of wood and wood-based products - Preservative-treated solid wood - Part 1: Classification of preservative penetration and retention*

EN 335, *Durability of wood and wood-based products - Use classes: definitions, application to solid wood and wood-based products*

EN 460, *Durability of wood and wood-based products - Natural durability of solid wood - Guide to the durability requirements for wood to be used in hazard classes*

EN 1990:2002, *Eurocode - Basis of structural design*

A1 deleted text A1

EN 14843:2007, *Precast concrete products - Stairs*

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

EN ISO 1461, *Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods (ISO 1461)*

EN ISO 4628-2, *Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering (ISO 4628-2)*

EN ISO 4628-3, *Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 3: Assessment of degree of rusting (ISO 4628-3)*

EN ISO 9227, *Corrosion tests in artificial atmospheres - Salt spray tests (ISO 9227)*

CEN/TS 16165, *Determination of slip resistance of pedestrian surfaces - Methods of evaluation*

ISO 20712-1, *Water safety signs and beach safety flags - Part 1: Specifications for water safety signs used in workplaces and public areas*

EN 16713-3 ^{A1}, *Domestic swimming pools - Water systems - Part 3: Treatment - Requirements*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

basin

specific water tank where water-related activities are carried out

3.2

usage class 4 wood

situation where the wood or wood-based product is in contact with the ground or fresh water and therefore permanently exposed to wetting

3.3

point-of-purchase information

information given to consumer prior to purchase so that they can make informed choices

3.4

swimming pool kit

set of compatible and consistent elements of a swimming pool comprising of the pool or the structure, the means of access, the filtration and skimming system with hydraulic connections necessary for its operation, installation and commissioning manual, and the operating and maintenance manual

3.5

inground swimming pool kit

swimming pool kit, designed to be installed in the ground, with structural elements that ensure intrinsic resistance to internal and external pressures

3.6

aboveground swimming pool kit

swimming pool kit, designed to be placed on the ground or any suitable flat horizontal surface, with structural elements that ensures intrinsic resistance to internal pressures

3.7

recessed swimming pool kit

swimming pool kit, designed to be installed in the ground, in a masonry structure or equivalent that ensures resistance to internal and external pressures, if required

3.8

watertightness

degree to which water is prevented from leaking from the pool shell