

This document is a preview generated by EVS

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 sisaldab Euroopa standardi EN 16582-1:2015 ingliskeelset teksti.	This Estonian standard EVS-EN 16582-1:2015 consists of the English text of the European standard EN 16582-1:2015.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 26.08.2015.	Date of Availability of the European standard is 26.08.2015.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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

ICS 97.220.10

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Aru 10, 10317 Tallinn, Eesti; koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

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.

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

Aru 10, 10317 Tallinn, Estonia; homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

ICS 97.220.10

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.

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, 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 United Kingdom.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 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 .....	11
4.1 General .....	11
4.2 Tolerances .....	12
4.3 Water leakage .....	12
4.4 Minimum performance requirements for structural materials .....	12
4.4.1 General .....	12
4.4.2 Specific requirements and testing for corrosion resistance .....	14
4.4.3 Osmosis resistance of composites and polymers .....	14
4.4.4 Wood .....	15
4.5 Injury risks .....	15
4.5.1 Small elements, edges and corners .....	15
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 .....	33
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 .....	36
7	Safety signage .....	38
<b>Annex A (informative) Swimming pool structures .....</b>		<b>40</b>
<b>Annex B (informative) Safety information in the owner's manual and instruction sheets accompanying the swimming pool.....</b>		<b>42</b>
<b>Annex C (normative) Methods of test for entrapment .....</b>		<b>45</b>
C.1	Head and neck entrapment.....	45
C.1.1	Apparatus .....	45
C.1.2	Test method .....	46
C.2	Finger and toe entrapment .....	46
C.2.1	Apparatus .....	46
C.2.2	Test method .....	46
C.3	Foot and hand entrapment .....	46
C.3.1	Apparatus .....	46
C.3.2	Test method .....	47
<b>Annex D (informative) Aesthetic aspects on composite shells .....</b>		<b>48</b>
D.1	General .....	48
D.2	Scope .....	48
D.3	Operating requirements and maintenance .....	48
D.3.1	General .....	48
D.3.2	Operating requirements.....	49
D.3.3	Maintenance .....	49
D.3.4	Influence of water quality .....	49
D.4	Discolourations and possible origins .....	50
D.5	Stains and possible origins.....	50
D.6	Repair of the aesthetic coating .....	53
D.7	Mechanical disorders affecting only the aesthetic layer.....	53
D.7.1	Aesthetic cracks .....	53
D.7.2	Surface protuberances .....	53
<b>Bibliography.....</b>		<b>54</b>

## European foreword

This document (EN 16582-1:2015) 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 February 2016 and conflicting national standards shall be withdrawn at the latest by February 2016.

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 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, 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.

## 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, 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 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*

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

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*

prEN 16713-3, *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.

#### 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

#### 3.9

##### **liner**

removable independent pocket, factory-made from flexible, expandable, plasticized poly(vinyl chloride) (PVC-P) membranes, capable of achieving a certain level of watertightness

Note 1 to entry: The liner contributes to the watertightness of a swimming pool in the same way as the parts to be sealed and the pipework.