



# SLOVENSKI STANDARD

## SIST EN 16927:2017

01-maj-2017

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### Majhni bazeni - Posebne zahteve, vključno z varnostjo in preskusnimi metodami za majhne bazene

Mini pools - Specific requirements including safety and test methods for mini pools

Mini-Pools - Spezielle Anforderungen einschließlich Sicherheit und Prüfverfahren für Mini-Pools

Piscinettes - Exigences spécifiques (exigences de sécurité et méthodes d'essai pour piscinettes)

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#### **ICS:**

97.220.10      Športni objekti      Sports facilities

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EUROPEAN STANDARD

EN 16927

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2017

ICS 97.220.10

English Version

## Mini-pools - Specific requirements including safety and test methods for mini-pools

Piscinettes - Exigences spécifiques, exigences de sécurité et méthodes d'essai pour piscinettes

Mini-Pools - Spezielle Anforderungen einschließlich Sicherheit und Prüfverfahren für Mini-Pools

This European Standard was approved by CEN on 21 December 2016.

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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 (EN 16927:2017) 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of an identical text or by endorsement, at the latest by August 2017, and conflicting national standards shall be withdrawn at the latest by August 2017.

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.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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## Introduction

This document specifies general and safety requirements and test methods that are applicable to domestic mini-pools.

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

- product safety requirements;
- safe construction and installation;
- safe use, including information and safety warnings for consumers (e.g. “Don't leave your child unattended in the mini-pool”).

It should be highlighted that the risk of drowning, particularly for children under 5 years of age, continues to exist during recreational activities in mini-pools, despite their smaller size and volume of water compared to swimming pools.

Attention should also be paid to environmental aspects, according to CEN Guide 4 (e.g. minimizing water being misused when the water is regularly replaced in mini-pools, etc.).

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## 1 Scope

This European Standard specifies the general safety and quality requirements and test methods for domestic mini-pools.

These requirements and test methods are applicable to mini-pool structures, including their installation and possible means of access.

This European Standard does not apply to:

- pools for public use covered by EN 15288-1;
- swimming pools for domestic use covered by EN 16582 series;
- 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 71-1, *Safety of toys - Part 1: Mechanical and physical properties*

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

EN 350, *Durability of wood and wood-based products - Testing and classification of the durability to biological agents of wood and wood-based materials*

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

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 16582-1:2015, *Domestic swimming pools - Part 1: General requirements including safety and test methods*

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)*

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

## 3 Terms and definitions

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

**EN 16927:2017 (E)****3.1  
mini-pool**

non permanently installed artificial aboveground basin:

- with a maximum wall height < 850 mm;
- with a water depth, measured between the overflow level and the deepest point within the pool of > 400mm;
- with a maximum effective water volume of < 6m<sup>3</sup>;
- and where the means of filtration and water treatment are not required

**3.2  
basin**

specific water tank where water-related activities are carried out

**3.3  
class 4 wood**

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

**3.4  
class 3 wood**

wood with specific properties for sustaining the situation where a wood based product is aboveground and exposed to the weather (particularly rain)

**3.5  
point-of-purchase information**

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

[SOURCE: EN 16582-1:2015, 3.3]

**3.6  
water tightness**

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

**3.7  
liner**

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

**3.8  
coping**

independent add-on feature, which forms the total or partial edge of a basin, on its periphery, in the upper part of the wall

Note 1 to entry: Add-on features with a width greater than or equal to 5 cm are considered as copings.

Note 2 to entry: On some mini-pools, the top coping also functions as the liner lock.

**3.9  
reinforced membrane**

composite made of various thermoplastic sheets, applied on a layer comprising a reinforcement



**3.10****membrane**

sheet made of calendared or extruded, waterproof and gas-pervious, plasticized poly(vinyl chloride) (PVC-P), packaged in rolls, for use in the manufacture of mini-pool liners

**3.11****installation and maintenance manual**

document providing instructions and guidelines for set up, operation/use, safety and maintenance

**3.12****tool**

hand held device that can be used to secure, perform or facilitate mechanical operations

Note 1 to entry: A screw driver, key or coin are considered as tools.

**3.13****effective volume of water**

capacity guaranteed by the manufacturer and determined from the water depth recommended by the manufacturer

Note 1 to entry: Commonly the proper fill level of the mini-pool will be slightly below the overflow point depending on the specific mini-pool structure (e.g. circa 80 % of overflow volume for self-stabilizing mini-pools, circa 90 % of overflow volume for frame supported mini-pools)

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**3.14****means of access**

design feature to facilitate entry and/or exit of the basin

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**3.15****ladder**

structure used for entering and exiting the basin, formed from rails connected by steps or treads, and/or platform(s)

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**3.16****entrapment**

hazard presented by the situation in which a body, or part of a body, or clothing can become trapped

Note 1 to entry : Entrapment is only considered where the user is not able to free himself/herself.

**3.17****adult supervisor**

parent or responsible adult appointed by a parent to look after the child(children) to ensure its(their) safety and the safe use of the product

**3.18****frame**

all of the resistant parts that support and/or reinforce the wall in view of forming the peripheral structure

Note to entry: see Figure 1.

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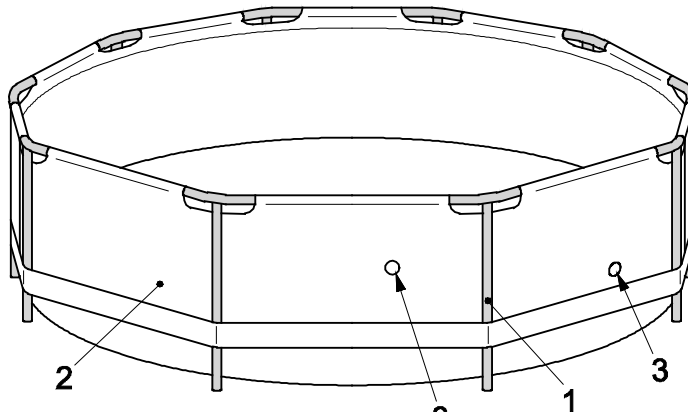
**3.19****wall**

separating surface forming the boundaries of a closed enclosure with a more or less vertical appearance and delimiting the pool

**3.20****frame-supported wall**

soft wall whose stability is ensured solely by a provided rigid frame structure

Note 1 to entry: Foundation or ground-anchoring elements are not considered as reinforcements (see Figure 1).



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**Key**

- 1 Frame
- 2 Waterproof structure membrane
- 3 Accessory connections

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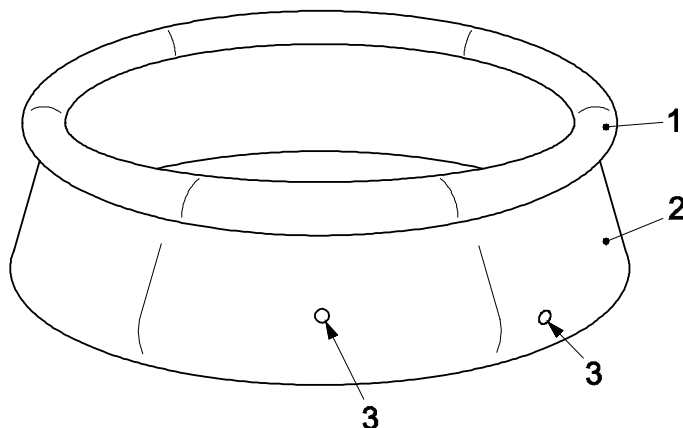
**Figure 1 — Example of frame-supported wall**

**3.21****self-stabilising wall**

flexible wall whose stability is ensured by the presence of water in the mini-pool

Note 1 to entry: see Figure 2

Note 2 to entry Mini-pools with self-stabilizing walls may be equipped with lateral devices that help maintain the product's final shape.

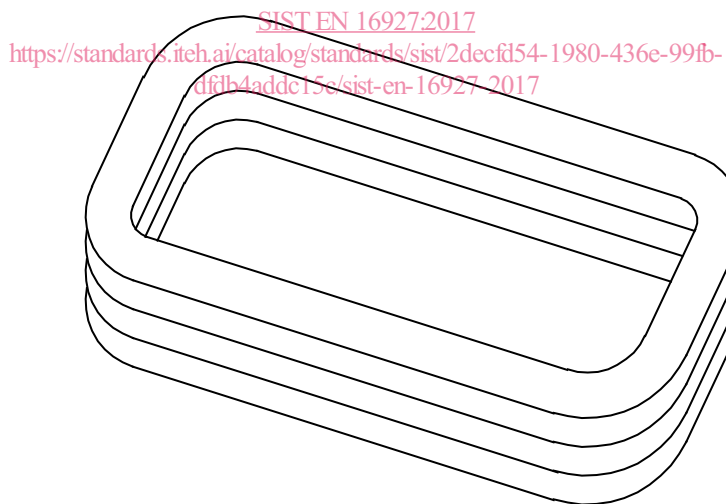
**Key**

- 1 Floating tube
- 2 Watertight flexible structure (e.g. reinforced membrane)
- 3 Accessory connections

**Figure 2 — Example of self-stabilizing wall****3.22****inflatable wall**

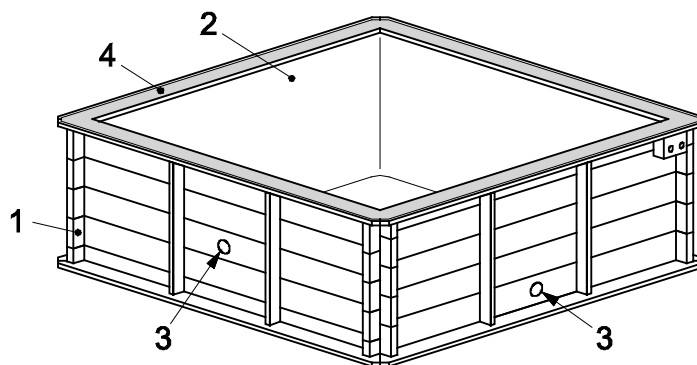
soft wall made of flexible airtight material whose form and stability is achieved through inflation with air

Note 1 to entry: see Figure 3

**Figure 3 — Example of inflatable walls****3.23****rigid wall**

self-supporting wall whose stability is ensured by the rigidity of the material and by the technique of parts to assembly

Note 1 to entry: See Figure 4

**Key**

- 1 rigid structure
- 2 waterproof membrane
- 3 accessory connections
- 4 coping (example)

**Figure 4 — Example of rigid walls**

## 4 General requirements and test methods

### 4.1 General

When installed according to the installation and maintenance manual and during use, the mini-pool shall meet the requirements of this document.

When a membrane is used as a watertight system, it is not mandatory to have a minimum thickness, as long as the mini-pools structure passes the performance requirements specified in 4.2 to 4.5.

All the tests are performed on the same sample.

### 4.2 Mini-pools with frame-supported walls and rigid walls

#### 4.2.1 Resistance to horizontal deformation

##### 4.2.1.1 Requirements

On completion of the test defined in 4.2.1.2, the mini-pool shall not collapse or suffer any permanent deformation affecting its structural integrity (e.g. creating sharp edges, visual breakings, etc.).

##### 4.2.1.2 Test method

Install the mini-pool according to the manufacturer's instructions:

- Fill it with water to the maximum filling level recommended by the manufacturer.
- Place a 400 mm long, 100 mm wide angle bracket on the top of the wall at the most unfavourable place.
- Apply a steadily increasing force, parallel to the ground, over a period of 30 s until it reaches 300 N. Maintain this force for 5 s (see Figure 5).
- The force shall be applied horizontally at the appropriate position on the angle bracket to ensure that the bracket does not tilt and remains parallel to the floor when the force is applied to it.